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# The IFS Green Budget

Funded by the Nuffield Foundation

February 2013

Edited by  
Carl Emmerson  
Paul Johnson  
Helen Miller

With analysis from



**“The Institute for Fiscal Studies, the ultimate arbiter of what is and what isn’t doable in the budget”**

*Larry Elliott, [The Guardian](#)*

**“It has become known as the institution that tells you the truth about the Budget”**

*Philip Aldrick, [The Telegraph](#)*

# The IFS Green Budget

## February 2013

Stuart Adam  
James Browne  
Rowena Crawford  
Jonathan Cribb  
Richard Disney  
Carl Emmerson  
Andrew Goodwin  
Andrew Hood  
Wenchao Jin  
Paul Johnson  
Robert Joyce  
Soumaya Keynes  
Helen Miller  
David Phillips  
Barra Roantree  
Luke Sibieta  
Adam Slater  
Gemma Tetlow

*Copy-editor:* Judith Payne

*Editors:* Carl Emmerson, Paul Johnson and Helen Miller

The Institute for Fiscal Studies  
7 Ridgmount Street  
London WC1E 7AE

*Published by*

The Institute for Fiscal Studies  
7 Ridgmount Street  
London WC1E 7AE  
Tel: +44 (0) 20-7291 4800  
Fax: +44 (0) 20-7323 4780  
Email: [mailbox@ifs.org.uk](mailto:mailbox@ifs.org.uk)  
Website: <http://www.ifs.org.uk>

*funded by*

The Nuffield Foundation  
28 Bedford Square  
London  
WC1B 3JS  
<http://www.nuffieldfoundation.org>

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# Foreword

The Nuffield Foundation is pleased to support the preparation and publication of IFS Green Budget in 2013.

Funding IFS is not new to us – over the years we have funded a number of the Institute's studies, such as the Mirrlees' Report on taxation. Each application is judged on its merits but we have found the work to be consistently of high quality and innovative.

We are funding this year's Green Budget because of its intrinsic importance. For over thirty years this IFS publication has presented impartial and objective evidence about a range of issues related to the Chancellor's forthcoming annual Budget. It provides an independent source of evidence and can include a look at alternative proposals. In so doing, it adds to the work that the Office for Budget Responsibility does, and ensures there is an independent check on government assumptions and models. In addition, it looks in depth at a number of issues that may affect budget thinking in the longer term, again on the basis of robust evidence. All these mean that public debate, discussion and commentary are better informed.

But we are particularly pleased to support this work because it exemplifies an important principle that guides much of the Foundation's funding. The evidence presented in the Green Budget, which also lays the ground for so much post-Budget comment, is important because it contributes to better public discussion of policy (and hopefully better policy-making in the long term), and because it increases democratic accountability based on evidence and transparent analysis. That dispassionate evidence should play an important role in policy, and public scrutiny of it, is a core value of the Foundation. The Trustees are therefore delighted to fund this year's Green Budget, and can only wish that public debate about other areas of policy were informed by such robust and impartial analysis.

**Professor David Rhind CBE FRS FBA**

Chairman of the Trustees of the Nuffield Foundation

The Nuffield Foundation is an endowed charitable trust that aims to improve social well-being in the widest sense. It funds research and innovation in education and social policy and also works to build capacity in education, science and social science research. The Nuffield Foundation has funded this project, but the views expressed are those of the authors and not necessarily those of the Foundation. More information is available at <http://www.nuffieldfoundation.org>.



# Preface

Welcome to the Institute for Fiscal Studies' 2013 Green Budget. In the following pages, we discuss some of the many issues confronting Chancellor George Osborne as he prepares his fourth Budget. He again faces an economy that has grown less strongly than he had hoped a year ago. And he has again had to extend the period of the fiscal consolidation in the face of downgraded growth forecasts from the Office for Budget Responsibility. Here we assess the fiscal position and look in detail at the likely consequences of his revised plans for spending choices in 2015–16, for which we are promised a spending review this year, and through to 2017–18. We also look in detail at some of the key economic puzzles around productivity and the performance of the labour market, and set out some of the specific options around social security spending and tax rises.

As ever we collaborate with others to write the macroeconomic chapters. We are grateful to Oxford Economics, and in particular to Andrew Goodwin and Adam Slater, for the chapters they have contributed on the outlook for the UK economy and the global economy.

This year we offer our particular thanks to the Nuffield Foundation for the funding it has provided to support the Green Budget. Our most important aim for the Green Budget is to influence policy and inform the public debate. It is particularly appropriate then that it should be supported by the Nuffield Foundation for which these are also central aims.

This year, as in all years, we are also grateful for the continuing support that ESRC provides for our ongoing research work via the Centre for the Microeconomic Analysis of Public Policy at IFS. This underpins all our analysis in this volume.

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As with all IFS publications, the views expressed are those of the named authors of the particular chapters and not of the institute – which has no corporate views – or of the funders of the research.



Paul Johnson

Director, Institute for Fiscal Studies



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# Summary

## Chapter 1

### The global economy

- The outlook for world growth at the beginning of 2013 looks brighter than a year ago, thanks to a decline in key 'event risks' such as a eurozone break-up, a Chinese hard landing and the 'fiscal cliff' in the US.
- US growth is expected to outpace growth in the other major economies over the next two years, reaching around a 3% annual rate by 2014. Upside risks to growth are also more prominent in the US than elsewhere.
- Although financial tensions have eased, the eurozone is likely to continue to contract in 2013, in part because of further fiscal tightening. Fiscal tightening will affect many of the UK's other key trading partners, including the US and some emerging countries. Despite looser monetary policy, growth across all advanced economies will likely be modest in 2013 and not contribute meaningfully to higher world growth until 2014.
- Emerging economies such as China and India showed some signs of improvement in late 2012, and growth is expected to accelerate in both countries in 2013 and 2014, helped by policy stimulus during 2012 feeding through.
- World growth is forecast to rise from 2.3% in 2012 to 2.4% in 2013 and 3.4% in 2014. A key downside risk to this forecast remains the threat of a break-up of the eurozone, although the probability of this has diminished significantly since mid-2012. Plausible upside risks relate to more decisive policy action and a faster recovery of business confidence leading to a more rapid pickup in consumption and investment.

## Chapter 2

### The UK economic outlook

- The UK economy flatlined in 2012, with a poor trade performance offsetting more encouraging trends in consumer spending and business investment. However, near-term prospects look brighter. The export environment is likely to improve this year, led by the US and emerging markets, reducing the drag on growth from net trade. At the same time, the domestic economy should continue to strengthen and GDP is forecast to grow by around 1% this year.
- Growth should gather pace in the later part of 2013 and average 2.1% in 2014. Key to this pickup in activity is a further substantial fall in inflation, which boosts consumers' purchasing power. In addition, the robust financial position of UK firms is expected to underpin a pickup in business investment.
- We judge that there is currently a significant amount of spare capacity in the UK economy, with the output gap estimated to have been 5% of potential output in 2012. The financial crisis is likely to have caused substantial permanent damage to potential output, but the vast bulk of this damage has already occurred and we expect potential output growth to average 1.9% over the period from 2013 to 2017. Such a large output gap will provide the conditions for the recovery to gain momentum over

the medium term, with GDP growth expected to accelerate from 1% in 2013 to 2.9% in 2017. Our forecasts are not dissimilar from those of the Office for Budget Responsibility, but are above the market consensus over the longer term.

- The risks around our central forecast are more balanced now than they were for most of 2012, though domestic risks do remain skewed slightly to the downside. The most significant domestic risk remains the high level of consumer indebtedness, which may weigh more heavily on the upturn. On the upside, a more aggressive recovery in business investment remains a plausible alternative, though it would likely be dependent on policymakers surprising us with faster and more decisive solutions to the eurozone's problems. The UK's biggest downside risk also relates to the eurozone: a scenario where multiple countries leave the eurozone would likely cause another deep recession in the UK.

## Chapter 3

### The productivity puzzles

- There are now more people in employment in the UK than before the recession. But output remains below pre-recession levels. At the same point after the recessions of the early 1980s and 1990s, the reverse was the case: employment levels were still lower than before the recessions, but output had more than recovered its pre-recession level. The result is a fall in labour productivity since 2008 that is much larger and more persistent than in previous recessions.
- In 2012Q3, measured real output per worker was 3.2% lower than in 2008Q1 and 12.3% below its pre-recession trend. Part of the fall comes from an increase in part-time work and the resulting reduction in average hours. However, output per hour has also fallen – by 2.6% between 2008Q1 and 2012Q3 – and is 12.8% below its pre-recession trend.
- Changes to the industrial composition of the economy do not explain any of the fall in aggregate labour productivity, and we conclude that changes in the types of people employed can explain only a small part of the fall.
- Real wages have fallen since 2008. Labour supply appears to have been more robust, and the labour market more flexible, than was the case during previous recessions. This has likely contributed to lower real wages, which in turn allow firms to retain more workers than they otherwise would during periods of falling demand, and thereby to lower labour productivity.
- In contrast to previous recessions, there has been no surge in levels of economic inactivity – i.e. in the numbers of people of working age neither in employment nor looking for employment. This seems likely to be associated with a benefit system that has tighter job search requirements.
- The evidence in favour of continued 'labour hoarding' is weak: flows into employment have remained strong and we would expect the majority of firms to have adjusted their labour inputs by now.
- Business investment has fallen significantly during the recession and remains 16% below the pre-recession high. To the extent that this has reduced either the level or quality (or both) of available capital, we expect low investment to have contributed to lower labour productivity. In addition, a higher cost of capital relative to wages

combined with uncertainty over future demand may have led firms to substitute some labour for capital.

- The movement of capital to high-productivity projects may have been inhibited by a combination of bank forbearance and financing constraints that reduce the exit of low-productivity firms and restrict the entry of new firms. Aggregate labour productivity will be adversely affected during any period of capital adjustment.
- In contrast to the private sector, public sector employment has contracted sharply since the recession – the 6% fall since the end of 2009 largely reverses the increase in public sector employment over the previous decade. At the same time, output of government services, as measured in the National Accounts, has increased slightly since 2009. This suggests that public sector productivity has grown in recent years. However, we present this conclusion with some caution given the particular difficulties in measuring output of the public sector.

## Chapter 4

### The fiscal targets

- The Chancellor, George Osborne, has committed to complying with two fiscal targets, which constrain fiscal policy. The fiscal mandate states that the structural current budget must be forecast to be in balance or in surplus by the end of the rolling, five-year forecast horizon. The supplementary target states that public sector net debt as a share of national income should be falling at a fixed date of 2015–16.
- The latest forecasts from the Office for Budget Responsibility (OBR) show that Mr Osborne is complying with the fiscal mandate but the date at which the structural current budget is expected to return to surplus has been pushed back yet again.
- The fiscal mandate has much to recommend it and is preferable to the European Union's requirement to keep the deficit below 3% of GDP in every year. It constrains the government over the medium term to borrow only to finance investment spending, while allowing the flexibility to provide short-term stimulus in periods when the economy is underperforming and giving time for fiscal policy to adjust to shocks. But the role of the OBR and other independent commentators is crucial in ensuring that these flexibilities are not abused.
- The OBR's latest central forecast is that Mr Osborne is now on course to miss his supplementary target. However, since meeting the target would do little to ensure the sustainability of the UK's public finances, the fact that it looks set to be missed should not, on its own, cause significant concern about fiscal sustainability.
- Now would be a good time for Mr Osborne to consult on a better replacement for this rule, to complement the fiscal mandate. A rule that either targeted the total level of public debt (along the lines of the EU's debt ceiling) or in some way limited the fraction of future tax revenues that have been precommitted to meeting liabilities accrued by the current and previous governments would be better able to ensure long-run sustainability than the supplementary target.
- The Fiscal Responsibility Act 2010, legislated by the last Labour government, imposed legally binding constraints on borrowing and debt. Had the current government not repealed the Act, Mr Osborne would next year have more likely than not faced legal sanctions for failing to meet one of the Act's three provisions (that

borrowing in 2013–14 should be half its 2009–10 level) – unless he were willing to announce tax increases or spending cuts of at least a further 0.5% of national income (£8 billion in today's terms) to be implemented next year.

## Chapter 5

### Public finances: outlook and risks

- Since 2008, the official forecast for the trend level of UK economic output has been revised down significantly. This, combined with a shift in the composition of the UK economy away from more tax-rich sectors, has resulted in a worsening of the public finances. We calculate that, based on official estimates, this worsening amounts to an estimated 8.2% of national income.
- The package of tax increases and spending cuts announced since the March 2008 Budget is estimated to reduce public sector borrowing by 9.2% of national income by 2017–18: 15% from tax increases and 85% from spending cuts. By the end of 2012–13, 79% of the planned tax increases and 67% of the planned cuts to investment spending will have been implemented, while just 32% of the planned cuts to benefit spending and 21% of the cuts to day-to-day spending on public services will have been delivered.
- A significant part of the downgrade in official forecasts has come in the last two years. In response, further spending cuts have been pencilled in for after 2014–15 – the end of the current spending review period – to offset fully the increase in forecast structural borrowing: but not until 2017–18. A worse economic outlook since November 2010 has pushed up borrowing forecasts for 2014–15 by £65 billion. Mr Osborne has chosen to offset only £1 billion of this. In this sense, he is running looser fiscal policy over this parliament than he intended back in 2010.
- There is great uncertainty surrounding the evolution of the UK economy and public finances. The year after the last six general elections have seen the announcement of net tax increases averaging more than £7 billion a year. Given the current fiscal circumstances, substantial tax rises in 2015 cannot be ruled out.
- Our baseline public finance forecast shows a more than 50:50 chance that (on a like-for-like basis) borrowing this year will be higher than it was in 2011–12. Economically more important is the medium-term forecast, where our projection is similar to the OBR's, although in the next three years we assume lower underspends by Whitehall departments, and hence slightly higher spending overall.
- Under the Oxford Economics central forecast, we project that, as a result of higher trend output, the public finances would be in a stronger position by 2017–18 than forecast by the OBR. In this scenario, the fiscal consolidation plan could be reduced from 9.2% to 8.0% of national income without increasing planned borrowing. The picture would be even better under the more optimistic Oxford Economics scenario.
- On the downside, if a scenario similar to the more pessimistic Oxford Economics one were to materialise, borrowing would remain high for much longer. Public sector net debt would increase sharply to above 100% of national income, leaving the UK even less well prepared to deal with future public finance challenges such as those arising from the ageing of the population and from any future recession.

## Chapter 6

### Public spending and pay

- The government's fiscal consolidation plan involves significant and sustained real cuts to spending on public services. Departmental spending is forecast to be cut in real terms by 10.6% between 2010–11 and 2014–15. This would reduce departmental spending as a share of national income to 21.7% in 2014–15, the level it was back in 2002–03.
- A spending review is scheduled for 2013 to allocate spending cuts between departments in 2015–16. On average, departmental spending is set to be cut by a further 2.4% in real terms, but the government has pledged to protect NHS spending, international aid and non-investment spending on schools from real-terms spending cuts. This would leave other 'unprotected' departments facing cuts to their non-investment budgets of 2.8% and to their investment budgets of 4.9%.
- Forecasts also imply further cuts to departmental spending between 2015–16 and 2017–18. In the absence of further policy announcements, departmental spending looks set to fall by 18.6% in real terms between 2010–11 and 2017–18. If the NHS, schools and aid spending were protected from cuts through to 2017–18, then 'unprotected' departments would face budget cuts averaging 33.2% over this seven-year period. To mitigate this, further tax rises or more cuts to social security benefits after the next general election might well be on the cards.
- The public sector paybill accounts for about half of total non-investment spending by departments. To date, cuts to the public sector paybill have largely been achieved through cuts in employment rather than cuts in average pay per head. Public sector employment has fallen by about 5% (300,000) between 2010–11 and 2012–13.
- The OBR forecasts that general government employment will fall by 900,000 between 2010–11 and 2017–18. This assumes the total paybill is cut at broadly the same rate as non-investment departmental spending. However, plans submitted to the Treasury by government departments suggest that the central government paybill will be cut by more than non-investment spending up to 2014–15. Incorporating these plans up to 2014–15 implies that general government employment will be 200,000 lower in 2017–18 than forecast by the OBR. If the trend of larger cuts in the paybill continues through to 2017–18, general government employment would be 300,000 lower than OBR forecasts by 2017–18.
- The government has not yet set public sector pay awards beyond 2014–15. The number of future job cuts could be reduced by maintaining tight pay awards. The OBR currently assumes that pay-per-head will grow in cash terms by 3% per year between 2014–15 and 2017–18. If this were reduced to 2% per year (similar to that under the current pay awards), then the total number of net job losses could be reduced by 140,000. Before setting future public sector pay policy, it would seem prudent for the government to investigate the impact of the current pay freeze on public sector recruitment and retention, and the relative effects of workforce quality, workforce size and cuts to non-labour inputs on public service quality.



## Chapter 7

### Tax and welfare reforms planned for 2013–14

- Tax and welfare reforms in 2013–14 will amount to a small net ‘giveaway’ in aggregate, at an average of about £33 per household (£0.9 billion in total) in that year. This may come as a surprise, as these changes are taking place in the context of efforts to reduce the budget deficit substantially. However, tax and benefit measures implemented since April 2010 as a whole do represent a significant net ‘takeaway’ of £1,360 per household (£35.9 billion in total).
- The 2013–14 reforms comprise a £6.2 billion gross giveaway mostly offset by a £5.3 billion gross takeaway. The gross giveaway is mostly accounted for by tax cuts, with a large increase in the income tax personal allowance being the most substantial. The gross takeaway is accounted for by various welfare cuts and some small tax rises. Overall, tax measures amount to a net giveaway of £4.2 billion and welfare measures amount to a net takeaway of £3.4 billion. This broad pattern of tax giveaways and welfare takeaways means that the changes, on average, reduce net incomes towards the bottom of the income distribution and increase net incomes in the middle and upper parts of the distribution.
- This set of changes should be seen in the context of a whole raft of reforms implemented, or to be implemented, as part of the fiscal consolidation plan. Up to 2015–16, those at the very top of the income distribution will have tended to lose the most, by some distance, from tax and benefit changes introduced since 2010. Those on working-age benefits, found predominantly towards the bottom of the income distribution, will have been hit the next hardest. Households in the middle and upper-middle will have tended to lose less than other groups, in no small part because they are the biggest gainers from the substantial increases to the income tax personal allowance. However, those on middle and higher incomes have been most squeezed by the failure of earnings to grow in real terms, and this is forecast to continue in 2013–14.
- In terms of the structural changes to the tax and welfare system, the government’s record is mixed. On the welfare side, Universal Credit will shortly start to replace six means-tested benefits and tax credits with a single integrated benefit. This could constitute a welcome simplification and remove some of the weakest incentives to work faced by claimants under the current system. But the localisation of Council Tax Benefit, also taking effect in 2013–14, may well undermine some of these advantages.
- The government has clear strategies both in relation to income tax for individuals on low incomes and for corporation tax, and has stuck to them. Elsewhere, a clear tax strategy is lacking. Perhaps the prime example is fuel duties, for which policy has been set in a haphazard way by repeatedly delaying (and eventually cancelling) annual cash-terms uprating that would otherwise have kept their level constant in real terms.
- A more careful and systematic statement of how things should be indexed would also be welcome. Indexation policy matters hugely for the future shape of the tax and benefit system and the public finances. A change in April will mean that future Local Housing Allowance rates – which set the maximum rents against which private sector tenants can claim Housing Benefit – will depend upon historical local rent levels but not current ones. This is difficult to square with any intelligible policy objective. And



the government's recent comments on relative patterns of benefits and earnings growth suggest that it may not view straightforward price indexation of most benefit rates – the current default assumption – as the appropriate rule. An explicit statement of what it thinks *is* appropriate in the long run is needed.

## Chapter 8

### Options for cutting spending on social security

- Spending on benefits, tax credits and state pensions accounts for 30% of all government expenditure. As the government seeks further deficit reduction measures by 2017–18, it will presumably consider reductions in social security spending, and tax rises, alongside spending on public services.
- The period from 1997–98 to 2010–11 saw significant increases in the generosity of benefits for pensioners and for families with children, though those of working age without children fared less well. Welfare cuts being introduced during the current parliament have reduced entitlements for those of working age but pensioners have been largely protected. These cuts have only partly offset the increase in generosity for families with children seen between 1997–98 and 2010–11, but entitlements for those without children will, on average, be lower in real terms in 2015–16 than they were in 1997–98.
- An obvious way of making savings to the social security budget across the board would be to increase benefits by less than inflation in the next few years. The Autumn Statement contained proposals to increase most working-age benefits by 1% for the next three years. Further savings could be achieved by freezing these benefits, extending below-inflation uprating to more benefits or extending the period of below-inflation uprating to more than three years. To achieve large savings, state pensions would need to be affected.
- In a speech in the summer of 2012, the Prime Minister suggested some areas where he believed that the benefit system was too generous and gave claimants what he saw as perverse incentives, in particular around support for housing costs for young people and support for large families. Changes in these areas could potentially generate large savings, but it is unclear how far the government is prepared to go in reducing support. Introducing exemptions to cuts could further distort incentives; for example, if those aged under 25 were excluded from Housing Benefit unless they had children, those under 25 would have a stronger incentive to have a child.
- Savings could also be achieved by more radical changes to the benefit system – for example, by means-testing more disability and carer's benefits and by removing the last vestiges of the National Insurance system for those of working age. But these would be big changes in the nature of the support given by the benefit system. Careful consideration about who is deserving of support, and how much, should be given before making such changes.

## Chapter 9

### Broad shoulders and tight belts: options for taxing the better-off

- A stated aim of many government ministers is to ensure that the well-off bear the greatest burden of fiscal consolidation. They tend to be less forthcoming about who they consider to be 'rich' or 'well-off'. Are they referring to a judgement about people's wealth or their income?
- Tax payments are already very concentrated on those with the highest incomes, and the fiscal consolidation so far has hit those right at the top of the income distribution (though not the remainder of the top half) harder than those in the bottom half.
- The burden of increases in all rates of income tax, National Insurance contributions (NICs) or (to a lesser extent) VAT would fall disproportionately on those in the top half of the income distribution. Such increases would affect many of those in the upper-middle of the income distribution who have so far been spared much of the pain of tax and benefit reforms introduced as part of the fiscal consolidation.
- The most obvious way of targeting a tax rise at higher-income individuals would be to increase the higher rate of income tax or the additional rate of NICs. Either could raise significant amounts, with the losses concentrated among those in the highest-income tenth of the population.
- Many unattractive alternatives exist that could raise revenue from those with high incomes and/or high wealth. A wealth tax would have major economic and practical disadvantages. Restricting income tax relief on pension contributions would be expensive to administer, be unfair and inappropriately distort behaviour. Stamp duty land tax (SDLT) is wholly ill-conceived and increasing it makes it worse.
- There are, however, more attractive options. Forgiveness of capital gains tax (CGT) at death and inheritance tax (IHT) reliefs for business assets, agricultural land and gifts made more than seven years before death are highly distortionary. The tax-free lump sum on private pensions is badly targeted, and the NICs treatment of employer pension contributions is excessively generous. Proposals for a 'mansion tax' have a sensible logic underpinning them, but it would be better to make council tax proportional to up-to-date property values.
- Many of the existing taxes examined in this chapter – CGT, IHT SDLT and council tax – could be improved in a way that both makes them more efficient and, if so desired, raises more revenue from the rich. It would be sensible to look at reforming these taxes before considering the introduction of new ones.

## Chapter 10

### Corporate tax, revenues and avoidance

- Corporate tax revenues fell sharply in the recession. Receipts were lower in 2011–12 than previously expected and they are not forecast to rise again until 2016–17. This is the result of a combination of discretionary cuts to the main tax rate and weak expected growth in taxable profits. By 2017–18, revenues are forecast to be at their lowest level as a share of national income and total receipts since 1984–85.

- The large fall in corporate revenues across the recession was caused mainly by a sharp fall in financial sector receipts and there remains uncertainty about how strongly they will recover.
- There has been renewed attention on corporate tax avoidance. The UK attempts to tax profits that are *created* in the UK. These can be hard to measure and firms have an incentive to manipulate 'UK profit' to avoid tax. How much is lost to corporate tax avoidance is not known.
- Some of the difficulties in defining and tackling tax avoidance, which are both conceptual and practical, are inherent to the current tax system and arise from the way it attempts to measure profits created in the UK. A more radical change in the corporate tax system – for example, moving to a common European tax base – therefore merits consideration.
- Taxation of North Sea oil and gas has been an important source of revenue for successive UK governments. Revenues were relatively high following the recession (due to a spike in the oil price and an increase in the tax rate) but are forecast to decline as production falls.
- North Sea companies are subject to tax at over double the main statutory corporate tax rate. This is implemented in a way that distorts investment decisions. The tax regime is unnecessarily complex and creates additional uncertainty by changing too frequently.

# 1. The global economy

Adam Slater (Oxford Economics)

## Summary

- The outlook for world growth at the beginning of 2013 looks brighter than a year ago, thanks to a decline in key ‘event risks’ such as a eurozone break-up, a Chinese hard landing and the ‘fiscal cliff’ in the US.
- US growth is expected to outpace growth in the other major economies over the next two years, reaching around a 3% annual rate by 2014. Upside risks to growth are also more prominent in the US than elsewhere.
- Although financial tensions have eased, the eurozone is likely to continue to contract in 2013, in part because of further fiscal tightening. Fiscal tightening will affect many of the UK’s other key trading partners, including the US and some emerging countries. Despite looser monetary policy, growth across all advanced economies will likely be modest in 2013 and not contribute meaningfully to higher world growth until 2014.
- Emerging economies such as China and India showed some signs of improvement in late 2012, and growth is expected to accelerate in both countries in 2013 and 2014, helped by policy stimulus during 2012 feeding through.
- World growth is forecast to rise from 2.3% in 2012 to 2.4% in 2013 and 3.4% in 2014. A key downside risk to this forecast remains the threat of a break-up of the eurozone, although the probability of this has diminished significantly since mid-2012. Plausible upside risks relate to more decisive policy action and a faster recovery of business confidence leading to a more rapid pickup in consumption and investment.

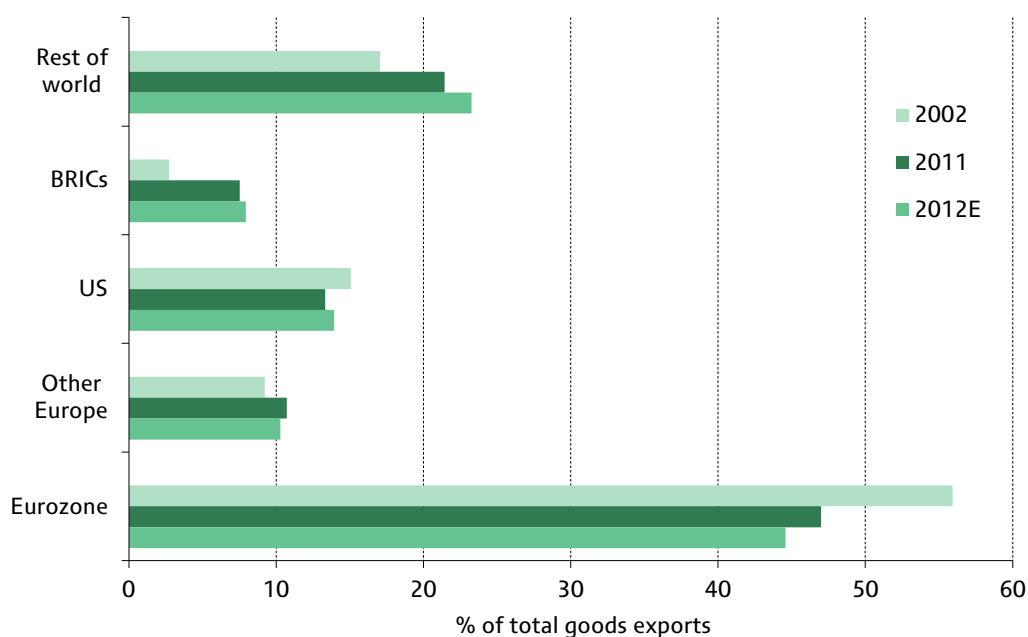
## 1.1 Introduction

Global growth decelerated during 2012 and is estimated to have dipped below 2% per annum in the final quarter of the year, which would be the slowest pace since the final quarter of 2009. World trade growth also fell back sharply to around 2%, from over 6% in 2011. This was an unfavourable backdrop for countries hoping for export-led recoveries, especially those simultaneously undertaking sizeable fiscal consolidations such as the UK.

From a UK perspective, the descent of the eurozone back into recession was a particularly negative feature of the economic environment during 2012. The eurozone currently accounts for just under half the UK’s goods exports but the eurozone’s total imports shrank by an estimated 0.6% in 2012. Although other markets were more buoyant, the weakness of the eurozone was a heavy drag on UK export performance.

UK export prospects will remain heavily dependent on eurozone economic developments despite a significant shift in export orientation towards non-eurozone markets in recent years, which continued in 2012 (see Figure 1.1). There should be some offset to muted

Figure 1.1. UK trade exposure



Source: Haver Analytics, Oxford Economics.

eurozone demand in the shape of a stronger US, however, and from key emerging markets such as China and India.

The UK also remains at risk from financial shock waves from the eurozone. The severe financial tensions seen in the eurozone in the first half of 2012 had a notable negative impact on the UK banking sector, forcing up its funding costs. Although eurozone financial tensions eased in the second half of the year, the risk of renewed surges in tensions remains high given the weak state of public finances and banking sectors in much of the eurozone. The chronic weakness of economies in the troubled 'peripheral' eurozone states such as Spain and Greece is also creating serious social and political tensions, which could still ultimately result in the splintering of the eurozone.

Our forecast for the global economy is set out in Section 1.2, while Section 1.3 describes the key risks to this forecast. Section 1.4 concludes.

## 1.2 Global outlook

### Eurozone

The eurozone financial crisis remained acute in the first half of 2012, with severe pressures on government bond markets in the fiscally-troubled 'peripheral' eurozone states such as Spain and Italy. Greece was obliged to undertake a significant sovereign debt restructuring in the first quarter and concerns that Greece might be forced out of the eurozone remained high for much of the year, peaking in May and June when the country held two general elections (the first proving indecisive). Markets also became very concerned about the situation in Spain as estimates of potential losses in the banking sector rose in the face of property market weakness and rising non-performing loans.

As eurozone break-up fears increased, the 'peripheral' states saw a significant drain of deposits from their banking systems, which led to a sharp monetary squeeze. The European Central Bank (ECB) was obliged to respond with a massive increase in lending

to the banking systems of the ‘peripheral’ countries, with lending soaring by €500 billion in the first half of 2012.

With fiscal policy also tightening in the ‘peripherals’ by around 2% of GDP, output in this group of eurozone countries fell steeply in the first half of 2012, by just under 2% on a year earlier – continuing the bleak trend of recent years (see Table 1.1). In the ‘core’ eurozone states such as Germany and France, economic performance was more resilient, but the deep recessions in the ‘peripherals’, added to fiscal tightening and a slowdown in world growth, pushed these countries towards recession also as 2012 proceeded.

**Table 1.1. Eurozone GDP and unemployment since 2008, selected countries**

	<i>Change, 2008–12</i>	
	<b>GDP (%)</b>	<b>Unemployment (% points)</b>
<b>‘Core’ countries</b>		
Germany	2.7	–1.0
France	0.1	2.5
Netherlands	–1.9	2.6
<b>‘Peripheral’ countries</b>		
Ireland	–4.3	8.4
Spain	–4.9	13.7
Italy	–5.3	3.9
Portugal	–5.6	7.9
Greece	–19.5	16.6

Note: Based on estimated GDP data for 2012.

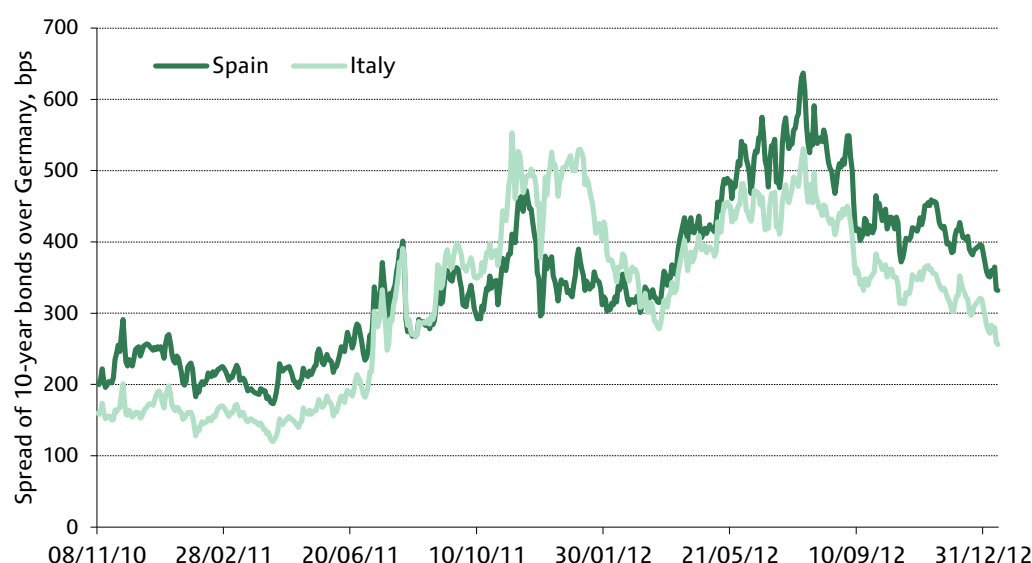
Source: Oxford Economics.

Financial tensions in the eurozone began to ease from the summer of 2012 in response mostly to significant action from the ECB, which promised at the end of July to ‘do what it takes’ to preserve the integrity of the eurozone. This was followed up by a plan allowing large-scale purchases of sovereign bonds by the ECB, if needed, to cap the borrowing costs of countries undergoing fiscal adjustment. There were also agreements to ease the fiscal adjustment programmes in Spain and Greece.

In the final months of 2012 and early 2013, financial tensions in the eurozone relaxed considerably. The ECB had not yet undertaken any of the government bond purchases promised earlier in the year, but its expressed willingness to do so if needed had proved an effective backstop for sovereign debt markets in the ‘peripherals’ and had started to stem the debilitating drain of bank deposits seen in these countries.

The spread between Spanish 10-year bonds and German bunds of the same maturity declined from nearly 640 basis points (bps, i.e. 6.4 percentage points) in July 2012 to 330bps by the second week of January 2013, as shown in Figure 1.2. There was also a sharp narrowing in the spread between Italian and German 10-year bonds over the same period, from 530bps to 260bps. Meanwhile, a surge in household deposits in Spain in November of €10 billion took them back to the level seen at the start of 2012. Even in Greece, private sector deposits rose by €2.7 billion from September to November. Pressure on the ECB’s balance sheet also eased from mid-2012, as demand from banks for

Figure 1.2. Eurozone government bond spreads



Source: Haver Analytics, Oxford Economics.

central bank loans eased. Loans to banks declined by €112 billion in the second half of 2012.

This recovery of bank deposits should help ease the severe monetary squeeze suffered by the 'peripherals' over the last eighteen months. At the eurozone-wide level, monetary conditions have also started to improve. Eurozone real broad money supply (M3) growth picked up from near-zero in mid-2012 to 1.7% on the year by November, the strongest expansion since mid-2009.

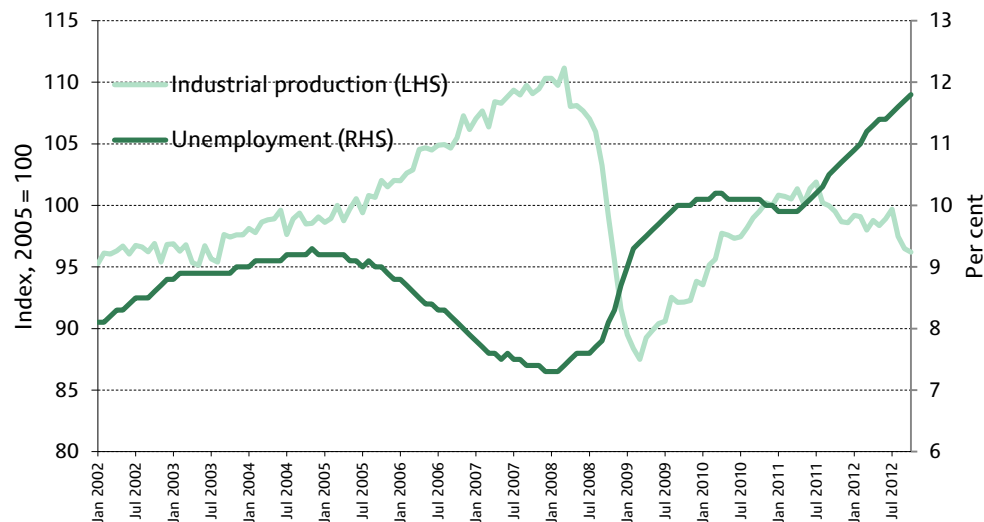
These monetary trends suggest a recovery in economic activity towards the end of 2013 and in early 2014. However, real activity in the eurozone has so far proved slow to respond to the easing of financial tensions. Eurozone GDP continued to decline in 2012Q3, and available indicators for Q4 point to a further contraction. The average level of industrial production in October–November 2012 was more than 2% down on that in Q3. In addition, the Purchasing Managers' Index (PMI) surveys suggested activity continued to contract in December in both manufacturing and services. Preliminary estimates suggest that the German economy, the eurozone's industrial heart, contracted by 0.5% in the final three months of the year compared with the previous quarter.

The slow response of output to eased financial tensions partly reflects time lags, but there are also other headwinds to growth in the eurozone.

First, while the banking system is no longer on the edge of the abyss, its condition remains precarious and credit conditions thus remain tight, curbing investment. Second, unemployment is continuing to rise, reaching 11.8% in November (see Figure 1.3). Unemployment is forecast to increase further to 12.5% by the start of 2014, as firms try to claw back losses in productivity seen in recent years.

Growth will also be held back by continued fiscal tightening, estimated to amount to just under 1% of GDP across the eurozone (compared with an estimated 1.3% of GDP in

Figure 1.3. Eurozone industrial output and unemployment



Source: Haver Analytics, Oxford Economics.

2012). Some recent evidence suggests that fiscal multipliers may be higher than previously thought,<sup>1</sup> potentially especially in the eurozone where individual countries cannot use monetary and exchange rate policy to offset fiscal cutbacks and where a group of countries with close trade links to each other are trying to achieve fiscal adjustment simultaneously. Against this background, a further contraction of eurozone GDP is expected in 2013 and it will not be until 2014 that growth resumes, with a forecast subdued rise in GDP of 1.1%.

This sustained weakness in economic activity, and the associated social costs, is likely to contribute to renewed bouts of financial tension in the eurozone, although the risk of a break-up of the euro currency in 2013 now looks reduced (see Section 1.3). The problem of low growth in the eurozone also looks set to persist well beyond 2013 and 2014. The need for substantial deleveraging by both the public and private sectors, plus a slow pace of economic and political reform, means that GDP growth is forecast to average only around 1.5% per annum from 2015 to 2019 – suggesting the eurozone faces ‘a lost decade’.

## Emerging economies

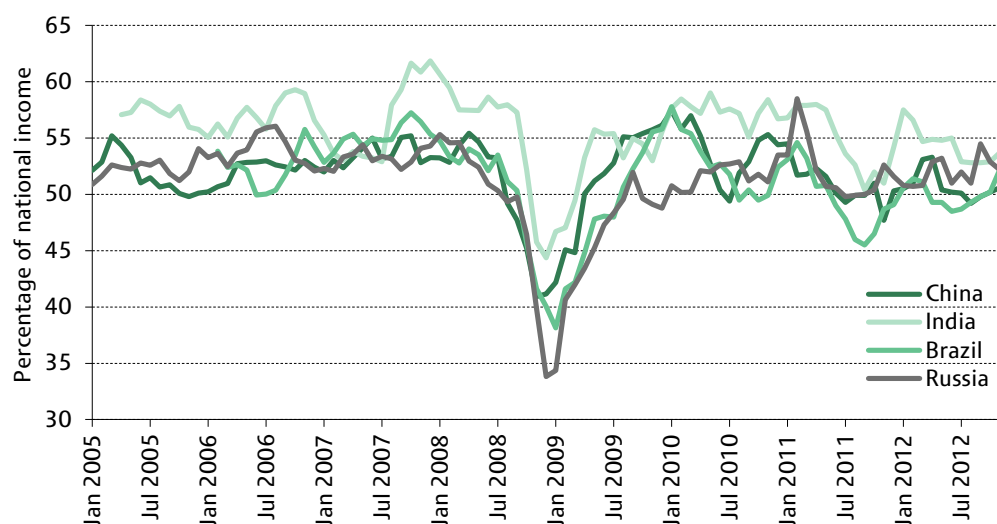
The main emerging economies also saw growth slowing during 2012. China’s GDP growth slowed from 9.3% in 2011 to an estimated 7.7%, India’s from 7.5% to 5.4% (the slowest pace for a decade) and, most strikingly, Brazil’s growth slowed from 2.7% to just 1.0%.

This slowdown was met with increased policy stimulus, including cuts in interest rates, and by the end of 2012 there was evidence that this was feeding through into firmer growth. Monthly indicators such as the manufacturing PMI surveys improved in China, Brazil and India (see Figure 1.4), with the Indian December PMI at a six-month high. Manufacturing activity also showed signs of strengthening in export-oriented Asian countries such as Korea, Taiwan and Thailand, suggesting an upturn in regional trade.

<sup>1</sup> See, for example, box 1.1 of IMF, *World Economic Outlook*, October 2012 (<http://www.imf.org/external/pubs/ft/weo/2012/02/pdf/text.pdf>) and O. Blanchard and D. Leigh, ‘Growth forecast errors and fiscal multipliers’, IMF Working Paper WP/13/1, January 2013 (<http://www.imf.org/external/pubs/ft/wp/2013/wp1301.pdf>).



Figure 1.4. BRICs: manufacturing Purchasing Managers' Index



Notes: The PMI is an indicator produced by Markit Group by polling private sector companies. The chart shows results for activity in the manufacturing sector, with a reading above 50 indicating that activity is increasing. Source: PMI / Markit / China NBS.

As policy stimulus feeds through (and continues in some countries, most notably India), GDP growth in emerging economies is forecast to pick up this year. Growth is forecast to rise to 8.3% in China, 6% in India and 3.9% in Brazil. Further improvement is expected in 2014, with Chinese growth reaching 9%, Indian growth 7.5% and Brazilian growth around 5%. The rebound in Brazil will be helped by the strength of domestic demand. This is also a positive factor for Russia (offsetting some competitiveness issues), which is expected to grow by 3.6% this year and next.

One area that is lagging the general improvement in emerging countries is central and eastern Europe, which remains hobbled by its close trading links with the recession-hit eurozone. GDP growth is expected at close to zero in Hungary, slightly negative in the Czech Republic and just 1.6% in Poland.

The improved growth performance of the emerging countries in 2013 and 2014 should provide some help for UK exporters. Although UK firms have arguably been slow to respond to the economic opportunities in the 'BRIC' economies (Brazil/Russia/India/China) compared with exporters in countries such as Germany and the US, the picture is changing. Goods exports to the BRIC group reached almost 8% of the UK total in the first nine months of 2012, rising by around 11% year-on-year.

## Japan

The Japanese economy started 2012 brightly but deteriorated as the year proceeded. Government incentive schemes boosted household consumption in Q1, but this effect soon wore off and, with export demand damaged by slowing world trade and the strength of the yen, the economy returned to recession in Q3, with a further contraction in output likely to have occurred during Q4.

Prospects for 2013 look better as a result of a substantial weakening of the yen late in 2012, of around 10% on a trade-weighted basis. This followed promises of much more aggressive monetary easing by the new Liberal Democratic Party government, which won a landslide election victory in December. Part of the new policy approach may be a shift

to a 2% CPI target, up from 1% currently. The government has also proposed a fiscal stimulus of just over 1% of GDP for 2013, which should boost growth further. GDP growth is expected at 0.5% in 2013, rising to 1.7% in 2014. Demographic pressures will nevertheless weigh on domestic demand growth and on long-term potential GDP growth, which is estimated at less than 1% per annum.

## US

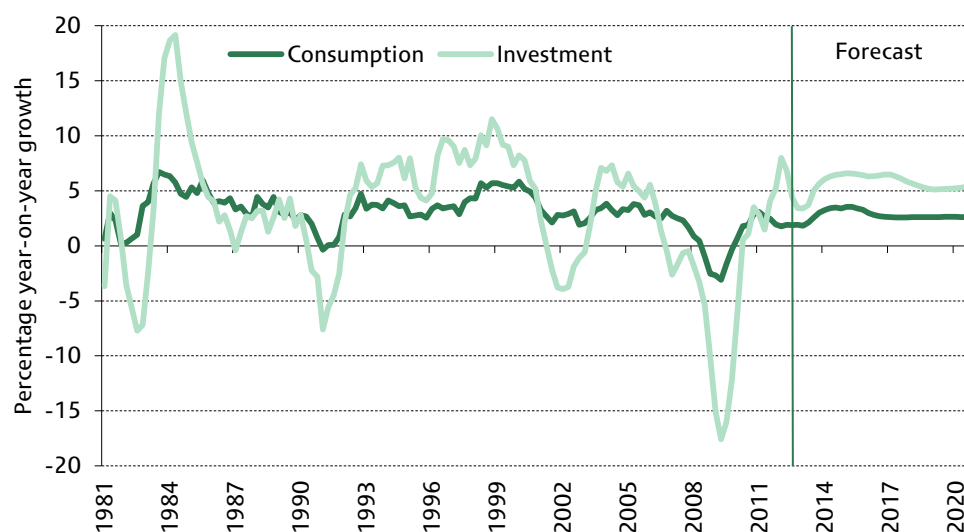
The US economy grew by an estimated 2.3% in 2012, a relatively modest pace (although one of the strongest performances amongst the major economies last year). Growth prospects have improved in recent months though, due to both political and economic factors.

On the political side, a deal in early January of 2013 averted the 'fiscal cliff', which risked a sharp tightening of fiscal policy and a renewed recession. The deal avoided sharp rises in taxation, although some increases on higher incomes were agreed. Some fiscal risks do remain, however. The sharp automatic spending cuts that were due to kick in at the start of 2013 have only been delayed until March, and it is unclear to what extent these will ultimately be scaled back. An agreement is also still needed to raise the debt ceiling.

On the basis of the deal agreed in January 2013 and assuming no additional near-term spending cuts (we assume substantial spending reductions are delayed into the medium term), the US is expected to see fiscal tightening of around 1.4% of GDP in 2013 and 1.0% of GDP in 2014. But this pace of tightening looks manageable (a fiscal tightening estimated at around 1% of GDP occurred in 2012).

Meanwhile, a number of key economic indicators showed signs of improvement in late 2012. In particular, consumer spending picked up strongly in November and consumer confidence has also improved. Core durable goods orders posted healthy back-to-back monthly rises in October and November, suggesting investment activity may be accelerating after a sticky patch in mid-2012. Both consumption and investment are forecast to strengthen during 2013 and 2014 (see Figure 1.5), with consumer spending supported by a fall in unemployment to 7% by end-2014 from 7.8% now.

**Figure 1.5. US consumption and investment growth**



Source: Oxford Economics.

Growth should also be underpinned by a steady recovery in the housing market, aided by Federal Reserve purchases of mortgage-backed securities, which will hold down mortgage rates. US house prices were up 4% year-on-year in October and housing starts were up over 20% year-on-year in November. Deleveraging pressures on US households have already showed signs of easing, and rising wealth should help maintain and even reinforce this trend.

US GDP growth is forecast at 2.3% in 2013, with annualised growth reaching 3% by the second half of the year and a 3% pace of growth maintained into 2014. Over the medium term, the US economy will also benefit from the 'shale gas revolution', which offers cheaper energy costs, and the substantial improvement in relative competitiveness achieved in recent years thanks to the weak dollar and relatively strong productivity performance.

Risks to the forecast look more balanced than a year ago. The reduction in 'fiscal cliff' risk may spur faster-than-expected investment growth through improved business sentiment. In addition, monetary stimulus has been increased in recent months even though US monetary trends were already improving. The Federal Reserve announced further asset purchases in December, taking its total planned purchases to US\$85 billion per month. Importantly, the Fed has also pledged to continue this rate of purchases until the labour market shows substantial improvement. Monetary conditions are already more favourable in the US than in the eurozone or the UK, with money supply and credit measures growing at a healthier rate in the US. So the Fed's pledge of strong additional monetary stimulus in our view adds to the likelihood that US economic growth will substantially outpace growth in Europe in 2013 and 2014.

Strength in the US should be good news for the UK, given the importance of the US as a trading partner. Some 14% of the UK's goods exports go to the US, and the fractions of services and foreign income receipts that the UK derives from the US are even higher. A stronger US should also have positive knock-on effects for other important UK trading partners.

## **Global outlook**

Overall, the outlook for global growth at the beginning of 2013 looks brighter than a year ago, when the main focus was very much on the danger of renewed recessions in a number of the advanced economies.

At the start of 2012, financial market strains centred in the eurozone had driven stock markets in the main advanced and emerging countries 10–20% down on the year, weighing on business and consumer confidence. At the start of 2013, by contrast, global stock markets are 15% higher than a year ago and European markets almost 20% higher.

This turnaround is largely thanks to a decline in key 'event risks' such as a eurozone break-up, a Chinese hard landing and the 'fiscal cliff' in the US. World growth is forecast to rise from 2.3% in 2012 to 2.4% in 2013 and 3.4% in 2014 (see Table 1.2).

Our forecasts for near-term growth are generally close to consensus, although it is worth noting that the range of forecasts for many key countries (for example, Japan and the UK) is relatively wide, implying significant remaining uncertainty about growth prospects (see Table 1.3).

Table 1.2. Summary of international forecasts

Real GDP growth	2011	2012	2013	2014	2015	2016
<b>North America</b>						
United States	1.8	2.3	2.3	3.1	3.3	2.9
Canada	2.6	2.0	1.7	2.9	2.8	2.6
<b>Europe</b>						
Eurozone	1.5	-0.5	-0.2	1.1	1.4	1.5
Germany	3.1	0.9	0.7	1.9	1.7	1.6
France	1.7	0.0	0.0	1.1	1.2	1.3
Italy	0.6	-2.1	-1.2	0.3	1.1	1.2
UK	0.9	0.1	1.0	2.1	2.4	2.5
EU27	1.6	-0.3	0.1	1.4	1.8	1.8
<b>Asia</b>						
Japan	-0.5	2.0	0.5	1.7	2.1	1.2
China	9.3	7.7	8.3	9.0	8.5	8.0
India	7.5	5.4	6.0	7.5	7.9	7.8
<b>World</b>	2.9	2.3	2.4	3.4	3.7	3.5

Source: Oxford Economics.

From a UK perspective, 2013 still looks likely to be another challenging year. Despite looser monetary policy, economic growth in the advanced economies as a whole will be modest in 2013 and they will not contribute meaningfully to higher world growth until 2014.

A key problem is weakness in the eurozone, stemming partly from fiscal tightening there. But fiscal tightening will also be significant in many of the UK's other key trading partners. Indeed, taking forecast fiscal adjustments across the UK's top 20 trading partners and weighting them by export shares,<sup>2</sup> the weighted average fiscal adjustment in 2013 is estimated at 0.8% of GDP, only fractionally down from 0.9% of GDP in 2012. As well as the eurozone, fiscal tightening in 2013 will be significant in the US and in emerging trading partners such as India, Hong Kong and Korea (see Figure 1.6).

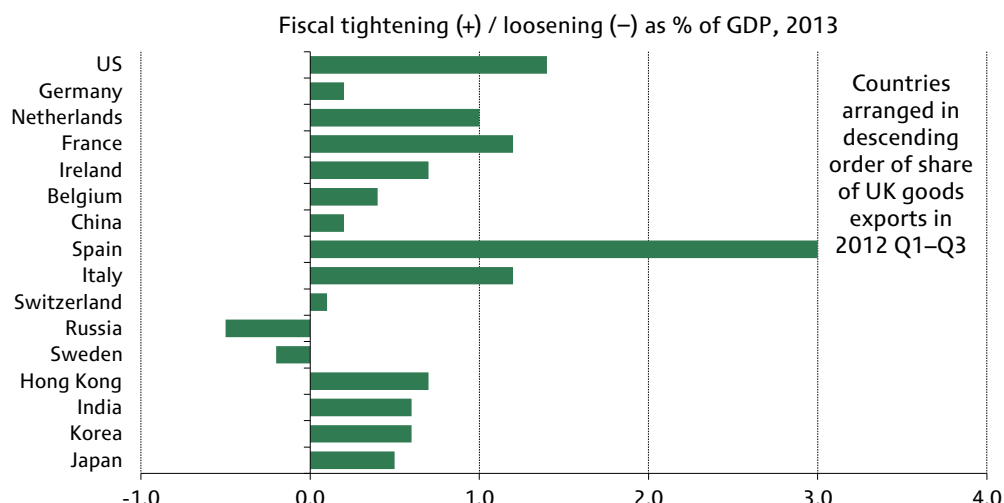
Table 1.3. Key GDP forecasts for 2013 compared with consensus

	OE forecast	Consensus	Consensus range
US	2.3	2.0	1.4 to 2.4
Eurozone	-0.2	-0.1	-0.8 to 0.5
Japan	0.5	0.7	0.2 to 2.2
UK	1.0	1.0	0.2 to 2.0
China	8.3	8.1	7.4 to 9.0

Source: Oxford Economics, Consensus Economics (14 January 2013 edition).

<sup>2</sup> Exports of goods only were used to calculate geographical export shares, due to availability of data for 2012.

Figure 1.6. Fiscal tightening in the UK's key trading partners



Source: IMF, Oxford Economics.

### 1.3 Risks to the global economy

The reduction in 'event risks' during 2012 means we have become more confident about our forecasts. We ascribe a 60% probability to an outcome similar to that shown in our central forecast, compared with a probability of 45% a year ago.<sup>3</sup> Nevertheless, there are still a number of possible alternative scenarios, in which global growth could diverge significantly from our baseline. We cover the key scenarios for the global economy below and assess their possible implications for the UK economy in Chapter 2.

#### Multiple eurozone Exits

The first set of alternative scenarios relates to the possibility that the eurozone financial crisis culminates in the exit of several countries from the euro currency. Although the likelihood of eurozone exits has arguably declined over the last six months, we still view this as a major downside risk for the global economy, and especially for the UK.

The most likely trigger of a eurozone break-up would be rising social unrest. Although policy actions since mid-2012, most notably by the ECB, have reduced the risk of countries being pushed out of the euro by market pressures, the outlook for many countries nevertheless remains one of grinding austerity for a lengthy period accompanied by rising unemployment. Against this background, remaining in the euro may become increasingly unpopular in the countries enduring the sharpest fiscal adjustments.

Meanwhile, as more bailouts appear necessary, creditor governments may find it increasingly difficult to get those transfers approved by their parliaments and electorate. In this context, some countries may either opt to leave the eurozone or be forced to do so. Greece would probably be the first country to exit given the size of its challenges, but we think that multiple eurozone exits are more likely than just a Greek exit. Indeed, the cost of keeping other 'peripherals' in the eurozone once one country leaves could be high, as

<sup>3</sup> See A. Slater, 'The global economy', in C. Emmerson, P. Johnson and H. Miller (eds), *The IFS Green Budget: February 2012*, IFS Commentary 122, 2012 (<http://www.ifs.org.uk/budgets/gb2012/12chap1.pdf>).

exit by one country would be likely to set off a chain reaction of contagion in other 'peripherals', pushing up their government bond yields and leading to runs on their banks.

A number of possible variants of this kind of scenario exist, but for the purposes of the Green Budget we quantify the impact of Greece, Portugal, Ireland, Spain, Italy and Cyprus leaving the eurozone in 2014Q1. We assign a 15% probability to this scenario, compared with a 10% probability estimated at the time of last year's Green Budget and a 30% probability estimated in mid-2012.

Under the scenario, the new currencies in the exiting countries depreciate very sharply, reflecting the overvaluation of their real exchange rates after years of deteriorating relative competitiveness. The new currencies are also likely to undershoot their fair value. Moreover, the introduction of new currencies in the exiting countries gives rise to substantial costs related to the redenomination of contracts from euros into the new currencies, including legal costs. The depreciations lead to a surge in inflation, which the new central banks respond to by raising interest rates from 0.75% (the current ECB rate) to high single digits.

Banks in the exiting countries face runs as depositors try to place their money in safer institutions. For the residual eurozone and the rest of the world, the series of defaults on external debt by the exiting countries' governments and companies have a significant impact on banks' balance sheets. Credit conditions tighten by as much as they did in 2008–09.

The residual euro is likely to weaken initially, as turmoil significantly dampens the value and return prospects of investment in the eurozone. As activity stabilises and the eurozone emerges as a more stable entity, the euro exchange rate may appreciate.

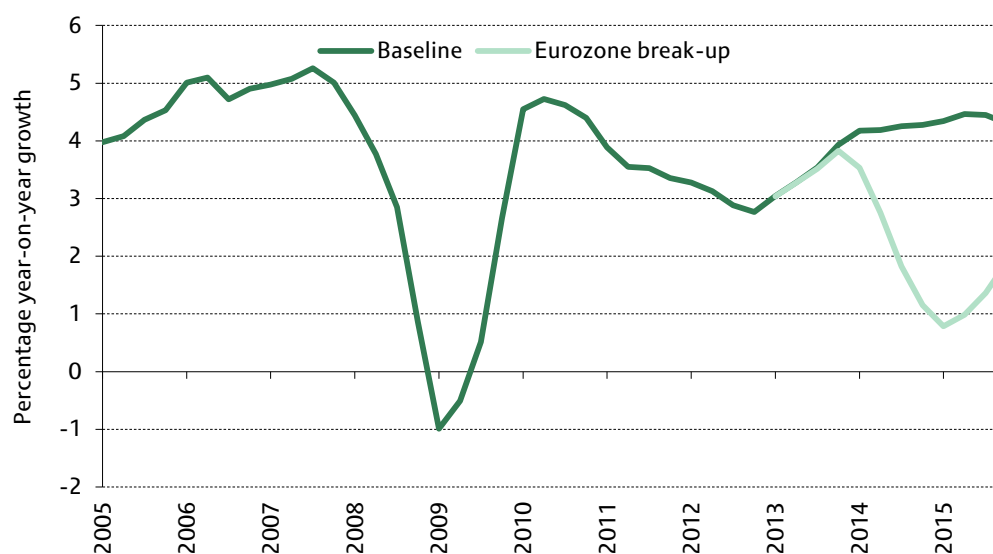
Outside of the eurozone, heightened uncertainty causes stock markets to sell off sharply. Business confidence is dampened by the weaker outlook and increased uncertainty. This in turn has a negative impact on investment spending and employment in all advanced countries. In addition, trade linkages with the eurozone depress demand for exports.

The results of this scenario in terms of the impact on economic growth are subject to considerable uncertainty, especially for the exiting countries, where it is unclear to what extent a sharp currency depreciation will offset the extreme shock to business and consumer confidence of a euro exit (this is especially the case for countries such as Greece where GDP has already dropped sharply).

Our estimate is that, in the near term, the negative shock effects of euro exit will dominate for the departing countries, so that they will initially suffer double-digit declines in GDP. The remaining eurozone countries would also be plunged into a deep recession, with GDP falling as much as 10% below the level in our central forecast.

The scale of the financial shock generated by the euro break-up would also be sufficient to have a severe impact on growth elsewhere in the world. US GDP would fall around 5% below the level in our central forecast, with a mild recession in 2014. The UK would suffer a more severe downturn due to its closer trade and financial links with Europe, with GDP forecast to be about 9% below baseline by 2016. Even in China, GDP growth would drop below 5% in 2015 (as opposed to our central forecast of 8.5% growth) thanks to the effect of weak world growth on exports and the large scale of the financial shock which would damage local asset markets and push down foreign direct investment (FDI). The

Figure 1.7. World GDP under eurozone break-up



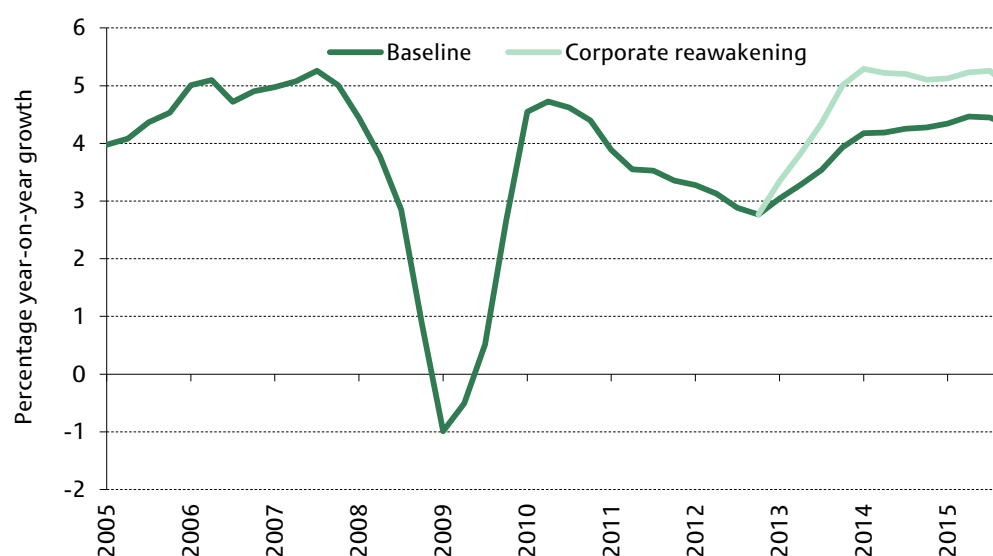
Source: Oxford Economics.

GDP impact on the smaller Asian emerging economies would also be large, especially for those highly geared to exports, such as Singapore and Taiwan.

### Corporate reawakening

As well as the downside scenario outlined above, there are also possible upside risks to our central forecast. Our baseline forecast assumes that the policy process in 2013 and beyond will be similar to that seen in recent years. In particular, in the eurozone, we expect piecemeal action on setting up a banking union and moving towards fiscal union. In the US, the most likely scenario is that, although the full fiscal cliff is avoided, no agreement is reached on a medium-term fiscal plan to reduce public deficits and debt.

Figure 1.8. World GDP under corporate reawakening



Source: Oxford Economics.

But positive surprises are possible. For instance, eurozone policymakers have sometimes taken action that surpassed our expectations, such as the ECB's very strong commitment to 'do what it takes' to save the eurozone last July.

More decisive policy action, such as a 'grand bargain' in the US to address the country's short- and medium-term fiscal challenges or a decisive move towards the institutional reform of the eurozone needed to secure the integrity of the euro currency, would create the right environment for companies to start using their large cash holdings more productively, raising investment and recruitment. This would enhance confidence, leading to a quick recovery in demand (Figure 1.8). In this scenario, US GDP would likely grow by over 3% in 2013 and accelerate to 4.6% in 2014, whereas in the eurozone economic activity would likely expand by around 0.4% in 2013 and 2.1% in 2014. We attach a slightly higher probability of 15% to this scenario, compared with 10% at the time of last year's Green Budget.

## 1.4 Conclusions

With the UK aiming to rebalance its economy towards exports and investment, the outlook for the global economy is of key importance. Recent months have seen signs that downside risks to world growth have diminished and growth prospects improved, and this bodes well for the UK.

However, external conditions will remain challenging for the UK in the near term at least. The eurozone economy is expected to contract again in 2013, and growth prospects are also weak for the eurozone in the medium term due to the damage wrought by the financial crisis there and the need to undertake substantial public and private sector deleveraging. Although the eurozone's importance as an export market for the UK is declining, it remains substantial, so weak eurozone growth will weigh on UK trade performance. The UK's financial links with the eurozone also make it vulnerable to any renewed upsurges in financial stress there (see Chapter 2).

Stronger growth in the US and emerging markets will help to boost world growth and trade in 2013, but the forecast pickup in world growth is modest and only in 2014 will something like trend rates of global growth be reached. One important factor holding back world growth in 2013 is that fiscal tightening will be undertaken in a wide variety of countries beyond the eurozone, including the US and some emerging countries. This will be offset to some extent by the impact of the loosening in monetary policy seen in recent months in the US and elsewhere.

Key risks such as a eurozone break-up, China hard landing and the US 'fiscal cliff' have diminished in recent months, but downside risks to global growth remain, including the possibility that some countries eventually leave the euro. Eurozone exits would have a severe negative impact on economic growth across the major advanced and emerging economies.

There are also upside risks to world growth – for example, from more decisive policy actions in the eurozone and US to tackle fiscal issues. This could lead to a faster recovery of business confidence and increased hiring and investment. The probability of a scenario of this sort appearing unfortunately remains low, however.



## 2. The UK economic outlook

Andrew Goodwin (Oxford Economics)

### Summary

- The UK economy flatlined in 2012, with a poor trade performance offsetting more encouraging trends in consumer spending and business investment. However, near-term prospects look brighter. The export environment is likely to improve this year, led by the US and emerging markets, reducing the drag on growth from net trade. At the same time, the domestic economy should continue to strengthen and GDP is forecast to grow by around 1% this year.
- Growth should gather pace in the later part of 2013 and average 2.1% in 2014. Key to this pickup in activity is a further substantial fall in inflation, which boosts consumers' purchasing power. In addition, the robust financial position of UK firms is expected to underpin a pickup in business investment.
- We judge that there is currently a significant amount of spare capacity in the UK economy, with the output gap estimated to have been 5% of potential output in 2012. The financial crisis is likely to have caused substantial permanent damage to potential output, but the vast bulk of this damage has already occurred and we expect potential output growth to average 1.9% over the period from 2013 to 2017. Such a large output gap will provide the conditions for the recovery to gain momentum over the medium term, with GDP growth expected to accelerate from 1% in 2013 to 2.9% in 2017. Our forecasts are not dissimilar from those of the Office for Budget Responsibility, but are above the market consensus over the longer term.
- The risks around our central forecast are more balanced now than they were for most of 2012, though domestic risks do remain skewed slightly to the downside. The most significant domestic risk remains the high level of consumer indebtedness, which may weigh more heavily on the upturn. On the upside, a more aggressive recovery in business investment remains a plausible alternative, though it would likely be dependent on policymakers surprising us with faster and more decisive solutions to the eurozone's problems. The UK's biggest downside risk also relates to the eurozone: a scenario where multiple countries leave the eurozone would likely cause another deep recession in the UK.

### 2.1 Introduction

The year 2012 was another challenging one for the UK economy, with the economy sinking back into a technical recession over the first half. The economy was badly hindered by external developments, with the long-awaited trade recovery remaining elusive, though there were some more encouraging trends in the domestic economy, particularly from nascent recoveries in consumer spending and business investment. In this chapter, we discuss the outlook for the UK economy, beginning in Section 2.2 with short-term prospects, where we assess the likelihood that growth will begin to pick up this year. We then explain why we think that the recovery will gain momentum through 2014 (Section 2.3).

Moving our focus beyond the short term, we consider prospects for the 2013–17 period as a whole. As part of this, we analyse the amount of spare capacity in the economy by considering the degree to which the economy has suffered permanent damage to potential output growth, before moving on to discuss the extent to which potential output will recover over the next five years (Section 2.4). Having set out our baseline forecast, we then assess how this compares with the most recent forecast from the Office for Budget Responsibility (OBR) and those of other independent forecasters (Section 2.5).

Section 2.6 analyses the risks around the baseline forecast and looks in detail at the potential impact of alternative global scenarios on the UK economy, including an upside scenario ‘corporate reawakening’ and a severe downside scenario involving a break-up of the eurozone. Section 2.7 concludes.

## **2.2 Will the recovery gain momentum in 2013?**

### **2012 was a lost year for the UK economy**

The UK economy dropped back into recession over the first half of 2012 and growth averaged zero over the year as a whole. The quarterly profile of the GDP data was badly distorted by several one-off factors through the year. Activity in the second quarter was dampened by the loss of a working day caused by the additional bank holiday for the Queen’s Diamond Jubilee; this was estimated to have reduced growth in Q2 by as much as 0.5 percentage points (ppts). Conversely, growth in Q3 was flattered by the comparison with Q2 and also by the inclusion of all of the revenues from ticket sales and the television rights from London hosting the Olympic and Paralympic Games, regardless of when the tickets were actually purchased. The Office for National Statistics (ONS) estimates that around 0.2ppts of the Q3 growth came from this source. With the Olympics boost then unwinding, the figures for Q4 – when GDP contracted by 0.3% – looked weaker than underlying trends suggest.

The January snow increases the likelihood of further volatility in the data for 2013H1, with activity in Q1 potentially being damaged because travel problems prevented some people from getting into work or going shopping for several days. However, the fact that the disruption has come early in the quarter, in contrast to previous episodes, means there is more scope to catch up this time around.

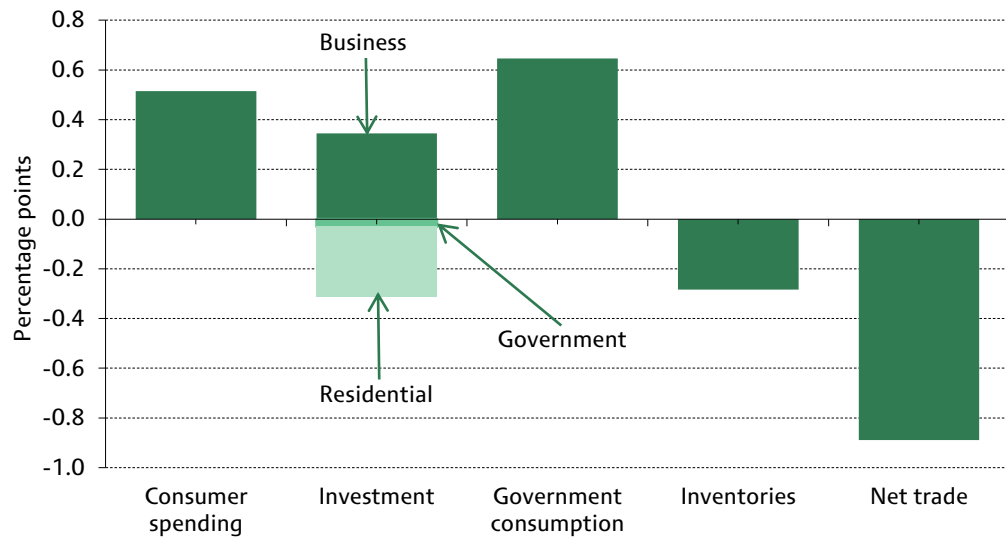
Throughout the year, the business survey results and other ONS indicators – notably labour market and retail sales data – pointed to slightly stronger underlying trends than the GDP data and there has been a tendency towards upward revisions to the early estimates of GDP. This is not uncommon at this stage of the cycle; at the time, the recession of the 1990s was also estimated to have seen a double dip followed by a relatively weak recovery, but the double dip was subsequently revised away and the pace of the recovery is now shown as being much firmer. It would be no surprise were the 2012 GDP data to be revised upwards over the coming years as more data become available and the Blue Book balancing of the National Accounts is undertaken.

Looking at the expenditure breakdown, it is clear that the main factor behind the poor performance of the UK economy has been net trade, which we estimate wiped almost 1ppt off GDP growth in 2012 (see Figure 2.1). The poor export performance has largely been a function of the descent of the eurozone back into recession; exports of goods

(excluding oil and erratics<sup>1</sup>) to EU countries fell by 5% in 2012, while exports to non-EU destinations rose by 6.5% (see Figure 2.2). However, even allowing for the influence of weak demand from the eurozone, it appears that UK exports have underperformed; we estimate that world trade, weighted by UK export shares, grew by 1.7% in 2012, in contrast to the UK's decline in exports of 0.4%. This shortfall reflects a loss of competitiveness, with sterling having appreciated by 4% on a trade-weighted basis in 2012, the bulk of which reflects strengthening against the euro.

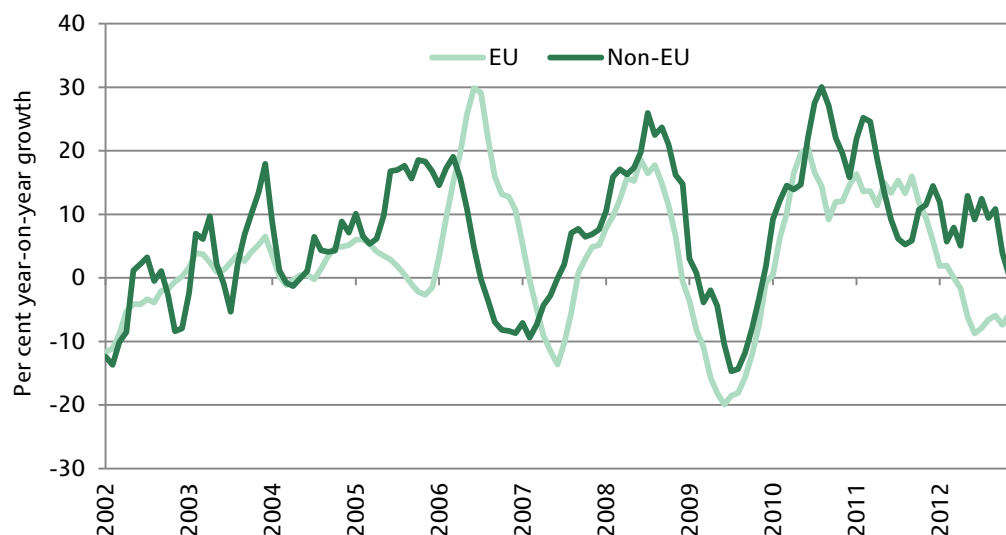
Had net trade not detracted from growth, GDP would have increased by almost 1% last year, as the poor trade performance offset some more encouraging trends in the domestic

Figure 2.1. Contributions to GDP growth (2012)



Source: Haver Analytics.

Figure 2.2. Exports of goods (excluding oil and erratics)



Notes: Monthly level data. Growth calculated as percentage change on same month in previous year.

Source: Haver Analytics.

<sup>1</sup> Erratics are defined as ships, aircraft, precious stones and silver.

economy. Having fallen by more than 1% in 2011, consumer spending began to recover in reaction to a significant slowdown in inflationary pressures. Business investment also continued to recover, growing by around 4%, despite corporate confidence being undermined by concerns over the fragility of the domestic recovery and the possibility of a break-up of the eurozone. Government consumption also contributed positively to GDP growth in 2012, which looks odd in the context of the government's austerity programme. However, we think this is largely due to measurement issues, with the impact of spending restraint being shown in the unusually low deflator rather than in the real-terms data.

## Export environment should steadily improve this year

The export environment is likely to improve this year, led by the US and emerging markets (see Chapter 1). The eurozone, the UK's main export destination, is forecast to pull out of recession by mid-year, although any subsequent recovery will likely be slow. Nevertheless, we expect growth in world trade, weighted by UK export shares, to accelerate to 3.8% in 2013 (see Figure 2.3), which would represent a substantial improvement on 2012 although it is still some way below the average of 6% a year seen over the past thirty years. We do not anticipate any major movements in competitiveness this year; sterling is expected to decline against the dollar, reflecting the US's better relative growth prospects, but this is likely to be balanced by the euro continuing to weaken and by eurozone economies, particularly in the periphery, making further reductions in unit labour costs. Our forecast shows exports growing by 2.1% this year, after falling by 0.4% in 2012. With imports continuing to grow, net trade will again be a drag on GDP growth, though that drag should be reduced from 0.9ppts in 2012 to 0.3ppts in 2013.

External developments are important not only for export prospects but also for their influence on corporate sentiment and business investment. The recovery in business investment has been disappointing thus far; having fallen by 24% from peak to trough

**Figure 2.3. UK exports and world trade**



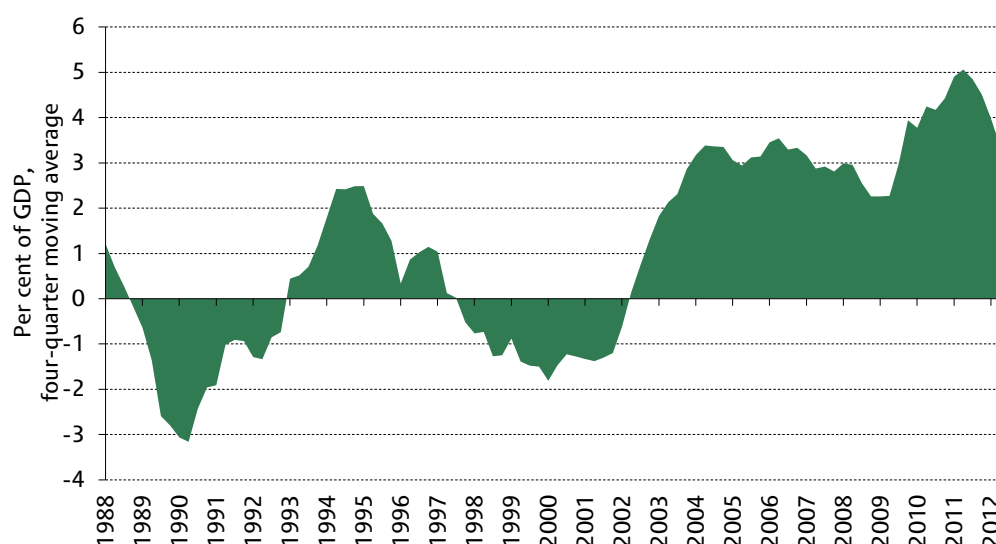
Note: World trade weighted by UK export shares.

Source: Haver Analytics, Oxford Economics.

during the recession, three years on from the low point it remains more than 12% short of previous peaks. By contrast, the US, which endured a similarly large decline during the recession, has reported a much stronger recovery and is now less than 7% below its previous high point.

Anecdotal evidence suggests that small firms continue to report problems accessing finance, which may go some way to explaining the poor performance. However, it does not appear that financing problems are the decisive factor; investment is typically dominated by large firms, which have good access to external funding, both from banks and from other sources, and have also accumulated large cash surpluses in recent years (see Figure 2.4). Rather, the slow recovery in business investment appears to be more related to fragile business confidence. This is partly a function of the persistently poor domestic growth performance, but it also reflects the heightened uncertainty during 2012 around issues such as the eurozone sovereign debt crisis, the US 'fiscal cliff' and the possibility of a Chinese hard landing. These factors have been leading firms to conclude that it would be better to sit on their cash rather than to commit it to lengthy, difficult-to-reverse investment projects where the future level of returns was particularly uncertain.

**Figure 2.4. Private non-financial corporations' financial balance**



Source: Haver Analytics.

However, key global risks – mostly notably of a eurozone break-up, the US falling over the 'fiscal cliff' and a Chinese hard landing – have diminished substantially. What's more, these event risks that dominated 2012 are now being replaced by a more normal pattern of macroeconomic risks – and a more balanced one. Indeed, upside risks to growth are starting to emerge, especially in the US. This shift in the balance of risks has already been reflected in a rally in equity prices and we also expect it to underpin an improvement in sentiment, particularly amongst corporates. This, in turn, should encourage firms to begin investing their large accumulated cash surpluses.

## The consumer recovery should continue to gain momentum

Though inflation has continued to run ahead of earnings growth, the gap closed significantly through 2012 and the combination of strong employment growth and the April 2012 uprating of many social security benefits by the September 2011 consumer price index (CPI) rate of 5.2% meant that real household disposable income rose by

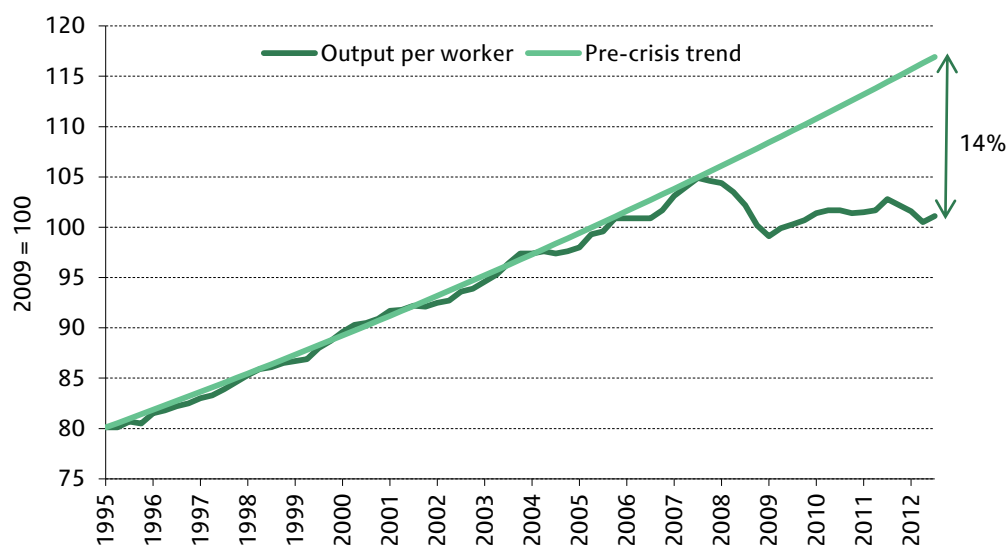
around 1.8% in 2012. This improvement in households' purchasing power was sufficient to kick-start a gradual recovery in consumer demand, and household consumption rose by around 0.9% in 2012. Nevertheless, the pickup in spending lagged the strengthening in real incomes, leading the household saving ratio to rise further to 7.3%, the highest level for fifteen years.

Fuel prices fell by more than 5% over the latter months of 2012 and we expect falling oil prices to cause them to slip further in the early part of this year. However, this downward pressure on inflation will initially be offset by the feed through of higher food prices, due to harvests ruined by the US drought and the UK floods, and the increases in domestic energy prices, which range from 6% to 11% across the largest six providers. As such, inflation is likely to remain close to current rates in the short term. However, underlying inflationary pressures look weak, with retailers continuing to discount heavily and earnings growth subdued, which means that inflation should ease once these temporary pressures have abated, with the CPI measure set to fall back below the 2% target by the end of 2013.

On the flip side, we think it unlikely that the recent strong rates of private sector job creation are sustainable given weak output trends and the likelihood that some of the recent slump in productivity will begin to unwind. We estimate that both output per worker (see Figure 2.5) and output per hour are running around 14% below the level that they would have been had the pre-financial-crisis trend continued.

Some commentators – including the OBR<sup>2</sup> – suggest that a significant proportion of this shortfall will be permanent, arguing that tight credit conditions have reduced investment and innovation. We think there is merit in this argument and estimate that this may account for up to two-thirds of the drop in productivity.

Figure 2.5. Output per worker



Note: The pre-crisis trend was calculated over the period 1995–2007 and was calculated to be 2.2% a year.

Source: Haver Analytics, Oxford Economics.

<sup>2</sup> Office for Budget Responsibility, *Economic and Fiscal Outlook*, December 2012 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>).

As suggested earlier in this chapter, it is possible that the GDP data may currently be understated and might subsequently be revised upwards, thus reducing the scale of the decline in productivity. A range of other indicators have suggested stronger levels of activity, particularly over the last couple of years, and there are precedents for such revisions at this stage of the cycle, although this is only likely to account for, at most, a couple of percentage points of the gap to the pre-crisis trend.

The remainder of the gap is likely to reflect cyclical factors. One explanation could be that firms have been hoarding labour. This argument is usually associated with skilled labour and reflects the idea that, were they to lay off staff, firms might find it difficult and potentially costly to hire again once demand began to pick up. The lengthy period of time that has passed since the beginning of the financial crisis would appear to suggest that the effects through this channel are unlikely to be large. However, it does appear that the very uncertain operating environment of the past year may have encouraged some firms to cater for higher demand by increasing hours worked and hiring, while remaining wary of committing to capital spending until the strength and shape of the recovery became clearer. That labour was relatively cheap because earnings growth remains so weak would have made this strategy more attractive. Regardless, it does mean that, in the short term at least, firms' hiring requirements will be lower than they would normally be, suggesting the scope for some productivity catchup. For a further discussion of the recent trends in labour productivity, see Chapter 3.

As such, though output is expected to accelerate this year, our forecast shows employment levels remaining broadly flat. This will dampen the extent to which household incomes grow, but lower inflation and the large increase in the income tax personal allowance, which is due to rise by £1,335 to £9,440 in April, should still enable consumer spending growth to accelerate from 0.9% in 2012 to 1.2% in 2013.

### Fiscal policy continues to exert a sizeable drag

Set against the more promising signs from the private sector, the austerity programme will remain a drag on growth prospects this year. The OBR's latest forecast implies that the financial year 2013–14 will see fiscal tightening of around 1.4% of GDP (as measured by the change in the forecast structural deficit between 2012–13 and 2013–14). However, year-to-year comparisons of this type must be treated with caution, both because estimates of the output gap and its impact on the public finances are surrounded by uncertainty and because the repatriation of the proceeds from the Asset Purchase Facility (APF) to the exchequer and the transfer of the Royal Mail pension scheme into the public sector have caused distortions to the public finances data. Fiscal multipliers are probably larger at the current time<sup>3</sup> because of the limited scope for monetary offset, the effect of household and corporate deleveraging, and weak global demand; there is evidence of all three factors in the UK, suggesting that the austerity programme may have had a larger dampening effect on output than originally thought.

That a major chunk of the UK's tightening to date has come from large cuts to capital spending,<sup>4</sup> which typically have larger multipliers than either tax rises or cuts to current

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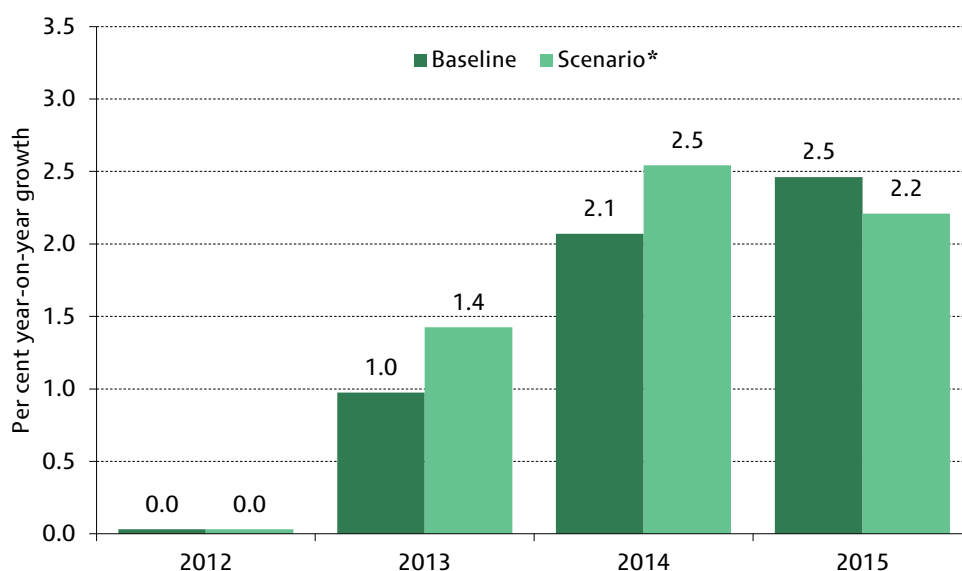
<sup>3</sup> See, for example, box 1.1 of IMF, *World Economic Outlook*, October 2012 (<http://www.imf.org/external/pubs/ft/weo/2012/02/pdf/text.pdf>) and O. Blanchard and D. Leigh, 'Growth forecast errors and fiscal multipliers', IMF Working Paper WP/13/1, January 2013 (<http://www.imf.org/external/pubs/ft/wp/2013/wp1301.pdf>).

<sup>4</sup> See Chapter 5 for more details of the planned fiscal consolidation.

spending, has arguably increased the damaging effects on output relative to spending cuts that were not disproportionately on capital spending. To that end, the Chancellor's decision to try to increase capital spending by £5 billion across the next two financial years represents a positive step. However, the size of the boost is relatively small and it will be funded through lower current spending, so our modelling suggests that the net effect will be negligible.

Simulations run on the Oxford Economics Global Model suggest that it would have been possible to boost short-term growth prospects through higher capital spending: an additional £10 billion of capital spending in both 2013–14 and 2014–15 would increase the level of GDP by almost 1% by the end of 2014 (see Figure 2.6) and, with stronger growth yielding higher tax receipts, the impact on the deficit would have been relatively small. We feel that this would be an appropriate level of stimulus – sufficient to yield a noticeable improvement in activity, but not so large that it damages the credibility of the government's austerity plan (although our scenario does show an increase in gilt yields, which offsets some of the positive impact on growth from the increased infrastructure spending).

**Figure 2.6. GDP growth: simulated impact of additional capital spending**



\* Scenario includes £10 billion of additional capital spending in both 2013–14 and 2014–15, funded by additional borrowing. It also assumes there is no attempt to offset with tighter monetary policy.

Source: Oxford Economics.

## **Monetary policy is very loose but could offer more support**

In 2012, the Monetary Policy Committee (MPC) expanded the amount of assets held under the APF from £250 billion at the start of the year to £375 billion at the end. Furthermore, the MPC stated that it believed the repatriation of the cash surpluses from the APF to the exchequer, which is expected to amount to £35 billion by March 2013, is equivalent to further monetary easing, implying that the true value of quantitative easing (QE) is around £410 billion or 27% of one year's GDP.

Our research suggests that QE has a significant impact on longer-term interest rates. We estimate that QE equivalent to 10% of GDP depresses 10-year government bond yields by



around 1 percentage point (100 basis points, bps), which is similar to the Bank of England's (BoE's) own estimates.<sup>5</sup> The BoE's programme has therefore been a key factor contributing to the historically low levels of 10-year UK gilt yields, which were below 2% for most of 2012. In addition, UK gilts have benefited from a safe haven status, with investors shunning what are seen as riskier government bond markets, in particular the peripheral eurozone countries. Such low levels of gilt yields have helped to keep long-term household and corporate borrowing rates low, providing significant support to the economy, as well as keeping the government's debt financing costs down despite rising debt levels.

With the risks around the global economy becoming more balanced, there are signs that investors' appetite for riskier assets may be bottoming out and could start to increase. This would suggest that UK bond markets may start to look less attractive, though this is likely to be a gradual process and one that could reverse were the eurozone situation to worsen once more. Our forecast shows yields on 10-year UK gilts nudging up to 2.2% by the end of this year, but this remains very low by historical standards and will continue to hold down the debt interest payments of the government, households and firms.

This forecast assumes that the UK is able to maintain its AAA credit rating. However, with all three rating agencies having placed the UK on negative outlook, there is a risk of a downgrade. A simulation run on the Oxford Economics Global Model suggests that a downgrade by one notch would increase 10-year gilt yields by around 20bps in the first year, though this would drop back to 10bps in subsequent years. The impact on GDP would be less than 0.1ppt. Such a small effect is consistent with the experience of recent downgrades of major economies, such as the US and France.

However, while QE has helped to keep gilt yields low, its success in other areas is more open for debate. There is some evidence that it has supported asset prices, notably equities, but the impact on the real economy has been harder to identify. This was one of the reasons that the Bank of England launched the Funding for Lending Scheme. FLS is designed to reduce funding costs for banks and building societies so that, in turn, they can reduce the costs of their loans to businesses and households. The scheme effectively incentivises banks to lend by linking their access to FLS and the rate at which it can borrow to their lending levels. The Bank's Credit Conditions Survey suggests that this has led to significant increases in the availability of mortgage credit and, to a lesser extent, credit for corporates, but so far the impact on lending flows has been much more muted. It is still too early to conclude one way or another on the success of FLS, but we fear that the impact will be muted, partly because there will not be sufficient demand to soak up much of the additional availability of credit and partly because much of the extra credit that is made available will not be on sufficiently attractive terms to interest potential borrowers.

In the absence of a significant fiscal stimulus, which currently looks unlikely, we believe there is a strong case for the Bank to do more in terms of stimulating demand. This is not a view that the majority of the MPC share. The minutes of recent meetings have suggested that the MPC appears to have greater confidence than we do that the FLS will be a success and, with the exception of one member, felt that sufficient monetary stimulus had already been applied to support the recovery and meet the inflation target in the medium term.

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<sup>5</sup> M. Joyce, M. Tong and R. Woods, 'The United Kingdom's quantitative easing policy: design, operation and impact', *Bank of England Quarterly Bulletin*, 2011Q3.

While we share the MPC's concerns that the efficiency of QE may be weakening, there is plenty that the MPC can still do and we believe that the Federal Reserve provides a good template to follow. The Fed has purchased a much wider range of assets, set explicit targets to gauge the success of its policies and provided guidance on the likely path of policy. These policies have enabled the Fed to bolster its credibility that it will do whatever it takes to ensure the recovery becomes firmly entrenched. By contrast, the MPC has reacted more slowly to stimulate the UK economy and has been wary on moving beyond its narrow focus on buying gilts. The Governor, Sir Mervyn King, has also been at pains to avoid giving guidance on the likely future path of policy. Given that several MPC members had voted to raise interest rates in 2011, it creates an element of doubt over the Committee's commitment to provide sufficient support.

## 2.3 More favourable factors to accelerate the pace of recovery next year

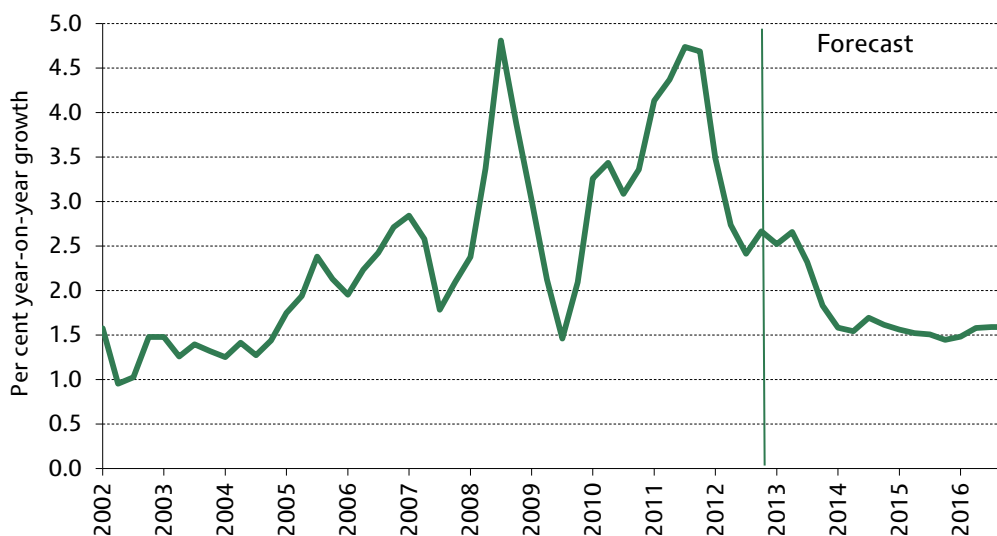
We expect growth to accelerate from the latter part of 2013 as the supportive factors discussed in the previous section become increasingly influential.

### Inflationary pressures are likely to weaken substantially ...

By the end of 2013, the trajectory of inflation rates should be firmly downward, as the temporary upward forces abate. Thereafter, inflation rates could fall back sharply, with the ample amounts of slack in the economy (see Section 2.4) continuing to put downward pressure on profit margins and prices. Meanwhile, high levels of unemployment will continue to bear down on pay settlements.

Our forecast assumes that the reaction of commodity prices to rising global demand is relatively muted, particularly for oil. This reflects our view that there is already plenty of spare capacity in oil production and, with more capacity due to come on stream over the next couple of years, there should be plenty of scope to cater for an increase in demand. The US 'shale gas revolution' also has the potential to change the dynamics of global energy markets, reducing OPEC's pricing power.

Figure 2.7. CPI inflation



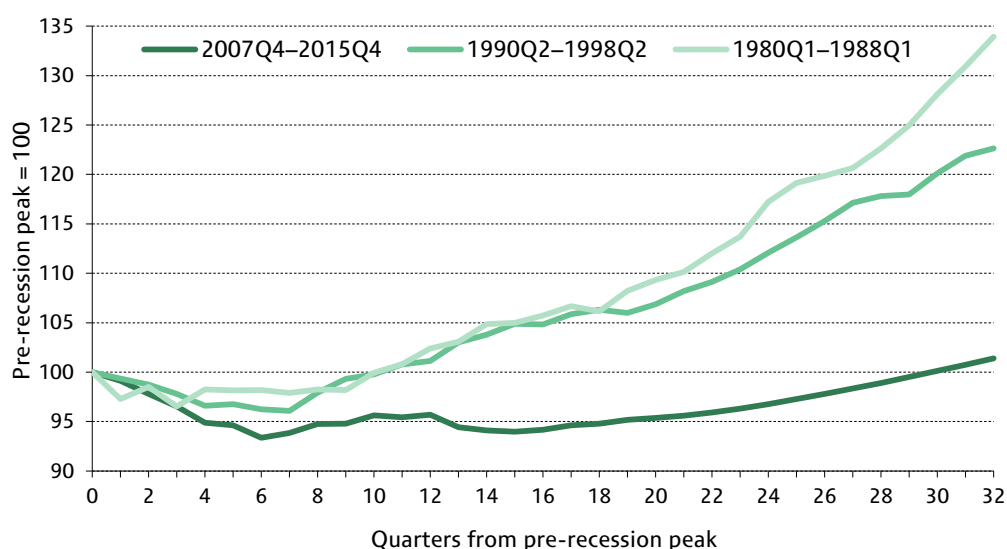
Source: Haver Analytics, Oxford Economics.

Our forecast shows CPI inflation moving below the 2% target towards the end of this year and then averaging just 1.6% in 2014 and 1.5% in 2015 (see Figure 2.7).

### ... boosting incomes and confidence

Lower inflation will raise consumers' purchasing power, accelerating the recovery that began in 2012. We expect real household disposable income growth to dip to 0.8% in 2013, but then to accelerate to 1.4% in 2014 and 1.8% in 2015. At the same time, improving sentiment will encourage consumers to reduce their levels of precautionary saving, though ongoing deleveraging will keep the saving ratio above its long-term average and prevent a more significant revival in consumer spending. We expect a steady acceleration in household consumption growth from 1.2% in 2013 to 2.0% in 2014 and 2.4% in 2015. But this would represent a very slow recovery by historical standards, with consumer spending not regaining its pre-recession peak until mid-2015 (see Figure 2.8).

Figure 2.8. Consumer spending across cycles



Source: Haver Analytics, Oxford Economics.

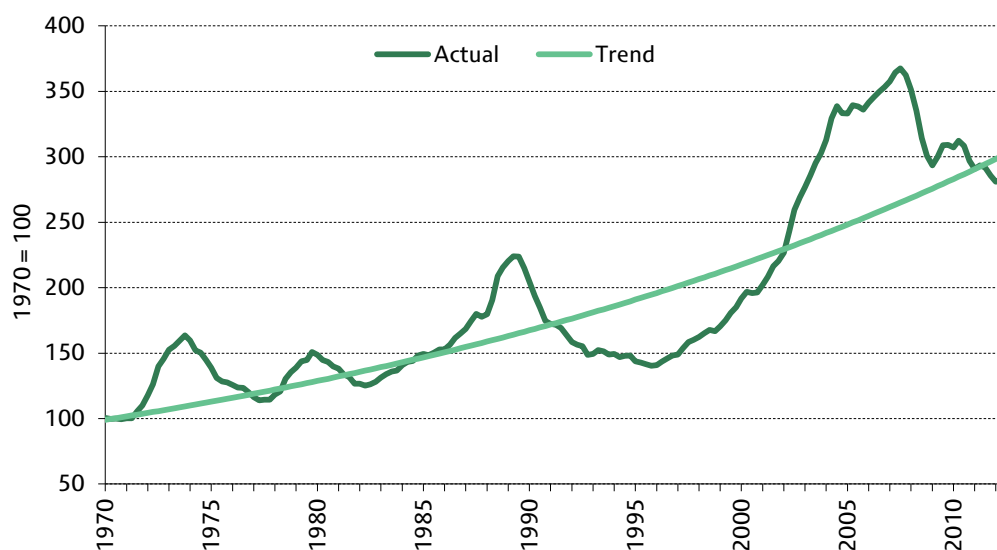
Sentiment should be further supported by a gradual strengthening in the housing market. The Bank of England's Credit Conditions Survey reported an increase in mortgage availability through the second half of 2012, supported by FLS, while regulators have begun to take a more relaxed attitude to liquidity requirements, which should also give the banks greater leeway to expand lending. As we have already stated, we are sceptical as to whether there will be sufficient demand to enable these factors to have much impact in the short term. However, over a longer time frame, as real incomes strengthen, unemployment drops back and confidence improves, mortgage demand should begin to pick up, triggering an increase in housing activity.

Activity and property prices are closely correlated, so this should then translate into a pickup in prices. Some commentators have suggested that prices still have a lot further to fall, but we do not think that this is the case. Though house prices have been relatively resilient in nominal terms over the past couple of years, the correction in real terms has been large, with prices now around 24% below their mid-2007 peak. This has taken real house prices below their long-term trend (see Figure 2.9), suggesting that prices are no

longer heavily overvalued. House price to income ratios are still somewhat higher than their long-run average. However, they are in line with their average since the NICE<sup>6</sup> period of low interest rates began, suggesting they may be sustainable unless there is a sharp rise in interest rates. With inflation set to be below the 2% target for a prolonged period and the recovery in output likely to be gradual, such an increase in rates looks unlikely, particularly given that the MPC will be conscious of the potential damage that a rapid normalisation of interest rates could have on heavily indebted households. Our forecast assumes that the Bank Rate will remain at 0.5% until mid-2016 and that the Bank will continue to reinvest the principal of any APF-held gilts that mature in this period.

The pickup in house prices may lag the recovery in transactions, but we still expect to see prices begin to rise again in 2014 before growing by 2.2% in 2015.

Figure 2.9. Real house prices



Notes: Real house prices are the Nationwide house price index deflated by the retail price index (RPI). The trend was calculated over the period 1970–2011 and was calculated to be 2.66% a year.

Source: Haver Analytics, Oxford Economics.

## Businesses have the means to support growth

We also expect business investment to strengthen next year, as the downside risks – in particular, the threat of a eurozone break-up – continue to recede and stronger global growth steadily restores confidence.

In that environment, companies should be able to use large profits and cash balances to finance investment spending. Corporate profits have not fallen sharply as a share of GDP in this cycle, in marked contrast to the recession of the early 1990s, while private non-financial corporations have been running large surpluses for a number of years. The accumulated financial surpluses have led to UK companies building up a considerable level of cash deposits over the past few years: as of 2012Q3, private non-financial corporations (PNFCs) were holding £672 billion in currency or on deposit, equivalent to around 43% of GDP. Though a little lower than in the previous two years, this still

<sup>6</sup> NICE – non-inflationary continuous expansion. This phrase was coined by Sir Mervyn King to describe the decade of strong economic growth and low inflation that the UK experienced between 1995 and 2005.

represents a significant increase on the level that might previously have been considered as 'normal': for the period from 1990 to 2002, the level was reasonably stable at 20–25% of GDP. To hold such large sums in cash is highly unusual, particularly given the very low returns available on cash holdings over the past four years. We think it is partly a reflection of tight credit conditions, with smaller firms in particular having to keep larger amounts of cash available to replace credit lines that are no longer accessible. However, even allowing for this, the levels of cash holdings look very high and we would expect firms increasingly to release these funds for investment as confidence strengthens. We therefore expect growth in business investment to accelerate from 3.6% this year to 5.2% in 2014 and 6.9% in 2015. Even so, our forecast implies that the level of business investment will not return to its pre-crisis peak before 2015.

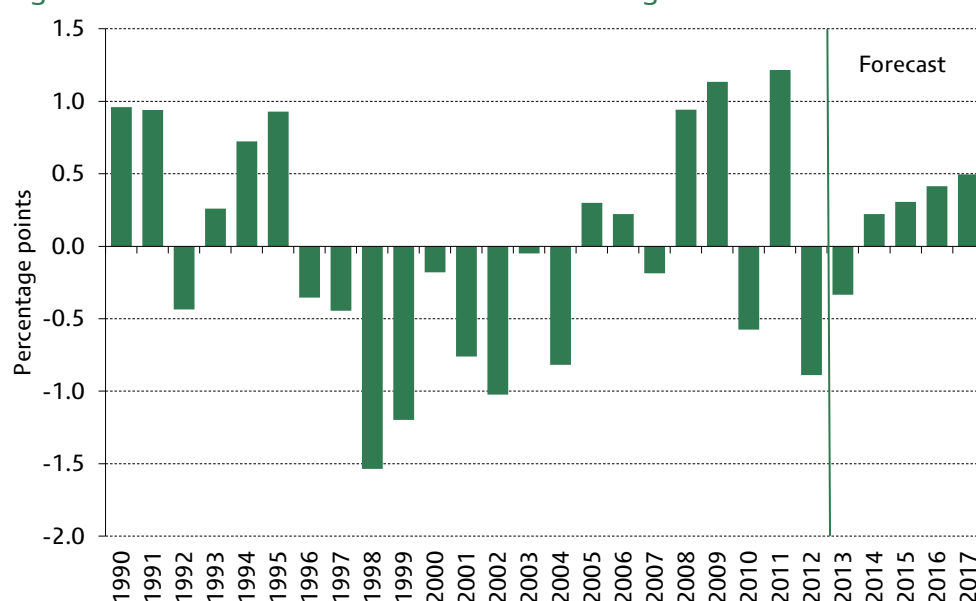
After falling sharply over the past couple of years, investment in dwellings is also likely to pick up strongly. A recovery in housing activity and prices will be the prime motivation, but further public sector support is also likely to be needed if rates of house building are to be increased substantially in order to keep pace with demographics.

The small temporary stimulus announced in the Autumn Statement should lead to a short-lived increase in government investment in 2014, but otherwise it will continue to decline until 2016. Nevertheless, the strength of business and housing investment is expected to drive an acceleration in total investment growth from 2.8% in 2013, to 5.6% in both 2014 and 2015.

### Net trade should start to provide greater support

After restarting in 2013, the export recovery should gain momentum through next year as the eurozone economy gradually strengthens and the US and emerging economies grow robustly. We expect growth in world trade (weighted by UK export shares) to accelerate from 3.8% this year to 6.2% in 2014 and 6.5% in 2015. And while further modest losses in competitiveness – caused by sterling's continued appreciation against the euro – are likely to ensure that export growth is a little softer, we still expect net trade to make a progressively larger contribution to GDP growth, adding 0.2ppts in 2014 and 0.3ppts in 2015 (see Figure 2.10).

Figure 2.10. Contribution of net trade to GDP growth



Source: Haver Analytics, Oxford Economics.

## 2.4 Medium-term recovery slower than usual

Over the medium term, we expect a steady economic recovery to continue. The combination of estimates of the output gap that currently exists and of potential growth going forwards drives our forecast for medium-term GDP growth.

### How much damage has the financial crisis done to potential output?

The question of the size of the output gap and forecasts for growth in potential output have taken on added importance since the Chancellor adopted a cyclically-adjusted target for the public finances (see Chapter 4 for more discussion). Indeed, the importance of these estimates has been demonstrated in the past two Autumn Statements. In November 2011, the OBR's decision to reduce both its estimate of the size of the output gap and its forecasts for potential output growth increased its projection for the size of the structural deficit. These revisions required the Chancellor to announce further fiscal tightening in order for the OBR to judge that the government was still complying with its fiscal mandate. Conversely, in December 2012, the OBR's decision to adapt its previous methodology for calculating the size of the output gap meant that more of the additional borrowing was classed as cyclical than would otherwise have been the case, thus limiting the degree of extra tightening required.

However, the size of the output gap and the strength of potential output, or its growth, cannot be measured. As such, most commentators agree that the best approach is to use a range of different indicators to try to proxy the level of spare capacity. But these indicators do not always corroborate one another. For example, labour market data suggest that the UK has a significant amount of spare capacity, with the unemployment rate around 3ppts higher than pre-recession levels and earnings growth very muted despite inflation having been persistently high. Yet business survey results appear to tell a markedly different story, with respondents reporting levels of capacity utilisation in the production industries that are above long-term average.

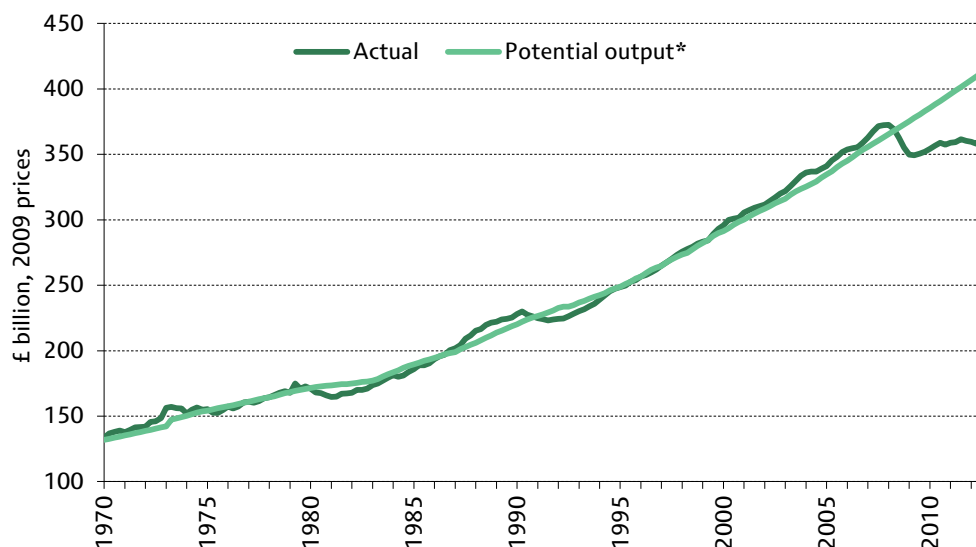
Therefore, a high degree of judgement is required on behalf of the forecaster. Furthermore, economic data can often be subject to revision for many years after the event, which makes 'real-time' estimates of the output gap particularly difficult. Indeed, a recent working paper<sup>7</sup> from the External MPC Unit of the Bank of England found that estimates of the output gap have become progressively more prone to revision and 'unreliable' over time, with the authors citing the difficulty of separating the trend from the cycle in economic data as being the cause. This presents a significant challenge for both the producers and the users of economic and fiscal forecasts, including policymakers.

The depth of the recession and the slow pace of the subsequent recovery make estimating the size of the output gap even harder at the current time. GDP fell by 6.3% from peak to trough during the recession and remains around 3% short of previous peaks. Were we to assume that potential output has continued to grow at historic rates in the past five years,

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<sup>7</sup> A. Chiu and T. Wieladek, 'Did output gap measurement improve over time?', Bank of England, External MPC Unit, Discussion Paper 36, 2012 (<http://www.bankofengland.co.uk/publications/Documents/externalmpcpapers/extmpcpaper0036.pdf>).

Figure 2.11. GDP relative to potential output\*



\* Potential output series shows OE estimates from 1970 to 2006. Potential output is then grown in line with the long-term average (2.7% a year) from 2007 to 2012.

Source: Haver Analytics, Oxford Economics.

it would suggest an output gap in the region of 14% of potential output (see Figure 2.11). This experience is by no means uncommon and a number of the advanced economies would have double-digit output gaps if this were the case.

However, as commentators analyse the causes of the financial crisis and its implications, some have concluded that it has inflicted structural damage to potential output which will never be reversed, implying much smaller output gaps. There is a substantial literature on previous crises and, while the evidence generally leans in favour of this argument, the estimates of the degree to which potential output has been affected tend to vary widely across crises. The main findings of four prominent studies by Reinhart and Rogoff, NIESR, OECD and IMF are summarised in Table 2.1.

There is a range of views on how best to estimate potential output. We use a production function approach,<sup>8</sup> which provides a framework that relates the level of potential output to contributions from factor inputs – labour and capital – and the efficiency with which those inputs are used (so-called ‘total factor productivity’). It also provides a consistent method for forecasting future growth in potential output, taking into account important changes such as demographic trends. For the economy to have suffered a permanent loss of potential output, the financial crisis and subsequent recession would have to have wreaked permanent damage to one, or more, of the size of the labour force, the level of capital they have to work with and total factor productivity.

<sup>8</sup> In the Oxford Economics UK Model, we use a Cobb–Douglas production function,  $Y^* = A + L^\alpha + K^{(1-\alpha)}$ , where:  $Y^*$  is potential output;  $L$  is potential labour supply, which is equal to the labour supply at the NAIRU;  $K$  is the capital stock; and  $A$  is total factor productivity (TFP). This is rewritten in natural logs, with  $\alpha$  equal to 0.65:  $\ln(Y^*) = \ln(A) + 0.65\ln(L) + 0.35\ln(K)$ .



Table 2.1. Selected literature on the impact of financial crises on potential output

Authors	Countries / crises covered	Dates covered	Results
Reinhart and Rogoff, 2008	18	1977–95	The average drop in real output per capita is over 2% and it takes two years to return to trend. For the five most catastrophic cases, the drop in annual output growth from peak to trough is over 5% and growth remained well below the pre-crisis trend after three years.
NIESR – Barrell, Davis, Karim and Liadze, 2010	13	1980–2008	On average, banking crises reduce the level of potential output by 2.5%. But crises that were ‘systemic’ in nature were associated with a 4% decline in potential output. Some crises did not affect trend output and some, e.g. Canada in the early 1980s, were not even associated with a subsequent recession.
OECD – Furceri and Mourougane, 2009	30	1960–2009	On average, banking crises reduce the level of potential output by 2.4% and it takes five years for the full effects to be felt. But for ‘severe’ crises, the average effect was 3.8%. The 99% confidence intervals were very wide – from just under 1% to just under 5% for average crises and from just under 1% to over 7% for a severe crisis.
IMF – Balakrishnan, Brooks, Leigh, Tytel and Abiad, 2009	88	1970–2002	On average, banking crises reduce the level of potential output by 10%, with the maximum impact being felt after four to five years. The impact varies across countries depending upon their demand and supply structures.

Sources: C. Reinhart and K. Rogoff, ‘Is the 2007 U.S. sub-prime financial crisis so different? An international historical comparison’, National Bureau of Economic Research (NBER), Working Paper 13761, 2008; R. Barrell, E.P. Davis, D. Karim and I. Liadze, ‘The effects of banking crises on potential output in OECD countries’, National Institute of Economic and Social Research (NIESR), Discussion Paper 358, 2010; D. Furceri and A. Mourougane, ‘The effect of financial crises on potential output: new empirical evidence from OECD countries’, OECD Economics Department, Working Paper 699, 2009; R. Balakrishnan, P. Brooks, D. Leigh, I. Tytel and A. Abiad, ‘What’s the damage? Medium-term output dynamics after financial crises’, chapter 4 of IMF, *World Economic Outlook: Sustaining the Recovery*, October 2009.

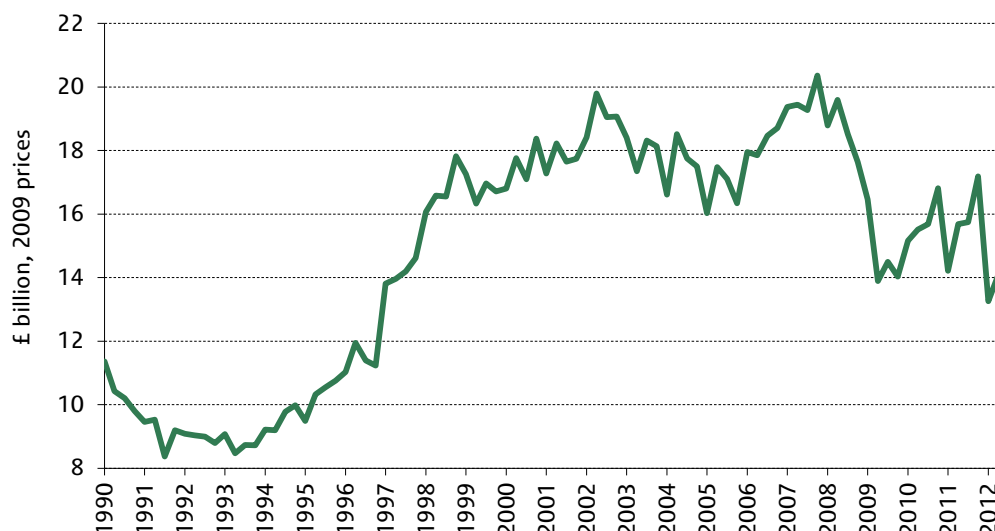
### Capital stock

The collapse in business investment during the recession could also be a potential cause of a permanent loss. From the late-2007 peak, business investment fell by 24% due to a need to conserve cash, a shortage of external funding and a reassessment of how attractive the UK was as a place to produce. In effect, firms were forced to invest only on a ‘care and maintenance’ basis, with little investment in new capital equipment; investment in machinery and equipment fell by around 25% in 2008–09 and has barely increased since then (see Figure 2.12).

Verifying this argument is always challenging because the ONS usually only publishes estimates of the size of the capital stock after a lengthy lag. In recent years, it has been rendered virtually impossible by the ONS having decided not to publish estimates of the capital stock at all because of concerns over data quality. However, applying data on business investment to those data on the capital stock that have been published suggests that the period since the beginning of the financial crisis has seen the capital stock



Figure 2.12. Investment in machinery and equipment



Source: Haver Analytics.

contribute around 1ppt a year to potential output growth, down slightly from the 1.2ppt a year over the period from 1996 to 2006.

### *Labour supply*

The contribution of the size of the labour supply to potential output is dependent upon three factors – growth in the population of working age, participation rates and the level of the NAIRU.<sup>9</sup> We find that there is little evidence to suggest that the financial crisis has caused any significant damage to any of these.

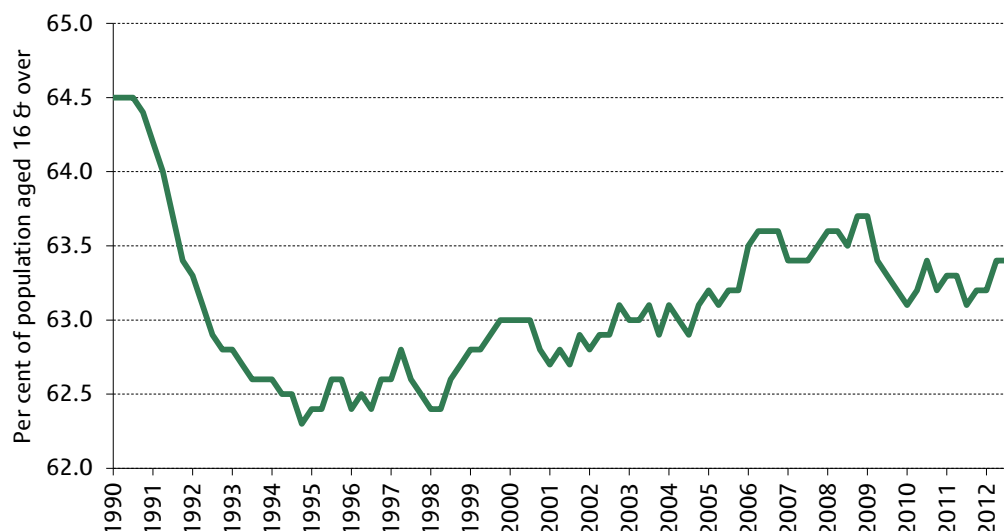
The strength of inward migration flows has been a constant source of surprise given the depth of the UK recession and the extent to which unemployment has increased. Migrants typically tend to be of working age, so relative employment prospects are a key driver of migration flows, yet the UK has become an increasingly popular destination, with net inflows of 247,000 in the year to mid-2011 being only marginally short of the record inflows of 2005 when the A8<sup>10</sup> countries joined the European Union. This has ensured that the period since the beginning of the financial crisis has actually seen faster growth in the working-age population than the decade before.

Labour market participation has fallen back (see Figure 2.13), though to a much lesser extent than in previous cycles (see Chapter 3). This is because the downward pressures from poorer employment prospects have been offset by a series of longer-term structural shifts. These include greater female participation, as well as both older workers delaying their retirement and pensioners returning to part-time work. Over the past couple of years, the combination of strong employment growth, some welfare reforms such as increased job search requirements for lone parents, and the staged increase in the State Pension Age for women has helped to encourage a recovery in participation rates.

<sup>9</sup> NAIRU – non-accelerating inflation rate of unemployment. Even when the economy is operating at its long-run potential, there will still be some level of frictional unemployment – this is known as the NAIRU.

<sup>10</sup> The A8 countries are those that joined the European Union in May 2004. They are the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia.

Figure 2.13. Economic activity rates



Note: Economic activity rate defined as 1 minus the economic inactive rate for all aged 16 & over (ONS series YBTC).

Source: Haver Analytics.

Empirical evidence – notably Blanchard and Summers (1986)<sup>11</sup> and Ball (2009)<sup>12</sup> – suggests that significant shifts in aggregate demand can lead to changes in the NAIRU through hysteresis. High levels of long-term unemployment are likely to cause a rise in the NAIRU as those out of work for a prolonged period may see the value of their skills eroded and become detached from the labour market. Ball argues that the degree to which hysteresis occurs is a function of the time it takes for output to return to its previous trend, with longer periods of weak growth in aggregate demand yielding larger increases in the NAIRU. In this context, the protracted period of weak or negative growth in the UK is a cause for concern. It is very difficult to measure the NAIRU in real time, but we think it unlikely that the UK has seen any significant impact through this channel thus far given the need for a period of time to pass in order for these unemployed workers to become detached from the labour market. Also, while unemployment is high, it is, at least, not as high as we might have expected given the drop in GDP, which suggests that any hysteresis effects may be smaller than might otherwise have been the case.

### Total factor productivity

The OBR's analysis of the UK economy<sup>13</sup> has consistently identified total factor productivity as being the most important source of any permanent loss of potential output, an argument that is also advanced by Dicks (2010).<sup>14</sup> The arguments in favour of this theory generally centre on lower levels of innovation and research & development (R&D), which reduce the rate at which the quality of the capital stock improves; ONS data

<sup>11</sup> O.J. Blanchard and L.H. Summers, 'Hysteresis and the European unemployment problem', *NBER Macroeconomics Annual*, Volume 1, 1986.

<sup>12</sup> L.M. Ball, 'Hysteresis in unemployment: old and new evidence', NBER, Working Paper 14818, 1989.

<sup>13</sup> See, for example, Office for Budget Responsibility, *Economic and Fiscal Outlook*, December 2012 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>).

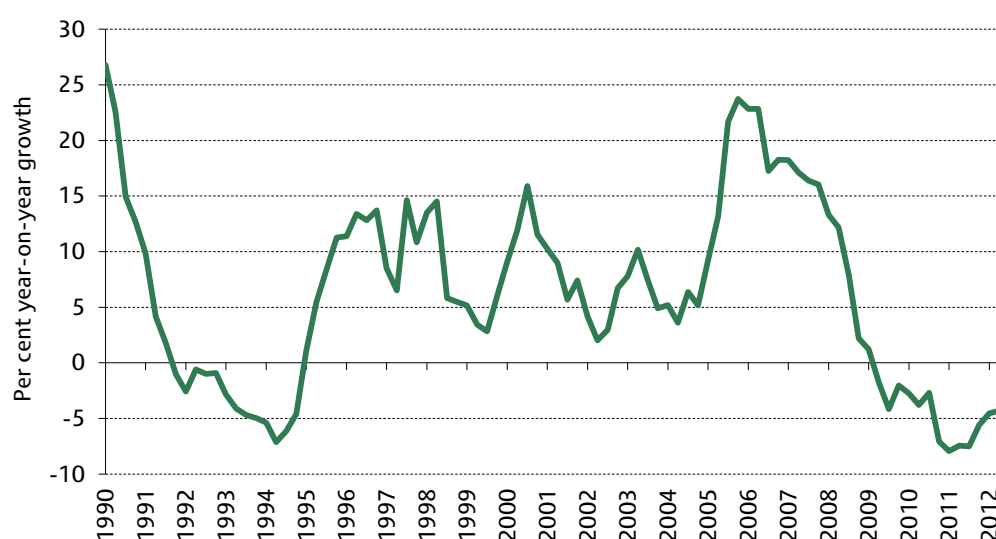
<sup>14</sup> M. Dicks, 'The UK's productive capacity: surveying the damage', in R. Chote, C. Emmerson and J. Shaw (eds), *The IFS Green Budget: February 2010*, IFS Commentary 112, 2010 (<http://www.ifs.org.uk/budgets/gb2010/10chap1.pdf>).

suggest that spending by UK businesses on R&D grew by just 0.3% a year in real terms from 2008 to 2011, compared with growth of 2.9% a year from 1997 to 2007.

This is likely to have been caused by a lack of bank funding, resulting from a reduction of risk appetite or from forbearance on outstanding lending. Forbearance is also thought to have created a misallocation of capital, keeping it in relatively low-productivity projects and preventing it from being reallocated to more productive activities. Balakrishnan et al. (2009)<sup>15</sup> suggest that there is some evidence that the biggest effects are felt in those countries with a greater degree of financial development prior to the crisis.

The nature of total factor productivity makes this assertion virtually impossible to verify for the current cycle, but for countries such as the UK, which exhibits a high degree of financial development and where a significant proportion of the banking sector required a government bailout, there would appear to be a strong argument for some permanent damage to total factor productivity. There is certainly strong evidence of a funding crisis, with lending to the corporate sector having collapsed over the past four years (see Figure 2.14).

Figure 2.14. M4 lending to private non-financial corporations



Source: Haver Analytics.

The other way that the contribution of productivity growth could have been damaged would be if there had been a shift in employment towards low-productivity sectors. Those arguing that this has occurred<sup>16</sup> cite the deep decline in output per worker as evidence of this phenomenon and point to the fact that several 'high-productivity' sectors – in particular, oil extraction and financial services – have experienced large declines in activity over the past five years.

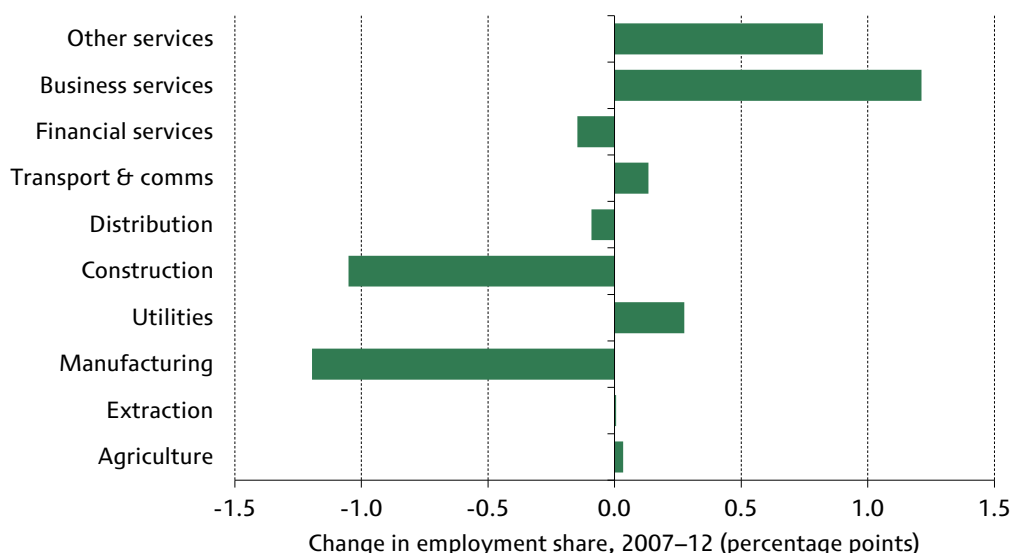
There is some evidence in favour of this view, but it would appear to have had a relatively small effect on the UK thus far (see Figure 2.15). There has not been a discernible shift in

<sup>15</sup> R. Balakrishnan, P. Brooks, D. Leigh, I. Tytel and A. Abiad, 'What's the damage? Medium-term output dynamics after financial crises', chapter 4 of IMF, *World Economic Outlook: Sustaining the Recovery*, October 2009.

<sup>16</sup> See, for example, HM Treasury, *Budget 2010: Securing the Recovery*, March 2010 (<http://webarchive.nationalarchives.gov.uk/20100407010852/http://www.hm-treasury.gov.uk/budget2010.htm>) and S. Dale, 'Productivity and monetary policy', speech given at the South Tyneside Manufacturing Forum, Bank of England, 21 September 2011.

the share of total employment accounted for by financial services. There has been a loss of share of manufacturing – a high-productivity sector – with gains for other (mainly public) services,<sup>17</sup> a low-productivity sector, but the sectoral shifts appear relatively minor. Indeed, Martin and Rowthorn (2012)<sup>18</sup> estimate that just a tenth of the UK productivity shortfall can be attributed to these shifts. (See also Section 3.3.)

Figure 2.15. Change in share of total employment, 2007–12



Source: Haver Analytics.

Finally, previous studies have suggested that recessions tend to coincide with a rise in premature capital scrapping, caused by an increase in the number of firms going out of business. The literature also suggests that these effects are not captured particularly well in official data on the capital stock, which means that we also need to make allowance for these effects within our estimates of total factor productivity, though the unusually low rate of bankruptcies suggests that this allowance should be fairly small.

## The output gap is likely to be very large

Drawing all of the various components of potential output together, we find that there is likely to have been a permanent loss of output in the UK, largely because of the systemic banking crisis which has hindered credit availability and damaged the contribution of total factor productivity. We also find that the magnitude of the damage to potential output is likely to be towards the higher end of the scale of those seen in previous financial crises because of the severity of this crisis.

Combining our estimates of potential output growth with actual GDP, we estimate that the output gap averaged 5% of potential GDP in 2012. This suggests that potential output is roughly 9% below the pre-recession trend shown in Figure 2.11. This implies a somewhat greater degree of spare capacity than that estimated by either the OBR (3.1% of potential output) or the consensus of independent forecasters (2.9% of potential

<sup>17</sup> Other (mainly public) services are defined as SIC(2007) sections O–S.

<sup>18</sup> B. Martin and R. Rowthorn, *Is the British Economy Supply Constrained II? A Renewed Critique of Productivity Pessimism*, UK-Innovation Research Centre, 2012 ([http://www.ukirc.ac.uk/docs/2012\\_BM\\_UK\\_economy\\_report.pdf](http://www.ukirc.ac.uk/docs/2012_BM_UK_economy_report.pdf)).

output<sup>19</sup>). Some forecasters believe the output gap to be as low as 1% of potential output,<sup>20</sup> but such a small output gap would imply permanent damage to potential output in the region of 11%, far in excess of those identified by the literature on past financial crises. Further details of the variation in estimates of the output gap, and the consequences for the size of the structural deficit, can be found in Chapter 5.

## Potential output growth to accelerate over the next five years

Having estimated how much spare capacity we believe there is in the UK economy at present, we must make a judgement on how potential output will evolve, in order to determine the scope for actual GDP growth to recover. To do this, we again use the production function approach to consider how the contributions of the various factor inputs are likely to evolve.

### Capital stock

Our forecast shows a steady recovery in business investment, as diminishing downside risks and stronger economic growth underpin a strengthening in confidence and encourage firms to begin to release their accumulated cash surpluses. Furthermore, firms that have got through the past five years by patching up old machinery will increasingly come under pressure to replace it with new equipment and will also need to invest to expand capacity. This means that the contribution of the capital stock to potential output growth is expected to accelerate through the forecast period, from 0.7ppts in 2012 to 1ppt by 2017. However, this is not sufficient to return to levels consistent with the pre-recession trend.

### Labour supply

The most recent migration data report a slowdown in net inflows from 242,000 in the year to March 2011 to 183,000 in the year to March 2012. This has coincided with new visa rules that mean that foreign students cannot work on their student visas during or after their studies. This trend would suggest that the latest (2010-based) set of official population projections,<sup>21</sup> which assume that net inward migration slows from 230,000 in the year to mid-2010, to 200,000 by 2016–17, are much too strong.

The OBR's forecast adopts the ONS low migration assumption of 140,000 per year. However, we would argue in favour of an assumption that is even lower still. Given that migrants are typically of working age, employment prospects tend to be the key driver of migration flows and with the scale of public sector job losses (see Chapter 6) likely to mean that unemployment only falls back slowly, the attractiveness of the UK is likely to wane.

We therefore expect net migration to drift downwards from current levels, eventually reaching 110,000 a year over the medium term. If we assume that, on average, 90% of migrants are of working age, this shortfall would reduce potential output growth by 0.1 percentage points per year over the 2013–17 period, relative to the OBR forecast.

<sup>19</sup> HM Treasury, *Forecasts for the UK Economy: A Comparison of Independent Forecasts*, December 2012 (<http://www.hm-treasury.gov.uk/d/201212forecomp.pdf>).

<sup>20</sup> Office for Budget Responsibility, *Economic and Fiscal Outlook*, December 2012 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>).

<sup>21</sup> ONS, '2010-based national population projections', 26 October 2011 (<http://www.ons.gov.uk/ons/rel/npp/national-population-projections/2010-based-projections/index.html>).

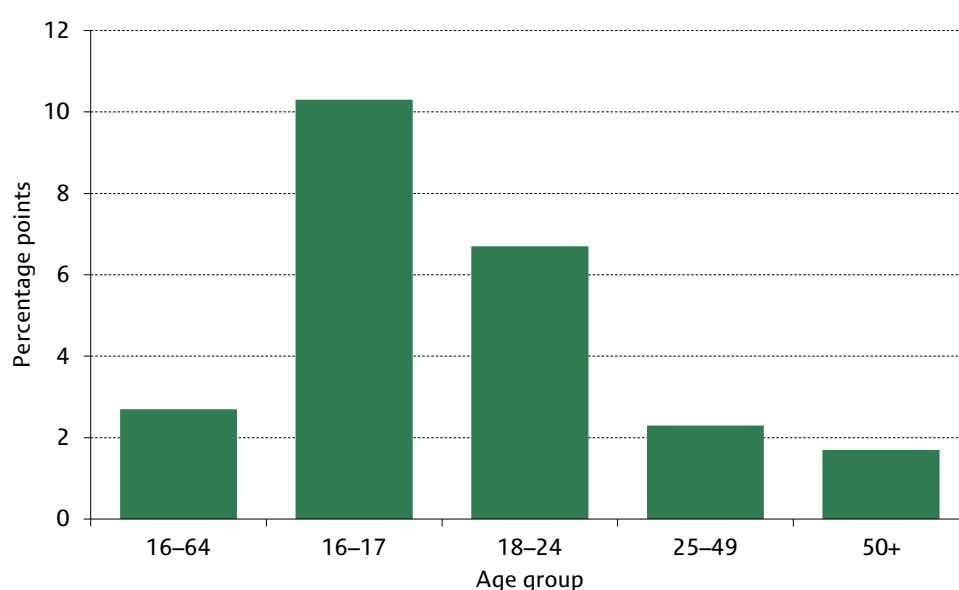
However, while growth in the working-age population may slow, we expect participation to increase. Improving employment prospects should gradually encourage some of the inactive to seek work, while the continued increase in the State Pension Age (SPA) for women will continue to have an effect. However, some of this boost will be dampened by the fact that the population itself is ageing, and labour market participation is still substantially lower amongst those close to the SPA than amongst younger individuals.

As we have established previously, there is empirical evidence to suggest that a prolonged period of weak activity can drive up the NAIRU through hysteresis. As a result, we assume that the NAIRU rises to around 6% throughout the forecast period, up from 5% ahead of the recession.

Though the overall rise in unemployment has been relatively muted, given the weakness of activity, there has been a substantial increase in the level of long-term unemployment, with the number of people unemployed for more than two years having more than doubled over the past five years. High levels of long-term unemployment are likely to cause a rise in the NAIRU, as those out of work for a prolonged period may see the value of their skills eroded and become detached from the labour market. This means that the pool of available and suitably-skilled workers is reduced. This process could be exacerbated by the shift in employment from the public to the private sector, which could lead to a mismatch between skills and opportunities as the likelihood is that the regional pattern of public sector job losses – and private sector opportunities – will be very uneven.

Previous cycles may not provide a good guide for the likely movements in the NAIRU because this time around the increase in unemployment has been much more highly concentrated on the younger age groups (Figure 2.16). Some argue that this may mean that the young miss out on the essential formative years of their career when they pick up many of their skills. However, we take the view that this should mean that the impact of a rising NAIRU is less marked than in previous cycles because we would expect that the younger unemployed would be better placed to retrain and re-enter the workforce than those from older age groups.

**Figure 2.16. Increase in ILO unemployment rate by age, 2008Q1–2012Q3**



Source: Haver Analytics.

Bringing together our forecasts for population growth, participation and the NAIRU, we find that the contribution of the labour supply to potential output growth should pick up from 0.2ppts a year from 2007 to 2012 to 0.3ppts a year over the period 2013–17. However, this is well down on the average contribution of 0.7ppts a year over 1996–2006, reflecting much lower levels of inward migration and a slower increase in participation rates.

### **Total factor productivity**

As we have already established, the financial crisis is likely to have caused permanent damage to total factor productivity because of its impact on credit availability and the efficient allocation of resources. However, the literature would suggest that we have already seen the bulk of any permanent damage. Evidence of improving credit availability for firms in the most recent Bank of England Credit Conditions Survey would appear to lend credence to this argument, as would the fact that the CBI Industrial Trends Survey has reported a marked decline in the proportion of respondents citing an inability to raise external finance as a factor likely to limit capital spending over the next 12 months.

As such, we assume that the contribution of total factor productivity to potential output growth moves back towards historical norms over a relatively short period. Over the 2013–17 period as a whole, we assume that total factor productivity contributes 0.7ppts per year to potential output growth.

## **A forecast of potential output and the output gap**

Bringing these factors together, we expect growth in potential output to accelerate through the forecast horizon. Our forecast shows potential output growing by 1.9% a year in 2013–17 (Table 2.2), with growth during that period accelerating from 1.4% in 2013 to 2.2% a year in 2017, as the negative legacy effects of the financial crisis fade.

**Table 2.2. Contributions to potential output growth (percentage points per annum)**

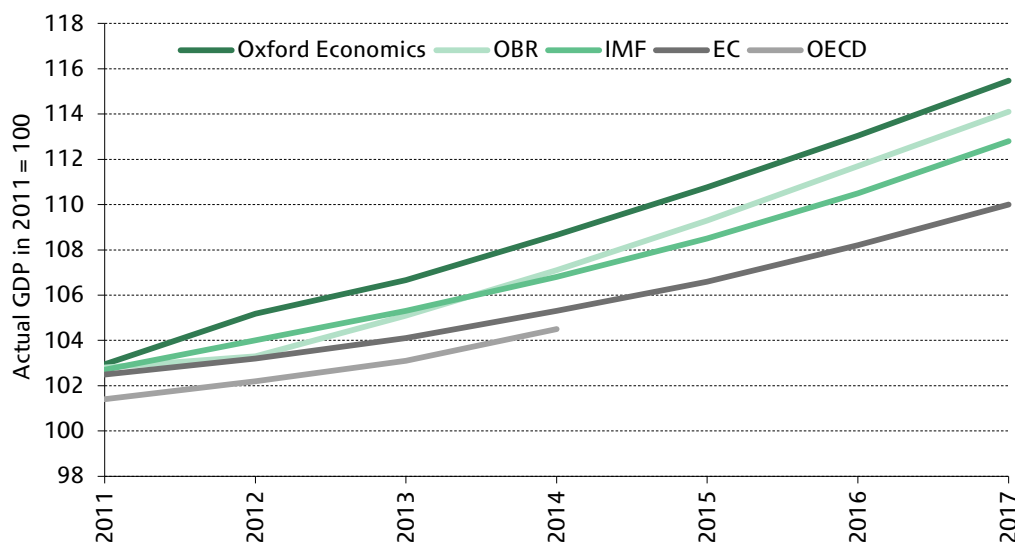
	1996–2006	2007–12	2013–17
Employment at the NAIRU	0.7	0.2	0.3
Capital stock	1.2	1.0	0.9
Total factor productivity	1.1	0.2	0.7
<b>Potential output</b>	<b>3.0</b>	<b>1.4</b>	<b>1.9</b>

Note: Columns may not sum exactly due to rounding.

Source: Oxford Economics.

Our forecast is similar to that of the OBR for this period. However, because we estimate that the permanent damage to potential output during the financial crisis was smaller, our forecast starts from a point where the level of potential output is higher than that of the OBR. As such, by 2017, our estimate of the level of potential output is around 1.2ppts higher than that of the OBR (see Figure 2.17). Given the uncertain nature of forecasting potential output, it is perhaps no surprise that there is a wide range of views across forecasters. Our forecast is at the top end of the range, ahead of the OBR. The European Commission (EC) is markedly more downbeat, assuming that potential output will grow by just 1.3% a year from 2013 to 2017. This means that, by 2017, the EC estimates imply a cumulative shortfall of 5% of potential GDP compared with our forecast.

Figure 2.17. Forecasts of potential output



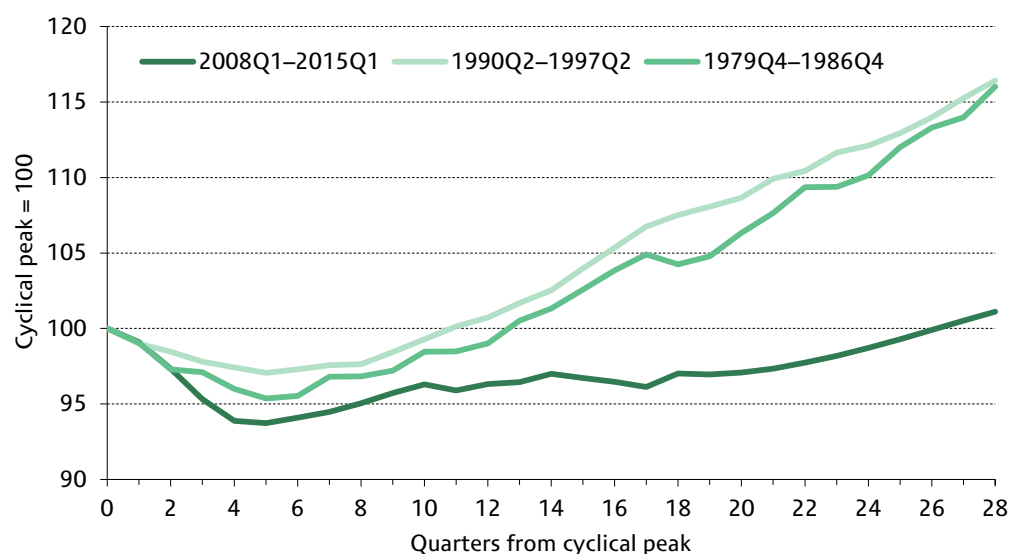
Note: Forecasts for OBR, IMF, EC and OECD calculated using data quoted in Office for Budget Responsibility, *Economic and Fiscal Outlook*, December 2012 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>)

Source: Oxford Economics, OBR, IMF, European Commission, OECD.

## Recovery to gain pace over medium term but still weaker than previous upturns

The existence of such a large output gap should keep inflation low and create the conditions for growth to pick up over the medium term. We expect GDP growth to accelerate from 1% this year to 2.9% in 2017. Our forecast for growth would have been even faster were it not for the drag inflicted by the planned deep cuts in government consumption: falling government consumption reduces our GDP forecast by 0.3ppts in 2015, 0.4ppts in 2016 and 0.5ppts in 2017.

Figure 2.18. Comparison of UK economic cycles



Source: Haver Analytics, Oxford Economics.



Table 2.3. Oxford Economics UK forecast (annual % change unless stated)

	2011	2012	2013	2014	2015	2016	2017
Domestic demand	−0.6	1.0	1.3	1.8	2.1	2.3	2.4
Private consumption	−1.3	0.9	1.2	2.0	2.4	2.8	3.0
Fixed investment	−2.9	0.0	2.8	5.6	5.6	5.8	5.8
Stockbuilding (% of GDP)	0.4	0.1	0.3	0.3	0.3	0.3	0.3
Government consumption	−0.1	2.8	−0.3	−1.4	−1.3	−1.6	−2.2
Exports of goods and services	4.5	−0.4	2.1	4.8	4.9	5.4	5.6
Imports of goods and services	0.5	2.3	3.0	3.8	3.7	4.0	4.0
GDP	0.9	0.0	1.0	2.1	2.5	2.8	2.9
Industrial production	−0.8	−2.4	−1.0	1.2	1.1	1.3	1.4
CPI	4.5	2.8	2.4	1.6	1.5	1.6	1.7
Current balance (% of GDP)	−1.3	−3.6	−3.3	−3.1	−2.9	−2.4	−1.9
Short-term interest rates (%)	0.89	0.84	0.50	0.50	0.50	0.66	1.59
Long-term interest rates (%)	3.12	1.91	2.13	2.35	2.58	3.02	3.59
Exchange rate (US\$ per £)	1.60	1.58	1.58	1.53	1.53	1.54	1.54
Exchange rate (€ per £)	1.15	1.23	1.24	1.27	1.31	1.31	1.32
Output gap (% of potential GDP)	−2.9	−5.0	−5.4	−5.2	−4.6	−4.0	−3.2

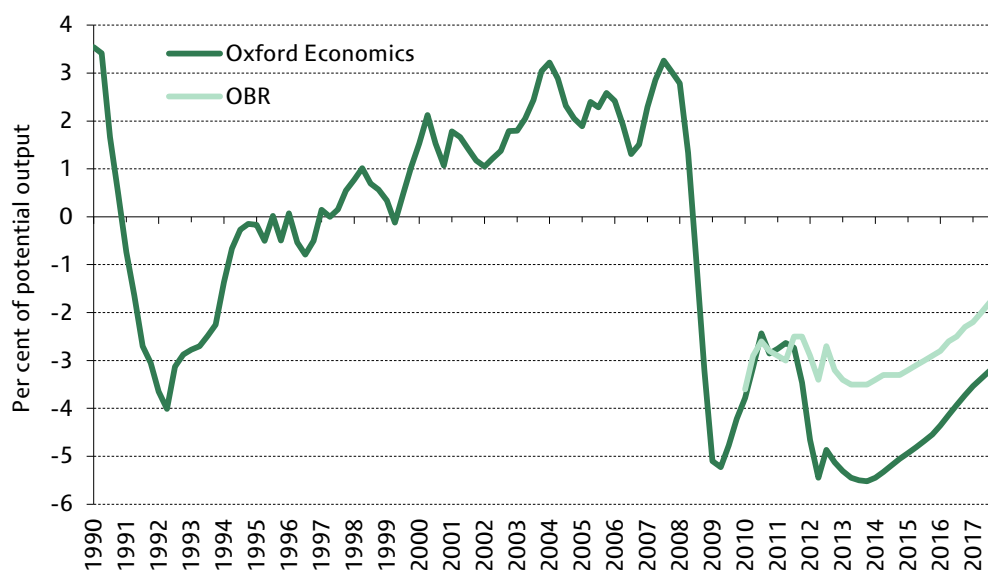
Source: Oxford Economics.

Our expectations for the recovery phase are significantly weaker than previous recoveries, but this partly reflects the poor performance to date. As of end-2012, GDP was still around 3% below its 2008Q1 peak even though the recovery had been underway for three-and-a-half years. This means that it is a long way behind where it was at the corresponding point of either of the previous two cycles (Figure 2.18). Following the recession of the early 1990s, GDP was 8% above its previous peak by this stage, while the recovery of the early 1980s saw GDP almost 5% above its previous peak by this stage. Our forecast (Table 2.3) suggests that, this time around, GDP will not regain its previous peak until 2014Q4, a total of almost seven years. By comparison, the economy regained its pre-crisis peak within four years in the 1930s.

Slow growth in 2013 is forecast to cause the output gap to widen from 5% of potential output to 5.4%. However, thereafter it should begin to close as the pace of the recovery accelerates and, by the end of 2017, we expect it to have fallen to around 3% (see Figure 2.19). This forecast points to very subdued inflationary pressures over the next few years, meaning that the Bank of England will have plenty of scope to implement further monetary stimulus in the short term, should it choose to, and will be able to tighten policy at a measured pace once the recovery begins to gain momentum.

Our forecast shows a larger output gap than that of the OBR in 2012, to the tune of around 2ppts. This gap then falls to 1.4ppts by 2017, as our larger output gap creates the conditions for a faster recovery in GDP. Nevertheless, that our estimate for the size of the output gap is larger than that of the OBR implies a smaller structural deficit and that the degree to which fiscal policy eventually needs to be tightened would not be as great as the OBR suggests. Using the same method as the OBR for cyclically adjusting the public finances, our forecast would suggest that the degree of necessary fiscal tightening is 1% less than the OBR estimates.

Figure 2.19. Output gap

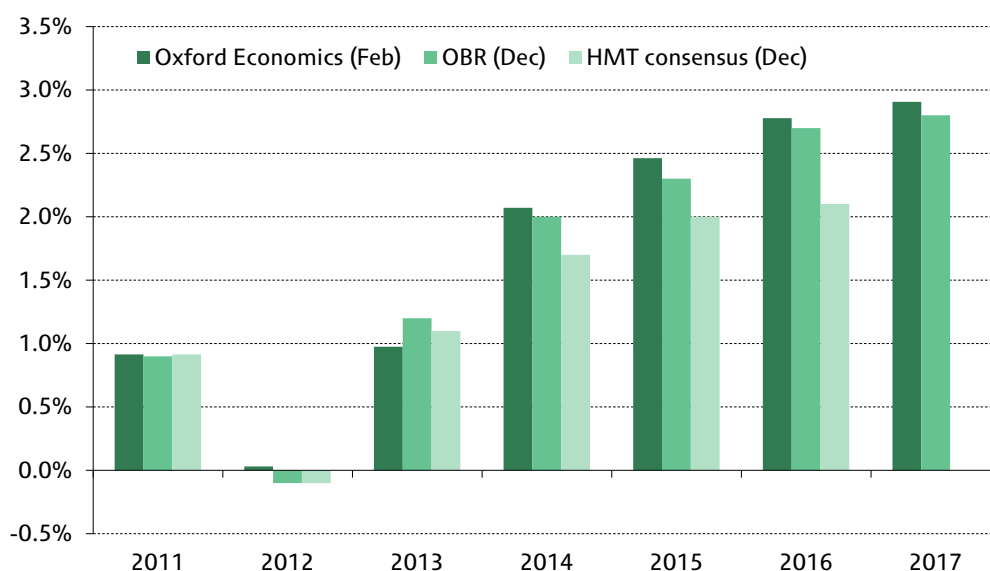


Source: Oxford Economics, OBR.

## 2.5 Comparison with other forecasts

Our short-term forecasts are similar to those of the OBR and the market consensus (Figure 2.20). Over the latter years of the forecast horizon, our forecast is a little stronger than that of the OBR, reflecting the influence of our larger output gap. The market consensus is much lower, although we consider the consensus forecast to be a less reliable indicator of longer-term forecasts, given that the sample size is considerably smaller than for the short-term forecasts.

Figure 2.20. Comparison of GDP growth forecasts



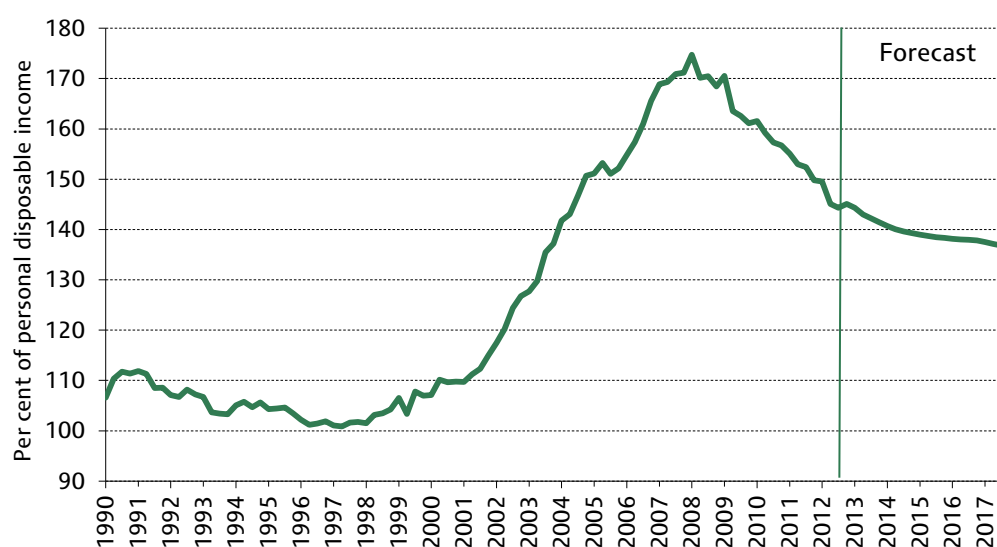
Source: Oxford Economics, OBR, HM Treasury.

## 2.6 Risks now more balanced: alternative scenarios for the UK economy

Throughout 2012, the risks to our central forecast had been skewed heavily to the downside, reflecting several important international ‘event risks’, such as the threat of a eurozone break-up or the US going over the ‘fiscal cliff’. However, these risks have diminished substantially and have been replaced by a more normal – and more balanced – pattern of macroeconomic risks. We attach a probability of around 60% to an outcome similar to our baseline scenario and identify several areas of risk to the upside and downside.

The UK household sector has been repairing its balance sheets over the past five years, but the level of household debt remains high by historical standards (see Figure 2.21). Our forecast assumes that households continue to deleverage in a relatively orderly fashion, with the low interest rate environment giving them ample room to plot a path towards more sustainable debt levels. However, this outcome is far from certain; consumers may opt to use the anticipated acceleration in income growth to make more rapid inroads into their debts, or they may be forced into this action by earlier and more aggressive increases in interest rates. Such a scenario would dampen the pace of the UK recovery.

Figure 2.21. Household debt-to-income ratio



Source: Haver Analytics, Oxford Economics.

There is also considerable uncertainty surrounding future trends in productivity and, by extension, employment. Productivity has slumped in recent years and is now around 14% below where it would have been had the pre-recession trend continued. We assume that a portion of this decline is due to cyclical factors, which will unwind as economic growth recovers. However, some economists argue that almost all of the decline can be written off as being permanent and that the economy has moved to a new equilibrium some way below old levels. If this is the case, then it would imply that the economy would need to create more jobs to support a given level of output growth going forwards; in the short term, this may mean stronger employment trends than those shown in our forecast,

potentially providing some upside for consumer spending, though it would also imply poorer medium-term growth prospects.

On the upside, UK corporates remain in strong financial shape and there is some evidence that credit availability is beginning to improve. This could be the foundation of a robust recovery in business investment, if corporates feel sufficiently confident in the outlook to authorise these projects.

The balance of these domestic risks remains skewed slightly to the downside, with the risks around consumer balance sheets being the most important. In contrast, as we established in Chapter 1, the risks to the global outlook are more evenly balanced. In the rest of this section, we look at two of the alternative scenarios for the global economy set out in Chapter 1 and consider how they might affect the UK economy.

## **Corporate reawakening**

Our baseline forecast assumes that the policy process in 2013 and beyond will be similar to what we have seen in recent years. In particular, in the eurozone, we expect piecemeal action on setting up a banking union and moving towards fiscal union. In the US, the most likely scenario is that no agreement is reached on a medium-term fiscal plan that brings public deficits and debt down. The lingering uncertainty would restrain any improvement in corporate sentiment.

But we could be positively surprised. For instance, eurozone policymakers have sometimes taken action that surpassed our expectations, such as the ECB's very strong commitment, made in July 2012, to 'do what it takes' to save the eurozone.

More decisive policy action in the eurozone would create the right environment for companies to decide to use large amounts of cash accumulated on their balance sheets more productively, by accelerating investment and recruitment. This would, in turn, enhance confidence, leading to a quick recovery in demand. We would expect to see such a scenario playing out across the major economies, so it would also boost trade. The UK would be at the forefront of such a scenario, given the extent to which UK firms have built up cash surpluses over the past five years.

Under this scenario, we would expect the UK economy to grow by 1.7% this year and by 3.3% in 2014. We would attach a probability of around 15% to a scenario where the recovery surprises on the upside in a way similar to this.

## **Eurozone break-up**

Though we think that the risk of an imminent break-up is much lower now than it was during 2012, the future of the peripheral countries in the eurozone is not yet assured and we see the possibility that some countries exit the eurozone as the most significant downside risk to the global economy over the medium term.

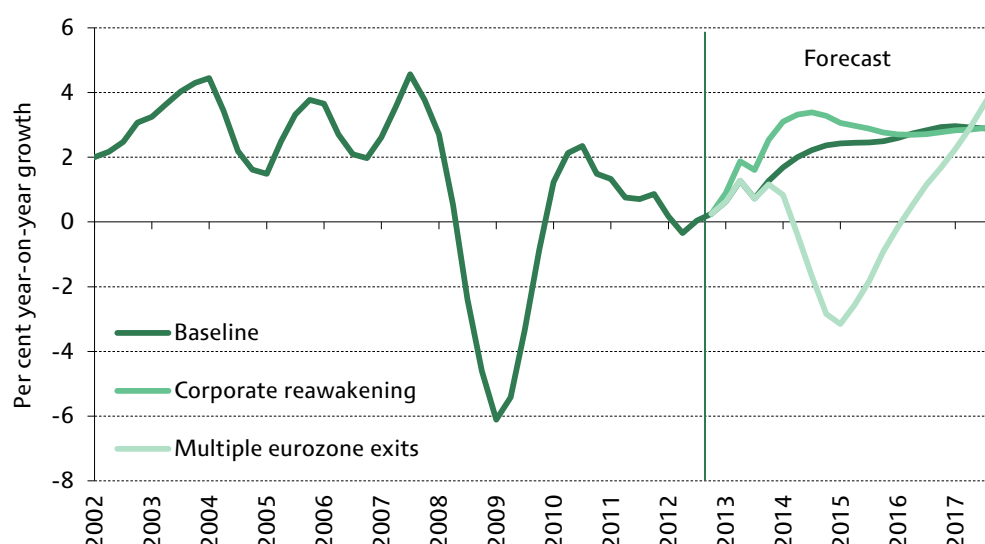
We think there is a probability of around 15% that the eurozone will fracture in 2014, with up to six economies – Greece, Portugal, Ireland, Spain, Italy and Cyprus – being forced to leave. In such a scenario, the UK would be one of the countries hardest hit outside of the eurozone because of its strong reliance on the eurozone for trade – more than 40% of UK exports go to the eurozone – and the likely negative impacts on consumer and business confidence.

However, the strongest transmission would be through financial contagion and the credit crunch conditions that would ensue. The close links with their European counterparts would mean that UK banks would be vulnerable to spillovers from increased stress in the European banking sector. The UK's exposure to peripheral sovereign debt is relatively limited, but its exposure to bank and other private sector debt is much greater and disorderly sovereign defaults in the periphery would lead to defaults in other sectors of the economy, as well as other parts of the eurozone, which would hit the UK banking sector hard. Data from the Bank for International Settlements suggest that UK banks have exposure to around \$400 billion of debt in the Peripheral-4 (Greece, Spain, Portugal and Ireland) countries, more than half of which is to Ireland.

In a scenario where the eurozone breaks up, we would expect the UK to endure another deep recession, albeit not as dramatic as the 2008–09 recession because there is less scope for businesses to cut spending on inventories or business investment this time around. GDP would decline by 1% in 2014 and by a further 2.1% in 2015.

Figure 2.22 shows GDP forecasts for the UK economy, based upon these alternative scenarios. By the end of 2017, the level of GDP is around 2% higher than the baseline in the corporate reawakening scenario and 8% below the baseline in the eurozone break-up.

Figure 2.22. GDP forecasts for alternative scenarios for the UK economy



Source: Oxford Economics.

## 2.7 Conclusions

After a challenging 2012, prospects are beginning to brighten for the UK economy, with GDP expected to grow by 1% this year after being flat in 2012. Growth should then continue to accelerate steadily in future years, although the recovery will remain considerably weaker than in previous cycles. Faster growth will come from three main areas: first, through stronger consumer spending, as lower inflation boosts household purchasing power; second, through a reduction in downside risk supporting confidence and encouraging firms to begin to invest their accumulated cash surpluses; and third, via a recovery in world trade, which supports an improved export performance.

We think that there is currently a significant amount of spare capacity in the economy, with the output gap estimated to have averaged around 5% of potential output in 2012. Though the financial crisis is likely to have caused substantial permanent damage to potential output, we believe that the vast bulk of this damage has already occurred and expect potential output growth to average 1.9% over the period from 2013 to 2017. Such a large output gap provides the conditions for the recovery to gain momentum over the medium term, with GDP growth expected to accelerate from 1% in 2013 to 2.9% in 2017. But this would still leave the output gap at around 3% of GDP in 2017.

The risks around our forecast are more balanced now than they were for most of 2012, though the domestic risks do remain skewed slightly to the downside. Domestically, the main threat remains the high level of consumer indebtedness, which may weigh more heavily on the upturn. A further source of uncertainty is the labour market, where the collapse in productivity over the past five years makes future developments very uncertain. On the upside, a more aggressive recovery in business investment remains a plausible alternative, though this would likely be dependent on external developments, in particular policymakers surprising us with faster and more decisive solutions to the eurozone's problems. And the UK's biggest downside risk is also related to the eurozone: while the risk of an imminent break-up is much lower now than it was during 2012, there remains a possibility that some countries will be forced to exit the eurozone over the medium term. Such a scenario would have the potential to cause another deep recession in the UK.

### 3. The productivity puzzles

Richard Disney, Wenchao Jin and Helen Miller (IFS)

#### Summary

- There are now more people in employment in the UK than before the recession. But output remains below pre-recession levels. At the same point after the recessions of the early 1980s and 1990s, the reverse was the case: employment levels were still lower than before the recessions, but output had more than recovered its pre-recession level. The result is a fall in labour productivity since 2008 that is much larger and more persistent than in previous recessions.
- In 2012Q3, measured real output per worker was 3.2% lower than in 2008Q1 and 12.3% below its pre-recession trend. Part of the fall comes from an increase in part-time work and the resulting reduction in average hours. However, output per hour has also fallen – by 2.6% between 2008Q1 and 2012Q3 – and is 12.8% below its pre-recession trend.
- Changes to the industrial composition of the economy do not explain any of the fall in aggregate labour productivity, and we conclude that changes in the types of people employed can explain only a small part of the fall.
- Real wages have fallen since 2008. Labour supply appears to have been more robust, and the labour market more flexible, than was the case during previous recessions. This has likely contributed to lower real wages, which in turn allow firms to retain more workers than they otherwise would during periods of falling demand, and thereby to lower labour productivity.
- In contrast to previous recessions, there has been no surge in levels of economic inactivity – i.e. in the numbers of people of working age neither in employment nor looking for employment. This seems likely to be associated with a benefit system that has tighter job search requirements.
- The evidence in favour of continued ‘labour hoarding’ is weak: flows into employment have remained strong and we would expect the majority of firms to have adjusted their labour inputs by now.
- Business investment has fallen significantly during the recession and remains 16% below the pre-recession high. To the extent that this has reduced either the level or quality (or both) of available capital, we expect low investment to have contributed to lower labour productivity. In addition, a higher cost of capital relative to wages combined with uncertainty over future demand may have led firms to substitute some labour for capital.
- The movement of capital to high-productivity projects may have been inhibited by a combination of bank forbearance and financing constraints that reduce the exit of low-productivity firms and restrict the entry of new firms. Aggregate labour productivity will be adversely affected during any period of capital adjustment.

- In contrast to the private sector, public sector employment has contracted sharply since the recession – the 6% fall since the end of 2009 largely reverses the increase in public sector employment over the previous decade. At the same time, output of government services, as measured in the National Accounts, has increased slightly since 2009. This suggests that public sector productivity has grown in recent years. However, we present this conclusion with some caution given the particular difficulties in measuring output of the public sector.

## 3.1 Introduction

The 2008–09 recession entailed a sharp fall and ensuing stagnation in national income, alongside relatively resilient employment. As a result, measured output per worker fell by 3.2% in absolute terms between 2008Q1 and 2012Q3. Almost five years after the start of the recession, labour productivity was 12.3% below its pre-recession trend. This experience is in marked contrast to the recessions in 1979–81 and 1990–91, when labour productivity fell by substantially less (driven by relatively smaller falls in output and larger falls in employment) and resumed growth a year after the start of the recession. The puzzle is what caused such a large and persistent fall in labour productivity? Alternatively, why has employment performed much better than we would have expected given the fall and then stagnation of output?

In this chapter, we analyse some of the factors that may have contributed to lower UK labour productivity. We don't purport to have solved the puzzles. But, based on the available evidence, we offer our tentative conclusions on which factors are likely to have played a more important role.

Section 3.2 discusses changes in measured labour productivity since the recession and relates these to the experiences in previous recessions. Section 3.3 discusses changes in the industrial composition of the economy and specific productivity falls within industries. Section 3.4 discusses changes in the composition of the workforce, which now contains more part-time workers and more self-employed workers (likely to be less productive on average than full-time employees) but also more workers with higher qualifications and more work experience. Section 3.5 demonstrates the large fall in real wages and highlights evidence that labour supply has increased. Section 3.6 considers the effect of the level and allocation of capital on labour productivity.

Trends in the public sector present their own puzzles. Historically, measured public sector productivity growth has been close to zero. This apparently slow growth, alongside a rapid expansion in public sector employment over the previous decade, was among the many factors underlying the coalition government's determination to 'rebalance' the economy away from the public sector and towards the private sector. In contrast to the private sector, public sector employment has contracted sharply since the recession while public sector output, as measured in the National Accounts, has slightly increased. This is somewhat surprising given that a large part of public sector output is measured based on the volume of inputs (such that a fall in employment would be expected to decrease output and leave productivity broadly unchanged). The evidence points to an overall increase in labour productivity in the government sector, although the difficulties in measuring government output lead us to present this conclusion with some caution. Section 3.7 considers trends in public sector productivity and a final section concludes.



## Productivity matters

What has happened to labour productivity – the scale of the fall, what caused it and whether it is temporary or permanent – matters for economic policy. Some of the factors we discuss – including an underutilisation of labour and misallocation of capital – suggest that part of the fall in the level of productivity may be temporary such that we would expect productivity (but not necessarily the number of jobs) to increase again when the economy recovers. However, some of the fall in labour productivity may have had more structural causes, such as an increase in labour supply (which puts downward pressure on wages) or a shift in demand away from high-productivity sectors. In addition, a period of depressed output itself may feed through into lower future productivity if, for example, the skills of workers depreciate or if new ideas that were unable to secure finance or were deterred by uncertainty do not now come to fruition. As a result, both the level and the growth rate of productivity may be permanently lower, and therefore there may be only a weak recovery in productivity and limited increases in real wages when output recovers.

The degree to which the fall in productivity is expected to be permanent affects estimates of potential output (and therefore of the output gap) and of expected future growth. This in turn affects the policy prescriptions – in particular, how much of the increase in public sector net borrowing since the financial crisis and associated recession can be expected to be temporary and how much can be expected to be impervious to recovery and potentially necessitate tax rises or spending cuts (see Chapter 5). It also has implications for how we expect to see the labour market fare during a recovery.

## 3.2 The trend in measured labour productivity

Labour productivity is measured as the amount of output produced in a given period, divided by the amount of labour input in that same period. In the figures that follow, we measure labour productivity using data from the Office for National Statistics (ONS). Measures of output and labour input are always subject to some error, and there may be reasons to suspect this to be worse during the recent recession. In particular, it is possible that measurement issues are distorting the size of the change in labour productivity since the recession (see Box 3.1 for a discussion). However, we expect that the trends discussed below would continue to hold even if there were relatively large revisions to the output or employment figures.

### Box 3.1. The measurement of labour productivity

Labour productivity is the amount of output produced for a unit of labour input, commonly measured as either the number of workers or the number of hours worked. This is the average output of labour. An accurate measure of labour productivity requires accurate measures of the amount of labour input and the associated output.

#### Labour input

Labour input is commonly measured as either the total number of workers employed or the total number of hours worked. The aggregate estimates used by the ONS and the numbers in this chapter come from the Labour Force Survey (LFS) – a continuous survey of a large number of households.

Employment is relatively well measured. The LFS definition of employment includes employees, the self-employed and those working on government schemes. This follows international standards (set by the International Labour Organisation) and has been consistent over long periods of time. The inclusion of those on government schemes and doing unpaid work has been subject to criticism.<sup>a</sup> In absolute terms, the ONS measure of total employment shows an increase of 500,000 (1.8%) in the year to 2012Q3, a fifth of which can be attributed to people on government schemes. Excluding these workers does not qualitatively change the trend in labour productivity (see Figure 3.1).

Moreover, the LFS estimate of total employment appears to tell a similar story, as do alternative sources such as the series ‘workforce jobs’, which are jobs figures collected from employers.

It is also possible that there was some measurement error in employment figures before the recession as a result of increased immigration: migrant workers may be less well captured in both the LFS and employer surveys. If there were more migrant workers before the recession than currently, then output per worker would be more overestimated before the recession.

Hours may be subject to more measurement error than employment, not least because it is harder for an individual to recall the precise number of hours worked than to say whether they worked at all. Measurement error may have increased during the recession, although we do not have evidence on this or, indeed, on whether hours are more or less likely to be over-/under-reported. For example, hours may be more likely to have been overestimated since the recession if workers are not accurately reflecting a fall in the number of hours they actually work. This would lead to an underestimate of labour productivity. In contrast, measurement could have improved – because, for example, there is now less overtime work, which may be reported less well.

### **Output**

Gross domestic product (GDP) – or national income – is the total value of all goods and services produced within the country. It is estimated and updated by the ONS using the data collected for the National Accounts.

There are three approaches used to measure GDP. The production approach estimates the value of all production activity in the economy, net of the value of intermediate inputs and net taxes (i.e. it measures gross value added, GVA). The income approach estimates the incomes earned by all factors of production (notably capital and labour) as a result of individuals and corporations producing goods and services. And the expenditure approach estimates the sum of all households’ final consumption, government final consumption, gross capital formation and net export ( $Y = C + G + I + NX$ ). The ONS reconciles the three estimates into a single GDP figure.<sup>b</sup>

Measuring GDP is not an exact science and initial estimates are subject to subsequent revisions as more extensive data become available. Estimates are based on a combination of business surveys, consumer surveys and income data. Usually, initial estimates are based on a subset of responses and may not be fully reconciled across the three approaches until later. This is inevitable in a modern economy with many complex transactions.

One of the concerns in considering the evolution of productivity over the recession is that the large fall in output may be revised down (such that the productivity gap is reduced). The falls in output seen during 2011Q4–2012Q2 and in 2012Q4 could even be revised away. Indeed, the last time the ONS reported a double-dip recession, in the early 1990s, it was later revised away: GDP was thought to recover briefly in 1991Q3 and fall again (back into recession) in 1991Q4–1992Q2, but later revisions showed no recovery in 1991Q3 and therefore technically no ‘second’ dip. However, the cumulative peak-to-trough fall in GDP during the recession of the early 1990s was very similar to the initial estimate.

ONS analysis claims that, based on the size of previous revisions, future revisions to GDP figures are unlikely to increase GDP by more than 1 percentage point between 2009 and 2012 (current data show a fall in output of 3.0% from 2008Q1 to 2012Q3).<sup>c</sup> Historical evidence suggests that the majority of revisions in terms of absolute magnitude happen within two years of the initial estimate and that revisions have become smaller in magnitude since the early 1990s.<sup>d</sup> However, GDP may be harder to measure now than before the recession. For example, there may be additional error caused by the difficulty of measuring growing online trade or by firms and workers engaging in activities that produce less-easy-to-measure outputs (such as spending effort to generate more business).

<sup>a</sup> See, for example, <http://www.guardian.co.uk/uk/2013/jan/15/statistics-doubt-coalition-500000-jobs>.

<sup>b</sup> The three approaches theoretically should give the same GDP figure, but in practice they differ due to measurement errors. When data on all three approaches are available, the ONS reconciles estimates from the three approaches into a single GDP measure.

<sup>c</sup> See P. Patterson, ‘The productivity conundrum, explanations and preliminary analysis’, ONS, 2012 ([http://www.ons.gov.uk/ons/dcp171766\\_283259.pdf](http://www.ons.gov.uk/ons/dcp171766_283259.pdf)).

<sup>d</sup> See chart 5 in ONS, A. Walton and G. Brown, ‘Updated analysis of revisions to quarterly GDP’, ONS, 2012 (<http://www.ons.gov.uk/ons/guide-method/method-quality/specific/economy/national-accounts/articles/updated-analysis-of-revisions-to-quarterly-gdp.pdf>).

### *Labour productivity has fallen substantially*

During the recession from 2008Q2 to 2009Q2, real national income fell cumulatively by 6.3%, while employment fell by 2.1% (see Figure 3.1). The large fall in output relative to employment led to a 4.3% fall in labour productivity, as measured by output per worker.

National income grew slowly in the two years following the end of the recession and has been weak since. The latest available data show that national income contracted for three consecutive quarters, before increasing in 2012Q3 and dipping down again in the last quarter of 2012. A recovery in employment initially lagged the recovery in output in 2009 such that measured productivity briefly started to recover.<sup>1</sup> However, employment increased sharply from 2011Q3 to 2012Q2 such that measured labour productivity fell again.

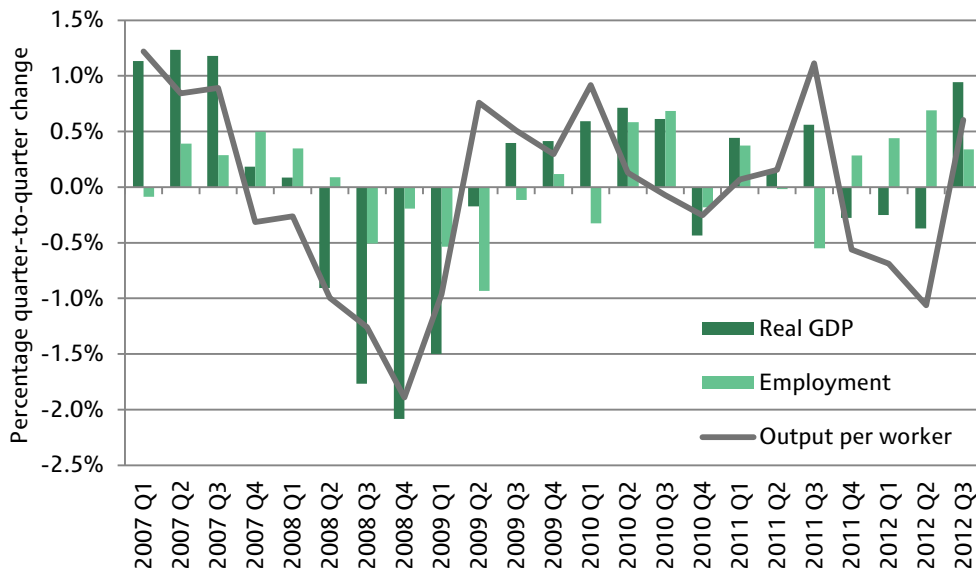
Across the whole period 2008Q1 to 2012Q3, output fell by 3.0% and employment increased by 0.2% such that output per worker is now 3.2% below its pre-recession level.

<sup>1</sup> That employment changes lag changes in output has been established as a stylised fact in references to US business cycles. See J.H. Stock and M.W. Watson, ‘Business cycle fluctuations in US macroeconomic time series’, in J.B. Taylor and M. Woodford (eds), *Handbook of Macroeconomics*, vol. 1, Elsevier, 1999. This implies that any given quarter may not provide an accurate picture of the trend in labour productivity.

Most recently, output is estimated to have fallen by 0.3% in 2012Q4, while employment held up well to November (latest month available at the time of writing). This means output per worker is likely to have fallen further in 2012Q4. This period of increasing employment alongside no growth in output is a puzzle in its own right.

The lower level of output per worker is not simply explained by lower average hours per worker. Average hours per worker fell by 0.7% between 2008Q1 and 2012Q3, compared with a small increase in employment. However, output per hour has also fallen significantly – by 2.6% from 2008Q1 to 2012Q3.<sup>2</sup>

**Figure 3.1. Changes to output, jobs and productivity**



Notes: Quarterly percentage change to GDP is based on ONS series ABMI, real GDP seasonally adjusted. Quarterly percentage change to employment is based on ONS series MGRZ, total in employment aged 16 and over. The percentage change to output per worker equals the percentage change to GDP minus the percentage change to employment.

### ***Labour productivity has fallen by more than in previous recessions***

Figure 3.2 compares the trajectory of output and employment since 2008Q1 to those following previous recessions. The recent recession was associated with a deeper fall in output but a less severe fall in employment than the previous two. Output fell by 6.3% from peak to trough from 2008Q1 to 2009Q2, compared with 2.9% from 1990Q2 to 1991Q3 and 4.6% from 1979Q4 to 1981Q1. Moreover, in the early 1980s and 1990s, output recovered to its pre-recession level within three years of the start of the recession. By contrast, output is still substantially below the 2008Q1 level, almost five years after the start of the recession. Of course, the previous recessions differed in other ways. For example, the recession of the 1980s was associated with a large industrial restructuring.

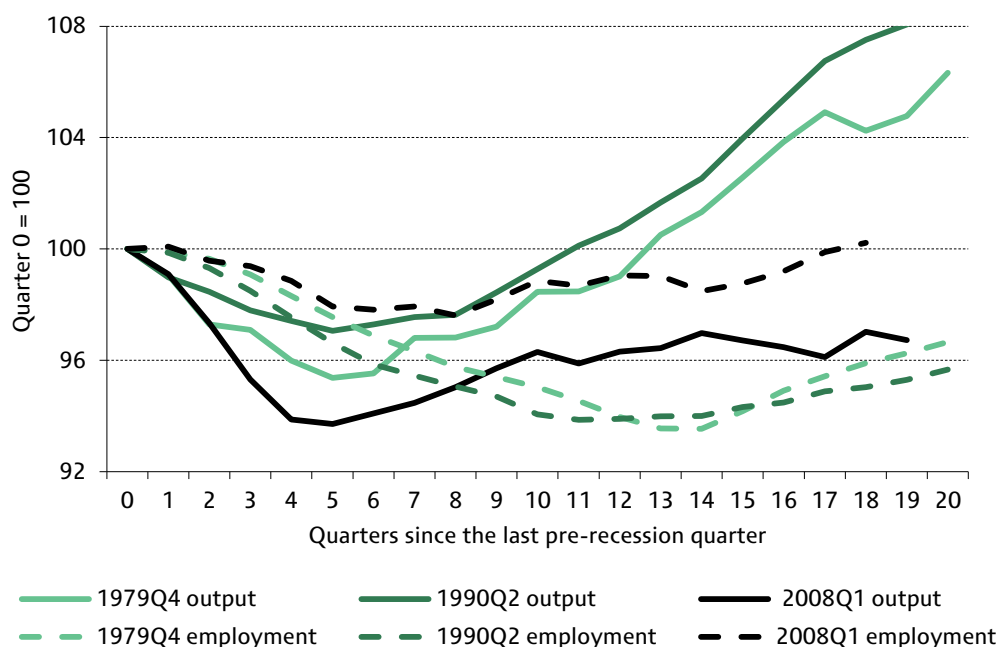
Employment following 2008Q1 fell for about a year, flatlined for another year and then started to recover. In contrast, in both the early 1980s and 1990s, employment fell by substantially more and continued to fall for about three years before recovering.

As a result of a larger fall in output and a relatively subdued fall in employment, labour productivity (measured as output per worker) has also taken a different path since 2008

<sup>2</sup> Source: ONS series YBUV (average hours per worker), YBUS (total hours) and ABMI (real GDP).

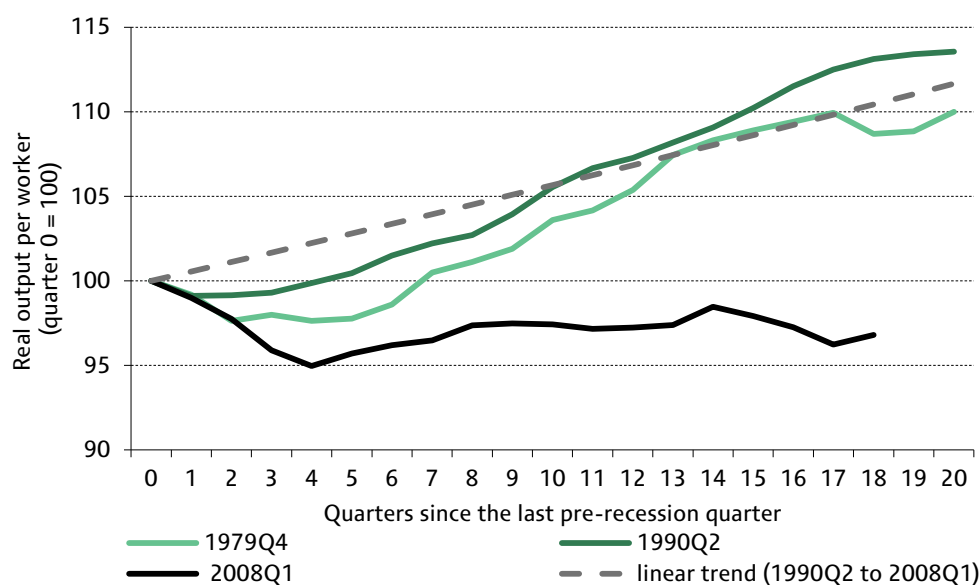
from that following previous recessions (Figure 3.3). At the end of 1979 and the start of 1990, there were temporary falls or stagnation of output per worker, but growth resumed within two years. In comparison, the fall in labour productivity since the start of 2008 has been noticeably larger, and there is no sign yet of a sustained recovery.

Figure 3.2. Real output and employment following recessions



Source: Output from ONS series ABMI; number of workers from ONS series MGRZ.

Figure 3.3. Real output per worker following recessions



Source: Authors' calculations using sources in Figure 3.2. The linear trend in real output per worker is the average quarterly growth rate from 1990Q2 to 2008Q1 (0.553%). The choice of slope is arbitrary to some extent and matters for the exact measure of the productivity gap. However, the trend growth rate is similar to that observed before the start of the recessions in 1979Q4 (0.503% per quarter from 1975Q1 to 1979Q4) and 1990Q2 (0.532% per quarter from 1979Q4 to 1990Q2). Had we used the average quarterly growth rate from 1998Q1 to 2008Q1 (0.503%), the gap between the trend and the actual output per worker would be 11.6% instead of 12.3%.

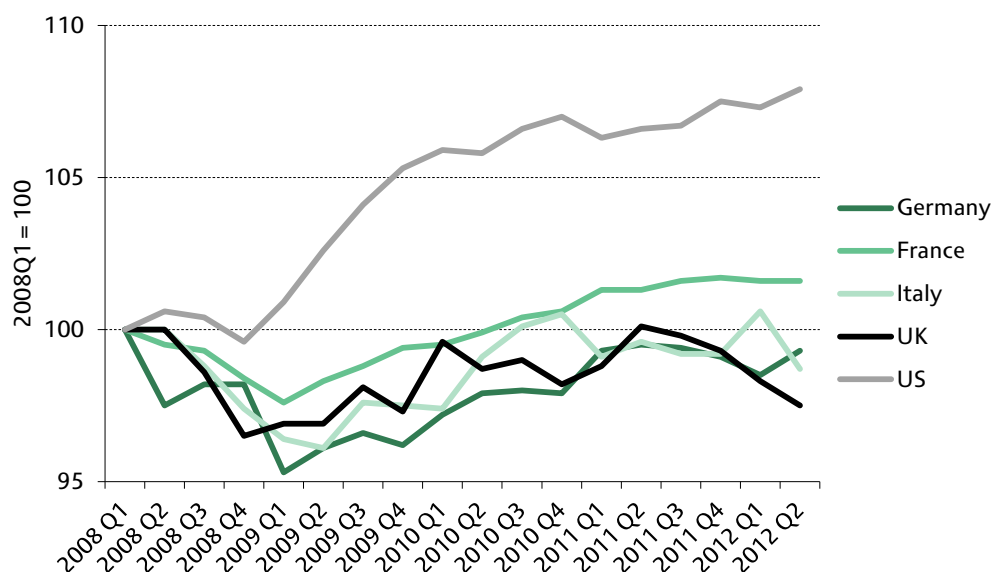
### Labour productivity is substantially below the pre-recession trend

The dashed line on Figure 3.3 shows the trajectory for real output per worker had it continued to grow at the same average rate as before the financial crisis. This implies a gap of 12.3% between measured productivity in 2012Q3 and what it would have been had the pre-crisis trend continued. Output per hour worked is 12.8% lower in 2012Q3 than that associated with the pre-crisis trend.<sup>3</sup>

### The UK experience is similar to that of some other European countries

The UK's experience of weak labour productivity since 2008 is similar to that of most other European countries but is different from that of the US (see Figure 3.4).<sup>4</sup>

Figure 3.4. International comparisons of output per hour



Source: Eurostat, Bureau of Labour Statistics and ONS (data available from chart 6 in [http://www.ons.gov.uk/ons/dcp171766\\_283259.pdf](http://www.ons.gov.uk/ons/dcp171766_283259.pdf)).

In continental Europe, labour productivity in most countries (except Spain, where employment has plummeted) remained weak after the recession. In Germany and Italy, output per hour in 2012Q2 was still below 2008Q1 levels. Most notably, the employment rate in Germany has been higher since the 2008–09 recession than before it, which has been attributed to short-time working and to low real wages.<sup>5</sup> In contrast, US real output per hour hardly fell in 2008 and has grown rapidly since early 2009 to almost 8% above its pre-recession level. In addition, there has been no fall in real wages in the US. In many ways the US experience looks more similar to that of the UK in previous recessions.

<sup>3</sup> Source of total hours figure: ONS series YBUS. Output per hour grew faster than output per worker in the two decades before 2008. Output per hour grew at an average rate of 0.617% per quarter from 1990Q2 to 2008Q1. We use this trend to calculate the productivity gap in 2012 in terms of output per hour.

<sup>4</sup> For a discussion of UK labour productivity from 2007 to 2009 and a comparison with the US, see R. Griffith and H. Miller, *UK Productivity in the Recession*, IFS Briefing Note 97, 2010 (<http://www.ifs.org.uk/bns/bn97.pdf>).

<sup>5</sup> For more on the resilience of German employment, see J. Boysen-Hogrefe and D. Groll, 'The German labour market miracle', *National Institute Economic Review*, October 2010, R38–50 (<http://ner.sagepub.com/content/214/1/R38>).

In the following sections, we consider some of the factors that may have contributed to the large fall in aggregate labour productivity.

### 3.3 Composition of industries

A change in the composition of the economy, and specifically an increase in the relative share of low-productivity industries, could cause lower aggregate labour productivity. This could have happened if, for example, there was a greater fall in demand for high-productivity industries (such as ‘finance’) relative to low-productivity industries (such as ‘administrative and support services’).

There have been significant differences in the changes in both output and hours worked across industries that have translated into different changes in both the level and growth of labour productivity. Table 3.1 shows relative output per hour across industries in 2008, and how labour productivity changed in the 10 years before the recession and in the four years after. It also shows industries’ hours shares in 2008Q1 and how these have changed since the recession. Real output per hour has fallen in absolute terms in most industries in the table, with these industries together representing almost 50% of the workforce.

The financial and insurance industry, which represented 10.9% of GVA in 2008Q1 and was a relatively high-productivity sector, saw a large fall in output (such that it now represents a significantly smaller share of the economy) and a fall in productivity. In contrast, there are some low-productivity sectors that now represent a relatively larger share of total output (and employment), notably including administrative & support services, arts, entertainment & recreation, and government services. Indeed, the public sector has had a different experience from the private sector: the share of output produced by the ‘government services’ sector and the associated productivity have increased since 2008.<sup>6</sup> We return to discuss public sector productivity in Section 3.7.

To understand the role of different industries in the absolute fall in labour productivity, we decompose the overall change between 2008Q1 and 2012Q3 into two effects. The ‘between’ effect asks what aggregate labour productivity would be if the productivity of each industry is held fixed and only the share of an industry’s hours changes. The ‘within’ effect asks what aggregate labour productivity would be if the share of an industry’s hours is fixed and only productivity changes. Overall, we calculate that the 4.4% fall in labour productivity seen in these data is composed of a 0.6% ‘between’ effect and a –5.0% ‘within’ effect.<sup>7</sup> That is, the overall change in the composition of industries that has occurred does not help to explain the aggregate fall in labour productivity: if real output per hour in each industry had remained unchanged and only the relative shares of industries’ hours had changed, aggregate output per hour would have increased by 0.6%.

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<sup>6</sup> The measure of ‘government services’ is not strictly equivalent to the ‘public sector’. The former includes private school and healthcare providers, and excludes some services provided by local authorities (for example, rubbish collection is in ‘arts, entertainment, recreation and other services’).

<sup>7</sup> Authors’ calculations using data from the ONS. The real estate sector has been excluded from this analysis. See the notes and source to Table 3.1 for the sources and an explanation of the discrepancy between the –4.4% figure and that used earlier in the text. While the precise sizes of the ‘within’ and ‘between’ effects are affected by the time period chosen, the qualitative conclusion that the within-industry effect dominates is robust to the choice of time periods.



This implies that the aggregate fall in labour productivity is the result of falls within sectors, with some sectors experiencing larger falls than others.

Figure 3.5 shows the aggregate ‘between’ and ‘within’ effects as well as the contribution from each industry. The figure shows that the fall of productivity within the finance industry alone would have reduced the aggregate productivity by 1.2% (i.e. a quarter of the total 5.0% fall caused by within-industry effects). The mining and quarrying industry also saw a large fall in productivity, which accounts for about a third of the absolute fall.

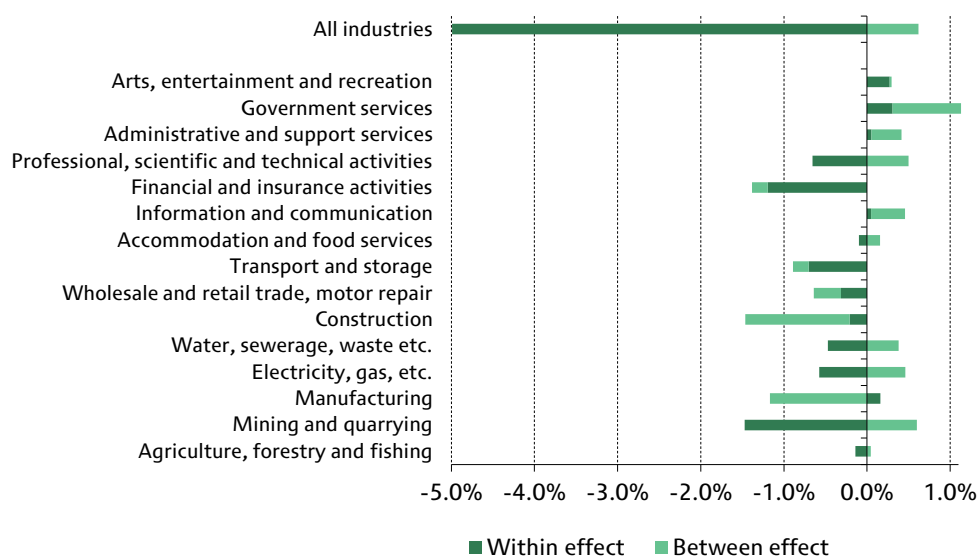
**Table 3.1. Industry-level change in employment and productivity**

Industry	Hours share		Productivity (output per hour)		
	2008Q1	% change 2008Q1–2012Q3	Relative to total economy 2008	Annual % change 1998Q1–2008Q1	Annual % change 2008Q1–2012Q3
Total economy excl. real estate sector	100.0%	0.0%	100.0	2.3%	–1.0%
Government services	23.0%	1.0%	85.0	0.7%	0.3%
Wholesale and retail trade, motor repair	15.4%	–0.4%	78.1	2.4%	–0.6%
Manufacturing	10.9%	–1.1%	109.9	4.7%	0.3%
Construction	8.4%	–1.3%	97.0	0.7%	–0.6%
Administrative and support service activities	7.6%	0.5%	68.3	2.9%	0.2%
Professional, scientific and technical activities	7.5%	0.5%	106.6	4.1%	–1.8%
Transport and storage	5.5%	–0.2%	98.1	2.0%	–3.1%
Accommodation and food service activities	5.5%	0.3%	56.8	2.1%	–0.7%
Arts, entertainment, recreation and other services	4.8%	0.0%	70.9	0.2%	1.7%
Information and communication	4.4%	0.3%	137.3	7.0%	0.2%
Financial and insurance activities	4.2%	–0.1%	258.7	4.6%	–2.6%
Agriculture, forestry and fishing	1.6%	0.1%	41.4	3.9%	–5.0%
Water, sewerage, waste etc.	0.5%	0.2%	264.2	0.9%	–7.4%
Electricity, gas, etc.	0.4%	0.1%	390.9	3.3%	–7.8%
Mining and quarrying	0.3%	0.1%	968.6	–3.2%	–13.4%

Notes: Industries are ordered by employment share in 2008Q1 (column 1). The real estate sector (SIC 2007 Section I) is excluded because output of this sector includes the imputed rent of owner-occupiers, which requires no labour input. The data underlying this table show a fall in output per hour in the overall economy excluding real estate activities of –4.4% from 2008Q1 to 2012Q3. There are two reasons this is different from the 2.6% quoted in the main text: (i) the exclusion of real estate activities (output per hour falls by 3.5% if included) and (ii) different sources of statistics on weekly hours of work. This table’s statistics on hours are based on business surveys and imply a 0.4% increase in total hours. By contrast, the LFS (a survey of households) data that we use above points to a 0.4% reduction in total hours for the same period. Source: Authors’ calculations based on ONS published ad hoc data tables ‘GDP(O) low level aggregates at constant and current prices’ and ‘Productivity jobs and hours (whole economy), market sector workers and hours - 2012 Q3’ (reference numbers 000965 and 000950, <http://www.ons.gov.uk/ons/about-ons/what-we-do/publication-scheme/published-ad-hoc-data/economy/index.html>). For a definition of the industry groups, see <http://www.companieshouse.gov.uk/infoAndGuide/sic/sic2007.shtml>.



Figure 3.5. Within- and between-industry changes in productivity



Notes: For each industry, the ‘within’ effect is the change to productivity between 2008Q1 and 2012Q3 multiplied by the average hours share between the two time points. The ‘between’ effect is the change to hours share between 2008Q1 and 2012Q3 multiplied by average productivity between the two time points. Source: See Table 3.1.

In addition, as seen in Table 3.1, growth in productivity since the recession has slowed significantly in most industries and been negative in many. This has been particularly notable in high-productivity industries (including finance & insurance and information & communication). The slowdown of productivity growth within industries since 2008 is important in explaining the aggregate productivity shortfall relative to the trend. The extent to which industries recover to their pre-recession trends in productivity growth will affect aggregate productivity growth going forward. Again, the trend is driven by within-industry effects and not changes in the composition of industries: our calculations suggest that had productivity continued to grow at the pre-recession rate within each industry, the changes to output shares across industries since the recession would not lead to any slowdown of overall productivity growth.<sup>8</sup>

### 3.4 The composition of the workforce

The characteristics of the workforce also have implications for aggregate labour productivity. For example, if the workforce shifts in composition towards less-skilled or less-experienced workers, we would expect aggregate labour productivity to fall, all else being equal. In this section, we therefore document the changes in worker characteristics since the recession. In summary, we observe a move towards more part-time workers and more self-employed workers, which, to the extent that these workers are less productive than full-time employees, would tend to reduce labour productivity. However, there has also been a continued increase in the length of workers’ experience and the share of workers with degrees, which, if these skills are being adequately utilised, would

<sup>8</sup> At any given point in time, the growth rate of aggregate productivity is simply the average of the growth rate of each industry weighted by output share. If the industries with fast productivity growth shrink in terms of output relative to those with slow productivity growth, there would be a negative effect on the aggregate growth rate of aggregate productivity.

tend to increase productivity. We are not able to put a number on the extent to which the changing composition of the workforce has acted to reduce labour productivity – there are insufficient data to do so. However, we draw the conclusion that while the increased share of part-time and self-employed workers has likely made some contribution to a fall in aggregate labour productivity, it explains much less than a fall in productivity within given types of workers does.

### *More part-time workers*

There has been a noticeable increase in the proportion of workers who are part-time, from 25.5% in 2008Q1 (a figure which was stable over the previous decade) to 27.5% in 2012Q3.<sup>9</sup> Part-time workers typically produce less output than full-time workers simply because they spend less time working. The shift towards part-time workers has been the main reason behind a reduction in average hours a week worked per worker, which fell from 32.2 in 2008Q1 to 32.0 in 2012Q3 (a 0.7% reduction).<sup>10</sup> This explains why output per worker has fallen by more than output per hour. If the only effect of an increase in the number of part-time workers were to reduce the number of hours worked, then the effect on the fall in productivity would be captured by considering output per hour.

However, the hourly productivity of part-time workers may be different from that of full-time workers. Part-time workers may be less (or more) skilled and experienced than full-time workers and may be working in different types of jobs or sectors of the economy. Even for the same worker in the same job, working fewer hours may be associated with lower productivity if, for example, it is more difficult to coordinate with co-workers or to utilise equipment fully when part-time.

We cannot measure the productivity of full- and part-time workers separately. Average hourly wages are substantially lower for part-time than for full-time workers – £10.08 versus £13.97 in 2012Q3.<sup>11</sup> Lower wages may be evidence of lower productivity of part-time workers, although this figure does not account for differences in worker or job characteristics. If part-time workers are less productive, it means that a shift of the workforce towards part-time workers could reduce overall hourly productivity (assuming that the average hourly productivity of full-time and part-time workers remains unchanged).

To get a sense of the rough magnitude, we calculate what an increase in the share of part-time workers would mean for aggregate productivity under an assumption about their productivity relative to full-time workers. If we assume that the average hourly productivity of part-time workers is 70% of that of full-time workers (which is similar to the unconditional wage ratio), then a 2 percentage point shift towards part-time workers (i.e. the scale of change seen since the recession) would reduce aggregate hourly productivity by about 0.4% (compared with a fall of 2.6% since 2008).<sup>12</sup> However, this

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<sup>9</sup> Source: ONS table 'EMP01' (<http://www.ons.gov.uk/ons/rel/lms/labour-market-statistics/december-2012/table-emp01.xls>).

<sup>10</sup> The average hours among the full-time didn't change much over the period and the average hours among part-timers increased slightly. Source: ONS series YBUV for the overall average, YBUY for full-timers' average and YBVB for part-timers' average.

<sup>11</sup> The corresponding figures in 2008Q1 were £9.06 and £12.78. Source: hourly earnings, mean £ per hour, in ONS table EARN08 parts 2 and 3 (<http://www.ons.gov.uk/ons/rel/lms/labour-market-statistics/january-2013/table-earn08.xls>).

<sup>12</sup> The share of total hours accounted for by part-time workers is less than their employment share (25.5% in 2008Q1 and 27.5% in 2012Q3). The share of part-time hours rose from  $0.255 \times 15.6 / (0.255 \times 15.6 + 0.745 \times 37.3) = 12.5\%$  in 2008Q1 to

simple calculation is sensitive to the assumption that part-time workers are 30% less productive per hour than full-time workers – for example, if we assumed they were 20% less productive, the change in composition would contribute only a 0.2% fall in aggregate hourly productivity.

It is also worth remembering that these calculations do not account for any change in the average characteristics (for example, skills or experience) of part-time workers or in the types of jobs they are doing as their numbers increase. There may be a difference in the hourly productivity of those who have become part-time workers as a result of the recession. For example, a full-time worker whose hours are reduced may have a higher (or lower) productivity than workers who were part-time before the recession. To the extent that the productivity of part-time workers is higher than we have assumed (or there is an offsetting increase in the average productivity of the newly part-time), the calculations will be an overestimate of the effect of a greater number of part-time workers.

### *More self-employed workers*

There has also been a substantial increase in self-employment, from 13.1% of all those in work in 2008Q1 to 14.2% in 2012Q3.<sup>13</sup> In absolute terms, the number of self-employed people rose from 3.86 million to 4.19 million, a 9% increase. If the self-employed are less productive than employees, an increase in the share of self-employed workers could reduce aggregate productivity. Productivity of the self-employed is notoriously difficult to measure; we do not have data on the productivity of the self-employed compared with that of employees.

As in the discussion concerning the increase in part-time workers, we can consider the effect on aggregate productivity of an increase in the share of self-employed under an assumption about how productive they are. If the productivity of the self-employed, including those who are newly self-employed following the recession, is 80% that of employees, then the increase in the share of self-employed workers would reduce aggregate output per worker by 0.23% (relative to the total fall of 3.2%).<sup>14</sup> However, 80% is an arbitrary number. Were the self-employed 40% less productive, the effect of an increase in the share of the self-employed on aggregate productivity would be a fall of 0.46%.

It is also likely that the productivity of workers who are currently self-employed is different from that of those who were self-employed before the recession. For example, those who became self-employed after losing their jobs during the recession might be less productive than the pre-existing self-employed, and may be producing less due to lack of demand. In the extreme case where all the additional self-employed workers produced

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$0.275 \times 15.6 / (0.275 \times 15.6 + 0.725 \times 37.3) = 13.7\%$  in 2012Q3. This implies an average hourly productivity in 2008Q1 of  $0.125 \times 0.7 + 0.875 \times 1 = 0.9625$  and in 2012Q3 of  $0.137 \times 0.7 + 0.863 \times 1 = 0.9589$  and therefore a change of  $(0.9589 / 0.9625) - 1 = -0.37\%$ . If we assume that the hourly productivity of both part-time and full-time workers grows at the same rate as the historical aggregate trend (2.5%), then the 0.4% fall in productivity that can be attributed to the increase in part-time workers can be compared with the 12.8% aggregate shortfall relative to trend. However, it is plausible that the trend growth rates in productivity of the two types of workers differ, such that the compositional change would affect the aggregate trend.

<sup>13</sup> The proportion of workers who are employees decreased from 86.2% to 84.9%. Employees and the self-employed do not add up to 100% of all people in work – the difference comes from unpaid family workers and government trainees.

<sup>14</sup>  $(14.2\% \times 0.8 + 85.8\%) / (13.1\% \times 0.8 + 86.9\%) - 1 = -0.23\%$ .

nothing (i.e. were disguised unemployment), we would be overestimating the total number of workers by 0.33 million, or 1.1% of the total workforce in 2012Q3. This would mean the current output per worker is underestimated by 1.1% and therefore this would account for about 1 percentage point of the fall in measured productivity. However, this is an upper bound on the effect of additional self-employed workers.

### *More workers who are better qualified, older and have longer job tenure*

Table 3.2 shows the changing characteristics of the workforce. There is a clear long-term shift towards workers with degrees or equivalents – the proportion of which rose from 24.4% in 2002 to 35.1% in 2012 – and away from those without GCSEs. We expect higher skills to be associated, on average, with higher productivity.

**Table 3.2. Characteristics of the workforce**

Worker characteristic	2002	2007	2012 (Q1–Q3)
<b>Qualifications</b>			
Share of workers with:			
a degree or equivalent	24.4%	28.8%	35.1%
A levels or GCSEs or equivalents	46.5%	46.1%	46.8%
no GCSEs or equivalents	29.2%	25.1%	18.1%
<b>Age</b>			
Share of workers aged:			
16–17	2.6%	2.0%	1.3%
18–25	13.2%	13.7%	12.4%
26–45	50.2%	47.9%	47.2%
46–64	32.8%	34.9%	37.0%
65 or above	1.2%	1.6%	2.2%
<b>Tenure</b>			
Share of workers with the same employer for:			
less than 1 year	19.0%	17.7%	14.6%
1 to 2 years	12.5%	11.9%	10.2%
2 to 10 years	37.1%	40.5%	42.0%
10 years or more	31.4%	29.9%	33.2%

Note: All statistics refer to the 16+ population except those about qualifications, which relate to the 16–59 population (due to a discontinuity in survey questions).

Source: Authors' calculations from quarterly Labour Force Survey.

There has also been a long-term shift in the composition of the workforce away from younger workers (under-25s) towards older ones (notably those aged 65 and over), which has continued since the recession. Insofar as older workers are typically more experienced than younger ones, this compositional shift should increase labour productivity. Similarly, we would also expect an increase in the job tenure of workers to be associated with higher productivity because workers who stay with the same employer for longer are likely to have accumulated more on-the-job experience. Longer job tenure may also signal higher productivity as lower-productivity workers are more likely to be laid off.<sup>15</sup> The proportion of workers who have been with the same employer

<sup>15</sup> It is possible to argue the other way round. For example, those with longer job tenures may be better at ensuring their job security than producing direct output; a higher ratio of senior to junior staff may mean a less efficient organisational structure.

for less than two years fell from 29.6% in 2007 to 24.8% in 2012. Meanwhile, the proportion of workers with at least 10 years of experience with the same employer, which was falling steadily in the 2000s before the recession, increased significantly from 29.9% in 2007 to 33.2% in 2012.

We would expect each of these trends – i.e. a better-qualified, older and longer-tenured workforce – to have worked to continue or even accelerate the pre-recession growth in labour productivity. As such, these compositional changes do not help to explain the observed fall in labour productivity.

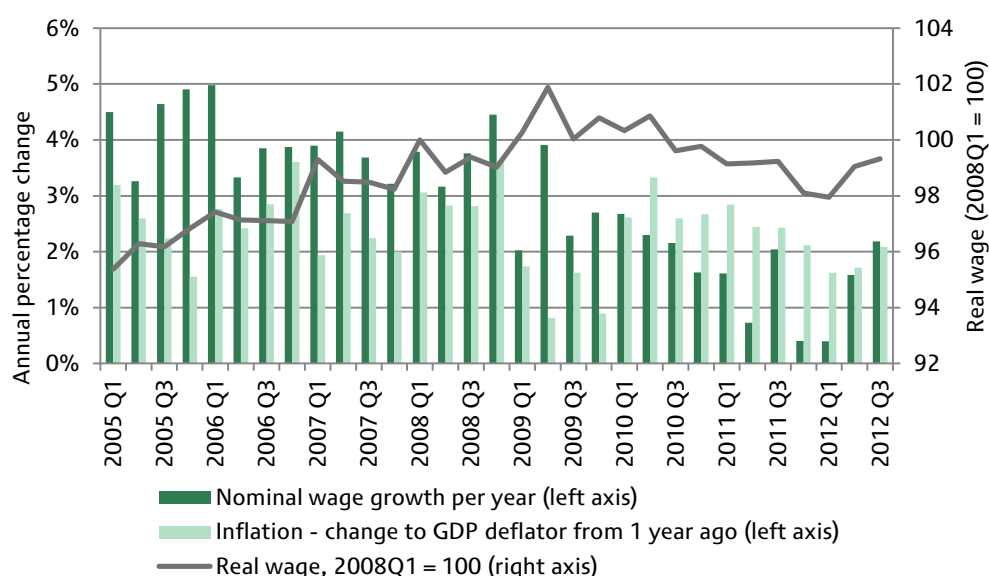
However, it may be the case that the experience and skills of workers are being underutilised if, for example, a weak labour market and low real wages (see Section 3.5) are leading workers to accept positions for which they are overqualified or if the skills are not well matched to those being demanded. To the extent that such factors are important, we would expect a reduced effect of seemingly higher-productivity workers on actual productivity.

## 3.5 The labour market

### Reductions in real wages

Since the start of the recession in 2008, wages have been growing more slowly than prices. Figure 3.6 shows year-on-year percentage changes to employees' average nominal hourly wages and to inflation, alongside changes to average real wages.<sup>16</sup> For these purposes, we measure inflation, and hence real wages, using the GDP deflator. This can be thought of as the real cost to the employer rather than the real value to the employee. The choice of price index matters, as we discuss below.

Figure 3.6. Annual percentage change to wages and prices



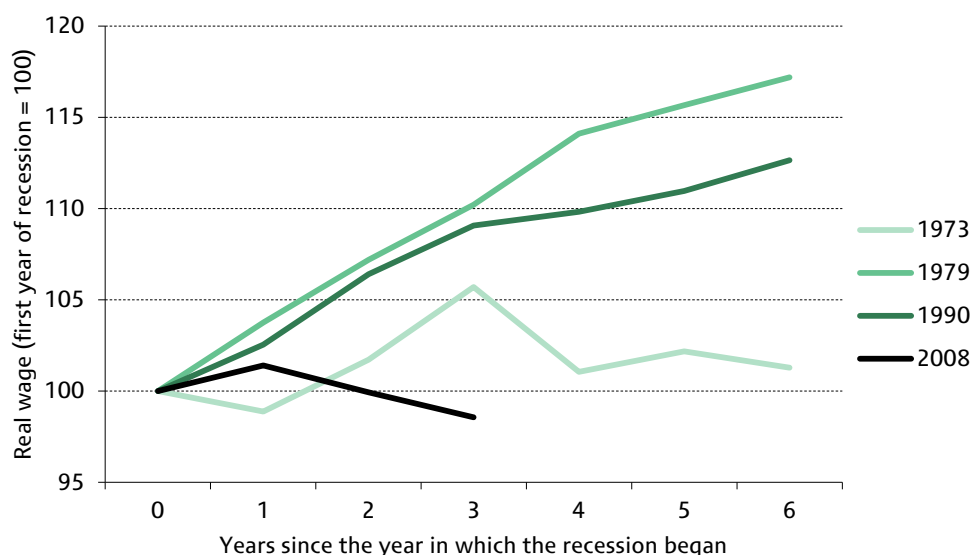
Source: Nominal wages from ONS reference table EARN08 part01, which is based on the LFS and not seasonally adjusted; GDP deflator at market prices, ONS series YBGB.

<sup>16</sup> We consider mean real wages here, but median real wages have also stagnated.

In the 10 years to 2008Q1, the average real wage grew by 2.2% per year, similar to the growth rate of real output per hour (2.3%). There was a notable slowdown in real wage growth around 2003, such that the mean wage growth rate was only 1.5% p.a. in the five years to 2008Q1 compared with 2.6% in the preceding five years.<sup>17</sup> The growth rate of output per hour also slowed down, from 2.7% to 1.9%, between the two five-year periods.<sup>18</sup> The average real wage increased slightly at the start of 2009 when inflation was particularly low, but has fallen steadily since as inflation has outstripped nominal wage growth. In 2012Q3, four-and-a-half years after the start of the recession, the average real wage was 0.7% below the level in 2008Q1, and about 10% below its historical trend.<sup>19</sup> This has been driven by falls in private sector real wages. Public sector real wages have not fallen (see Chapter 6 and Section 3.3 for a discussion of public versus private sector pay).

The measurement of real wages is sensitive to the choice of inflation measure. Since our interest here is in the cost of labour to employers, we use the GDP deflator because it reflects changes in the price of total output and therefore is arguably a better measure when considering changes in real productivity. If instead we use the consumer price index (CPI) – which is a better measure for analysing living standards as it only includes

Figure 3.7. Average male hourly real wages following recessions



Notes: The wage series is the mean gross hourly wage excluding overtime for male full-time employees in Great Britain from the New Earnings Survey and Annual Survey of Hours and Earnings. This and the corresponding female time series are the only time series of average hourly wages that are available from the 1970s.

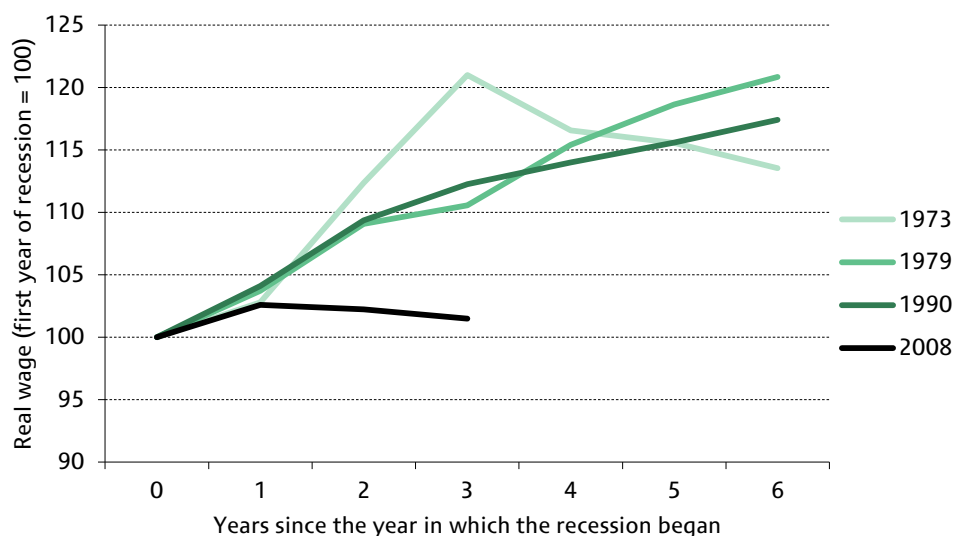
Source: Authors' calculations based on ONS statistics. ONS ad hoc release of labour market data, table reference 000012 (<http://www.ons.gov.uk/ons/about-ons/what-we-do/publication-scheme/published-ad-hoc-data/economy/index.html>). The wage series is deflated by GDP deflator, ONS series YBGB.

<sup>17</sup> For source of average real wage figures, see Figure 3.6. The slowdown of real wage growth since 2003 has been highlighted by P. Gregg and S. Machin, 'Real wages and unemployment in the big squeeze', 2012 ([http://www.iza.org/conference\\_files/FutureOfLabor\\_2013/machin\\_s416.pdf](http://www.iza.org/conference_files/FutureOfLabor_2013/machin_s416.pdf)).

<sup>18</sup> Source: total hours – ONS series YBUS; real GDP – ONS series ABMI.

<sup>19</sup> Real wage growth averaged 2.2% per year in the 10 years to 2008Q1. Had this growth rate continued to 2012Q3, real wages would be 10.2% higher than the 2008Q1 level, rather than 0.7% below it ( $99.3/110.2 - 1$  gives  $-9.8\%$ ).

Figure 3.8. Average female hourly real wages following recessions



Notes and source: See Figure 3.7.

the costs of goods and services purchased by households – we see a 5.7% fall in the average real wage between 2008Q1 and 2012Q3.<sup>20</sup> The larger fall in real wages is driven by the fact that the prices of consumer goods and services, including imports, have increased more quickly than the overall price of UK output.

Figure 3.7 compares average hourly real wages among men working full-time in the recent recession with those in the recessions that started in 1973, 1979 and 1990. Figure 3.8 makes the same comparison for female wages. During and following both the 1979 and 1990 recessions (and the 1973 recession for women), real wages grew strongly. In contrast, real wages have fallen since 2008. This is more similar to the experience of average male wages in the 1973 recession. Indeed, we have not seen a lack of real wage growth lasting three years or more since the 1970s. Though note that the experience of the 1970s was very different in that inflation and nominal wage growth were both very much higher than we have experienced since 2008.

#### *Are low real wages a cause or effect of low productivity?*

It is possible that a fall in the amount of output that (at least some) workers produce for a given hour of work following the recession has led to lower wages. For some industries and occupations, measured productivity would fall when demand falls. For example, a machine that is running at reduced capacity, but that requires the same number of workers to operate it, will be associated with lower productivity. (We discuss the utilisation of labour further below.) Demand may have fallen in a way that reduces the value of what can be produced in an hour of work. For example, following the recession, some financial services may require the same amount of worker effort to produce them but result in a lower value of output. When worker productivity falls, firms may choose to offer lower wages and some may only be able to afford lower wages.

It is possible, however, that the direction of causality between wages and productivity runs the other way – that is, that a decline in real wages has contributed to the resilience of employment relative to output and therefore to the fall in labour productivity.

<sup>20</sup> Source of CPI: ONS series D7BT.



Specifically, low wages allow firms to retain more staff than they otherwise would have, given the fall in output demand. Low wages also reduce the pressure to lay off the least-productive employees and may have enabled some low-productivity firms to carry on operating rather than go bust. In addition, as labour has become cheaper relative to capital (see Section 3.6), some firms may have been choosing to create output with relatively more labour and less capital. A lower level of capital per worker can be expected to reduce labour productivity.

### *Why have real wages fallen so much?*

Wages and employment are affected by many factors that work simultaneously and that take time to adjust towards a new equilibrium. As such, we cannot isolate the causality between wages and productivity. Here we consider wages and employment as the outcome of labour demand, labour supply and the adjustment to a new equilibrium, and discuss what we learn from comparisons with previous recessions, in which we typically saw a large fall in total hours worked and not in real wages.<sup>21</sup> In contrast, in this recession, there has been a large fall in real wages and a relatively mild fall in employment.

We know that labour demand – i.e. the number of hours demanded by firms for given hourly wages – has fallen as a result of the recession and expect this to reduce both employment and wages. The size of the falls in wages and employment (and particularly the relative size of the falls) depends on labour supply and on how the labour market adjusts to a new equilibrium, both of which may have changed compared with previous recessions.

Labour supply affects the equilibrium that the economy moves to following a shock. If, in comparison with previous recessions, more people are willing to work at a given real wage or people are less responsive to a fall in the real wage, then we would expect to see a larger fall in wages and a more muted fall in employment in response to a fall in labour demand.

One piece of evidence that is consistent with an increase in labour supply is a relatively low level of economic inactivity since the recession. Figure 3.9 shows the share of the working-age population that are economically inactive (neither in paid work nor looking for paid work) following the last four recessions. Following the recessions in 1979 and 1990, there was a sharp increase in inactivity rates, as individuals either gave up looking for jobs after a period of unemployment or chose not to enter the labour market. The inactivity rate fell quickly from 1983, driven by the increase in female participation, though inactivity rates among men remained high.<sup>22</sup> Inactivity rates remained high for many years after the recession of the 1990s.

In contrast, the proportion of the working-age population who are economically inactive today is low by historical standards. The last time the inactivity rate was below the current level was in 1991, when a lower proportion of young people were in university. In the most recent year of data (2011Q3 to 2012Q3), the rate of economic inactivity has fallen significantly, while employment has increased. In fact, more than half of the 500,000 increase in employment during that year was the result of a fall in inactivity

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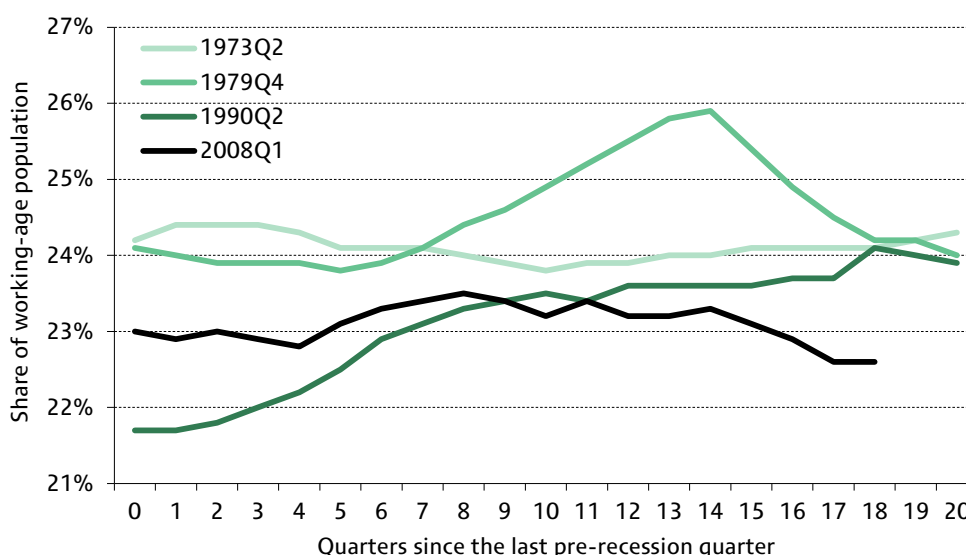
<sup>21</sup> We are, of course, considering a simplification of the labour market. In reality both workers and employers are heterogeneous, there are labour market frictions, and at any point the market may be out of equilibrium.

<sup>22</sup> Note that inactivity rates of males aged 25 or above did not fall in the mid-1980s.



(rather than a fall in unemployment). Initially, the stable rate of inactivity may have been aided by an attempt by Jobcentre Plus – which saw a large temporary increase in employment when the recession started – to prevent the short-term unemployed from becoming long-term unemployed. Increased economic activity could also partly be a response to policy reforms. For example, individuals who no longer qualify for disability benefits may have to seek work to comply with Jobseeker's Allowance (JSA) rules. More active searching by the workless (combined with relatively lower unemployment) could have put more pressure on real wages compared with in previous downturns.<sup>23</sup>

Figure 3.9. Inactivity rate of the working-age population by recession



Note: Working age is defined as 16–64.

Source: ONS series LF25.

There are a number of other possible reasons why labour supply may have behaved differently in this recession from in previous ones.

First, there has been a large negative shock to household wealth due to the financial crisis. This would increase labour supply if people seek to work more hours in order to compensate for their lost wealth. Additional workers may seek to start working if, for example, a family member has experienced a large negative wealth shock. A fall in wealth may be particularly important for older workers if they see their retirement savings become less adequate.<sup>24</sup> Institutional changes that mean that fewer people are effectively protected by defined benefit occupational pension schemes and instead rely on their own personal pensions may mean that a fall in retirement savings has a larger effect now than in the past. Note that there has been an increase in the share of older workers in employment since the recession, although (as highlighted in Section 3.4) this continues a pre-recession trend. All workers (including younger workers whose savings have not shrunk much in absolute terms) may also be willing to work more for a given wage

<sup>23</sup> Gregg and Machin argue that the sensitivity of real wages to unemployment has increased since 2003 (P. Gregg and S. Machin, 'Real wages and unemployment in the big squeeze', 2012, [http://www.iza.org/conference\\_files/FutureOfLabor\\_2013/machin\\_s416.pdf](http://www.iza.org/conference_files/FutureOfLabor_2013/machin_s416.pdf)).

<sup>24</sup> See J. Banks, R. Crawford, T. Crossley and C. Emmerson, 'The effect of the financial crisis on older households in England', IFS Working Paper W12/09, October 2012 (<http://www.ifs.org.uk/wps/wp1209.pdf>).

because they have become more pessimistic and possibly more uncertain about future earnings growth.

Second, there have been changes to pensions and benefits that make it more likely that some workers will seek employment (or seek to stay in employment for longer). Since April 2010, the State Pension Age (SPA) for women started to increase, and it will be 65 by 2020. Women may choose to delay retirement in order to make up for the loss of up to five years' worth of state pension.<sup>25</sup> However, there has also been an increase in means-tested benefits for families with an individual aged over the female SPA, which has worked to reduce work incentives.

From October 2011, employers can no longer force employees to retire when they reach 65, which makes it easier for people to delay retirement. In addition, workers are now able to draw on an employer pension while continuing to work for that employer, making continued employment more attractive. Early retirement may be a less attractive option in this recession because it is now harder to claim Incapacity Benefit or Employment & Support Allowance.<sup>26</sup>

For the working-age population, one example of a policy change that appears to have increased labour supply is added requirements for lone parents with young children to seek work. Currently out-of-work lone parents are required to look for work once their youngest child reaches 5 (i.e. they stop being entitled to Income Support and become entitled to Jobseeker's Allowance). This threshold was gradually reduced, from age 16 in 2008. Figure 3.10 shows the employment rate of lone mothers by age band of their youngest child. The vertical lines indicate when the job-searching conditionality for claiming benefits kicked in for each group. Following the policy changes that affected lone mothers with youngest child aged 7–9 and 10–11, there was a substantial increase in employment rate of the affected groups.

Third, certain groups of workers may be more willing to accept lower real wages in this recession as a result of working tax credits, which have increased in generosity and coverage since the late 1990s and effectively reduce the impact of a fall in real wages.

The UK labour market may also have changed as a result of increased immigration, in particular following 2004 when the citizens of the A8 countries became eligible to work in the UK.<sup>27</sup> This would have worked to increase the labour supply (at least in some sectors of the economy), but also possibly to increase the flexibility of the workforce: immigrants may be more willing to work on flexible contracts. The flow of A8 immigrants into the UK has slowed substantially since the start of the recession (likely encouraged by a depreciation of the pound) and net migration has fallen. This would likely act to offset some of the previous effects on labour supply.

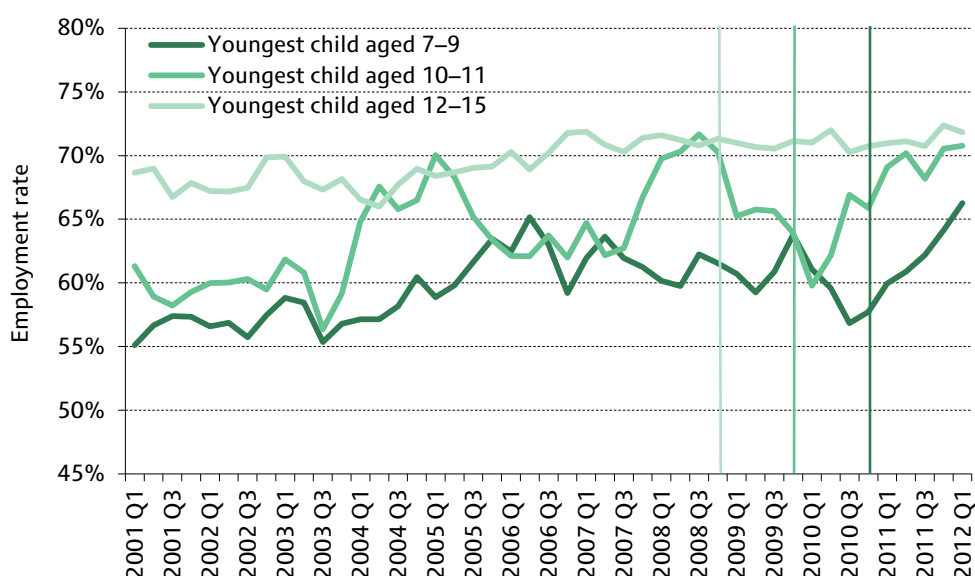
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<sup>25</sup> There could be an additional effect on their partners' employment, if individuals prefer to retire at the same time as their partners.

<sup>26</sup> For a discussion of health- and disability-related transfers in the UK over the last thirty years and their relation to changes in labour force participation, see J. Banks, R. Blundell, A. Bozio and C. Emmerson, 'Disability, health and retirement in the United Kingdom', IFS Working Paper W11/12, February 2011 (<http://www.ifs.org.uk/wps/wp1112.pdf>).

<sup>27</sup> The eight accession countries are the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia. For a discussion of the sectors and locations that immigrants from A8 countries worked in before and during the recession, and how flows have changed since 2008, see D. McCollum and A. Findlay, 'Trends in A8 migration to the UK during the recession', *Population Trends*, ONS, Autumn 2011 (<http://www.ons.gov.uk/ons/rel/population-trends-rd/population-trends/no--145--autumn-2011/ard-pt145-a8-migration.pdf>).

Figure 3.10. Employment rate of lone mothers following changes to the age threshold when they are moved from Income Support to JSA



Notes: Lone parents generally lose entitlements to Income Support (unless they meet other criteria such as disabilities) and have to claim Jobseeker's Allowance instead once their youngest child reaches a certain age. This figure shows employment rate of lone mothers. This age threshold used to be 16 and was reduced to 12 in November 2008, 10 in October 2009, 7 in October 2010 and 5 in May 2012.

Source: Authors' calculations from quarterly LFS.

There have also been institutional changes that can be expected to affect the labour market's adjustment to a new equilibrium.

When firms want to reduce their labour costs, there are three ways – reducing the number of workers they employ, the number of hours that are worked or the wages that are paid. The UK labour market has changed in ways that make it more likely that any adjustment will come through hours or wages rather than headcount compared with previous recessions (and particularly recessions in the 1970s and 1980s). Wages today are less sticky, in part because there is less extensive union bargaining and therefore less protection for 'insiders' wages'.<sup>28</sup> There are also more flexible working practices in the form of short-term or temporary contracts that allow firms to more easily adjust hours worked. Even where there is significant unionisation, there are examples of unions having explicitly traded lower wages or greater flexibility in working practices for job security.

In summary, this recession has seen employment fall by less, and real wages by more, than previous recessions. Inactivity rates are at historically low levels and have not risen since the recession. There are a number of possible explanations for why the labour market has behaved differently in this recession. In our judgement, two are likely to be particularly important. The first is a change in what is commonly called labour market flexibility. Institutional changes have reduced the power of 'insiders' in wage setting,

<sup>28</sup> Unions may help coordinate pay restraint if a substantial proportion of jobs are at risk. But they have no incentive to lower wages so that employers could take on new recruits. Barwell and Schweiter find that the incidence of real wage rigidities has fallen over time and suggest that the UK labour market has become more flexible since the 1970s (R. Barwell and M. Schweiter, 'The incidence of nominal and real wage rigidities in Great Britain: 1978–98', 2007, *Economic Journal*, 117, F553–69).

allowing real wages to be flexible downwards, and more flexible working practices have allowed firms to more easily adjust the number of hours worked. The second is an increase in labour supply. Changes to wealth stocks and to the pension regime may have helped this. Changes to the benefits system have almost certainly been important. Work conditionality regimes are much tougher and more extensive than in the 1980s and 1990s, and it is much harder to get on, and stay on, incapacity benefits.

In conclusion, we expect that low real wages – by keeping employment higher than it would otherwise have been – play a part in explaining the large fall in labour productivity.

## **Underutilisation of labour**

One possible explanation of both low output per hour and low hourly wages is that hours worked are not as well utilised as before the recession. The underutilisation of workers, sometimes called labour hoarding,<sup>29</sup> could arise as a result of a range of adjustment costs. Employment protection, redundancy packages, existing workers having firm-specific skills, and potential costs of recruitment and training during the following upturn all mean that firms might want to hold onto their existing workers during temporary downturns. These factors could explain why employment fell less than output, but not why average hours haven't fallen by more (underutilisation implies a potential to produce the same amount of output with fewer hours).

It is possible that contractual and social norms played a role here. For example, there are twenty times more jobs at 35 hours per week than at 34 hours. It seems unlikely that any firm would reduce the weekly hours of an employee from 35 to 34 in response to, say, a 3% fall in demand for the employee's output. It is also the case that the nature of certain occupations is such that their weekly hours cannot be easily cut to restore hourly productivity. For example, an asset manager needs to work roughly the same hours whether the amount being managed doubles or shrinks. And a bartender needs to work the same hours whether there are five or ten customers.<sup>30</sup>

In general, maintaining labour that is underutilised is plausible only if firms expect demand to improve in the near future. If demand is expected to be permanently low, then the long-term cost of keeping more labour than necessary would outweigh all the adjustment costs. Given the stagnation of GDP in the past three years, we would expect the majority of firms to have adjusted their labour input. Importantly, however, as we showed above, real wages have fallen substantially since 2008–09. As a result, the marginal product of labour may be closer to the real wage than we would normally associate with underutilised labour. Low real wages make it more feasible than in previous recessions for firms to continue to employ workers who are less productive (but could be more productive if demand were to pick up).

Analysis by the Bank of England shows that capacity utilisation as measured by a range of survey indicators did fall during the recession but has been recovering after mid-2009,

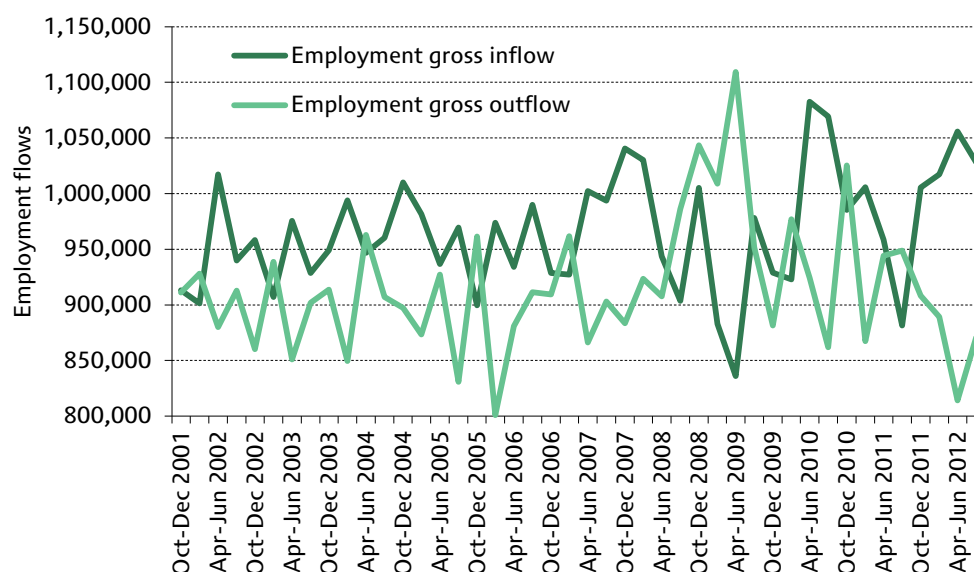
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<sup>29</sup> An underutilisation of workers is a similar concept to labour hoarding, in the sense that firms do not cut the workforce enough in response to negative demand shocks. Narrowly defined, labour hoarding refers to the phenomenon that firms retain workers during temporary downturns without reducing the real wage. Given that the real wage has fallen since the recent recession, it is unclear that the term 'labour hoarding' is still appropriate.

<sup>30</sup> In this bartender example, capital is also underutilised because the capital is indivisible.

suggesting that many firms have adjusted their labour input.<sup>31</sup> In addition, the continued wide-scale underutilisation of labour seems incompatible with the scale of employment flows. Firms with underutilised labour should not typically hire more workers or increase their hours.<sup>32</sup> However, the data show that total hours have risen in every quarter since mid-2011.<sup>33</sup> And the relative buoyancy of employment is not driven simply by firms maintaining workers. Since the recession, there have been large flows into and out of employment. For example, in 2009Q2, there were 840,000 people leaving employment and 1.1 million people moving into work (compared with a total workforce of around 30 million) – see Figure 3.11.

Figure 3.11. Flows into and out of employment



Source: ONS Labour Market Flows: November 2012 (Experimental Statistics).

Strong employment flows are not definitive evidence against the story of underutilisation; it is possible that some sectors or firms have underutilisation (and are therefore not increasing labour input) while others are creating new jobs to meet recovering demand.<sup>34</sup> However, the scale of employment flows, and the fact that 2013 marks the fifth year of poor GDP growth, are evidence against significant underutilisation. In addition, the main effect of these factors should be on the level rather than the growth

<sup>31</sup> See chart 2.7 of Bank of England, *Inflation Report November 2012* (<http://www.bankofengland.co.uk/publications/Documents/inflationreport/ir12nov.pdf>). We note that direct survey measures of spare capacity can involve substantial misreporting. For example, businesses may report full capacity when in fact working hours were spent on attracting custom rather than producing output. In addition, they are typically not informative about the degree of spare capacity.

<sup>32</sup> In practice, there is a distribution of firms with varying degrees of spare capacity. If those with more spare capacity experienced increases to their spare capacity and those with little spare capacity saw even less spare capacity, then it is possible for the overall spare capacity to increase at the same time as hiring increases.

<sup>33</sup> Source: ONS series YBUS.

<sup>34</sup> Martin and Rowthorn argue that underutilisation of labour could be concentrated in high-productivity sectors associated with more higher-skilled and overhead labour, whereas the most new job creation has occurred in low-productivity sectors where less underutilisation would be expected (B. Martin and R. Rowthorn, *Is the British Economy Supply Constrained II?*, UK-Innovation Research Centre, 2012).

rate of productivity. As the gap between actual productivity and the historical trend continues to widen, the proportion of the gap that is potentially attributable to underutilisation becomes smaller.

### 3.6 Investment

The amount of output produced for a given amount of labour input (i.e. labour productivity) will be affected by the amount and quality of capital used as well as how efficiently it is used. Business investment fell following the 2008–09 recession and has been low since. A reduction in investment leads directly to a reduction in output (investment is a component of GDP). It can also be expected to have reduced both the level and quality of capital employed. In addition, at the margin, firms may have been substituting labour for capital (thereby reducing the amount of available capital per worker) as a result of a lower cost of labour relative to capital. Both of these factors would directly reduce labour productivity.

The economy may also be in a situation where capital is misallocated across sectors. That is, capital may be inhibited in moving to the sectors for which demand is now relatively high. A misallocation of capital will reduce total factor productivity – a measure of the efficiency with which inputs are used – and, indirectly, aggregate labour productivity (see Box 3.2).

#### Box 3.2. Total factor productivity

Total factor productivity (TFP), sometimes also called multifactor productivity, is a measure of the efficiency with which all inputs are combined to produce output – it is effectively a measure of overall productivity that is calculated as the change in output that cannot be directly attributable to a change in capital, labour or any other measured inputs. TFP is often used to measure technological progress. It will also reflect the efficiency with which inputs are allocated to the projects or sectors in which they have the highest return.

In practice, any measure of TFP is subject to error. It will capture the contribution to output of any unmeasured inputs (importantly, these will include intangible assets) or any unmeasured change in the quality or utilisation of inputs – for example, if the quality of the capital stock changes in a way that is not reflected in the measure of capital input.

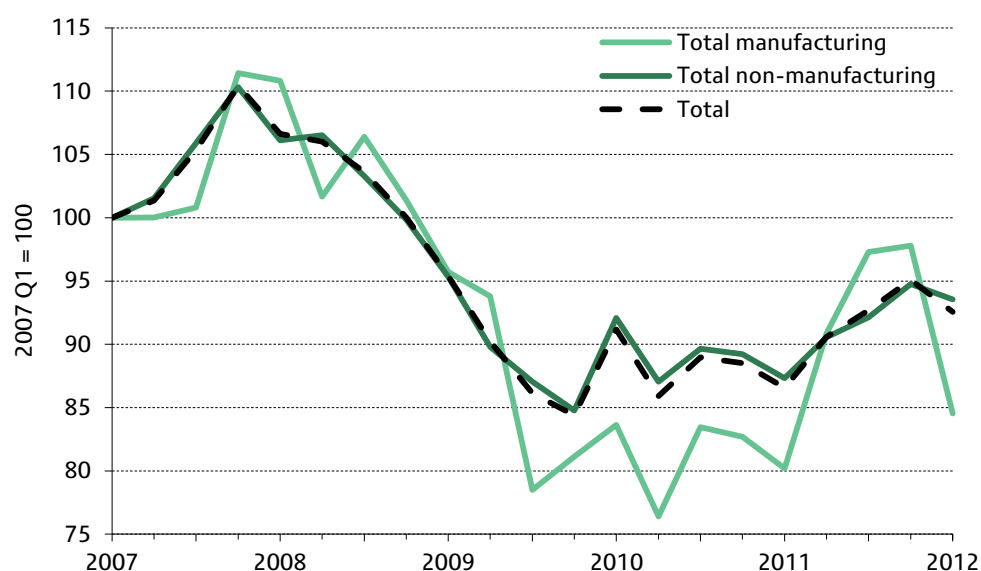
A fall in TFP will lead to a reduction in labour productivity. The ONS has produced a decomposition of labour productivity into the contributions that can be attributed to changes in the composition of labour, the capital stock and TFP. They find that TFP explains most of the fall in labour productivity in 2008 and 2009.<sup>a</sup> However, due to the measurement issues outlined above, this could be capturing a number of effects, including a misallocation of capital and any unmeasured changes in the quality or utilisation of capital or labour.

<sup>a</sup> J. Appleton and M. Franklin, 'Multi-factor productivity, Indicative estimates to 2010', ONS, September 2012 ([http://www.ons.gov.uk/ons/dcp171766\\_278729.pdf](http://www.ons.gov.uk/ons/dcp171766_278729.pdf)) – see figure 2.

## Low business investment

Business investment – i.e. capital expenditure on assets, not accounting for depreciation or capital scrapping – fell by over 23% from the high at the end of 2007 to the low in late 2009, as shown in Figure 3.12. The non-manufacturing sector – which includes construction, distribution and services and accounts for around 90% of business investment – largely dictates the pattern in total investment. Within this, however, some sectors have seen much larger falls in investment. For example, investment in both the construction and distribution sectors fell over 45% from the start of 2008 to the post-recession lows. Investment in the manufacturing sector fell by over 30% between the high at the start of 2008 and the low in early 2010. There has been only weak growth in investment since late 2009, and by 2012Q1 total annual investment remained 16% below the previous high. Business investment did show some signs of recovery in 2012 and Oxford Economics forecast that it will continue to pick up this year and next, largely as a result of growing confidence (see Chapter 2).

Figure 3.12. Business investment



Source: Authors' calculations using ONS Business Investment, series DSI3, DS44 and NPEL. Seasonally adjusted, constant 2009 prices. Indexed to 100 in 2007Q1.

It is usual for business investment to fall during downturns as companies revise their expectations of future demand. However, business investment has fallen by substantially more and has remained subdued for longer in this recession than in previous ones.<sup>35</sup> Gross fixed capital formation (GFCF) – the value of acquisitions less disposals of fixed assets, not accounting for depreciation – has also fallen by more in this recession and remains low – see Figure 3.13.

There are likely a number of factors contributing to the fall in and continued low level of business investment. In large part, low investment will have resulted directly from firms revising down their desired capital stock (and therefore their required level of

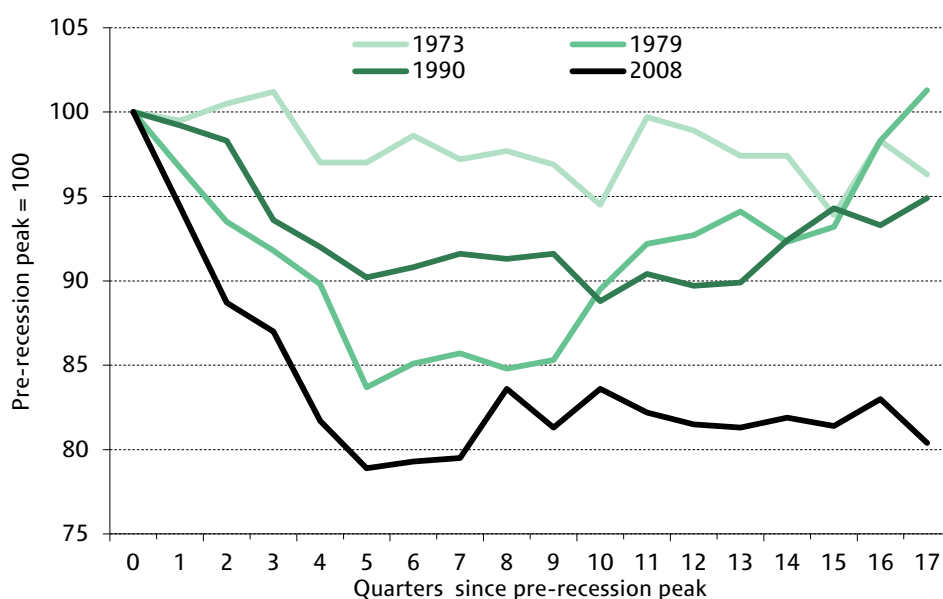
<sup>35</sup> See chart 8 of A. Benito, K. Neiss, S. Price and Ł. Rachel, 'The impact of the financial crisis on supply', *Bank of England Quarterly Bulletin*, 2010 Q2, 104–14. Note that, due to recent problems with data consistency, the ONS does not currently make available data on business investment before 2007 or data on capital stocks after 2009.



investment) in response to depressed consumer demand. In addition, firms face uncertainty over both future demand and the future availability of finance, and possibly an increase in the cost of capital and financing constraints. See Box 3.3 for a discussion. Reduced investment can be expected to feed through into a smaller, and possibly less technically advanced, capital stock and therefore to directly affect labour productivity.

To the extent that labour is a more flexible input than capital – i.e. can be more easily adjusted downwards or turned to an alternative use – uncertainty may also mean that some firms are choosing to substitute investment away from capital to labour. This substitution is likely encouraged to the extent that falls in real wages (and possible increases in the cost of capital) are making capital a more expensive input relative to labour. This will again reduce the capital-to-labour ratio, which would be expected to reduce labour productivity.

Figure 3.13. Gross fixed capital formation



Source: ONS National Accounts aggregates, gross fixed capital formation, chained-volume measure. Gross fixed capital formation includes information on investment and dwellings for business and government.

### Box 3.3. Factors contributing to low investment

#### Uncertainty

A key factor restraining investment is uncertainty over future demand. The large 2008–09 recession has been followed by a weak and faltering recovery. UK growth, which has been below forecast, is not predicted to be strong in the near future. And this is against the backdrop of large uncertainty in the eurozone. Business confidence – as measured by surveys of firms – is volatile, but substantially lower than pre-crisis. Evidence from the end of 2012 suggests that firms' intentions to invest are low.<sup>a</sup> Results from a new survey conducted by the Department for Business, Innovation and Skills showed that, in Autumn 2012, firms had become less optimistic in their expectations for output growth over the next three months and almost two-thirds did not expect to make any new capital investment in the period October–December 2012.<sup>b</sup> A diminished risk of a eurozone break-up may bolster confidence going forward but there remains a large amount of uncertainty surrounding UK growth forecasts (see Chapter 2).



The period following the financial crisis has also likely been marked by uncertainty over the future availability of finance (such that firms want to retain earnings with a view to being able to invest when the economy recovers).

Uncertainty can cause firms to delay or cancel investment plans. In cases where investments are not easily reversible (for example, investing in a new machine or type of technology that produces a specific output), there is a value to firms from waiting until conditions improve before making a decision over what to invest in.<sup>c</sup>

### Increased cost of capital

The cost of capital is the cost that firms face when raising finance to undertake investments. It accounts for the expected risk of an investment and varies across firms and types of finance (for example, between debt and equity-based finance and between working capital and longer-term investment capital). For the majority of firms, the cost of external finance will be higher than the market interest rate. The Bank of England presents evidence that there was a sharp fall in the gross cost of capital for UK-quoted firms directly following the recession but that there has been an increase in the last two years such that the cost of capital is now higher than before the crisis.<sup>d</sup> An increase in the cost of capital works to directly reduce labour productivity by deterring capital formation. As there is no evidence of a fall in the cost of capital, but there is evidence of a significant fall in the cost of labour, we expect labour to be a relatively cheaper input for most firms.

### Financing constraints

There is little evidence that large firms face financing constraints. On average, they have large stockpiles of cash (such that they have access to internal finance) – as of 2012Q3, private non-financial companies had £672 billion in cash, the equivalent of 43% of national income (see Chapter 2 for figures and discussion). Since the start of the recession, many firms have been paying down debt. In aggregate, repayments have outstripped new lending such that net debt has been falling.<sup>e</sup>

There is some evidence that smaller firms may be facing financing constraints. Small and medium businesses (SMEs) – which are more likely to have experienced an increase in borrowing costs than larger firms – have reduced the extent to which they are using external finance (including overdrafts). However, recent survey evidence suggests that 66% of SMEs are ‘happy non-seekers’ of external finance – that is, many firms are not seeking to secure external finance.<sup>f</sup> The latest credit survey by the Bank of England suggested that lending had increased at the end of 2012, but this was mainly to large and medium-sized companies.<sup>g</sup> The Funding for Lending Scheme was introduced in part to increase the availability of credit to small companies.

<sup>a</sup> See page 8 of ITEM Club, *Special Report on Business Investment*, November 2012 (available at <http://www.ey.com/>).

<sup>b</sup> The English Business Survey asks 3,000 workplaces questions on investment (current and intended) and capital utilisation. See Statistical Release October 2012, 21 December 2012 (<https://www.gov.uk/government/organisations/departments-for-business-innovation-skills/series/english-business-survey>).

<sup>c</sup> There is an academic literature on the effect of uncertainty on firm investment. For example, N. Bloom, S. Bond and J. Van Reenen, ‘Uncertainty and investment dynamics’, *Review of Economic Studies*, 2007, 74, 391–415, find that a higher level of uncertainty is associated with a slower adjustment of the capital stock following a demand shock.

<sup>d</sup> See chart 7 of speech by Ben Broadbent, ‘Productivity and the allocation of resources’, 12 September 2012 (<http://www.bankofengland.co.uk/publications/Documents/speeches/2012/speech599.pdf>).

<sup>e</sup> See chart 1.1 of Bank of England, *Trends in Lending*, October 2012 (<http://www.bankofengland.co.uk/publications/Documents/other/monetary/trendsOctober12.pdf>).

<sup>f</sup> See SME Finance Monitor (<http://www.sme-finance-monitor.co.uk>). A lack of data on financing conditions before the recession means that there is not an accurate counterfactual on availability of credit.

<sup>g</sup> Bank of England, Credit Conditions Survey, 2012Q4.

### **Leading to a falling and depreciating capital stock**

The flow of investment is relatively small compared with the stock of capital.<sup>36</sup> This limits the initial impact that lower investment has on the capital available and therefore on the absolute fall in productivity. However, lower investment has larger impacts over time such that the growth in, and future levels of, productivity will have been affected by lower investment following the recession.

In an assessment of the gap between actual labour productivity and its pre-crisis trend, the Office for Budget Responsibility (OBR) finds that a reduction in the capital-to-labour ratio that has occurred following the recession can explain about one-tenth of the gap.<sup>37</sup>

However, looking at only the level of the capital stock does not account either for the quality of that capital or how it is being utilised (i.e. for the services that firms are receiving from capital), both of which may have changed over the recession.

On the one hand, lower investment affects the rate at which firms replace current capital such that the capital stock depreciates and becomes less technologically advanced. Reducing the replacement of old capital is likely to affect how productive the capital stock is. On the other hand, lower investment in new capital may lead firms to use current capital more intensely than was the case before the recession, such that a given level of capital now translates into a higher capital-services-to-labour ratio. These factors will produce opposing effects on labour productivity. Given this, and the OBR's estimate that the change in the capital-to-labour ratio has had only a limited impact, it seems unlikely that changes in capital can explain a large part of the productivity shortfall.

### **And a possible misallocation of capital**

Since the recession, demand may have fallen by different amounts across different sectors or across different investments within sectors. Aggregate output would be expected to be below the aggregate supply potential of the economy until a reallocation of capital and labour has taken place. In other words, labour productivity may be temporarily low if there is a misallocation of capital following the recession – i.e. if capital is stuck in what are now low-productivity projects and moving only slowly to what are now higher-productivity projects. Similarly, a lack of labour mobility could reduce productivity, in principle. Productivity may also be lower during the period of adjustment, as employees who change jobs, and potentially industry, need to learn new skills.<sup>38</sup>

Analysis by the Bank of England finds an increased dispersion of rates of return across sectors.<sup>39</sup> With a perfect financial system, divergence in rates of return should reflect only

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<sup>36</sup> Information on the capital stock can be found in ONS, *Capital Stocks, Capital Consumption and Non-Financial Balance Sheets*, 2010. The majority of UK capital is in the form of buildings.

<sup>37</sup> See box 3.2 of OBR, *Economic and Fiscal Forecast*, 2012 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>). The analysis considers the aggregate change in the capital-to-labour ratio and does not account for differences in that change across firms, which could matter for the overall effect on productivity. The figure does not account for any change in the quality or utilisation of capital.

<sup>38</sup> Capital misallocation would affect labour productivity by affecting TFP.

<sup>39</sup> See chart 13 of speech by Ben Broadbent, 'Productivity and the allocation of resources', 12 September 2012 (<http://www.bankofengland.co.uk/publications/Documents/speeches/2012/speech599.pdf>). In this speech, Ben Broadbent, a member of the Bank of England's Monetary Policy Committee,

a divergence in risks. That may be part of what is happening, but it may also be evidence of a misallocation of capital. That is, rates of return may be diverging across sectors because capital is not moving to a sufficient degree from those sectors where there is a low rate of return to those with high rates of return. To the extent that this is happening, it would translate into lower TFP (i.e. the economy has become less efficient at producing output from a given stock of capital and labour inputs) and therefore indirectly into lower labour productivity. (See Box 3.2.)

That rates of return are more dispersed and capital possibly misallocated is consistent with a recent ONS analysis showing that labour productivity became more dispersed in 2008 and 2009. There is always a substantial difference between the least and most productive firms, but that difference seems to have increased since the recession as the more productive firms became more productive and the less productive firms less productive.<sup>40</sup>

### *Assisted by low firm turnover*

Any increased dispersion in either rates of return or labour productivity may have been aided by an impaired financial system that is resulting in banks providing greater forbearance for some firms while being more risk averse in funding new projects.

There have been fewer firms exiting the market than in the aftermath of previous recessions. Between 2008 and 2010, company liquidations as a share of total companies increased by less than half a percentage point and have fallen back again slightly since. In comparison, between 1989 and a peak in 1993, the share of liquidations rose by over 1.5 percentage points.<sup>41</sup>

That fewer firms are exiting the market may be a result of low-productivity firms (and those receiving lower rates of return) that would otherwise have failed during the recession being supported by low interest rates and bank forbearance (i.e. a renegotiation or relaxation of loan terms rather than insistence on repayment when the original terms look set to be breached).<sup>42</sup>

We would also expect the entry of new firms to be lower during and immediately following a recession to the extent that there is uncertainty over demand that works to deter new investments. New entry could be further depressed if firms face credit constraints, which may be particularly binding for new ideas that are associated with greater risk. The latest data show that the number of 'firm births' fell by 5% between 2007 and 2008 and by 12% between 2008 and 2009.<sup>43</sup> A lack of new firms, and possibly a

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supports the view that capital is currently misallocated and that misallocation is evidenced by increased sectoral dispersion of rates of return.

<sup>40</sup> See figures 34 and 36 of S. Field and M. Franklin, 'Micro-data perspectives on the UK productivity conundrum', ONS, 16 January 2013 ([http://www.ons.gov.uk/ons/dcp171766\\_295470.pdf](http://www.ons.gov.uk/ons/dcp171766_295470.pdf)).

<sup>41</sup> See figure 4 of Insolvency Service, statistics release, 3 August 2012 (<http://www.insolvencydirect.bis.gov.uk/otherinformation/statistics/201208/pressnotables.pdf>). Company liquidations were 15,535 in 2008, rising to a height of 19,077 in 2009 (see <http://www.insolvencydirect.bis.gov.uk/otherinformation/statistics/201208/table1.pdf>). The number of firm deaths increased by 25% (from 222,555 to 277,435) between 2008 and 2009 (see footnote 43).

<sup>42</sup> For a discussion of forbearance, see box 2 of Bank of England, *Financial Stability Report*, June 2011 (<http://www.bankofengland.co.uk/publications/Documents/fsr/2011/fsrfull1106.pdf>).

<sup>43</sup> Figures are authors' calculations using ONS, Business Demography 2011 (<http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcn%3A77-283124>).

lack of finance for the expansion of current firms, may be preventing relatively high rates of return from being competed down.

A low level of firm turnover (i.e. low-productivity firms exiting and high-productivity ones entering) could be particularly damaging for the economic recovery if new firms are key to introducing new ideas and technologies.<sup>44</sup>

### 3.7 Public sector productivity

Historically, UK public sector productivity growth has been below that of the private sector.<sup>45</sup> Indeed, during the decade up to 2009, measures of public sector productivity growth suggest that the average growth rate was zero or even negative in that period. This reflects the fact that greater provision of public services was accompanied by a rapid growth in public sector employment. These factors – almost zero public sector productivity growth and a rising share of public sector employment – were among the many factors underlying the coalition government’s determination to ‘rebalance’ the economy away from the public sector and towards the private sector.

The impact of austerity budgets on public spending since 2009 and the associated and unprecedented decline in public sector employment have sharply reversed these earlier trends. From its peak in 2009Q4, total public sector employment has fallen by around 366,000, or by 6%, to 2012Q1.<sup>46</sup> In the same period, output of ‘government services’ in the National Accounts has not fallen overall in real terms, and in fact has increased since 2008 by around 3%.<sup>47</sup>

Box 3.4 describes the measurement of public sector productivity. Notably, some components of government ‘output’ are measured broadly by the volume of inputs, such as in public administration and defence; in these sectors, if inputs decline, measured

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These data record the number of VAT or PAYE registered business births (active firms that were observed in data in a year but not in one of the previous two years) and deaths (firms that were not observed in data in a year but were active in one of the previous two years). There are no official statistics on the number of business start-ups and closures. Note: The ONS Business Population Estimates measure the total number of businesses, including unregistered businesses and central and local government businesses. The 2012 release shows an increase in the number of firms across the recession; this is mainly the result of an increase in businesses that do not have any employees.

<sup>44</sup> The ‘creative destruction’ view of exit and entry sees high turnover as a process that increases overall productivity: see R. Caballero and M.L. Hammour, ‘The cleansing effect of recessions’, *American Economic Review*, 2004, 84, 1350–68.

For evidence on the role of turnover of establishments in raising productivity in UK manufacturing, see R. Disney, J. Haskel and Y. Heden, ‘Restructuring and productivity change in UK manufacturing’, *Economic Journal*, 2003, 113, 666–94, and R. Disney, J. Haskel and Y. Heden, ‘Entry, exit and establishment survival in UK manufacturing’, *Journal of Industrial Economics*, 2003, 51, 93–115.

<sup>45</sup> For a general discussion, see H. Simpson, ‘Productivity in public services’, *Journal of Economic Surveys*, 2009, 23, 250–76.

<sup>46</sup> Employment fell by a further 303,000 to 2012Q3. However, part of this is the result of a reclassification of further education and sixth-form college corporations from the public to the private sector in 2012Q2. Public sector employment excluding financial corporations, English further education corporations and sixth-form college corporations fell by around 381,000 (6.4%) from 2009Q4 to 2012Q3. Source: ONS series C9KD (total) and KSM2, in Public Sector Employment (<http://www.ons.gov.uk/ons/rel/pse/public-sector-employment/q3-2012/tsd-pse-time-series.html>).

<sup>47</sup> Source: ONS published ad hoc data tables ‘GDP(O) low level aggregates at constant and current prices’.

output also declines and output per head tends to remain broadly constant. This makes the overall rise in output per head in the public sector more striking. Unfortunately, although this evidence points to a sharp increase in public sector productivity since 2008, the ONS has not provided estimates of public sector productivity since 2009 and so official data cannot confirm the hypothesis.

### Box 3.4. Measuring public sector productivity

There is a basic problem in assessing trends in public sector productivity. The public sector does not produce marketable output. And even if some public sector services are ‘sold’, they are largely not sold at prices or values that would be those set by a profit-maximising firm in a competitive market – for example, the National Health Service might be considered to have a quasi-monopsonistic position in the purchase of some types of workers and some pharmaceuticals.

#### ***Input measures of output***

For many public services, measures of output in the National Accounts are simply calculated from measures of volumes of inputs. For example, an index of the value added (‘output’) in ‘defence activities’ is calculated directly from changes in the total strength of employment in the armed forces. The relationship between this index and cash spending on defence then gives an implied ‘GDP deflator’ used to calculate the ‘value’ of defence activities. A similar calculation is used for ‘public administration’, whereby the number of civil servants (albeit with differential weights attached to different grades) gives an index of the volume of ‘output’; this is then adjusted by the central government final expenditure deflator to give a ‘value’ of public administration output. If ‘outputs’ are thereby broadly measured by the value of inputs, there can be no measured productivity growth. Actual productivity could, of course, increase or decrease in these sectors if the intensity or effectiveness of use of these inputs varies, but it will not show up in the National Accounts.

#### ***Output measures for some services***

The unsatisfactory nature of input-based measures of government activity resulted in a review in 2005, chaired by Sir Tony Atkinson, which investigated whether public sector outputs could be identified using indicators that were distinct from volumes of inputs.<sup>a</sup> Recently, a number of government departments have incorporated partial measures of ‘output’ into their estimates of public sector production or value added. With independent measures of output that are no longer derived solely from measured inputs, productivity growth need not be constrained to zero.

In these cases (such as health, education and provision of welfare benefits), the volume of ‘output’ is measured by specific caseloads such as number of pupils, number of patients treated, throughput of claimants, delivery of welfare benefits and so on.<sup>b</sup> Efforts have been made to adjust these volume indices to measure ‘quality’ by limited outcome measures such as pupils’ performances in school examinations, patient satisfaction and post-treatment mortality rates. So, for example, the productivity of ‘education services’ would increase if the pupil–teacher ratio rose without any reduction in pupil performance in tests or if, for a given pupil–teacher ratio, pupil performance improved. These measures are an improvement on the purely input-based measures, but will not fully capture all changes in productivity.

### Difficulties remain

The whole area of measuring public sector output and productivity is a challenge and measurement issues are far from settled.<sup>c</sup> The difficulties in effectively measuring public sector productivity include (i) summarising multiple outputs by a single index; (ii) the treatment of capital inputs; (iii) the use of intermediate targets (such as patients treated) versus final outcomes (such as the impact of public services on the health of the population); and (iv) assessing the quality of public sector services that are delivered within the public sector.

<sup>a</sup> Sir Tony Atkinson, *Atkinson Review: Final Report – Measurement of Government Output and Productivity for the National Accounts*, Palgrave Macmillan, 2005 (<http://ons.gov.uk/ons/about-ons/what-we-do/programmes---projects/completed-projects-and-reviews/atkinson-review/final-report/index.html>).

<sup>b</sup> For further discussion, see <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/economy/index-of-services/index.html>, various publications from the UK Centre for the Measurement of Government Activity (UKCeMGA) (<http://www.ons.gov.uk/ons/guide-method/ukcemga/ukcemga-publications/publications/index.html>) and C. Emmerson, C. Frayne and G. Tetlow, 'Challenges for public spending', in R. Chote, C. Emmerson, A. Leicester and D. Miles (eds), *The IFS Green Budget: January 2007*, IFS Commentary 102, 2007 (<http://www.ifs.org.uk/budgets/gb2007/07chap7.pdf>).

<sup>c</sup> See R. Murray, 'Measuring output from the public sector: a critical examination of the Atkinson Review', *Review of Income and Wealth*, 2010, 56, 413–23.

The remainder of this section examines trends in measured public sector productivity in the period up to 2008 and discusses the evidence on public sector output and employment since that time. We highlight the inferences and policy issues that may be drawn from these statistics.

## No public sector productivity growth in the decade until 2009

Public sector measured output growth was substantial in the decade up to 2009. From 2000Q3 to 2009Q3, output of 'public administration and defence' rose by 17%, 'education' by 11% and 'human health and social activities' by 44%.<sup>48</sup> However, this increase in output was accompanied by an increase in input volumes, notably in the employment of such groups as civil servants, police officers and staff, teachers and nurses.

The ONS has produced a number of alternative measures of productivity growth in the production of government services over this period. Some of these are illustrated in Figure 3.14.<sup>49</sup> The two green lines show measures of labour productivity. What differentiates them is the measure of output used. The dark green line uses a measure of value added – effectively, this is output excluding all spending on intermediate inputs that are not labour. This is akin to the private sector figures discussed above. The light green line uses a measure of gross output derived from an index of spending on all inputs (labour and capital). Under this measure, labour productivity can increase if there is additional spending on non-labour inputs. The grey line is a measure of total factor productivity (defined in Box 3.2), which is an index of gross output relative to an index of capital and labour inputs. Two of the three measures show declining productivity, while

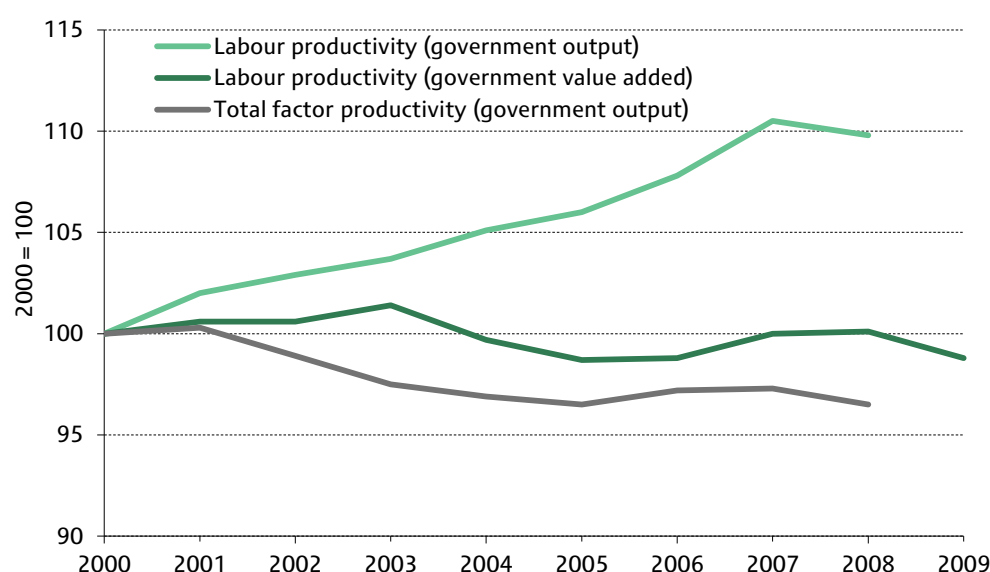
<sup>48</sup> ONS table 'GDP(O) low level aggregates at constant and current prices' (<http://www.ons.gov.uk/ons/about-ons/what-we-do/publication-scheme/published-ad-hoc-data/economy/december-2012/gdp-o--low-level-aggregates-at-constant-and-current-prices.xls>).

<sup>49</sup> A similar measure to the TFP series shown in Figure 3.14 – multifactor productivity growth for the public sector – is calculated for the period 1994–2008 by K. Long and M. Franklin, 'Multifactor productivity: estimates for 1994–2008', *Economic & Labour Market Review*, 2010, 4, September, 69–72. This, too, is found to be negative for the period as a whole (see their figure 2).



one measure reports an increase over the period. Table 3.1 also showed a small increase in output per hour in total government services in the decade before the recession. However, more detailed studies of particular sectors confirm that there was little or no productivity growth in public services in this period. For example, in education, the volume of output is measured by pupil numbers, quality-adjusted by GCSE average point scores, and is divided by input volumes (primarily, numbers of teachers and teaching assistants) to obtain productivity. Using these calculations, the education productivity index between 1997 and 2008 was broadly stationary.<sup>50</sup> For health provision, with volume of output measured by number of treatments, admissions, and prescriptions of drugs, quality-adjusted by waiting times and survival rates, the health productivity index actually fell by 2.4% between 1997 and 2008.<sup>51</sup>

Figure 3.14. Measures of public sector productivity



Notes: The 'government output' measure of labour productivity is an index of total spending on public services divided by an index of total employment. The 'government value added' measure is similarly an index of value added (i.e. output excluding intermediate inputs) relative to an index of employment for a selection of government-dominated activities. The 'government output' measure of total factor productivity is an index of output relative to a range of inputs, including capital and labour, weighted by their relative contributions. Source: Office for National Statistics, 'Public sector labour productivity', January 2011.

Of course, and as we mentioned above, these measures are imperfect. They may have understated (or overstated) productivity growth in the previous decade by inadequately capturing public sector output. Some would argue that these productivity indices do not measure any long-term wider productivity gains that would arise from, for example, reducing class sizes in schools or improving the general health of the population; they are simply the application of a formula for measuring input and 'quality-adjusted' output volumes. If these arguments were valid, such measures would therefore understate the

<sup>50</sup> See Office for National Statistics, 'Public service productivity estimates – education 2010', March 2012 (<http://www.ons.gov.uk/ons/rel/psa/public-sector-productivity-estimates--education/2010/index.html>).

<sup>51</sup> See Office for National Statistics, 'Public service output, inputs and productivity: health care', March 2010 (<http://www.ons.gov.uk/ons/rel/psa/public-service-productivity/public-service-output--input-and-productivity--healthcare/index.html>).

scope for future productivity growth in the economy as a whole that arises from greater resource inputs into areas such as education and health.

## **Public sector employment and productivity after 2009**

Total public sector employment increased steadily in the period after 1997, from just over 5.4 million in that year to a peak of just under 6.4 million in 2009Q4.<sup>52</sup> In contrast, the period from 2009 onwards has seen a rapid fall in employment in the public sector. From its peak, total public sector employment had fallen to 5.7 million by 2012Q3.<sup>53</sup> As a proportion of aggregate employment, the public sector has dropped from 21.9% in 2008 to 19.5% in 2012Q3. (For a discussion of public sector employment, see Chapter 6.)

These falls in employment have been disproportionately high in the field of public administration, rather than in areas such as health and education. For example, Civil Service employment fell from a peak of 571,000 in 2005 to 458,000 in 2012 (a fall of 20%), although this may include some outsourcing of services at junior levels.<sup>54</sup> The numbers in the Senior Civil Service (SCS) fell by 17% between 2010 and 2012, reducing them to levels not seen since the late 1990s. Over the same period, the SCS paybill fell from over £470 million to less than £390 million – a fall of 20%.<sup>55</sup> This is a case where the fall in employment would feed directly through into a fall in measured output (because the measured output is based on input volume) such that measured productivity would remain broadly unchanged. However, it is hard to believe that the workload has not increased for the remaining civil servants, especially at senior levels, given the numerous reforms and initiatives implemented by the coalition government. Whether this higher workload translates into higher productivity in practice depends on other factors such as the effectiveness of delivery relative to targets by senior public administrators.

### ***Has public sector productivity increased since the recession?***

Aggregate measured public sector output has increased since 2009 while total public sector employment has fallen. This suggests that labour productivity has increased.

In the absence of official data on public sector output productivity since 2009, a crude measure of the change in labour productivity can be obtained by utilising data on trends in output (as measured in the National Accounts) and employment in order to investigate movements in output per head in the public sector. But there are some caveats to bear in mind. First, the National Accounts measure of ‘government services’ includes some privately-provided services, particularly in health and social care. Second, there have been major changes in definitions of employment aggregates, especially in education where schools have been removed from local authority control. Data for these calculations are only safely done for the period since early 2010, and even here there are transitory fluctuations in output per head that cannot be fully explained.

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<sup>52</sup> Source: ONS series C9KD in Public Sector Employment (<http://www.ons.gov.uk/ons/rel/pse/public-sector-employment/q3-2012/tsd-pse-time-series.html>).

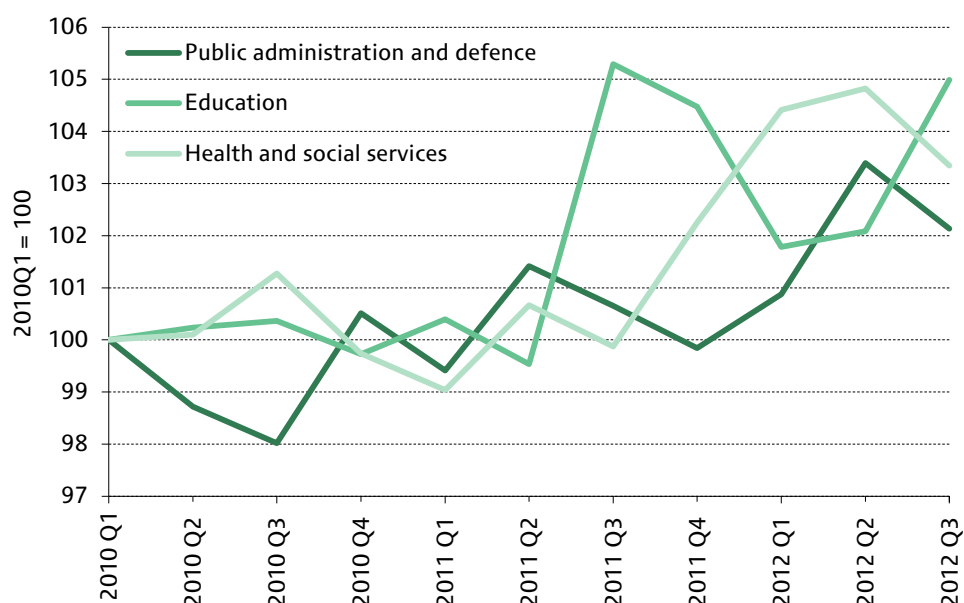
<sup>53</sup> Source: ONS series G7AU in Public Sector Employment, headcount, seasonally adjusted.

<sup>54</sup> Source: ONS series C9KE (<http://www.ons.gov.uk/ons/rel/pse/public-sector-employment/q3-2012/tsd-pse-time-series.html>).

<sup>55</sup> For figures, see Cabinet Office, *Government evidence to the Senior Salaries Review Body*, December 2012.



Figure 3.15. Output per worker in government sectors



Source: Office for National Statistics, 'GDP(O) low level aggregates at constant and current prices', December 2012; *Labour Market Statistics*, several issues between August 2011 and December 2012.

Figure 3.15 shows indices of the volume of output in the three subsectors defined in the National Accounts as 'government services' – public administration and defence, education, and human health and social work activities – relative to indices of employment in these sectors derived from recent editions of ONS *Labour Market Statistics*, which contain broadly consistent time series of employment.

There are important differences across different parts of the 'government services' sector. Between 2009Q3 and 2012Q3, output fell by 5% in 'public administration and defence' (this should not be surprising given that measured output in these sectors is heavily dependent on the volume of inputs), fell very slightly in the education sector and actually rose by 8% in 'human health and social work activities'. A priori, a larger fall in employment relative to outputs suggests that, in the short run, measured labour productivity (and probably total factor productivity also) has increased in the public sector.

The figure shows a broad upward trend in output per worker in all three sectors of government services since 2012, which is slowest in 'public administration' and with a high degree of year-to-year variation in all the sectors. Should we take these statistics at face value? One possibility is that productivity has risen so substantially in the private components of these sectors as to swamp the low or negative growth in productivity in the public component. However, since private provision is a relatively small component of output in these sectors, this seems unlikely; moreover, for the two subsectors with a degree of private provision (education, and health and social services), there is no evidence of a break in trend in output in the post-2009 period in the data. The data seem consistent with a 'story' by which output volumes continued to grow somewhat faster than employment in these two sectors in this period of 2010 onwards.

In the parts of the public sector where 'outputs' are measured by input volumes, it is hard to form any clear judgement on whether public sector productivity has increased using data from the National Accounts. However, the previous discussion of the Senior Civil Service workload suggests that, implicitly, public sector productivity *must* have increased

in these sectors in the absence of evidence that total workloads have declined substantially. Any offset to this hypothesis of increased productivity growth must be motivated by evidence that the quality of decision-making in public administration has fallen as the total workforce has been reduced. Anecdotal evidence, such as the West Coast Main Line franchise debacle in late 2012, might be seen as evidence of reduced quality of output.<sup>56</sup> But the internal review of this particular decision, although noting that resources in the Department for Transport were ‘extremely stretched’, tended to focus on long-standing difficulties in handling government procurement contracts, weak organisational structure, management of decision-making and so on. Indeed, there have been a number of appointments of non-governmental figures tasked with improving what is perceived to be a long-standing weakness in public sector administration rather than a perceived reduction in quality of delivery arising from the austerity measures. The latest was the appointment of Lord Browne of Madingley in June 2010 as a lead Non-Executive Director – a key role in the Cabinet Office – to improve performance across government departments, particularly in contract negotiations.

It has also been noted by outside observers that, in some sectors, public sector wage bills have not fallen as fast as employment.<sup>57</sup> This may reflect in-built ‘drift’ arising from incremental pay structures when there are few new hires at the lower end of the pay distribution (see Chapter 6). But it should be noted that, to the extent that input volumes are indexed by the GDP deflator rather than an earnings index, this factor should not enter into the measured value of output and therefore productivity.

The data therefore suggest an at least temporary reversal of the long-standing trend of positive private sector productivity growth accompanied by zero or negative public sector productivity growth. Rising demands for public services coupled with a sharp retrenchment in the public sector workforce have produced measured productivity gains in the public sector in contrast to the low or indeed negative productivity growth of the previous decade.

Nevertheless, caution must be exercised in the interpretation of this change in the measured public sector productivity trend, which is in large part driven by the methods used to measure public sector activity in the National Accounts. Nor should the increase in measured public sector productivity of itself lead analysts to reconsider the ‘rebalancing of the economy’ away from public sector employment. On the one hand, these data may confirm what many members of the coalition government apparently believe: that there are previously-unexploited gains in productivity efficiency within the public sector to be achieved in such sectors as public administration, education provision and the police service, and that these underlying potential gains are now being realised. On the other hand, much of the increase in inputs into such sectors as education and health in the previous decade were rationalised as improving the *long-term* efficiency of the economy, through, for example, a better-educated and healthier workforce and a safer society. There may well be a trade-off between short-term gains in output per head in the public sector and these longer-term considerations of the overall efficiency of the economy. Care should therefore be taken to look for any early warning signs of a decline in the *quality* of public sector output – whether measured by explicit indicators or by

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<sup>56</sup> BBC, ‘West Coast Mainline deal failure criticised’, 6 December 2012, <http://www.bbc.co.uk/news/uk-20620787>.

<sup>57</sup> S. Flanders, ‘Public sector jobs are well down, so why is the pay bill up?’, 30 November 2012, <http://www.bbc.co.uk/news/business-20561444>.

failures of public administration – if short-term measured gains in productivity are not to be reversed in the future.

### 3.8 Conclusions

Measured output per worker fell by 3.2% in absolute terms between 2008Q1 and 2012Q3, bringing it 12.3% below its pre-recession trend. This chapter has considered some of the key factors that speak to the puzzle of why labour productivity has seen such a large fall.

The fall in output per worker can partly be explained by a fall in the average number of hours worked (driven mainly by an increase in part-time working). However, output per hour has also fallen, by 2.6% between 2008Q1 and 2012Q3, and is 12.8% below its pre-recession trend.

We find no evidence that the fall in aggregate productivity is the result of a change in the industrial composition of the economy. That is, it is not explained by the fall in the share of employment of relatively high-productivity sectors. Instead, it is driven entirely by productivity falls within industries, notably including finance & insurance and mining & quarrying. Almost half of the workforce is in an industry for which productivity has fallen.

We conclude that a change in the composition of the workforce is likely to have had some effect on aggregate productivity. There are now more part-time workers and more self-employed workers, and to the extent that these types of workers are less productive than full-time employees, their increased share in the workforce will have contributed to the fall in aggregate productivity. However, we expect this compositional effect to be less important than falls in the average productivity of all workers. In addition, there has been a continued trend towards better-educated, more experienced and longer-tenured employees that we would have expected to increase rather than reduce output per hour.

There are two notable differences between this and previous recessions.

First, there has been a sharp reduction in real wages since 2008 alongside a relatively restrained fall (and then rebound) in employment. This is in contrast to the trends seen following the 1979–81 and 1990–91 recessions. We would expect a fall in both the real wage and employment to result directly from a fall in labour demand. It is also plausible that workers are producing less per hour as a direct result of the fall in consumer demand and that this is restraining wages. However, there is also evidence to suggest that there has been an increase in labour supply of some groups. For older workers, this could have been driven in part by large negative wealth shocks and policy changes, not least the increase in female State Pension Age. For other groups, more active labour market policies and greater work search requirements for benefit recipients may have played a part. In contrast to previous recessions, inactivity rates have not risen. To the extent that these effects have increased labour supply, they could have worked to keep real wages relatively low and employment relatively high. In addition, increased flexibility in the current labour market makes adjustments through hours worked and wages (rather than just employment) more likely. We conclude that lower real wages have played a part (although we can't say how large a part) in allowing firms to continue to employ workers (even if they are producing less) and therefore in reducing aggregate labour productivity.

Second, business investment has fallen by more in this recession and remained subdued for longer. Uncertainty has been an important factor contributing to this. Low investment

may have reduced the level and the quality of capital that workers have access to. Firms may also have been substituting labour for capital to the extent that labour is now relatively cheaper and is more flexible in the face of uncertain demand. Lower levels of capital per worker, especially if the capital is of a lower quality, will reduce labour productivity.

Aggregate labour productivity will also have been adversely affected if there is a misallocation of capital following the recession. An increased dispersion of rates of return across sectors and of productivity across firms provides evidence consistent with a misallocation of capital. It is plausible that capital movements have been inhibited by an impaired financial sector that is extending forbearance to low-productivity firms while being more risk adverse in funding new projects. Constraints that reduce the exit and entry of firms are particularly important if the turnover of firms is an agent by which aggregate productivity increases.

The public sector presents a different puzzle from the private sector. Employment in the public sector has fallen sharply – the 6% drop since the end of 2009 largely reverses the increase in public sector employment over the previous decade – while the data available on government services show a small increase in output since 2008. There are particular difficulties in measuring public sector output and there are no official measures of public sector labour productivity after 2009. We interpret the available evidence as showing that labour productivity has increased in the public sector, although the difficulties in measuring government output lead us to present this conclusion with some caution. This is in contrast to the decade before the recession, in which measured productivity growth in the public sector was approximately zero. The apparent increase in public sector labour productivity is somewhat surprising given that the National Accounts measure of government output is often based on inputs (such that, by definition, productivity is constrained to be broadly zero).

The recent increase in productivity may suggest that there were unexploited productivity gains in the public service before the recession. However, it will be important to monitor the effects of lower inputs (notably employment) on the quality of decision-making in public administration, on the quality of public services and on the longer-term measures of public service outcomes (such as how educated and healthy the workforce is).

## 4. The fiscal targets

Carl Emmerson, Soumaya Keynes and Gemma Tetlow (IFS)

### Summary

- The Chancellor, George Osborne, has committed to complying with two fiscal targets, which constrain fiscal policy. The fiscal mandate states that the structural current budget must be forecast to be in balance or in surplus by the end of the rolling, five-year forecast horizon. The supplementary target states that public sector net debt as a share of national income should be falling at a fixed date of 2015–16.
- The latest forecasts from the Office for Budget Responsibility (OBR) show that Mr Osborne is complying with the fiscal mandate but the date at which the structural current budget is expected to return to surplus has been pushed back yet again.
- The fiscal mandate has much to recommend it and is preferable to the European Union's requirement to keep the deficit below 3% of GDP in every year. It constrains the government over the medium term to borrow only to finance investment spending, while allowing the flexibility to provide short-term stimulus in periods when the economy is underperforming and giving time for fiscal policy to adjust to shocks. But the role of the OBR and other independent commentators is crucial in ensuring that these flexibilities are not abused.
- The OBR's latest central forecast is that Mr Osborne is now on course to miss his supplementary target. However, since meeting the target would do little to ensure the sustainability of the UK's public finances, the fact that it looks set to be missed should not, on its own, cause significant concern about fiscal sustainability.
- Now would be a good time for Mr Osborne to consult on a better replacement for this rule, to complement the fiscal mandate. A rule that either targeted the total level of public debt (along the lines of the EU's debt ceiling) or in some way limited the fraction of future tax revenues that have been precommitted to meeting liabilities accrued by the current and previous governments would be better able to ensure long-run sustainability than the supplementary target.
- The Fiscal Responsibility Act 2010, legislated by the last Labour government, imposed legally binding constraints on borrowing and debt. Had the current government not repealed the Act, Mr Osborne would next year have more likely than not faced legal sanctions for failing to meet one of the Act's three provisions (that borrowing in 2013–14 should be half its 2009–10 level) – unless he were willing to announce tax increases or spending cuts of at least a further 0.5% of national income (£8 billion in today's terms) to be implemented next year.

### 4.1 Introduction

This year, public spending will exceed revenues by around 7.7% of national income (£120 billion). Borrowing at this level could not be sustained indefinitely by the UK economy. If the latest official estimates are correct, temporary economic weakness

explains only a small part (2.1% of national income) of this gap.<sup>1</sup> Dealing with the structural deficit will require painful tax and spending choices, which will doubtless be politically difficult to implement. It can, therefore, be advantageous for politicians to tie their own hands somewhat – and, by doing so, possibly buy themselves valuable credibility with both voters and potential purchasers of UK government debt – by pledging to adhere to a set of fiscal goals that are consistent with long-run fiscal sustainability.

Such a strategy was employed by the last Labour government on coming to power in 1997. The then Chancellor Gordon Brown committed to complying with two fiscal rules – the golden rule and the sustainable investment rule – in part to convince voters that he would not repeat the perceived failings of previous Labour Chancellors. The golden rule stated that, over an economic cycle, total government receipts should equal or exceed total non-investment spending or, in other words, total government borrowing over an economic cycle should not exceed the amount spent on investment. The sustainable investment rule stated that public sector net debt should be kept below 40% of national income, which was slightly below the level Labour had inherited from the last Conservative government.<sup>2</sup>

The financial crisis and associated recession illustrated the limitations of such rules; in particular, they highlighted that rules that might be good guiding rules-of-thumb in most situations should sometimes be abandoned rather than slavishly adhered to. The damage done to the public finances by the financial crisis meant that it would barely have been possible – and certainly not sensible – to comply with either of the fiscal rules<sup>3</sup> that were in place in 2007 and so the previous government decided to ‘depart temporarily from the fiscal rules’.<sup>4</sup> After this, it passed the Fiscal Responsibility Act in 2010, which imposed legally binding constraints on fiscal policy. Specifically, this Act stated that the Treasury must ensure that:

1. For each of the financial years ending in 2011 to 2016, public sector net borrowing expressed as a percentage of gross domestic product is less than it was for the preceding financial year.
2. For the financial year ending in 2014, public sector net borrowing expressed as a percentage of gross domestic product is no more than half of what it was for the financial year ending in 2010. [The Treasury’s forecast at the time of the March 2010 Budget was that public sector net borrowing (PSNB) would be 11.8% of national

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<sup>1</sup> Although there is disagreement among independent forecasters about exactly how much of current public borrowing levels can be accounted for by purely temporary factors, most independent forecasts suggest a level of structural borrowing in the UK this year that could not be sustained indefinitely – see Chapters 2 and 5 for discussion of three alternative scenarios for the macroeconomy and public finances.

<sup>2</sup> A longer discussion of Mr Brown’s fiscal rules, their strengths and weaknesses, and his success at complying with them is provided by R. Chote, C. Emmerson and G. Tetlow, ‘The fiscal rules and policy framework’, in R. Chote, C. Emmerson, D. Miles and J. Shaw (eds), *The IFS Green Budget: January 2009*, IFS Commentary 107, 2009 (<http://www.ifs.org.uk/budgets/gb2009/09chap5.pdf>).

<sup>3</sup> The Treasury’s estimates of the output gap in 2008 indicated that an economic cycle ended and a new one began in the second half of 2006. Consequently, the ‘upswing’ of the new cycle (over which the golden rule would have to have been judged) would have run from late 2006 to early 2008, before a downswing that now looks set to last until at least 2018. Since the previous government had run current budget deficits throughout 2006 and 2007, the only way to comply with the golden rule would have been to run surpluses throughout the ‘downswing’ of the cycle.

<sup>4</sup> Paragraph 1.12 of HM Treasury, *Pre-Budget Report: November 2008*, Cm 7484 ([http://webarchive.nationalarchives.gov.uk/20100407010852/http://www.hm-treasury.gov.uk/prebud\\_pbr08\\_index.htm](http://webarchive.nationalarchives.gov.uk/20100407010852/http://www.hm-treasury.gov.uk/prebud_pbr08_index.htm)).

income in 2009–10, implying that borrowing would need to be reduced to 5.9% by the financial year ending in 2014.<sup>5]</sup>

3. Public sector net debt as at the end of the financial year ending in 2016 expressed as a percentage of gross domestic product (centred on 31 March 2016), is less than public sector net debt as at the end of the previous financial year expressed as a percentage of gross domestic product (centred on 31 March 2015).<sup>6</sup>

In addition to this, the government put before Parliament an additional Fiscal Responsibility Order, which imposed a more stringent limit (of 5.5% of national income) on borrowing in 2013–14 than was implied by the Fiscal Responsibility Act.<sup>7</sup>

These rules made no allowance for any temporary weakness resulting from a prolonged period of below-trend growth or a double-dip recession. Had the current government not repealed the Act on coming to power, it would have been required to implement an additional 0.5% of national income (or £8 billion in today's terms) of tax rises or spending cuts in the coming financial year, based on the latest forecasts from the Office for Budget Responsibility (OBR) for public borrowing.<sup>8</sup> This would be a significant fiscal tightening on top of the 1.1% of national income (or £17.5 billion) already planned for next year. Assuming the OBR's forecast is unbiased, this would still only give the Chancellor a 50:50 chance of not breaking the law. However, quite what the legal sanction on George Osborne for doing so would have been is hard to envisage.

Having repealed the Fiscal Responsibility Act, the coalition government replaced it with two fiscal targets:

- **fiscal mandate:** the structural current budget must be forecast to be in balance or in surplus by the end of the rolling, five-year forecast horizon;
- **supplementary target:** public sector net debt as a share of national income should be falling at a fixed date of 2015–16.

While the supplementary target – which the Chancellor is currently on course to miss – is identical to the third provision of the Fiscal Responsibility Act, the fiscal mandate is different; in particular, it provides much greater flexibility in the conduct of fiscal policy than the first two provisions of the Fiscal Responsibility Act would have. This more flexible fiscal framework has been accompanied by the introduction of the Office for Budget Responsibility. The OBR is an independent body that produces the UK's official economic and public finance forecasts, making use of full access to government data on tax revenues and spending. This set-up is intended to remove the possibility of politically motivated wishful thinking being introduced into official economic and fiscal forecasts. The OBR also has a remit to assess the government's compliance with the fiscal mandate and supplementary target and the long-run sustainability of the public finances and also to provide scrutiny of the official costings of budget measures.

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<sup>5</sup> HM Treasury, *Budget 2010*, March 2010 (<http://webarchive.nationalarchives.gov.uk/20100407010852/http://www.hm-treasury.gov.uk/budget2010.htm>).

<sup>6</sup> Fiscal Responsibility Act 2010 (<http://www.legislation.gov.uk/ukpga/2010/3/section/1>).

<sup>7</sup> Fiscal Responsibility Order 2010 (<http://www.legislation.gov.uk/ukdsi/2010/9780111497418>).

<sup>8</sup> This figure is calculated using the headline measures of borrowing in 2009–10 and 2013–14. If we instead adjust for the impact of the reclassification of the Asset Purchase Facility, Bradford & Bingley, and Northern Rock Asset Management, then additional tax rises or spending cuts amounting to 1.3% of national income (or £20 billion in today's terms) would be required in the coming financial year.



Since 1997, the UK government has also – in theory, at least – been required to meet the fiscal objectives set out in the European Union’s Stability and Growth Pact. These rules state that the government’s deficit (specifically, the general government deficit) should not exceed 3% of national income and that debt (specifically, the gross debt of general government) should not exceed 60% of national income.

This chapter describes and assesses the UK’s existing fiscal targets and suggests how they could be improved to help ensure long-run sustainability. We start by describing in more detail each of the fiscal rules that currently apply to the UK – the Chancellor’s targets (in Section 4.2) and the Stability and Growth Pact commitments (in Section 4.3) – and the UK’s current level of compliance with these. In light of general good principles of fiscal management (described in Section 4.4), we then discuss the merits and drawbacks of the Chancellor’s fiscal targets (in Section 4.5). While the fiscal mandate has much to recommend it, the supplementary target has considerable weaknesses; in Section 4.6, we discuss what a better replacement for the latter might look like. Section 4.7 concludes.

## 4.2 The Chancellor’s fiscal targets

### Fiscal mandate

The Chancellor’s first (and main) fiscal target is known as the fiscal mandate. The fiscal mandate states that the structural current budget must be forecast to be in balance or surplus by the end of the rolling, five-year forecast horizon. In other words, after taking into account the estimated impact of the ups-and-downs of the economic cycle on the public finances, government receipts should be projected to be equal to or greater than government non-investment spending.

At the time of the June 2010 Budget, the OBR’s forecasts suggested that – if the government implemented all the policies that had been announced at that point – the structural current budget would reach a surplus of 0.3% of national income by 2014–15, one year before the end of the forecast horizon at that point. Since then, there has been further adverse economic news (in particular in the Autumn Statement of 2011 and the Autumn Statement of 2012) and the OBR’s latest forecasts (from December 2012) now suggest that the structural current budget will not be back in balance until 2016–17, and only then because Mr Osborne has announced 2.4% of national income (or £38 billion in today’s terms) of additional permanent tax increases and spending cuts since June 2010. But, since the five-year forecast horizon now extends to 2017–18 – by when the OBR is projecting a surplus on the structural current budget of 0.9% of national income – the fiscal mandate is being met.

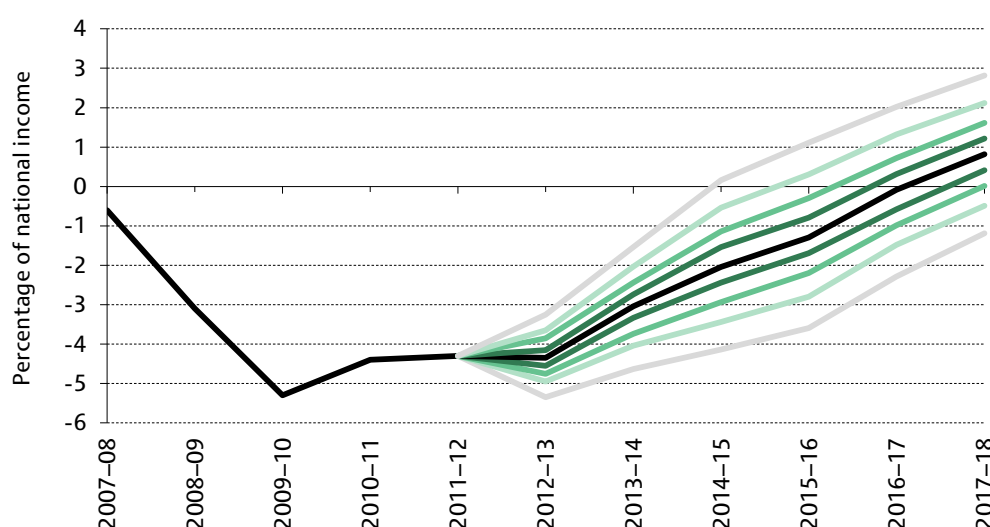
The headline measure of the structural current budget that the OBR published in December 2012 was for a surplus of 0.4% of national income in 2016–17 – one year earlier than required by the mandate. However, this figure is flattered by the reclassification of a number of financial transactions that the OBR included for the first time in December – specifically, the transfer of the Asset Purchase Facility from the Bank of England to the Treasury and the reclassification of Bradford & Bingley and Northern Rock Asset Management to the public sector. Without these reclassifications, the structural current budget would be forecast still to be in deficit in 2016–17 (before



returning to surplus in 2017–18).<sup>9</sup> Since the long-term strength of the public finances is not improved by these reclassifications,<sup>10</sup> if the Chancellor has not changed his view about the appropriate underlying fiscal stance, he should continue to aim to meet his fiscal mandate using a measure of the fiscal aggregates that excludes these classification changes. Therefore, in this chapter (except where explicitly noted), we cite figures for fiscal aggregates that exclude the impact of these classification changes.

Forecasting borrowing is – even in the best of times (which these certainly are not) – a difficult business. Figure 4.1 shows some indication of the degree of uncertainty around the OBR's latest central forecast (the black line). Based on past forecast accuracy, there is a 20% chance that the outcome will lie within the darkest green lines, a 40% chance that the outcome will lie within the next darkest bands, and so on. There is, therefore, about a 30% chance that the cyclically-adjusted current budget will actually be in deficit in 2017–18, assuming the OBR's latest forecast is as accurate as previous official forecasts have been over the last 30 years. However, on this basis, there is also a 30% chance that the surplus could be twice as large as currently forecast. Of course, past forecast errors may not be a good guide to the degree of uncertainty around the OBR's latest forecast. On the one hand, the current climate may be even more uncertain than normal – Chapter 5 discusses some specific risks facing the UK's public finances over the next few years. On the other hand, the OBR might be more accurate at forecasting the public finances than the Treasury was in the past.

Figure 4.1. Cyclically-adjusted current budget fan chart



Note: Figures shown exclude the impact of reclassifying on the public balance sheet Northern Rock Asset Management and Bradford & Bingley, as well as the financial transactions relating to the Asset Purchase Facility.

Source: Authors' calculations using chart 5.1 of OBR, *Economic and Fiscal Outlook*, December 2012, Cm 8481 (<http://cdn.budgetresponsibility.independent.gov.uk/December-2012-Economic-and-fiscal-outlook23423423.pdf>).

<sup>9</sup> Paragraph 5.8 of OBR, *Economic and Fiscal Outlook*, December 2012, Cm 8481 (<http://cdn.budgetresponsibility.independent.gov.uk/December-2012-Economic-and-fiscal-outlook23423423.pdf>).

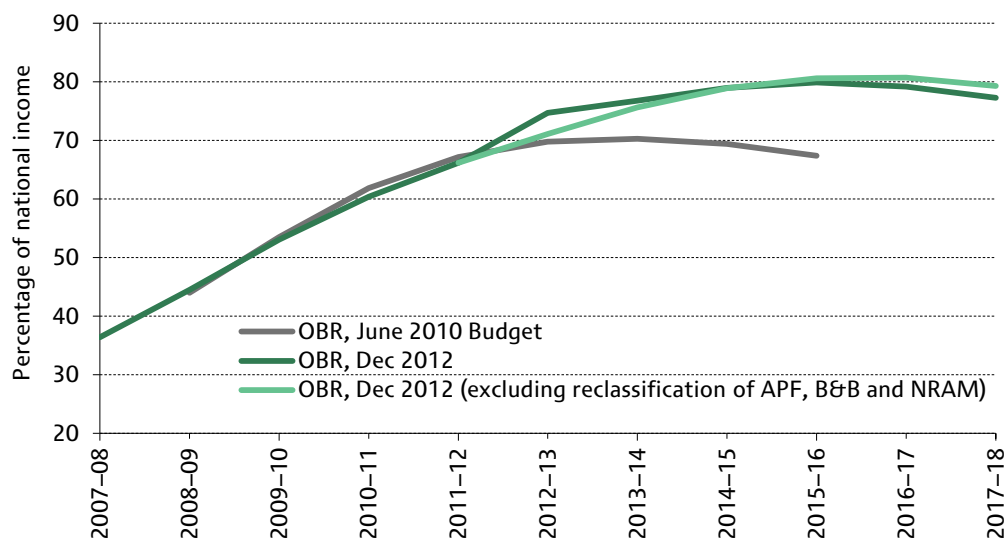
<sup>10</sup> For a full description of the impact on the UK's public finances in the short and long runs of the transfer of the Asset Purchase Facility from the Bank of England to the Treasury, see pages 101–106 of OBR, *Economic and Fiscal Outlook*, December 2012, Cm 8481 (<http://cdn.budgetresponsibility.independent.gov.uk/December-2012-Economic-and-fiscal-outlook23423423.pdf>).

## Supplementary target

The Chancellor's second fiscal target is known as the supplementary target and requires that public sector net debt as a share of national income should be falling at a fixed date of 2015–16.

At the time of the June 2010 Budget, the OBR's forecasts suggested that public sector net debt would actually start falling one year earlier – in 2014–15 – and would decline by 2.0% of national income between 2014–15 and 2015–16 (from 69.4% to 67.4%), as shown in Figure 4.2. However, since then, adverse economic developments have caused the OBR to revise up its forecasts for borrowing over the short and medium terms. As a result, the latest OBR forecasts, from December 2012, suggest that the Chancellor is on course to miss his supplementary target. The official forecast for headline public sector net debt is now that it will rise by 0.9% of national income (from 79.0% to 79.9%) in 2015–16. This is shown in Figure 4.2. If we strip out the impact of the reclassification of financial transactions, public sector net debt would instead be forecast to rise by even more over this period – from 78.9% to 80.6% of national income. On this basis, public sector net debt is not set to fall as a share of national income until 2017–18.

Figure 4.2. Debt not currently forecast to fall in 2015–16



Note: Figures for debt excluding the reclassification of the Asset Purchase Facility (APF), Bradford & Bingley (B&B) and Northern Rock Asset Management (NRAM) are authors' calculations using figures produced by the OBR.

Source: Authors' calculations using tables 4.4, 4.17, 4.26, 4.32 and 5.1 and box 4.1 of OBR, *Economic and Fiscal Outlook*, December 2012, Cm 8481 (<http://cdn.budgetresponsibility.independent.gov.uk/December-2012-Economic-and-fiscal-outlook23423423.pdf>). Table C1 of HM Treasury, *Budget 2010*, June 2010 ([http://cdn.hm-treasury.gov.uk/junebudget\\_complete.pdf](http://cdn.hm-treasury.gov.uk/junebudget_complete.pdf)). ONS series HF6X.

This raises the obvious question of whether it matters that the Chancellor is now on course to miss his supplementary target. There are three parts to the answer to this question:

- **Six of one, half a dozen of the other?** The supplementary target has not yet been missed. Given the significant uncertainty surrounding any forecasts for public borrowing and thus public debt (as discussed above), there is a non-trivial (although, assuming the OBR's forecasts are unbiased, less than 50%) chance that debt will actually be lower in 2015–16 than in 2014–15, even though the OBR's

current central forecast is that it will be higher. Conversely, at the time of the March Budget, there was a slightly more than 50% chance of this outcome. A lot can happen in three years and there is a persuasive argument that – all other things being equal – we might want to wait and see how the economy develops before announcing hasty action now to try to restore a greater than 50% chance of meeting the target. Whether the supplementary target has been met will not be known until finalised data on debt as a share of national income in 2015–16 are available (the initial estimates of which will not be known until after September 2016).

- **A miss is as good as a mile?** However, all else might not be equal. One reason that the Chancellor has pledged to meet his fiscal targets is because he believes they buy him credibility with the UK government's creditors, which translates into lower borrowing costs. If his choice to remain on a course that suggests he will miss a target were to damage the perceived credibility of his commitment to fiscal sustainability, this could have real costs to the UK economy by increasing our cost of borrowing.
- **Not worth the paper it is written on?** But should the government's creditors really be concerned that it might miss the supplementary target or, equivalently, be reassured by a belief that it would be met? This is the most important element of the answer to the question we posed above. Although the supplementary target is clear, transparent and (in 2016) compliance will be easy to measure, it actually has little to recommend it in terms of ensuring long-run sustainability of the public finances, which is presumably what ought to concern potential creditors. Section 4.5 discusses the advantages and disadvantages of the supplementary target in more detail.

## 4.3 Ensuring fiscal sustainability in Europe?

### The Stability and Growth Pact

The UK government is also – in theory, at least – constrained by the fiscal objectives set out in the Stability and Growth Pact (SGP), signed by all European Union member states in 1997. The current law requires signatories to adhere to two fiscal rules:

- **deficit rule:** countries must deal with normal cyclical fluctuations while keeping the government deficit below 3% of national income;<sup>11</sup>
- **debt rule:** the ratio of government debt to national income must not exceed 60%, unless the ratio is sufficiently diminishing and approaching the reference value at a satisfactory pace.<sup>12</sup>

The definitions of deficit and debt referred to by the SGP are narrower than those typically used to examine the health of the public finances in the UK: both relate to general government rather than the whole of the public sector (i.e. they ignore any

<sup>11</sup> Resolution of the European Council on the Stability and Growth Pact Amsterdam, 17 June 1997, *Official Journal C* 236, 02/08/1997 P. 0001 - 0002 ([http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31997Y0802\(01\):EN:HTML](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31997Y0802(01):EN:HTML)).

<sup>12</sup> Consolidated version of the Treaty on the Functioning of the European Union – Part Three: Union Policies and Internal Actions – Title VIII: Economic and Monetary Policy – Chapter 1: Economic policy – Article 126 (ex Article 104 TEC), *OJ C* 115, 9.5.2008, p. 99–102 (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:12008E126:EN:NOT>). Consolidated version of the Treaty on European Union – Protocols – Protocol (No 12) on the excessive deficit procedure, *Official Journal* 115, 09/05/2008 P. 0279 - 0280 (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:12008M/PRO/12:EN:HTML>).

borrowing or debts of public corporations) and the debt rule focuses on a measure of gross rather than net debt (i.e. it does not take into account as large a range of financial assets held by a government as public sector net debt). Not taking into account these short-term financial assets means that, for the UK, the narrower measure of debt targeted by the EU is higher than the broader measure of debt targeted by Mr Osborne (and previously Mr Brown).

Eurozone member countries that breach these rules can, in theory, face financial penalties and be required to comply with a programme of fiscal consolidation determined by the European Commission.<sup>13</sup> Countries that are signatories to the SGP but are not members of the eurozone (such as the UK) do not face financial penalties but can receive a judgment against them from the Commission if they fail to comply with the rules.

## Deficit rule

In practice, the financial sanctions allowed for in the SGP have never been imposed – despite the fact that, even before the financial crisis, numerous countries had breached the 3% deficit ceiling. For example, Germany and France both exceeded the 3% limit in 2002, 2003 and 2004 and, although they were subject to excessive deficit procedures (EDPs), the time limits for correction were repeatedly extended until the problems were eventually corrected.<sup>14</sup> In total, out of 27 EU countries, only Estonia, Luxembourg and Sweden have never had an EDP launched against them, while the UK had an EDP in 2006 and has been subject to a second one since 2008. So it is far from clear whether the financial penalties have any impact as a deterrent.<sup>15</sup>

To some extent, this illustrates the problems associated with a supra-national entity such as the EU imposing and policing such limits on nation states. But these issues are not so dissimilar from those faced by the UK in isolation. Fiscal rules will never be kept to in all possible circumstances and so creating a combination of sufficient credibility alongside sufficient flexibility is an ongoing challenge for any such regime.

In 2012, as shown in Figure 4.3, 15 of the 27 EU countries had deficits exceeding 3% of national income, including the UK. Currently, most of these 15 EU member states – the exceptions are Greece, Ireland, Portugal, Spain and the UK – have been asked to return their deficits below 3% of national income by 2013 at the latest. While the latest forecasts suggest that not all countries are on course to comply with this programme, most look set either to achieve it or to come very close.

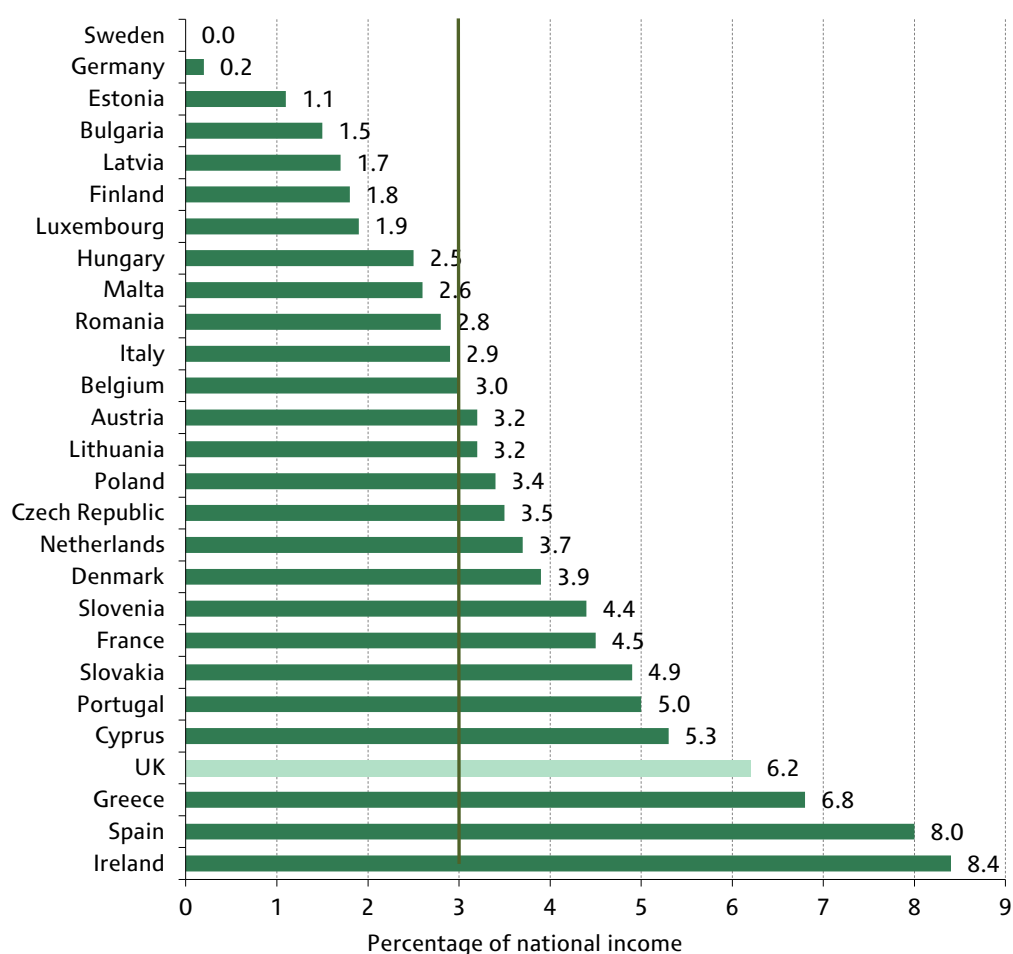
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<sup>13</sup> Countries that are subject to an ‘excessive deficit procedure’ after breaching either of the limits can be fined a flat rate of 0.2% of national income, plus an amount equal to one-tenth of the difference between 3% and the actual level of their deficit as a share of national income (subject to an annual cap of 0.5% of national income). These fines are held in an account and returned to the country after the excessive deficit or debt problem has been ‘corrected’.

<sup>14</sup> Council Decision of 5 June 2007 abrogating Decision 2003/89/EC on the existence of an excessive deficit in Germany (2007/490/EC), [http://ec.europa.eu/economy\\_finance/economic\\_governance/sgp/pdf/30\\_edps/104-12\\_council/2007-06-05\\_de\\_104-12\\_council\\_en.pdf](http://ec.europa.eu/economy_finance/economic_governance/sgp/pdf/30_edps/104-12_council/2007-06-05_de_104-12_council_en.pdf). Council Decision of 30 January 2007 abrogating Decision 2003/487/EC on the existence of an excessive deficit in France (2007/154/EC), [http://ec.europa.eu/economy\\_finance/economic\\_governance/sgp/pdf/30\\_edps/104-12\\_council/2007-01-30\\_fr\\_104-12\\_council\\_en.pdf](http://ec.europa.eu/economy_finance/economic_governance/sgp/pdf/30_edps/104-12_council/2007-01-30_fr_104-12_council_en.pdf).

<sup>15</sup> The 2011 amendment to the Stability and Growth Pact aimed to strengthen financial sanctions, by introducing ‘Reverse Qualified Majority Voting’, making it more difficult to overturn financial sanctions. It remains to be seen whether these would actually be used and whether they will act as a more effective deterrent.

Figure 4.3. Deficits across Europe in 2012



Note: Figures shown are for general government net borrowing.

Source: European Commission, *General Government Data: General Government Revenue, Expenditure, Balances and Gross Debt*, 2012

([http://ec.europa.eu/economy\\_finance/db\\_indicators/gen\\_gov\\_data/documents/2012/autumn2012\\_series\\_en.pdf](http://ec.europa.eu/economy_finance/db_indicators/gen_gov_data/documents/2012/autumn2012_series_en.pdf)).

The European Commission has set out a plan for the UK that requires us to reduce our deficit to below 3% by 2014–15. However, these European targets have not appeared, and do not appear, significantly to constrain UK governments' behaviour. For example, the OBR's latest official forecasts are that the UK's deficit (measured using the Maastricht Treaty definition) will be 6.2% of national income in 2013–14, falling to 5.3% in 2014–15 and then to 2.8% by 2016–17. In other words, we are on course to fail to comply with the Commission's excessive deficit procedure and to do so by a reasonable distance.

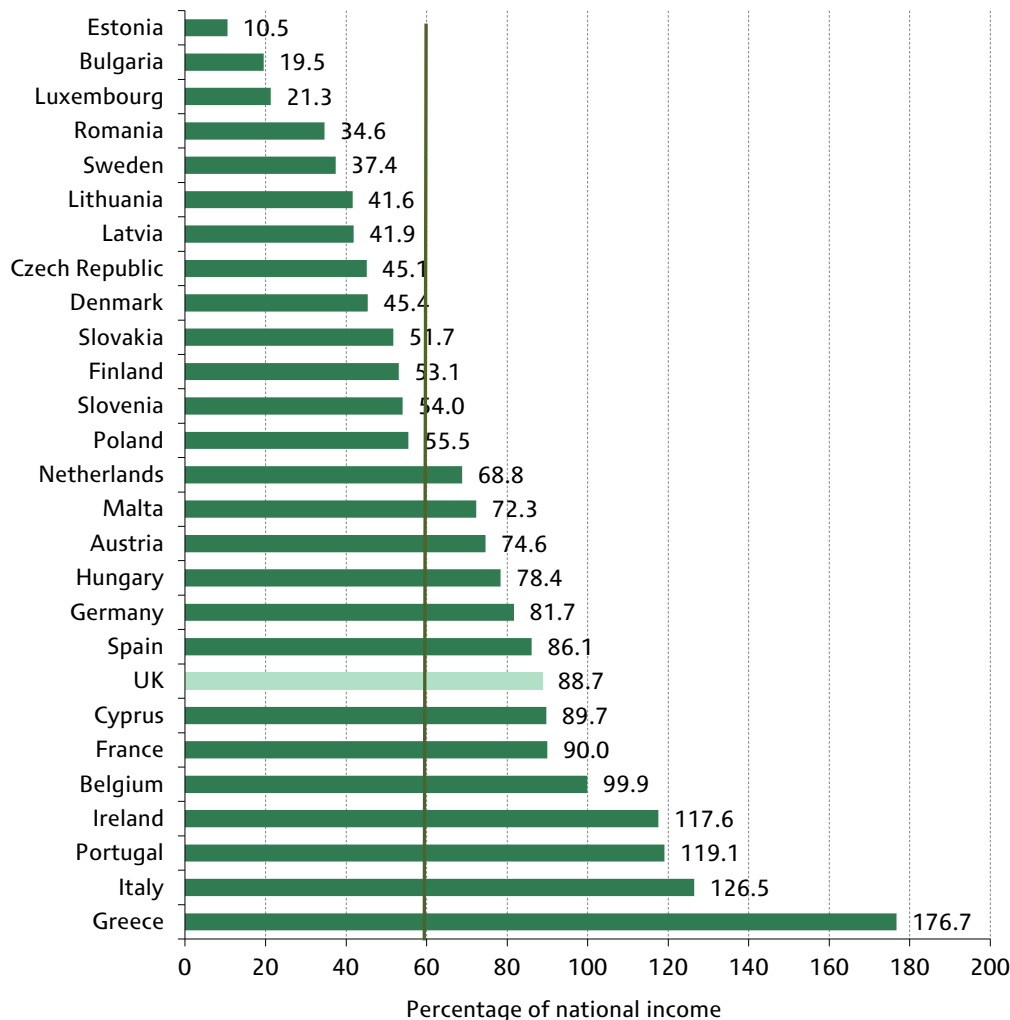
## Debt rule

The Treaty on Stability, Coordination and Governance – signed by all EU countries except the UK in March 2012 – states that, if a country's debt exceeds 60% of national income, it is required to reduce debt as a share of national income each year by an average of at least one-twentieth of the gap between the actual debt level when the EDP is launched

and the 60% ceiling. If signing countries fail to comply with this, the European Court of Justice can impose a fine of 0.1% of national income.<sup>16</sup>

The UK is currently on course to have debt remaining well above the 60% target level for the foreseeable future. The OBR's latest forecast is that the Treaty definition of debt will be 90.3% of national income in 2012–13, rising to 97.4% by 2015–16 before beginning to fall. Figure 4.4 shows that, in 2012, the UK had the 8<sup>th</sup> highest level of debt in the EU.

**Figure 4.4. Debt across Europe in 2012**



Note: Figures shown are for general government consolidated gross debt.

Source: European Commission, *General Government Data: General Government Revenue, Expenditure, Balances and Gross Debt*, 2012

([http://ec.europa.eu/economy\\_finance/db\\_indicators/gen\\_gov\\_data/documents/2012/autumn2012\\_series\\_en.pdf](http://ec.europa.eu/economy_finance/db_indicators/gen_gov_data/documents/2012/autumn2012_series_en.pdf)).

## Summary

While the Chancellor has demonstrated his willingness to announce fiscal policies that enable him to meet his own fiscal mandate, he appears to place little weight (just as Mr Brown did) on the potential reputational cost of missing the European targets. So, in

<sup>16</sup> Treaty on Stability, Coordination and Governance in the Economic and Monetary Union, 2012, [http://european-council.europa.eu/media/639235/st00tscg26\\_en12.pdf](http://european-council.europa.eu/media/639235/st00tscg26_en12.pdf).

practice, this second set of fiscal objectives – policed by the European Commission – seems to have little impact on the stance of fiscal policy in the UK. At least in part this can be justified by the fact that the European rules (in particular, the deficit rule) are poorly designed for the UK.

## 4.4 Principles of good fiscal management

The Chancellor has placed considerable store by his fiscal targets as statements and indicators of his commitment to restoring the long-run sustainability of the UK's public finances. But how appropriate are the Chancellor's rules and the wider fiscal framework (including the existence and role of the OBR) in fulfilling the objective of restoring long-run fiscal sustainability? This section sets out some general principles of good fiscal management (and some barriers to achieving this in practice) before the next section examines the Chancellor's current rules in this light.

There are clear advantages to having a low level of public sector net debt. Most obviously, it means that less national income needs to be devoted to financing that debt and the strength of the public finances is less dependent on the rate of interest at which the government can borrow. Having a low level of debt also increases the scope for an economy to increase its debt dramatically in the event of a large adverse shock, as the UK did during the Second World War and the recent financial crisis.

In principle, there are also a number of additional circumstances in which it may be advantageous to an economy for its government to borrow rather than to balance its books in every year. Understanding these circumstances is key to understanding what good fiscal objectives should look like. Broadly speaking, there are at least five legitimate reasons for governments to borrow:

1. **Investment spending:** The benefits of many forms of investment spending are spread across time – for example, a new road will deliver benefits to future generations and not just to the one that built it. It therefore seems fair that the cost should also be spread over current and future generations by borrowing money to cover some of the initial construction costs and thus requiring future generations to service this debt.
2. **Output stabilisation:** There will inevitably be times when shocks hit the economy, temporarily affecting tax revenues and/or placing demands on spending. The level of government borrowing should be able to respond to these output shocks in order to help stabilise the macroeconomy. For example, during a recession, it is likely to be advantageous for the government to be able to run a deficit in order to help stimulate the economy, rather than attempting to balance its books immediately, which would risk worsening the recession. (Conversely, during a temporary boom, the government may want to accrue a surplus in order to somewhat dampen an overheated economy.) This argument is particularly strong when the role of monetary policy is limited – for example, if nominal interest rates are close to zero or if the exchange rate is fixed and therefore unable to depreciate.
3. **Adjusting gradually to shocks:** When a fiscal adjustment does need to be made – for example, due to a revised outlook for the economy – it makes sense to adjust taxes and spending gradually rather than to make changes immediately. First, quick adjustments might have unwanted impacts on aggregate demand in the economy, which changes to monetary policy are unable to offset. Second, making changes too



quickly might lead to less efficient changes being made than would be possible over a longer timescale.

4. **Forecast errors:** Forecasts for total public spending and total taxes are subject to considerable uncertainty, even in the short run. However, if forecasts are unbiased, forecast errors should balance out over time. In such a situation, governments should be able to borrow in years that turn out to be worse than expected and repay debt in the unexpectedly good years.
5. **Tax rate smoothing:** Economic theory suggests that smoothing tax rates over time is better for welfare than having tax rates that change over time (for example, in order to smooth tax revenues). Reducing variation in tax rates over time might also help individuals making (in particular) saving and investment decisions.

These reasons suggest that – other things being equal – we would certainly not want to constrain a government to balancing its books in each and every year. However, we might also want to ensure the following:

1. In periods of economic stability, spending that benefits only the current generation should be covered by tax revenues paid by the current generation.
2. If borrowing rises during periods of temporary economic weakness, it should fall again once the problems have passed. If the economy experiences an unsustainable boom, the government should save the additional revenues.
3. Although borrowing to fund investment spending or to provide temporary support to the economy can be justified, there should be a limit on how much of future taxpayers' money we precommit to meeting these debt repayment obligations. Future generations may have different priorities from those we impose upon them.
4. If the time profiles of an economy's production capabilities and consumption needs differ substantially from one another – for example, because of demographic transitions or the exploitation of finite natural resources – governments might also want to consider explicitly pre-funding future high consumption needs or explicitly allowing borrowing to be higher in the short term, with the intention of running surpluses later on, if they anticipate revenue-raising capacity increasing in future.

Politicians might also be tempted (or pressured) to borrow for less appropriate reasons – such as to fund additional short-term spending promises in their priority areas or to offer tax cuts to favoured groups. That is why it can be useful for governments to tie their own hands by imposing fiscal targets, which attempt to ensure that they operate the public finances in a way that is good for the economy in the long run. The principles discussed above imply that both the annual flow of new borrowing and the accumulated stock of debt need to be considered when assessing the appropriateness of fiscal policy; politicians may want to consider complementary rules that govern each of these.

Such rules range along a spectrum from simple ones that impose tight constraints on government borrowing but allow little flexibility to accommodate the good motives for borrowing, to more flexible rules that allow a greater role for discretion to be used sensibly but also run the risk of being open to inappropriate manipulation. The broader fiscal framework and political context in which a country operates will be important in determining what sorts of fiscal targets are implementable and most appropriate. For example, a country that publishes detailed, transparent information on the fiscal position and has a strong, independent arbiter of fiscal policy may be able to impose a more flexible set of rules than a country where there is little capacity for commentators outside the government to scrutinise its plans.



There are a number of different fiscal rules in operation around the world and yet others that could, in principle, be used. In the next section, we discuss the merits and shortfalls of the Chancellor's two fiscal targets in adhering to these general principles. Then, in Section 4.6, we discuss what improvements could be made to the Chancellor's fiscal framework – in particular, to ensure the long-run sustainability of UK indebtedness.

## 4.5 How good are the Chancellor's fiscal rules?

### Critique of the fiscal mandate

#### *Advantages of the fiscal mandate*

The fiscal mandate has a number of features that facilitate the general principles of good fiscal management set out in the previous section – indeed, in our 2005 Green Budget (and every other Green Budget thereafter, until 2010), we recommended a forward-looking fiscal rule along very similar lines, precisely because it would have these desirable features:<sup>17</sup>

1. **Investment spending:** The fiscal mandate relates to the 'current budget' rather than total borrowing – that is, the government can invest as much as it chooses (and pay for this entirely from borrowed funds) without falling foul of the fiscal mandate.
2. **Output stabilisation:** The fiscal mandate relates to the 'structural' current budget – that is, a measure of borrowing that strips out the estimated impact of any temporary economic weakness – which allows the government to borrow in the short run if this borrowing is thought purely to reflect shocks causing the economy *temporarily* to perform below its expected level.
3. **Adjusting gradually to shocks:** The fiscal mandate requires only that there must be balance or surplus 'by the end of the rolling, five-year forecast horizon' – this allows the government to adjust gradually to *permanent* shocks to the public finances.
4. **Forecast errors:** The fiscal mandate requires that the current budget is *forecast* to be in balance or surplus. Therefore, even if borrowing turns out to be somewhat higher than forecast, this would not breach the mandate, as it is purely forward-looking.
5. **Tax rate smoothing:** The fiscal mandate allows the government to borrow during periods of economic weakness or to cover unexpected shocks such that tax rates can be made smoother than if they had to adjust every year in response to temporary changes to borrowing.

The fiscal mandate is quite close in spirit to Mr Brown's golden rule. Sensibly, both would allow the government to borrow to cover investment spending and both allow borrowing to take into account the ups-and-downs of the economic cycle. The key difference is that Mr Brown's golden rule required the start and end of an economic cycle to be dated and borrowing to adjust to any shocks over that period. There were two clear criticisms of this, which do not apply to the fiscal mandate:

1. The start and end dates of an economic cycle are not easily verifiable in real time (if ever). This raised suspicions when, just after the 2005 general election and when the public finances appeared to be on course to breach rather than meet the golden rule,

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<sup>17</sup> R. Chote and C. Emmerson, 'The fiscal policy framework', in R. Chote, C. Emmerson, D. Miles and Z. Oldfield (eds), *The IFS Green Budget: January 2005*, IFS Commentary 97, 2005 (<http://www.ifs.org.uk/publications/3250>).

Mr Brown decided to push back the start of the then current economic cycle from 1999 to 1997, making it easier to meet the rule.<sup>18</sup>

2. During the last year of an economic cycle – unless a large margin of error has been accumulated – even a negative forecast error or revisions to past data could necessitate a large tax rise or spending cut to be implemented in-year in order to comply with the rule over the current economic cycle. This could make fiscal policy changes inappropriately backward-looking – for example, requiring a fiscal tightening in order to comply with the rule over the current economic cycle, which could be reversed the following year as it was not needed to comply with the rule in the next economic cycle.

### *Disadvantages of the fiscal mandate*

The fiscal mandate looks, in many ways, better than the rules it replaced. However, it is not without some problems – all of which are essentially direct corollaries of the desirable features of the rule just outlined:

1. **Definitions of investment and current spending:** The fiscal mandate requires that all ‘current spending’ should be paid for by taxes levied on the current population, while investment spending can be funded through borrowing, which will in part be paid for by future generations of taxpayers. For understandable reasons of simplicity and transparency, the Chancellor (like Mr Brown with his golden rule) chose to use the National Accounts definitions of current and investment spending when defining the mandate. However, there are three reasons why this might deviate from being entirely in line with the first theoretical justification described in Section 4.4. First, there are some items of investment spending that may not confer great benefits on future generations (such as, arguably, the Millennium Dome or the London Olympics) and, in any case, it is far from clear why the time profile of benefits from investment spending would match the time profile of the interest payments arising from servicing the associated debt. Second, there are some items of current spending that arguably do benefit future generations (such as paying teachers to provide education to today’s children, who will be tomorrow’s taxpayers). Third, there are some liabilities that the government is incurring – for the benefit of today’s taxpayers – that are counted as neither investment nor current spending today. For example, the government remunerates public sector workers partly by offering them a defined benefit occupational pension; most of these pensions are unfunded and thus the additional pension promises made each year (unlike additional current pay given to the same workers) does not count as current spending. This potentially provides an incentive for the current government to remunerate public sector workers more through pensions and less through current pay, since the cost of the latter has to be met by current taxpayers while liability for the former will be passed on to future taxpayers.
2. **Measuring the output gap:** While it is difficult to forecast total borrowing, it is even harder to decompose what portion of this is ‘structural’ as opposed to ‘cyclical’ – as is required by the fiscal mandate. Doing so requires an assessment of the current and likely future size of the ‘output gap’ – that is, the gap between the actual level of economic activity in the economy and the level that could be sustained without implying accelerating inflation or growing unemployment – and an assessment of its

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<sup>18</sup> For a discussion, see C. Emmerson, ‘Bending the rules?’, *Public Finance Magazine*, August 2005 (<http://www.publicfinance.co.uk/features/2005/bending-the-rules-by-carl-emmerson/>).

impact on the public finances. As discussed in Chapter 5, different commentators have different views on the size of the current output gap, with the OBR's assessment being somewhere in the middle of other independent forecasters' estimates. The lack of transparency that estimating the output gap confers on judging the fiscal mandate is mitigated by the existence of the OBR, which is able to produce economic and fiscal forecasts that contain all relevant, available information about the UK economy, tax revenues and government spending but should – crucially – not be influenced by political considerations. While commentators may disagree with the OBR's view on the exact size of the output gap, they should at least be reasonably confident that the choice has not been politically motivated. However, the OBR is required to make some subjective judgements in coming to its view on the likely level of borrowing and the size of the output gap; to improve transparency and credibility, its judgements should be acknowledged and explained in as much detail as possible, which the OBR has done in its publications to date.

3. **Length of the horizon over which the mandate must be met:** Aiming for a surplus at the end of the forecast horizon (rather than more immediately) sensibly allows the government to adjust gradually to permanent shocks to the economy, such as the ones that have occurred around the recent financial crisis and associated recession. However, it does run the risk that politicians are perceived to be inappropriately delaying the implementation of politically painful decisions. Furthermore, at times when the economy had not recently experienced large adverse structural shocks, it would not be clear why a government should need five years to get the public finances back into balance. (Conversely, immediately after very large permanent shocks, a government may be better advised to plan to take longer than five years to rebalance the public finances.)

The first of these factors limits the ability of the fiscal mandate to constrain the government to borrowing only for 'legitimate' reasons (and was also an issue with Mr Brown's golden rule). The latter two potentially undermine the credibility of the rule.

### *Comparing the fiscal mandate and the EU's deficit rule*

The fiscal mandate is more flexible than the EU's deficit rule and thus has clear advantages over it. In particular, the EU's deficit rule relates to total borrowing, which allows less flexibility to borrow for investment that benefits future generations and does not make any additional allowance for borrowing related purely to temporary economic weakness. In practice, some flexibility has been built into the way the EU rule is implemented. In particular, a 2005 amendment specified that 'excessive deficit procedures' will not be launched against countries if a breach of the deficit ceiling is associated with a period of weak economic performance – in particular, 'a negative annual GDP volume growth rate or ... an accumulated loss of output during a protracted period of very low annual GDP volume growth relative to its potential'.<sup>19</sup> The same amendment allowed the Council to extend the time limit for correcting an excessive deficit by one year. However, these ad hoc allowances are less transparent than targeting a cyclically-adjusted measure of borrowing, as the fiscal mandate does, even though the latter is not without its problems (as just discussed). It might be more important for the UK than for some other EU countries to have flexibility to borrow during times of

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<sup>19</sup> Council regulation (EC) No 1467/97 of 7 July 1997 on speeding up and clarifying the implementation of the excessive deficit procedure, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:1997R1467:20111213:EN:PDF>.

temporary economic weakness because the UK has tended to experience relatively large economic cycles and there is evidence that the UK's public finances are particularly sensitive to economic cycles.<sup>20</sup>

### **Potential improvements to the fiscal mandate**

There are some changes that could be made to the fiscal mandate to address the first and third 'disadvantages' outlined above. Measuring the output gap (the second difficulty mentioned above) is inherently difficult and to some extent subjective. Any fiscal rule that wants to allow flexibility for the government to operate counter-cyclical fiscal policy – for which there are strong arguments – would need to incorporate some judgement about how the level of economic activity compares with its potential level and how this has impacted on the public finances. Therefore, the problem of measuring the output gap is technically unavoidable (unless one does not want borrowing to vary over an economic cycle) and the potential loss of credibility this implies is well mitigated in the UK by the existence of the OBR.

### **Enhancing intergenerational fairness**

In principle, it would be possible to have a more sophisticated definition of spending that solely benefits the current generation than the National Accounts measure of current spending which is used in judging the fiscal mandate. Items that are not already included, but which are deemed to be of benefit to the current rather than future generations, could be added in – for example, accrual of unfunded public service pension liabilities and spending on 'investment' projects mainly of benefit to the current generation. Similarly, items currently included in the National Accounts measure of current spending but which are mainly of benefit to either past or future generations could be taken out. These could include the element of spending on teachers' pay that represents an investment in human capital and the payment of public service pensions accrued in earlier years. A more detailed discussion of the treatment of public service pensions is provided in Box 4.1.

However, there would be costs to using a non-standard definition of current spending for the purposes of the fiscal mandate. While National Accounts measures of spending are defined, measured and published by the independent Office for National Statistics, any alternative measure could be seen as being less transparent and potentially open to greater manipulation. Therefore, the benefits of using a definition that is more in line with the theoretical arguments would need to be weighed against this potential loss of transparency and predictability.

### **Adjusting the length of the horizon**

Over the last two years, the government has each year chosen to take longer to get the structural current budget back into surplus than had previously been planned – that is, it has made use of the 'extra year' that is added to the end of the forecasting horizon at the time of each Autumn Statement. This is demonstrated in Figure 4.5, which shows the forecasts for the structural current budget surplus from each official fiscal statement since the June 2010 Budget, as well as the forecast published in the March 2010 Budget (the last official forecast produced by the Treasury before the introduction of the OBR).

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<sup>20</sup> Evidence that the UK has experienced greater fluctuations over the business cycle is presented in table 4.1 of M. Artis, *Analysis of European and UK Business Cycles and Shocks*, HM Treasury, London, 2003 ([http://www.hm-treasury.gov.uk/d/addevon03\\_316.pdf](http://www.hm-treasury.gov.uk/d/addevon03_316.pdf)). There is evidence that the impact of asset price movements on the public finances is particularly marked in the UK: F. Eschenbach and L. Schuknecht, 'Asset prices and fiscal balances', European Central Bank, Working Paper 141, 2002 (<http://www.ecb.int/pub/pdf/scpwps/ecbwp141.pdf>).

### Box 4.1. Incorporating unfunded public sector pensions into a borrowing rule

New pension promises made to public sector workers in the current year could be incorporated into the fiscal mandate by expanding the definition of ‘current spending’. Similarly, we might want to narrow the definition of current spending to exclude payments that are being made to retired former public sector employees, which ‘should’ have been covered by a former generation but were not. This would ensure that the current generation pays for the services of public sector employees that it benefits from, while allowing the cost of past employees (which was not fully paid for by previous generations) to be spread over future generations as well through borrowing.

The (discounted present) value of public sector pension liabilities changes from year to year for a number of reasons – including changes to assumed longevity of existing members, changes to the discount rate used to value future payment streams, and because additional promises are made to current workers. Many of these do not actually reflect additional benefit accruing to the current generation – for example, changes to previously assumed longevity could more accurately be classed as ‘forecasting errors’. However, changes in the liabilities that reflect the fact that the government has made new pension promises to current employees in return for them working this year are akin to current spending and could be incorporated into the fiscal mandate.

The latest figures show that estimated public sector pension liabilities fell from £1,135 billion as of 31 March 2010 to £960 billion at 31 March 2011.<sup>a</sup> This decrease was driven by two main factors: an increase in the discount rate used to value the future stream of pension payments – from 1.8% to 2.9%<sup>b</sup> – and a decrease in the value of past accrued liabilities as a result of the decision, in Spending Review 2010, to index pensions in payment (and to deferred members) to growth in the consumer price index (CPI) rather than the retail price index (RPI). However, this decline was somewhat offset by new unfunded pension promises made to current public sector workers over that period, which amounted to £33.1 billion (or 2.2% of national income).<sup>a</sup>

In the same year, payments of public service pensions totalled £26.0 billion (1.8% of national income).<sup>c</sup> This suggests that the measure of current spending that the current generation would need to cover in order to finance the spending from which it benefits might be £7.1 billion<sup>d</sup> (or 0.5% of national income) higher than the £652.7 billion of traditionally defined current spending by the public sector in 2010–11.<sup>e</sup> The OBR’s latest forecasts suggest that the government is on course to achieve a structural current budget surplus of 0.8% of national income by 2017–18.<sup>f</sup> Therefore, if the cost of new pension promises (net of pensions paid) in 2017–18 were equivalent to what they were in 2010–11 (which they might not be – for example, because the reduced size of the public sector workforce should reduce the accrual of new public service pension liabilities), the currently forecast surplus would be reduced from 0.8% of national income to 0.3% of national income (and the fiscal mandate would still be met).

<sup>a</sup> Note 27, pp. 159–164 of HM Treasury, *Whole of Government Accounts 2010–11*, 2012 ([http://www.hm-treasury.gov.uk/psr\\_government\\_accounts.htm](http://www.hm-treasury.gov.uk/psr_government_accounts.htm)).

<sup>b</sup> The present value of public sector pension liabilities is calculated using a discount rate based on the yield on high quality corporate bonds. This rose from 1.8% (in excess of RPI) on 31 March 2010 to 2.9% (in excess of CPI) on 31 March 2011. Source: paragraph 3.67 of HM Treasury, *Whole of Government Accounts 2010–11*.

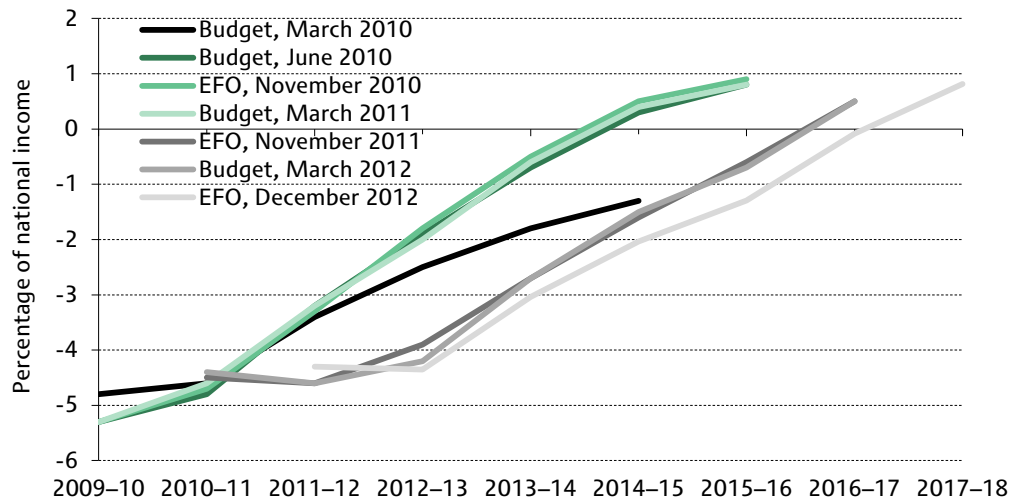
<sup>c</sup> Table D.1 of HM Treasury, *Public Expenditure Statistical Analyses 2012* ([http://www.hm-treasury.gov.uk/d/pesa\\_complete\\_2012.pdf](http://www.hm-treasury.gov.uk/d/pesa_complete_2012.pdf)).

<sup>d</sup> Calculated as £33.1 billion less £26.0 billion.

<sup>e</sup> Calculated as public sector current expenditure plus public sector depreciation (ONS series JW2Q and JW2S).

<sup>f</sup> The OBR’s headline forecast for the structural current budget deficit in 2017–18 is 0.9% of national income; excluding the impact of financial reclassifications, this figure is 0.8%.

Figure 4.5. Historic forecasts for the structural current budget



Notes: EFO stands for *Economic and Fiscal Outlook* – the publication produced by the OBR describing its latest official economic and public finances forecasts, which is released alongside each Budget and Autumn Statement. The December 2012 figures shown exclude the impact of reclassifying on the public balance sheet Northern Rock Asset Management and Bradford & Bingley, as well as the financial transactions relating to the Asset Purchase Facility.

Source: Table C2 of HM Treasury, *Budget: March 2010*, HC451. Table C1 of HM Treasury, *Budget: June 2010*, HC 61. Table 4.23 of Office for Budget Responsibility, *Economic and Fiscal Outlook: November 2010*, Cm 7979. Table 4.23 of Office for Budget Responsibility, *Economic and Fiscal Outlook: March 2011*, Cm 8036. Table 4.27 of Office for Budget Responsibility, *Economic and Fiscal Outlook: November 2011*, Cm 8218. Table 4.29 of Office for Budget Responsibility, *Economic and Fiscal Outlook: March 2012*, Cm 8303. Authors' calculations using chart 5.1 of OBR, *Economic and Fiscal Outlook: December 2012*, Cm 8481. (Budgets available at <http://hm-treasury.gov.uk/> and EFOs available at <http://budgetresponsibility.independent.gov.uk/>.)

The extensions to the length of the consolidation have come in response to additional adverse economic news that has caused the OBR to increase its estimate of the permanent damage that was done to the UK economy by the financial crisis and recession. As discussed in Chapter 5, this worse economic news has increased the apparent size of the hole in the public finances. In these circumstances, taking longer to deal with a larger fiscal problem might be entirely appropriate and it might well be better to plan to continue to cut public spending in the next parliament than to attempt even greater spending cuts in this parliament (see Chapter 7).

That the Chancellor had the flexibility to extend the timescale for dealing with the fiscal problems in the light of additional adverse economic news is arguably a strength of the fiscal framework. But one could imagine other circumstances in which the OBR had not changed its view on the size of the economic damage over the last two years. If the size of the problem had stayed the same but the Chancellor had continually decided to delay the point at which he would deal with it, this might have justifiably led to concern that he was inappropriately taking advantage of the flexibility afforded by his fiscal mandate.

Unfortunately, this problem is not ameliorated by the existence of the OBR because it is constrained to assessing compliance only with the *letter* of the mandate. In particular, were we in a situation where the economic damage remained the same size (or even got smaller) but the Chancellor continued to delay dealing with it, the OBR would nonetheless continue to confirm that he was complying with the mandate. Of course, there would not (and should not) be anything to stop it pointing out that public sector net



borrowing had been revised upwards as a direct result of a policy response rather than due to a worsening underlying situation.

The size of this problem could be addressed by – at some point – shortening the horizon over which the mandate must be met. When the cyclically-adjusted current budget has moved closer to balance – that is, we are nearer to where we want to get to – it might be sensible to shorten the length of time allowed by the mandate to finish closing the gap. Similarly, if another large, permanent adverse shock were to hit the UK economy, we might want to lengthen the horizon. However, such adjustments to the length of the horizon could still appear opaque to the general public and so would not eliminate the problem. Independent commentators outside the OBR would need to continue to monitor whether inappropriate use was being made of the flexibility provided by the horizon over which the mandate has to be met.

## **Critique of the supplementary target**

Although, as discussed above, the fiscal mandate is relatively well designed, it is not sufficient on its own to ensure long-term fiscal sustainability. It does not constrain the total level of borrowing in any year and therefore it does not constrain how much debt is accumulated in total. This is because it does not limit the amount the government can (in theory) borrow each year. As a result, a government could adhere to the mandate, and still be on a path towards increasing and unsustainable debt levels. Therefore, a secondary rule constraining the level of overall public indebtedness is also required – both to ensure financial sustainability and potentially also on the grounds of fairness to future generations. The supplementary target plays this role within the current fiscal architecture.

### ***Advantages of the supplementary target***

The supplementary target has the advantage of being easy to measure, clear and transparent. It will be possible to look back and assess whether the target was met or missed, although we will have to wait until after September 2016.

### ***Disadvantages of the supplementary target***

However, the supplementary target is a very crude tool for ensuring long-run fiscal sustainability as it does not actually constrain the public finances to be on a sustainable long-run path. Debt could fall between 2014–15 and 2015–16 and yet still be set to increase thereafter. It would be preferable to have a rule phrased in terms of the path for long-run indebtedness, rather than one that describes only a tiny, fixed segment of that path.

A second problem is that the supplementary target relates to the National Accounts measure of public sector net debt, which does not cover all forms of liabilities that are racked up by the government and passed on to future generations.

### ***Comparing the supplementary target and the EU's debt rule***

The EU's debt ceiling is different from the Chancellor's supplementary target, in that it imposes a permanent cap on the level of indebtedness (rather than a target for a small portion of the path of future debt) and sets out how quickly debt should be returned below the threshold if it is breached. This type of rule has considerable advantages – in terms of ensuring long-run fiscal sustainability – over the supplementary target.

The next section discusses some possible replacements for the supplementary target, including a debt ceiling along the lines of that imposed by the Stability and Growth Pact.

## 4.6 A better debt rule?

What would a better debt rule look like? At what point does debt become ‘unsustainable’?

There are many possible definitions of sustainability but, as the OBR states, ‘most are built on the concept of solvency – the ability of the government to meet its future obligations’.<sup>21</sup> In this section, we discuss three options for a second fiscal target, each of which is grounded in an assessment of the sustainability of the UK’s long-term public finance position.

### Option 1: Solvency criterion

In theory, for a government to be solvent, it must be able – over an infinite time horizon – to raise sufficient revenue to cover all its non-debt-interest spending and also to service and eventually pay off its outstanding debt. Satisfying this ‘intertemporal budget constraint’ takes into account all debt accrued to date and all future spending and revenue streams that the government has. Each year in its *Fiscal Sustainability Report*, the OBR assesses the government’s intertemporal budget constraint and publishes an estimate of the ‘intertemporal budget gap’ – that is, the immediate and permanent increase in taxes or cut in spending as a share of national income that would be required for the government to satisfy the constraint. The European Commission also calculates a similar figure for each country in the European Union, which it refers to as the S2 indicator.<sup>22</sup>

One possibility would be to impose a second fiscal rule that required the government to comply with this intertemporal budget constraint. The OBR’s estimate in July 2012 was that the UK’s intertemporal budget gap currently stands at 2.6% of national income from 2017–18 onwards – in other words, tax increases or spending cuts amounting to around £40 billion in today’s terms in every year from 2017–18 onwards would be required to meet the solvency condition in such a way that the fiscal tightening is smoothed out over all future years.<sup>23</sup> However, this figure is sensitive to a range of assumptions that are required to calculate it – for example, assumed future population changes and economic growth. (The European Commission’s latest estimate is a gap of 5.2% of national income. This is higher than the OBR’s figure largely because it does not take into account the spending cuts that have already been announced for the period 2015–16 to 2017–18, which are included in the OBR’s assessment.<sup>24</sup>)

A sustainability rule could be envisaged that required a government to implement a fiscal tightening sufficient to comply with this intertemporal budget constraint at some reasonable time horizon – with the OBR reporting each year on how large a gap (if any) there was. How long the horizon for implementing any required tightening should be

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<sup>21</sup> Paragraph 5.3 of Office for Budget Responsibility, *Fiscal Sustainability Report: July 2012* (<http://budgetresponsibility.independent.gov.uk/fiscal-sustainability-report-july-2012/>).

<sup>22</sup> European Commission, *Fiscal Sustainability Report 2012*, 2012 ([http://ec.europa.eu/economy\\_finance/publications/european\\_economy/2012/fiscal-sustainability-report\\_en.htm](http://ec.europa.eu/economy_finance/publications/european_economy/2012/fiscal-sustainability-report_en.htm)).

<sup>23</sup> Paragraph 5.7 of Office for Budget Responsibility, *Fiscal Sustainability Report: July 2012* (<http://budgetresponsibility.independent.gov.uk/fiscal-sustainability-report-july-2012/>).

<sup>24</sup> Table 3.5 of European Commission, *Fiscal Sustainability Report 2012* ([http://ec.europa.eu/economy\\_finance/publications/european\\_economy/2012/fiscal-sustainability-report\\_en.htm](http://ec.europa.eu/economy_finance/publications/european_economy/2012/fiscal-sustainability-report_en.htm)).



would likely have to depend on the size of the hole that needed to be filled; similar considerations to those discussed above for the fiscal mandate would apply.

The advantage of using this type of measure to judge debt sustainability – rather than more commonly-used debt ceilings, which we discuss below – is that it factors in predictable future spending and revenue pressures, including some government liabilities that are not included in National Accounts measures of public indebtedness in the UK, such as the commitment to pay (unfunded) pensions to public sector workers and to make contractual payments to Private Finance Initiative (PFI) providers. Meeting the intertemporal budget constraint will be harder for countries that face growing pressure on public spending (as the UK faces as the ageing population increases demand for public spending on the NHS, state pensions and long-term care) or declining revenue streams.<sup>25</sup> All of this can be factored into the solvency condition.

However, while judging sustainability using this solvency criterion has some theoretical appeal, it suffers from practical difficulties. First, depending on the time profiles of a country's revenue and spending, complying with the solvency criterion could nonetheless imply debt being at a very high level for a long period. If investors are not as far-sighted, they may not be willing to accept this without charging higher interest rates. Second, because judging the solvency criterion requires adding up revenue and spending streams over an infinite horizon, whether or not a country is judged to meet it will be sensitive to the assumptions used – including the projected size and structure of the population, the rate of economic growth, and the rate of productivity growth in public service provision.<sup>26</sup> For these reasons, it would be hard to implement a sufficiently credible solvency rule.

## Option 2: Debt ceiling

A simpler and more transparent rule might instead focus simply on the level of public debt in the short to medium term. Such a rule would be cruder in many ways than the solvency criterion but would have the advantage of being more easily judged. The ceiling would need to be set at a level that would not – under plausible economic circumstances – impose what was judged to be an unacceptable burden on future generations. The OBR's latest official forecasts suggest that debt will peak as a share of national income in 2016–17 at 80.7%. A debt ceiling could either be set at or above this level or, as is more likely, if this level were deemed to be above the sensible long-run debt ceiling for the UK, a fiscal rule could be designed that imposed a lower debt target in the medium run, with a requirement that short- and medium-term fiscal policy be consistent with reducing debt towards that target at a 'sensible' pace.

A number of other countries operate debt ceilings. As mentioned in Section 4.3, this includes EU countries (although less than half of the EU countries actually currently have debt below the 60% ceiling). A 2009 IMF survey of fiscal rules found that, overall, around

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<sup>25</sup> The UK faces downward pressure on some revenue streams – for example, greener transportation is likely to reduce revenues raised from fuel duties and the depletion of North Sea oil and gas reserves will diminish revenues from that source. However, these revenue changes are not included in the OBR's modelling when it estimates the intertemporal budget gap. See chapter 4 of Office for Budget Responsibility, *Fiscal Sustainability Report: July 2012* (<http://budgetresponsibility.independent.gov.uk/fiscal-sustainability-report-july-2012/>).

<sup>26</sup> Sensitivity to the assumed rate of growth of productivity in the health sector is demonstrated in annex B of Office for Budget Responsibility, *Fiscal Sustainability Report: July 2012* (<http://budgetresponsibility.independent.gov.uk/fiscal-sustainability-report-july-2012/>).

80% of advanced economies (including Australia, Canada and New Zealand) operated some form of debt ceiling.<sup>27</sup>

### *The height of the debt ceiling*

Choosing where to set a debt ceiling is not straightforward. Previous studies have used data on levels of government debt and economic growth rates from a range of countries over time to attempt to ascertain at what point increases in debt start adversely to affect growth.<sup>28</sup> These studies have typically concluded that there is a non-linear relationship between debt levels and growth, with higher debt resulting in a particularly strong drag on growth above a threshold of between 80% and 100% of national income. However, there are a number of weaknesses in the methodologies employed in these studies and exactly where the threshold lies – if indeed there is a threshold effect of this kind – for any one country at any particular point in time will depend on a wide range of country-specific factors.

Mr Brown's sustainable investment rule required that public sector net debt should not exceed 40% of national income. It seems unlikely that 40% was the level at which a sovereign debt crisis would have been triggered – as was fairly clearly demonstrated by the ability of the UK government to nearly double the level of public debt over the last four years. In practice, the 40% ceiling really reflected a commitment by the previous Labour government that debt would remain below the level that it was bequeathed by the last Conservative government.

In setting the ceiling, to facilitate tax smoothing, policymakers could take into account the type of future pressures mentioned above – higher age-related spending from an ageing population, lower tax revenues coming from the exploitation of finite natural resources, and downwards pressure on some other revenue streams (such as fuel duties). They might also want to factor in some scope to absorb future shocks. The financial crisis and recession of 2008 and 2009 amply demonstrated the need for countries to have the scope to increase debt levels in response to adverse shocks. Over only a five-year period – between March 2008 and March 2013 – public sector net debt is expected to increase by about 40% of national income in the UK. Had the UK government not been in a position to raise this additional financing on the open market, we could have been forced by the markets into implementing the fiscal consolidation package sooner. That the UK has been able to continue borrowing on the open market was no doubt aided by the fact that the UK entered the crisis with a mid-table level of debt by international standards.<sup>29</sup> Looking forward, even if one were to judge that debt at 80% of national income were sustainable year-on-year, one might worry that having debt at that level might make accommodating another large, adverse shock difficult.

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<sup>27</sup> International Monetary Fund, *Fiscal Rules: Anchoring Expectations for Sustainable Public Finances*, 2009 (<http://www.imf.org/external/np/pp/eng/2009/121609.pdf>).

<sup>28</sup> M. Kumar and J. Woo, 'Public debt and growth', IMF, Working Paper 10/174, 2010 (<http://www.imf.org/external/pubs/ft/wp/2010/wp10174.pdf>). S. Cecchetti, M. Mohanty and F. Zampolli, 'The real effects of debt', Bank for International Settlements, Working Paper 352, 2011 (<http://www.bis.org/publ/work352.htm>). C. Checherita-Westphal, and P. Rother, 'The impact of high government debt on economic growth and its channels: an empirical investigation for the euro area', *European Economic Review*, 2012, 56, 1392–405.

<sup>29</sup> For a comparison of UK debt levels and those of other industrialised countries prior to the financial crisis, see table 2.2 of R. Crawford, C. Emmerson and G. Tetlow, 'The new fiscal framework: an assessment', in M. Brewer, C. Emmerson and H. Miller (eds), *The IFS Green Budget: February 2011*, IFS Commentary 117, 2011 (<http://www.ifs.org.uk/budgets/gb2011/11chap2.pdf>).

A further consideration when setting the ceiling should be liabilities that are not included in public sector net debt. Details of these can be found in the Whole of Government Accounts;<sup>30</sup> they include provisions, which are future payments that are likely to occur but are of uncertain value, and contingent liabilities, which are future liabilities that have only a remote likelihood of occurring. The former includes nuclear decommissioning and clinical negligence claims assessed to have a greater-than-evens chance of materialising. The Treasury estimates that (as of March 2011) the present value of these future payment streams amounts to £60.9 billion for nuclear decommissioning and £17.5 billion for clinical negligence claims. The larger these values are assessed to be – and, in the case of contingent liabilities, the greater the likelihood with which they are deemed to materialise – the lower the ceiling on public sector net debt that we will want to aim for.

Exactly where the ceiling should be set will also depend on the measure of debt that is targeted. Mr Brown's sustainable investment rule and Mr Osborne's supplementary target both relate to public sector net debt. Meanwhile, the European Union's Stability and Growth Pact, as discussed in Section 4.3, imposes a ceiling (of 60% of national income) on general government debt, which is a different measure of debt. In terms of the choice between these two measures, there are clear advantages to using public sector net debt (which Mr Brown chose to target) rather than general government gross debt (which the EU focuses on) since the latter could easily be inappropriately manipulated by selling off liquid financial assets or by moving debt from general government to public corporations.

There are advantages – in terms of transparency and predictability – of policymakers choosing to target a standard National Accounts measure of debt. The disadvantage of using such a measure is that it is more difficult to take account of liabilities that do not score in such measures, such as PFI and public service pension commitments. Policymakers could still take these into account when deciding exactly where to set the debt ceiling. But this would be rather opaque, would probably not fully constrain these other elements of indebtedness and could still create an incentive for governments to seek to fund spending in ways that are not counted within public sector net debt.

### *Reducing debt towards the target level*

The optimal level of the debt ceiling for the UK might well be below the current level of debt. If this is the case, then any fiscal rule that imposed a debt ceiling would also need to include provision for how quickly the level of debt should decline towards the target – just as the EU fiscal framework specifies how quickly debt should move back towards the target level if this is breached. Deciding on the speed of this convergence would require a trade-off between creating greater scope for absorbing future shocks (and possibly boosting the credibility of the rule) by aiming to reduce debt towards the target more quickly, and taking account of the strength of the economy and its capacity to absorb a faster debt reduction.

As an example, if it were decided that Mr Brown's ceiling on public sector net debt at 40% of national income remained an appropriate one to aim for, policy would have to be set so that we remained on course to return to below that level by some appropriate date. Our calculations suggest that the current planned fiscal tightening will be sufficient to return debt below this level by 2032–33, as shown in Chapter 5). If it were decided that the

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<sup>30</sup> HM Treasury, *Whole of Government Accounts: 2010–11*, HC 687, 2012 ([http://www.hm-treasury.gov.uk/d/whole\\_of\\_government\\_accounts\\_31-03-2011.pdf](http://www.hm-treasury.gov.uk/d/whole_of_government_accounts_31-03-2011.pdf)).

target should be approached more quickly, the debt rule would impose more stringent conditions on the amount of consolidation required.

### **Summary**

A second fiscal rule phrased in terms of a debt ceiling would have considerable advantages over the existing supplementary target – not least because it would be operable beyond 2015–16 and would impose a permanent, rather than temporary, constraint on debt levels. It would be a somewhat cruder indicator of long-run fiscal sustainability than the solvency measure discussed above but it would be easier to judge, more transparent and possibly more credible to investors – advantages that probably outweigh that disadvantage.

However, a debt ceiling would not completely negate the problems identified above for the solvency condition; in particular, in deciding what an appropriate debt target should be and how quickly debt should fall to that level, policymakers would still have to make a (less explicit but no less important) judgement about how spending demands and revenue-raising capacity are likely to evolve in future. A further disadvantage of a debt target compared with a solvency condition is that it would be harder to take account of liabilities that are not counted within National Accounts measures of debt.

### **Option 3: Sustainable commitments rule**

Rather than targeting the stock of accumulated debt, an alternative way of constraining the burden that is imposed on future taxpayers would be to limit the amount of future tax revenues that are precommitted (in each future year) to meeting the liabilities accrued by previous governments. That is, set a target that no more than some particular percentage of future national income is committed to meeting debt servicing obligations and any other liabilities accrued by the current and previous governments. Such a rule would have a number of advantages over a debt ceiling:

1. **Allowing flexibility to borrow more when interest rates are low:** Focusing on the cost of servicing debt, rather than on the debt stock itself, would have the advantage of directly targeting the burden of debt (i.e. the cost of servicing it) rather than the headline debt. It would allow governments to borrow more when interest rates were low, while constraining them more when interest rates were high. This seems a desirable feature since, for example, it would encourage (and allow) governments to optimise the point at which they invest in infrastructure by borrowing money when interest rates are low and not when they are high. It would also reward governments that were able to bring about lower interest rates (for example, by choosing to maintain and, where possible, improve the credibility of the operation of monetary policy) – such governments would be able to borrow more (for example, to increase public sector net investment) without breaching the rule.
2. **Broader definition of future liabilities:** Focusing on the stream of payments that we are committing future taxpayers to making also allows us to incorporate other public sector liabilities that are not scored in public sector net debt more easily within the same rule. For example, future public service pension payments could be incorporated in this way,<sup>31</sup> as could commitments to make payments to PFI providers in future.

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<sup>31</sup> Although, as discussed in Section 4.5, it might seem most consistent to incorporate new pension commitments within the fiscal mandate (treating these in the same way as public sector workers' current pay,

### *Designing a sustainable commitments rule*

There would, of course, be some difficulties in designing such a rule. First, one would need to decide exactly which liabilities should be included. We mentioned PFI payments and unfunded public sector pensions above. Both of these are expenditures that future governments will be contractually obliged to make – although it might be possible for governments to renegotiate these or in some other way reduce the payments that have to be made. One can imagine other liabilities that future governments are more or less firmly committed to making. All the main UK political parties are committed to state pensions and the NHS and spending on these items will most likely continue to dwarf the cost of public service pensions or payments to PFI providers. But the distinction is that future generations can choose at what level (and cost) things such as the state pension and spending on the NHS should be set, whereas the current generation is contractually committing future generations to honouring public service pensions and PFI deals.

Second, having decided on the coverage, one would need to decide what ceiling to set and whether this should be constant over time or whether it should increase or decline. As a starting point, one could examine how large the included elements of spending have been and currently are in the UK. Figure 4.6 combines the latest estimates for total future public spending commitments on debt interest payments, public service pensions and payments to PFI providers. The total of these payments is estimated to have been 5.6% of national income in 2011–12, falling to 4.2% by 2030–31. This is significantly higher than the level that the same commitments were forecast to be before the crisis (as shown by the dotted black line).

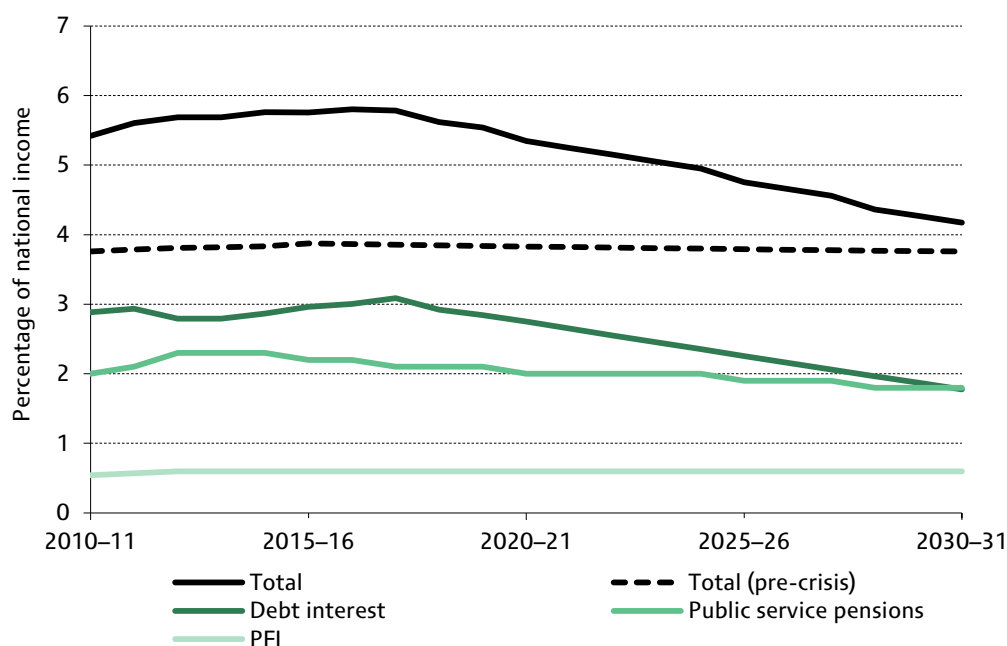
There are a number of other factors that might potentially need to be considered when setting a ceiling:

- First, one might want to take into consideration what risks there are to future spending levels. For example, debt interest payments would increase if interest rates were higher than assumed in the projections in Figure 4.6. Therefore, just as with setting a debt ceiling, a ceiling on the flow of future commitments would need to consider the risks around the central projection.
- Second, one could decide that it would be appropriate for the ceiling to be lower for years when the taxable capacity of the country was expected to be lower – for example, due to having a relatively larger older population or not having tax-rich resources such as North Sea oil and gas. This would have required a lower level of government borrowing during the 1980s and 1990s than would otherwise have been the case in order to ensure that the commitments made for periods after the baby boomers had retired and the North Sea oil and gas fields had been depleted were sufficiently low.
- Third, as with a debt ceiling, the greater the value of contingent liabilities, or the likelihood that they would materialise, the lower the appropriate ceiling on the commitments covered by any sustainable commitments rule.

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and also to exclude the pension payments when they are made), rather than within a debt sustainability target, there are disadvantages from deviating from the National Accounts measure of the current budget when assessing compliance with the fiscal mandate. Therefore, an alternative option – which would also avoid the problematic sensitivity of the current estimated value of these payments to the choice of discount rate – would be to include the flow of payments within a sustainable commitments rule instead.

Figure 4.6. A possible ‘sustainable commitments rule’: some projected future public spending obligations



Note: Figures shown for the Private Finance Initiative (PFI) are for total unitary payments on PFI contracts signed up to and including 31 March 2012.

Sources: Historic figures for public sector net debt interest payments are calculated using ONS series JW2L and JW2P. Forecasts for net debt interest spending and public sector net debt are authors' calculations based on OBR, *Economic and Fiscal Outlook*: December 2012

(<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>). Figures for public sector pension spending are from chart A.1 of Office for Budget Responsibility, *Fiscal Sustainability Report: July 2012* (<http://budgetresponsibility.independent.gov.uk/fiscal-sustainability-report-july-2012/>).

Figures for PFI payments are from *PFI current projects list: March 2012*, downloaded from HM Treasury website on 18 December 2012 ([http://www.hm-treasury.gov.uk/d/pfi\\_current\\_projects\\_list\\_march\\_2012.xls](http://www.hm-treasury.gov.uk/d/pfi_current_projects_list_march_2012.xls)).

We assume that PFI commitments remain constant at their peak (2013–14) level. Debt interest projections beyond 2017–18 are calculated on the same basis as the debt figures shown in Figure 5.11; they assume that, over the medium term, structural revenues and non-debt-interest spending stabilise as a share of national income at the level for 2017–18 indicated by the OBR at the time of Autumn Statement 2012. The figures also assume that the effective interest rate on government debt remains at its 2017–18 level. Pre-crisis estimates are taken from the ‘Budget 2007’ line in figure 5.9 of R. Chote, C. Emmerson and G. Tetlow, ‘The fiscal rules and policy framework’, in R. Chote, C. Emmerson, D. Miles and J. Shaw (eds), *The IFS Green Budget: January 2009*, IFS Commentary 107, 2009 (<http://www.ifs.org.uk/budgets/gb2009/09chap5.pdf>).

The idea of a ‘sustainable commitments rule’ would need further investigation before being put forward as a firm policy proposal. But it would seem to have the strengths of Mr Brown’s sustainable investment rule objective of targeting public sector net debt (rather than Mr Osborne’s rule, which, like Labour’s Fiscal Responsibility Act, targeted the change in debt between two years), along with the additional advantages of allowing higher government borrowing when such finance was cheaper and of taking into account a more comprehensive set of commitments affecting future taxpayers. Which commitments should be encompassed by such a rule would need to be considered carefully, as would the choice over the appropriate level (or path) of the ceiling on these commitments. Were the government to move towards such a target, official forecasts for public sector net debt as well as other measures of the state of the public finances such as ‘net worth’ and the ‘primary balance’ should, nonetheless, continue to be published.



## Summary

Since the fiscal mandate is not sufficient on its own to ensure long-run fiscal sustainability, some secondary rule is required to constrain overall public sector indebtedness. The supplementary target is poorly designed to serve this purpose and the government should consult on a suitable replacement.

In theory, what ultimately matters is the solvency of the UK. Assessing the UK's intertemporal budget constraint takes into account all accrued debts and all future revenues and spending commitments. However, while such a forward-looking rule has attractions, imposing a solvency criterion judged over an infinite horizon poses a number of practical problems and may not have sufficient credibility with potential creditors. Therefore, there are attractions of adopting a cruder target for indebtedness. However, one would nonetheless like to take into account future commitments and pressures on revenues and spending when setting such a rule.

One candidate rule is a debt ceiling, along the lines of Mr Brown's sustainable investment rule or the EU's debt rule. Such a rule would be similar to a solvency criterion but would be judged over a finite horizon and might consider a narrower range of liabilities and impose a non-zero target for this measure of debt. In deciding what measure of debt to use and what level to set the ceiling at, the government should take into account all accrued liabilities and an assessment of the future risks to the UK's public finances.

An alternative candidate would be a 'sustainable commitments rule', which would impose a limit on the annual flow of future payments that can be precommitted. Relative to a simple debt ceiling, this would enable more borrowing when the rate of interest was lower (and vice versa). Exactly what level the limit was set at should depend on what payments were included and, as above, what other pressures there were on future spending and revenues. Whether the advantages of such a rule would outweigh its novelty relative to a simple target for a National Accounts measure of debt is something that the government should consider and consult on.

## 4.7 Conclusions

Mr Osborne has committed to meeting two fiscal targets – the fiscal mandate and the supplementary target. The fiscal mandate has several desirable properties that make it well placed to guide the government's borrowing while allowing the flexibility to borrow to address short-term economic weakness and to adjust gradually to the large, adverse shock to the UK economy that occurred in 2008. Indeed, the fiscal mandate is very similar to the 'forward-looking golden rule' that we advocated in previous Green Budgets, starting in 2005. The flexibility allowed by this rule has been made possible, in large part, by the welcome establishment of the Office for Budget Responsibility, which now produces the UK's official economic and fiscal forecasts, free from political pressure – thus reducing the risk that market players feel that the official forecasts for the UK's public finances reflect politically-motivated wishful thinking in the underlying assumptions.

However, the fiscal mandate on its own is not sufficient to ensure that the public finances are on a sustainable path in the long run. It therefore needs to be complemented by an additional rule that sets out an ambition for and constrains the path of public indebtedness in the longer run. The supplementary target is poorly designed to achieve

this objective, since it refers only to a tiny segment of the path for future public debt. There are a number of other possible rules that could replace the supplementary target.

One option would be a debt ceiling, along the lines of Mr Brown's sustainable investment rule or of the debt ceiling included in the European Union's Stability and Growth Pact (with the measure of debt targeted by Mr Brown being broader, and therefore better, than that targeted by the SGP). The disadvantage of such a rule is that it would be hard to incorporate within it government liabilities that are not scored in National Accounts measures of debt.

Another alternative the government could consider is a 'sustainable commitments rule'. Instead of focusing on the total stock of debt, this rule would constrain the level of future flows of precommitted spending. Such a rule would have the advantage of allowing us to incorporate a range of liabilities that do not score in National Accounts measures of debt – such as unfunded public sector pension liabilities – without being sensitive to the precise choice of discount rate used in valuing these liabilities. To our knowledge, no other countries currently operate a rule of this type and so a number of practical issues would need to be considered in deciding how to implement such a rule.

We have looked in detail at the current fiscal rules and a range of alternatives but no rule will be perfect. Therefore, probably the most important element of any fiscal framework is an absolute commitment to transparency, which allows markets and commentators to judge fiscal sustainability. Government should use the wealth of information produced by the OBR in its annual *Fiscal Sustainability Report* in setting policy, as should external commentators when considering and judging the sustainability of those policies.



## 5. Public finances: outlook and risks

Carl Emmerson, Soumaya Keynes and Gemma Tetlow (IFS)

### Summary

- Since 2008, the official forecast for the trend level of UK economic output has been revised down significantly. This, combined with a shift in the composition of the UK economy away from more tax-rich sectors, has resulted in a worsening of the public finances. We calculate that, based on official estimates, this worsening amounts to an estimated 8.2% of national income.
- The package of tax increases and spending cuts announced since the March 2008 Budget is estimated to reduce public sector borrowing by 9.2% of national income by 2017–18: 15% from tax increases and 85% from spending cuts. By the end of 2012–13, 79% of the planned tax increases and 67% of the planned cuts to investment spending will have been implemented, while just 32% of the planned cuts to benefit spending and 21% of the cuts to day-to-day spending on public services will have been delivered.
- A significant part of the downgrade in official forecasts has come in the last two years. In response, further spending cuts have been pencilled in for after 2014–15 – the end of the current spending review period – to offset fully the increase in forecast structural borrowing: but not until 2017–18. A worse economic outlook since November 2010 has pushed up borrowing forecasts for 2014–15 by £65 billion. Mr Osborne has chosen to offset only £1 billion of this. In this sense, he is running looser fiscal policy over this parliament than he intended back in 2010.
- There is great uncertainty surrounding the evolution of the UK economy and public finances. The year after the last six general elections have seen the announcement of net tax increases averaging more than £7 billion a year. Given the current fiscal circumstances, substantial tax rises in 2015 cannot be ruled out.
- Our baseline public finance forecast shows a more than 50:50 chance that (on a like-for-like basis) borrowing this year will be higher than it was in 2011–12. Economically more important is the medium-term forecast, where our projection is similar to the OBR's, although in the next three years we assume lower underspends by Whitehall departments, and hence slightly higher spending overall.
- Under the Oxford Economics central forecast, we project that, as a result of higher trend output, the public finances would be in a stronger position by 2017–18 than forecast by the OBR. In this scenario, the fiscal consolidation plan could be reduced from 9.2% to 8.0% of national income without increasing planned borrowing. The picture would be even better under the more optimistic Oxford Economics scenario.
- On the downside, if a scenario similar to the more pessimistic Oxford Economics one were to materialise, borrowing would remain high for much longer. Public sector net debt would increase sharply to above 100% of national income, leaving the UK even less well prepared to deal with future public finance challenges such as those arising from the ageing of the population and from any future recession.

## 5.1 Introduction

Since 2008, the UK has experienced a large economic shock that has not only temporarily affected our level of economic output but also changed most forecasters' views about the potential strength of the UK economy for evermore. As a result, we have experienced high levels of public borrowing in recent years and are only partway through a large planned fiscal consolidation designed to get the UK's public finances back to a more sustainable position.

In Section 5.2, we outline how the outlook for the economy and public finances has deteriorated over recent years, according to the latest official forecasts from the Office for Budget Responsibility (OBR). Section 5.3 then describes what policy measures have been announced since 2008 to deal with these problems and how these are expected to affect the overall levels of tax receipts, public spending, borrowing and debt in future.

The analysis in both Sections 5.2 and 5.3 is based on official forecasts for borrowing made since the March 2008 Budget (our pre-crisis baseline) and official estimates of the direct impact of policy measures on borrowing that have been announced since then. Within this framework, we can look at the overall development of the public finances over the last few years and how the fiscal problems and fiscal action have developed.

This analysis assumes that the official estimates of the impact of fiscal policy measures on borrowing are correct. Of course, there are uncertainties around any estimates of the impact of policy changes on economic growth and therefore on overall borrowing. It is possible that some of the weaker outlook for the economy that has occurred since 2008 has been caused by a detrimental impact of fiscal consolidation measures that is not captured in the official estimates of measures' impact. If this were the case, then both the size of the underlying problem facing the public finances that has materialised since the March 2008 Budget, and the impact that the fiscal consolidation package has had on reducing that problem, would be overstated in our calculations. Alternatively, the measures could have had a larger impact on reducing the deficit than implied by the official costings such that we understate both the size of the underlying problem and the size of the impact of fiscal consolidation – for example, if the measures have led to a bigger overall increase in labour supply than has been assumed in the costings or if monetary policy has been loosened in response and has offset any long-run impact of these measures on the UK economy.

If the official estimates of the impact of fiscal policy measures on borrowing are incorrect, this would change both the size of the apparent problem and the planned solution by the same amount. The estimated gap between the size of the problem and the measures taken would still be the correct size. However, it might nonetheless change one's view about the appropriateness of the action taken. We do not discuss this issue any further here.

What we do consider in Section 5.4 are some of the key risks surrounding the official forecast for the economy and public finances. This analysis highlights some of the factors that could lead to more or less fiscal consolidation (that is, tax and spending increases or cuts) ultimately being required to achieve the levels of borrowing that the OBR is currently forecasting in the longer term. We conclude in Section 5.5.

## 5.2 The disease

Prior to the financial crisis and associated recession, the March 2008 Budget forecast that, in 2012–13, government receipts would total £721 billion and public spending would be £744 billion; as a result, government borrowing was projected to be £23 billion. National income (or gross domestic product, GDP) was forecast to be £1,811 billion – implying that planned borrowing would equate to just 1.3% of national income. Therefore, at the time, it seemed that the 2008 plans would be fiscally sustainable – that is, maintaining borrowing at the level implied by the forecasts, over the medium term, would set public sector net debt on a declining path.<sup>1</sup>

Since 2008, we have had a huge downward shock to the economy followed by continuing downward revisions to projected levels of future national income, with the OBR now projecting 13.6% lower nominal GDP in 2012–13 than forecast in Budget 2008, as shown in Table 5.1. Lower GDP has depressed revenues – for example, from taxes on incomes, spending and profits – and increased pressure on spending, such as on working-age benefits. Combined with a lower level of GDP, these changes have led to tax receipts being reduced as a share of GDP and public spending taking up a much larger share of GDP. The importance of the lower level of GDP in explaining the higher proportion of spending in GDP is illustrated in Table 5.1, which shows that spending will be more than £40 billion less than projected – mostly as a result of discretionary spending cuts – but will still account for an additional 3.8 percentage points of GDP.

**Table 5.1. Official forecasts for 2012–13: Budget 2008 and Autumn Statement 2012 compared**

	<b>HMT Budget 2008</b>	<b>OBR Autumn Statement 2012</b>	<b>Difference (£bn)</b>	<b>Difference (%)</b>
<i>£ billion</i>				
Current receipts	721	593.8	–127.2	–17.6%
Total managed expenditure	744	702.3	–41.7	–5.6%
Public sector net borrowing	23	108.5	+85.5	+372%
National income (GDP)	1,811	1,564	–247	–13.6%
<i>% of GDP</i>				
Current receipts	39.8%	38.0%	n/a	–1.8ppt
Total managed expenditure	41.1%	44.9%	n/a	+3.8ppt
Public sector net borrowing	1.3%	6.9%	n/a	+5.6ppt

Note: 2012 Autumn Statement figures exclude the £28 billion of negative capital spending from Royal Mail Pension Fund.

Source: 2008 forecasts from HM Treasury, *Budget 2008*. 2012 estimates from Office for Budget Responsibility, *Economic and Fiscal Outlook: December 2012*.

In response to this much more grim outlook for the economy and the public finances, significant tax rises and spending cuts have been announced and implemented since the March 2008 Budget (as will be shown in Section 5.3). Despite this, as shown in Table 5.1, tax revenues are still forecast to be 18% lower in cash terms in 2012–13 than forecast at the time of the March 2008 Budget. Total public spending is expected to be 6% lower.

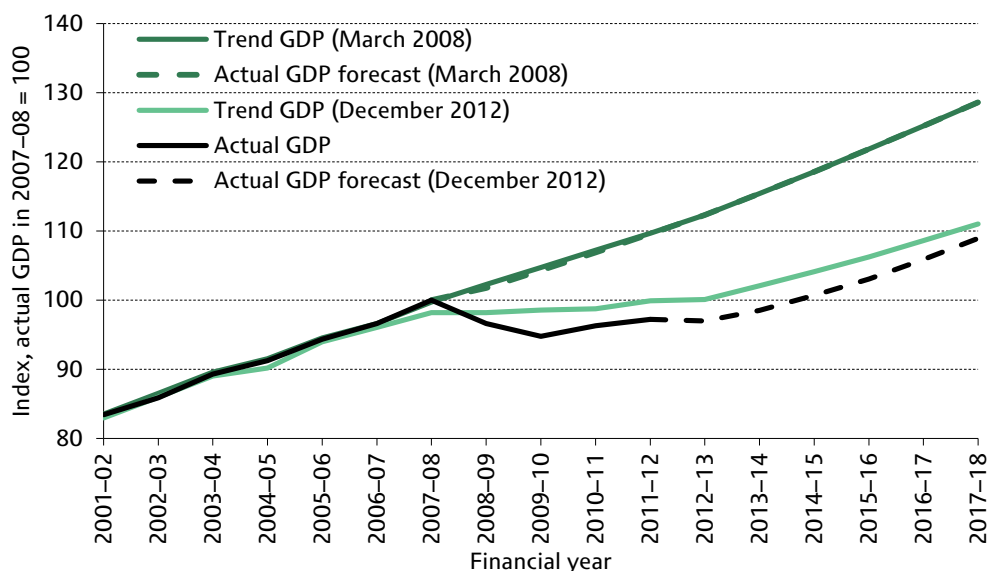
<sup>1</sup> Maintaining borrowing at 1.3% of national income would, under the assumption of 5% nominal growth in national income, lead to public sector net debt tending over time to 26% of national income.

Combining these changes to receipts and spending, public sector net borrowing is now forecast to be 6.9% of national income in 2012–13, which is £85 billion higher than projected at the time of the March 2008 Budget.

This increase in borrowing reflects both a temporary and a permanent problem. In this section, we briefly outline the size of the hole that has opened up in the public finances since 2008 – how this arose, what part of it is thought to be permanent, and what the outlook for borrowing and debt might have been if the current and the previous government had not announced any measures to deal with it.

Before the financial crisis and recession – at the time of the March 2008 Budget – the Treasury forecast that the UK economy would experience a short recession before returning to its trend level (that is, the level of output that can be sustained without causing inflationary pressure or rising unemployment). At that time, the Treasury's central forecast was that trend output would grow each year by 2¾% in real terms, although its forecasts for the public finances were based on a 'cautious' assumption of 2½%. The solid dark green line in Figure 5.1 shows the level of trend GDP (in real terms) and the dashed dark green line shows the level of actual GDP, as forecast by the Treasury in March 2008 – figures are expressed relative to the actual level of GDP in 2007–08, which is indexed to 100.

Figure 5.1. Forecast evolution of actual and trend national income (GDP)



Note: Historical figures for trend GDP as of December 2012 use the average of the OBR's Principal Component and Aggregate Composite methodologies for estimating the output gap.

Sources: Historical trend GDP figures as of December 2012 from chart 3.7 of T. Pybus, 'Estimating the UK's historical output gap', Office for Budget Responsibility, Working Paper 1, 2011. Historical trend GDP figures for March 2008 from HM Treasury, Public Finances Databank, December 2012. Out-turn figures for real GDP from Office for National Statistics, series ABMI. Forecasts for actual GDP as of March 2008 from HM Treasury, *Budget: March 2008*. Forecasts for actual GDP as of December 2012 from Office for Budget Responsibility, *Economic and Fiscal Outlook: December 2012*.

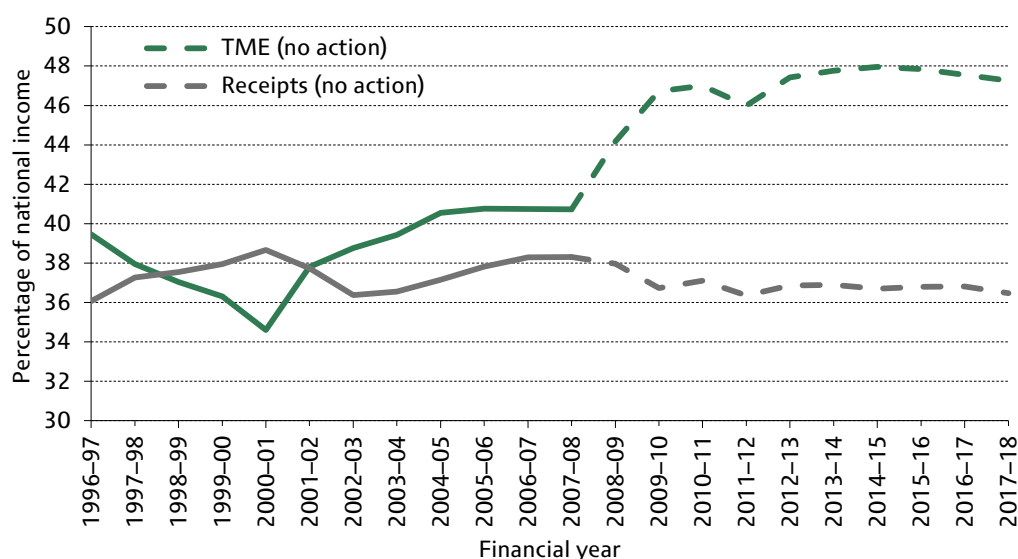
Since March 2008, the economy has of course performed a lot worse than the Treasury (and others) had been expecting and – as shown by the black line in Figure 5.1 – contracted by around 5% in real terms between 2007–08 and 2009–10. The OBR judges that little of this weak economic performance will be temporary. The latest official forecast for trend GDP, as shown by the light green line in Figure 5.1, suggests that the sustainable level of UK output will be permanently reduced by almost 14% a year – a

total of £214 billion in today's terms – compared with the Treasury's projections made in March 2008. The temporary component of weakened GDP is shown by the gap between the black line and the pale green line. That the dashed black line remains below the pale green line until 2017–18 illustrates the OBR's forecast that the UK economy will not return to its (permanently lower) trend level until at least 2017–18.

Tax receipts have been depressed as a share of national income as the crisis has had a disproportionately negative effect on relatively tax-rich activities – such as the profits of the financial sector. Spending as a share of national income has increased sharply. This is not only because of upwards pressure on spending arising from the recession but also because, prior to the crisis, plans for public service spending had already been set out in cash terms for 2008–09, 2009–10 and 2010–11. The latter means that the disappointing out-turn for national income has led to much higher spending on public services as a share of national income than intended pre-crisis.

The out-turns for public sector receipts and spending from 1996–97 to 2007–08 are shown in Figure 5.2. Also shown are projections for receipts and spending from 2008–09 onwards, after stripping out the estimated direct impact on the public finances of measures announced since the March 2008 Budget. This shows that, in 2007–08, the difference between spending and receipts (that is, the level of borrowing) was 2.4% of national income. In the absence of policy action, receipts would have fallen slightly as a share of national income while spending would have increased dramatically, so that by 2017–18 the difference would still have been 10.8% of national income.

Figure 5.2. Revenues and spending – without policy action

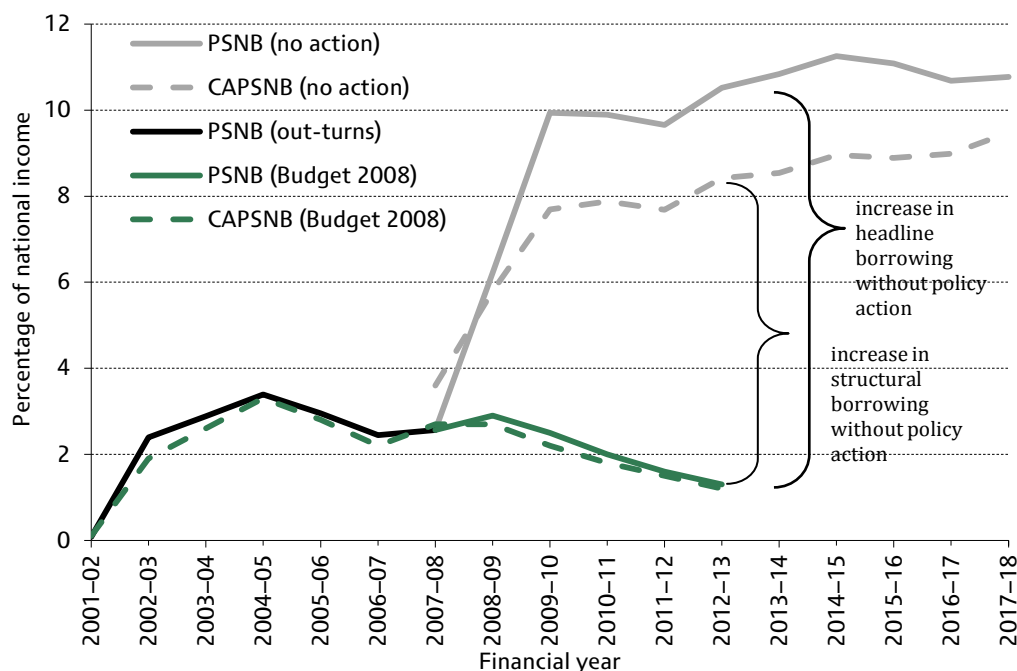


Notes: 'No action' ignores the direct impact of all fiscal policy measures that have been announced in Budgets, Pre-Budget Reports, Spending Reviews and Autumn Statements since Budget 2008. TME figures exclude the £28 billion of negative capital spending from Royal Mail Pension Fund in 2012–13.

Source: Out-turn figures for revenues and spending are from HM Treasury, Public Finances Databank, December 2012. Authors' calculations using all HM Treasury Budgets, Pre-Budget Reports and Autumn Statements between March 2008 and December 2012 (up to the March 2010 Budget available at [http://www.hm-treasury.gov.uk/budget\\_archive.htm](http://www.hm-treasury.gov.uk/budget_archive.htm); June 2010 Budget onwards available at <http://www.hm-treasury.gov.uk/budget.htm>; Autumn Statements available at [http://www.hm-treasury.gov.uk/as2012\\_index.htm](http://www.hm-treasury.gov.uk/as2012_index.htm)) and all OBR Economic and Fiscal Outlooks between June 2010 and December 2012 (all available at <http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>).

Official forecasts in March 2008 suggested that headline borrowing would fall from 2.6% of national income in 2007–08 to 1.3% by 2012–13 (shown by the solid green line in Figure 5.3). Cyclically-adjusted borrowing (shown by the dotted green line in Figure 5.3) was forecast to fall to 1.2% of national income in 2012–13. However, the subsequent deterioration of the public finances meant that, as shown by the solid grey line, with no policy action, headline borrowing would instead have increased by 8.0% of national income, to 10.5% (that is, the same as the gap between revenues and spending presented in Figure 5.2).

Figure 5.3. Public sector net borrowing – without policy action



Notes: CAPSNB denotes cyclically-adjusted PSNB. Figures for cyclically-adjusted PSNB from December 2012 use the average of the OBR's Principal Component and Aggregate Composite methodologies for estimating the output gap. 'No action' ignores the direct impact of all fiscal policy measures that have been implemented since Budget 2008. December 2012 borrowing figures exclude the £28 billion of negative capital spending from Royal Mail Pension Fund in 2012–13.

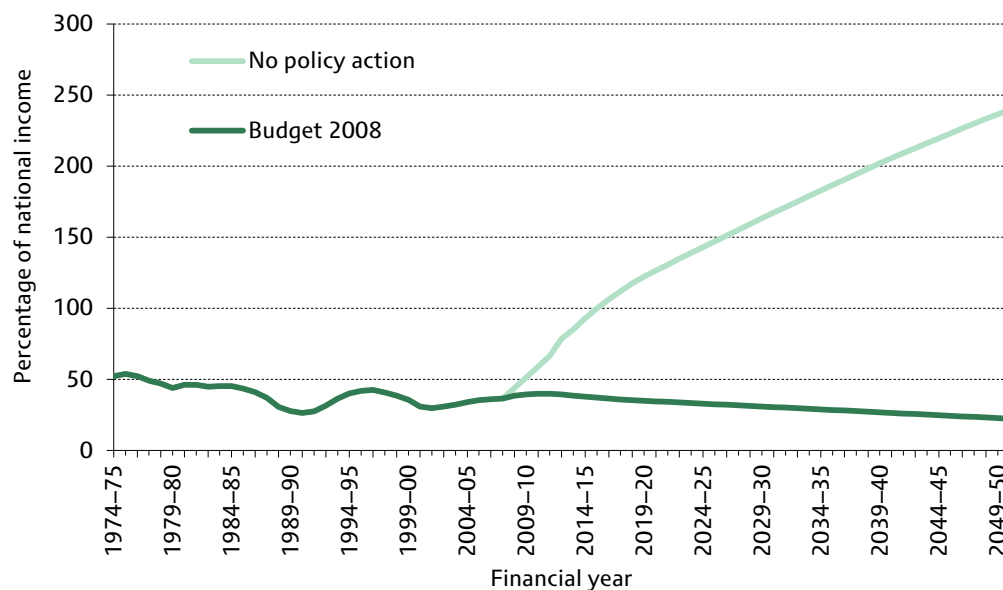
Source: Out-turn figures for PSNB from Office for National Statistics, series J5II. Forecasts for PSNB from HM Treasury, *Budget 2008*, HC 388 and Office for Budget Responsibility, *Economic and Fiscal Outlook: December 2012*. December 2012 historical CAPSNB are authors' calculations using data from T. Pybus, 'Estimating the UK's historical output gap', Office for Budget Responsibility, Working Paper 1, 2011. Forecasts for CAPSNB (December 2012) from Office for Budget Responsibility, *Economic and Fiscal Outlook: December 2012*. Out-turn figures for CAPSNB (Budget 2008) from HM Treasury, Public Finances Databank, March 2008.

For an economy such as the UK, borrowing at this level could not be sustained on an ongoing basis. The appropriate policy response will depend on whether the high deficit is a temporary problem that will disappear once the economy recovers, or a permanent, structural problem, requiring discretionary tax rises and/or spending cuts at some point.<sup>2</sup> The estimated increase in the permanent component of borrowing is shown by comparing, in Figure 5.3, the lines for cyclically-adjusted borrowing as forecast in 2008 (the dotted dark green line) and as realised, excluding the effects of policy action since

<sup>2</sup> Of course, even once one has decided what the overall size of the medium-term policy response should be – which will depend on whether the problems are cyclical or structural – important decisions need to be made about exactly what measures to choose, when they should be announced and when they should be implemented.

2008 (the dotted grey line). Making this comparison, one can see that without any policy response, headline borrowing would have been 9.2% of national income higher in 2012–13 than projected at the time of the March 2008 Budget. Of this, 7.2 percentage points is thought to reflect an increase in structural borrowing. Structural borrowing in 2012–13 is estimated to have increased from 1.2% to 8.4% of national income. This means that around three-quarters of the deterioration in the public finances that has occurred since 2008 is thought to reflect new permanent weakness in the outlook for borrowing and one-quarter is thought to reflect a temporary problem that should self-correct as the economy recovers.

Figure 5.4. Debt forecasts – without policy action



Notes: Forecasts for debt levels assume that the economy returns to its trend level in 2019–20 and that thereafter non-debt-interest spending and revenues remain constant as a share of national income, while inflation is assumed to run at 2% a year and real growth in national income at 2.3% a year until 2020–21, then rising to 2.4% between 2021–22 and 2040–41 and 2.5% thereafter. Average nominal interest rates are assumed to remain at 3.9% (the level forecast in the December 2012 Economic and Fiscal Outlook for the end of the OBR's forecast horizon, 2017–18). 'No policy action' ignores the direct impact of all fiscal policy measures that have been implemented since Budget 2008.

Source: Authors' calculations using results set out in T. Helgadottir, G. Chamberlin, P. Dhami, S. Farrington and J. Robins, *Cyclically adjusting the public finances*, OBR Working Paper No. 3, 2012

(<http://budgetresponsibility.independent.gov.uk/wordpress/docs/Working-paper-No3.pdf>), Office for Budget Responsibility, *Fiscal Sustainability Report: July 2012* (<http://budgetresponsibility.independent.gov.uk/fiscal-sustainability-report-july-2012/>) (in particular, table 3.4) and the forecasts for borrowing, net investment and the output gap from Office for Budget Responsibility, *Economic and Fiscal Outlook: December 2012* (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>).

The implication of this permanent increase in public sector net borrowing for the path of public sector net debt is shown in Figure 5.4. Prior to the crisis, the then Chancellor Alistair Darling forecast in his March 2008 Budget that public sector net debt would rise to close to, but not exceed, 40% of national income. The projections implied that, over the longer term, debt would decline as a share of national income.<sup>3</sup> Had no plan to increase taxes and/or cut spending been announced since March 2008, it is clear that the public

<sup>3</sup> This long-term forecast assumes that policy would adjust to hold the level of planned receipts and non-debt-interest spending constant as a share of national income. This means, for example (and as discussed in Section 5.4), that changes to taxes and spending would be made to offset the impact of an ageing population and of declining North Sea oil and gas production on the public finances.



finances would have been in an unsustainable position: public sector net debt would have been set to increase remorselessly over the next forty years. Doubtless, financial markets would at some point have forced action on the UK government.

#### **Box 5.1. Measuring the size, composition and timing of the post-crisis fiscal consolidation**

To measure the size of the consolidation, and how swiftly it is progressing, requires a starting point and a counterfactual – what would have happened in the absence of policy change.

To quantify new tax and benefit changes, we take the official estimates of the impact of these policy changes. These costings start from existing government policy, including the assumption that tax and benefit thresholds are uprated each year as set out in legislation. We simply take those estimates of the effects of changes as the size of that component of the consolidation.

Defining a baseline for spending on public services is more difficult. We take the plans set out in the March 2008 Budget. At that point, the then government had set out plans for overall spending beyond 2010–11 (the end of the then current spending review period) alongside some small medium-term tax increases. The spending plans were for a real-terms increase in current spending, with investment held constant as a share of national income; this implied that overall spending would fall as a share of national income. Extending this same growth assumption up to 2014–15 – the last year for which the last Labour government published official forecasts – provides a baseline for these years. We compare actual and planned levels of spending up to the end of 2014–15 with this baseline. To the extent that real spending is less than this baseline, this is part of the consolidation.

Beyond 2014–15, we have no spending plans from the previous government. There are perhaps two obvious counterfactuals we could take. One would involve an assumption that, had the crisis not happened, real-terms spending would have stayed constant. This seems to us an entirely unrealistic baseline; this would have implied the size of the state shrinking and the deficit falling indefinitely. Much more plausible is an assumption that spending would have risen in line with national income; certainly no period since the Second World War has seen a sustained cut to public spending as a share of national income. So, from 2014–15, we take as our baseline for total spending that it grows in line with GDP.

Using this methodology, baseline non-investment spending is assumed to grow more quickly beyond 2014–15 than before. Therefore, cuts to this element of spending in later years will tend to look relatively large compared with the counterfactual. That is one reason why, on this methodology, we find that a large proportion of cuts to non-investment are still to come. (In other circumstances, one might wish to consider instead how much of the total planned real-terms decline in some components of public spending has been delivered. This type of calculation, which we present in Chapter 6, yields a different answer.)

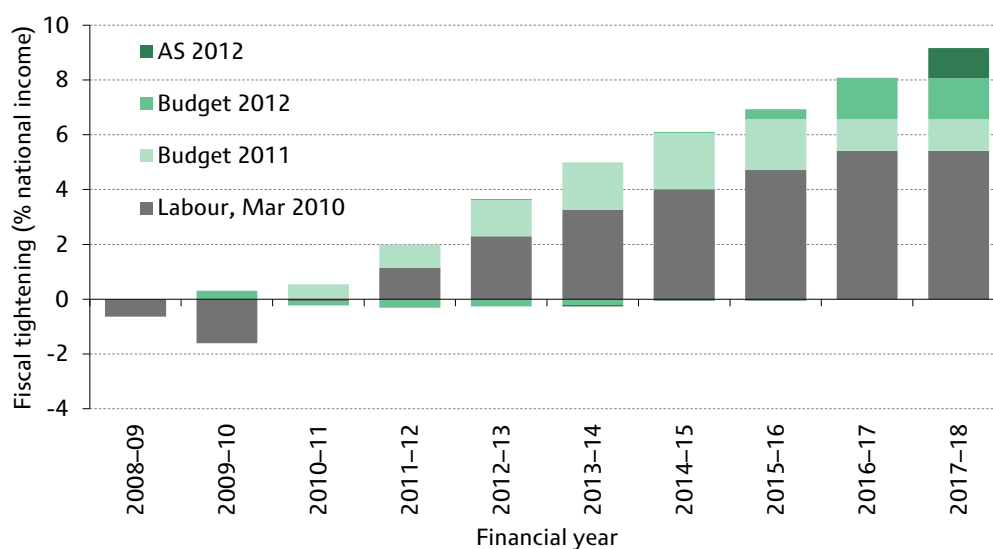
## 5.3 The cure

In response to the worsening outlook for the economy, the last Labour government implemented a temporary fiscal stimulus package in order to try to limit the length and depth of the recession. The direct impact of this was to increase government borrowing by lowering taxes and increasing spending in 2008–09 and 2009–10. After that, the Labour government planned to restore the public finances to health by implementing a fiscal consolidation package; this fiscal consolidation package was amended and extended by the coalition government. This section discusses the overall size and timing of the planned measures and how these have changed over the last two years in response to a worsening outlook for the economy and public borrowing. To calculate the impact of the announced measures on public borrowing, we use the official estimates of the effect of changes to tax and spending on borrowing. Further details can be found in Box 5.1. As mentioned in the introduction, if these estimates are wrong, both the size of the apparent problem that we calculate has emerged and the size of the impact of the consolidation announced would be changed by the same amount. However, we focus on the official estimates here for simplicity.

### Size and timing of the fiscal consolidation: changes over time

In March 2010, our calculations based on official forecasts suggest that – at that time – cyclically-adjusted public borrowing was thought to have increased by 5.3% of national income (or £83 billion in today's terms) as a result of the financial crisis and recession; this is shown later, in Figure 5.6. The Labour government had announced plans to

**Figure 5.5. Planned timing and composition of fiscal consolidation: changes over time**



Note: Bars show the planned fiscal tightening (reduction in government borrowing) for each year, decomposed by when the measures were announced or were recosted.

Source: Authors' calculations using all HM Treasury Budgets, Pre-Budget Reports and Autumn Statements between March 2008 and March 2012 (up to the March 2010 Budget available at [http://www.hm-treasury.gov.uk/budget\\_archive.htm](http://www.hm-treasury.gov.uk/budget_archive.htm); June 2010 Budget onwards available at <http://www.hm-treasury.gov.uk/budget.htm>; Autumn Statements available from [http://www.hm-treasury.gov.uk/as2012\\_index.htm](http://www.hm-treasury.gov.uk/as2012_index.htm)) and all OBR Economic and Fiscal Outlooks between June 2010 and December 2012 (all available at <http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>).

### Box 5.2. An uncertain diagnosis

Following 2007–08, it became clear that both the economy and the public finances were much weaker than previously thought. The forecasts in the November 2008 Pre-Budget Report, produced in the immediate aftermath of the demise of Lehman Brothers, implied that the permanent deterioration in the outlook for the public finances was 3.2% of national income. Our calculations suggest that this estimate doubled in the March 2009 Budget to 6.4% of national income before falling to just below 6% of national income in the Pre-Budget Report of 2009, where it remained relatively stable right through to the OBR forecast produced alongside the March 2011 Budget.

Since then, the estimated size of the structural deterioration in the UK's public finances has been revised up twice: first in the Autumn Statement of 2011, when the OBR forecasts suggested a revision of 1.6% of national income since the previous budget (from a deterioration of 5.9% to 7.5% of national income); and second, one year later in the Autumn Statement of 2012, when our estimates suggest that the OBR's forecasts implied that underlying borrowing had increased by a further 0.6% of national income (from 7.6% of national income in the 2012 Budget to 8.2%).

Figure 5.6. The changing size of the problem: estimated increase in medium-term cyclically-adjusted borrowing (excluding policy response) since March 2008



Sources: Authors' calculations using all HM Treasury Budgets and Pre-Budgets between November 2008 and March 2010 (available at [http://www.hm-treasury.gov.uk/budget\\_archive.htm](http://www.hm-treasury.gov.uk/budget_archive.htm)) and all OBR Economic and Fiscal Outlooks between June 2010 and December 2012 (available at <http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>).

increase taxes and cut spending by 5.4% of national income by 2016–17 (as shown in Figure 5.5) – slightly more than was then thought to be required to fill the hole that had opened up.

On taking office, the new coalition government accelerated and increased the size of the planned fiscal consolidation package. As of the March 2011 Budget, this new package of measures (shown in Figure 5.5) was projected to be sufficient to repair the damage done to the public finances (which we estimate, again based on official figures, was thought to be 5.9% of national income at that time; see Figure 5.6) by 2014–15. There was then set to be a further fiscal tightening in 2015–16, which would have reduced the deficit further.

However, since then, the outlook for the UK economy and the public finances has deteriorated even further (as described in Box 5.2). In response to this, the coalition government has significantly revised its plans for tax increases and spending cuts on two more occasions.

In November 2011, our calculations based on the OBR's revised forecasts suggest that the hole in the public finances had increased from 5.9% of national income to 7.5% (Figure 5.6). Mr Osborne, in his November 2011 Autumn Statement, chose to allow borrowing to rise in the short term but to offset the rise in borrowing in the next parliament by increasing the size of the spending cuts planned for 2015–16 and 2016–17. (This is shown by the 'Budget 2012' bars in Figure 5.5.)

In his December 2012 Autumn Statement, Mr Osborne responded to a further worsening in the outlook for the public finances in a similar way. Borrowing was allowed to increase over the course of this parliament and a further year of spending cuts was pencilled in for the next parliament (2017–18). (This is shown by the 'AS 2012' bars in Figure 5.5.)

The revisions to the official forecasts for government borrowing in the 2011 and 2012 Autumn Statements, combined with the fact that Mr Osborne has chosen not to offset these with policy measures until after 2015–16, means that official projections for borrowing have been revised up substantially. Table 5.2 compares the forecasts for public sector net borrowing in the November 2010 Autumn Statement (i.e. before the significant downgrades to the outlook for the UK public finances made by the OBR) with the latest official forecasts in the December 2012 Autumn Statement.

At the time of the November 2010 Autumn Statement, the OBR forecast that borrowing would fall from £148.5 billion to £35 billion in 2014–15. The latest forecasts (adjusted in a way that is described in the note to Table 5.2) are for it to fall only to £99 billion in 2014–15. Official estimates suggest that policy measures announced since the end of 2010 will reduce borrowing by only £1 billion in that year – in other words, in the absence of these measures, borrowing would have been projected to be £100 billion. Therefore, of the £65 billion increase in borrowing forecast for 2014–15 that has emerged since the 2010 Autumn Statement, Mr Osborne has chosen to offset with policy action only £1 billion by that year. In this respect, he is running very much looser fiscal policy than he intended back in 2010.

Beyond 2014–15, the announced policy response has been larger. By 2017–18, the additional fiscal consolidation pencilled in by Mr Osborne is estimated to reduce borrowing by £53 billion in that year. As a result, borrowing is forecast to be £31 billion in 2017–18. This is still higher than that implied by the November 2010 Autumn

Statement.<sup>4</sup> Therefore, the Chancellor by 2017–18 has chosen to offset the majority, but not all, of the deterioration in the outlook for the public finances that has been seen over the last two years. A possible justification for this is that the OBR expects the additional borrowing that Mr Osborne has chosen not to offset with policy measures to be cyclical rather than structural. In both November 2010 and December 2012, the OBR estimated that the Chancellor was aiming for cyclically-adjusted net borrowing of 0.3% of national income at the end of each forecast horizon (2015–16 and 2017–18, respectively).

Figure 5.7 in Box 5.3 shows how forecasts for public sector net borrowing have evolved over time. It reveals that the deterioration in the outlook for the public finances seen since 2010 means that, despite the additional austerity measures implemented by this government, headline borrowing is projected to be higher from 2012–13 onwards than it was at the time of Alistair Darling's March 2010 Budget.

**Table 5.2. How borrowing forecasts changed between November 2010 and December 2012 (£ billion unless otherwise stated)**

	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18
<b>PSNB, Autumn Statement, November 2010</b>								
<b>£bn</b>	<b>148.5</b>	<b>117</b>	<b>91</b>	<b>60</b>	<b>35</b>	<b>18</b>	n/a	n/a
Underlying change	–6.8	4.4	27.6	50.2	65.1	71.5	n/a	n/a
<b>Borrowing forecast, with no measures after 2010 Autumn Statement</b>								
<b>£bn</b>	<b>141.7</b>	<b>121.4</b>	<b>118.6</b>	<b>110.2</b>	<b>100.1</b>	<b>89.5</b>	<b>86.7</b>	<b>83.3</b>
Extra policies	0.0	0.0	1.7	1.9	–1.1	–7.5	–30.0	–52.6
<b>PSNB, Autumn Statement, December 2012</b>								
<b>Adjusted £bn</b>	<b>141.7</b>	<b>121.4</b>	<b>120.3</b>	<b>112.1</b>	<b>99.0</b>	<b>82.0</b>	<b>56.7</b>	<b>30.7</b>
<i>Unadjusted £bn</i>	<i>141.7</i>	<i>121.4</i>	<i>80.5</i>	<i>99</i>	<i>88</i>	<i>73</i>	<i>49</i>	<i>31</i>

Notes: Adjusted PSNB figures exclude the £28 billion of negative capital spending from Royal Mail Pension Fund in 2012–13, as well as the effects of reclassifying Northern Rock Asset Management, Bradford & Bingley, and financial transactions relating to the Asset Purchase Facility on the public balance sheet.

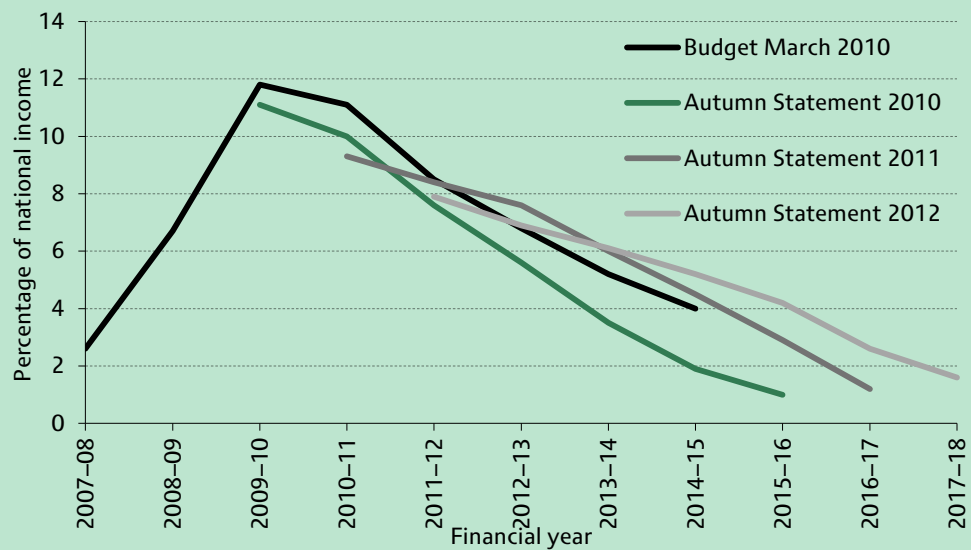
Sources: November 2010 and December 2012 OBR Economic and Fiscal Outlooks, available at <http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>. Measures based on authors' calculations using all HM Treasury Budgets and Autumn Statements between November 2010 and December 2012, available at <http://www.hm-treasury.gov.uk/budget.htm>. Latest out-turns for PSNB from ONS series J5II.

<sup>4</sup> As shown in Table 5.2, the November 2010 Autumn Statement forecast borrowing of £18 billion in 2015–16 (the last year of the forecast horizon at the time). With no planned loosening of fiscal policy beyond this, borrowing would have been projected to be lower than the £31 billion of borrowing now forecast by the OBR.

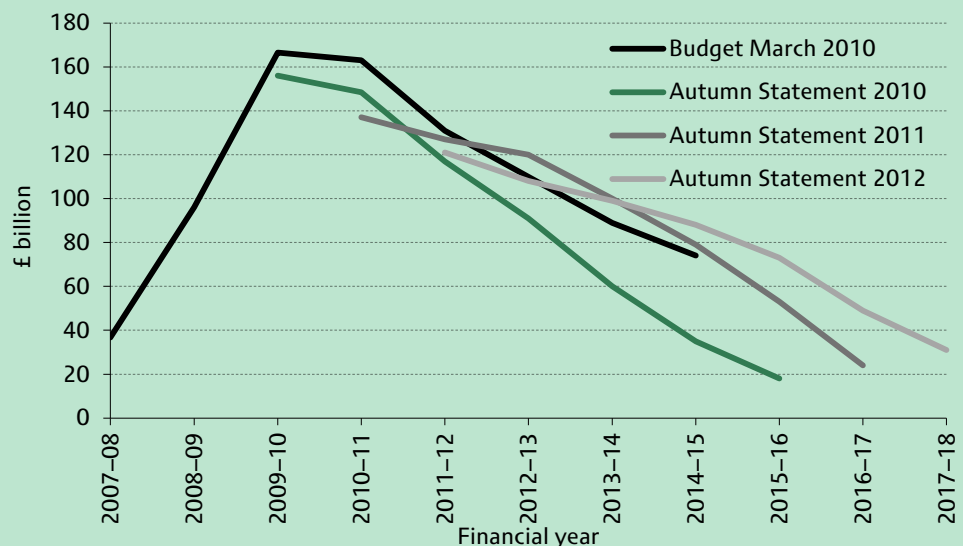
### Box 5.3. Changes to official borrowing forecasts

A number of factors have contributed to changing official forecasts for borrowing over the last few years. First, as described in Box 5.2, the estimated size of the permanent damage done to the UK's public finances by the crisis and recession has increased since late 2010. Second, there has also been additional temporary weakness in the UK economy – above that which the Treasury had forecast in March 2010. Third, new policy measures have been announced over the last few years, which affect the amount of tax raised and the level of public spending. These factors have led to official borrowing forecasts being revised over recent years. Figure 5.7 shows official forecasts for borrowing as a share of national income from the March 2010 Budget to the 2012 Autumn Statement.

Figure 5.7. Different vintages of forecasts for public sector net borrowing  
a. Percentage of national income



b. £ billion



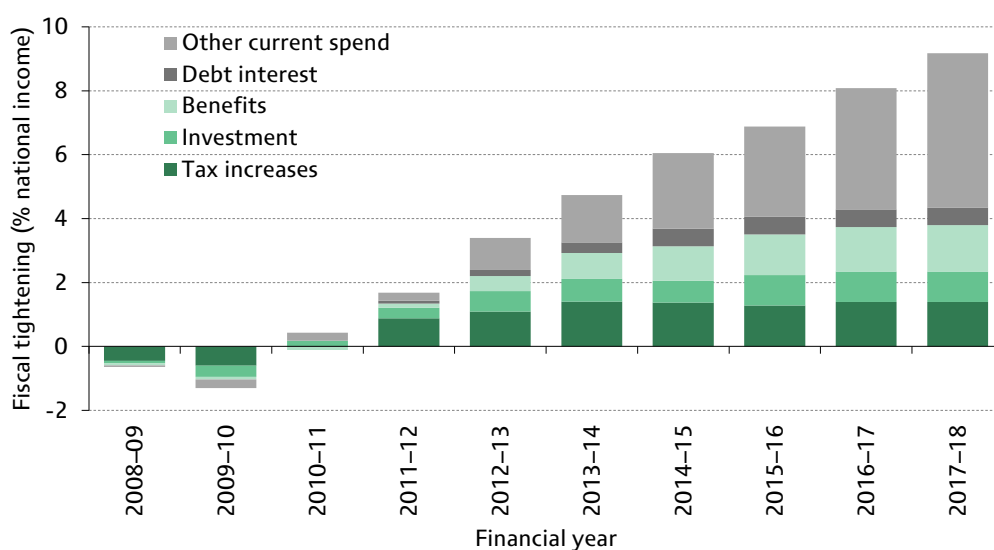
Note: December 2012 borrowing figures exclude the £28 billion of negative capital spending from Royal Mail Pension Fund.

Source: Out-turn figures for 2007-08 from HM Treasury, Public Finances Databank, December 2012. Budget March 2010 (available at [http://www.hm-treasury.gov.uk/budget\\_archive.htm](http://www.hm-treasury.gov.uk/budget_archive.htm)) and OBR Economic and Fiscal Outlooks between June 2010 and December 2012 (all available at <http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>).

## Composition of the fiscal consolidation and progress to date

The current period of fiscal consolidation began in 2010–11, when the Labour government's fiscal stimulus package was withdrawn and the incoming coalition government implemented some in-year spending cuts and some immediate increases in indirect taxes (including increasing the main rate of VAT to 20% from January 2011). Additional spending cuts and tax increases are due to be implemented each year through to 2017–18. Taken together, the measures announced since the March 2008 Budget are expected to reduce public borrowing by 9.2% of national income (or £144 billion) by 2017–18 (as was shown in Figure 5.5). The overall magnitude, timing and composition of the fiscal 'cure' is shown in Figure 5.8.

Figure 5.8. Timing and composition of the fiscal remedy



Notes: Bars represent the planned fiscal tightening (reduction in government borrowing), decomposed into tax increases and spending cuts, with the spending cuts further subdivided into benefit cuts, other current spending cuts and investment spending cuts.

Source: Authors' calculations using all HM Treasury Budgets, Pre-Budget Reports and Autumn Statements between March 2008 and December 2012 (up to the March 2010 Budget available at [http://www.hm-treasury.gov.uk/budget\\_archive.htm](http://www.hm-treasury.gov.uk/budget_archive.htm); June 2010 Budget onwards available at <http://www.hm-treasury.gov.uk/budget.htm>; Autumn Statements available from [http://www.hm-treasury.gov.uk/as2012\\_index.htm](http://www.hm-treasury.gov.uk/as2012_index.htm)) and all OBR Economic and Fiscal Outlooks between June 2010 and December 2012 (all available at <http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>).

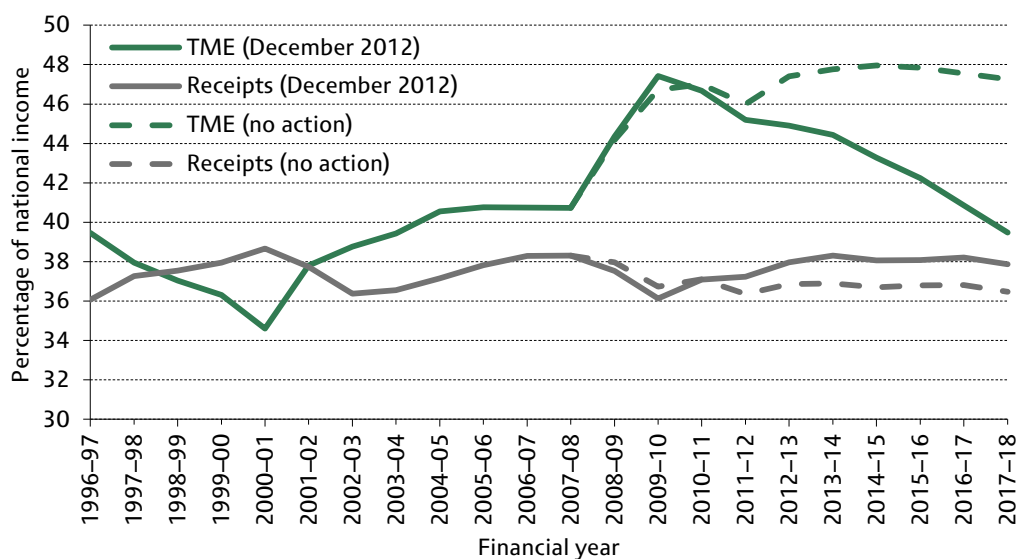
The current financial year is forecast to see a relatively large fiscal tightening from discretionary policy changes (1.7% of national income). By the end of this year, almost two-fifths (37%) of the total fiscal consolidation is planned to have been done, with the remainder coming over the following five years. Within this, the tax rises and investment spending cuts have been relatively front-loaded while the benefit cuts and the cuts to day-to-day spending on public services have been relatively back-loaded. Therefore, although the fiscal consolidation is ultimately expected to consist of 15% tax increase and 85% spending cuts, 32% of the measures implemented so far have come from tax rises and 68% from spending cuts. The estimates in Figure 5.8 imply that by the end of 2012–13, 79% of the net tax rises but just 30% of the spending cuts announced since the March 2008 Budget will have been implemented. Within these spending cuts, 67% of the planned cut to investment spending will have happened, whereas just 32% of the benefit cuts and 21% of the cuts to day-to-day spending on public services will have been felt.



Box 5.1 gives more details on how these estimates were calculated. Details of how the personal tax and benefit changes have been distributed across households can be found in Chapter 7, while the allocation of public service cuts across different services can be found in Chapter 6.

The fiscal consolidation measures announced since March 2008 have drastically altered the path for tax revenues and spending compared with what would have occurred since the crisis in the absence of policy response. This is shown in Figure 5.9. Although spending still significantly outstrips revenues this year, this gap is smaller than it would have been without government action over the last five years.

Figure 5.9. Revenues and spending – with and without policy action



Notes: As Figure 5.2.

Source: As Figure 5.2.

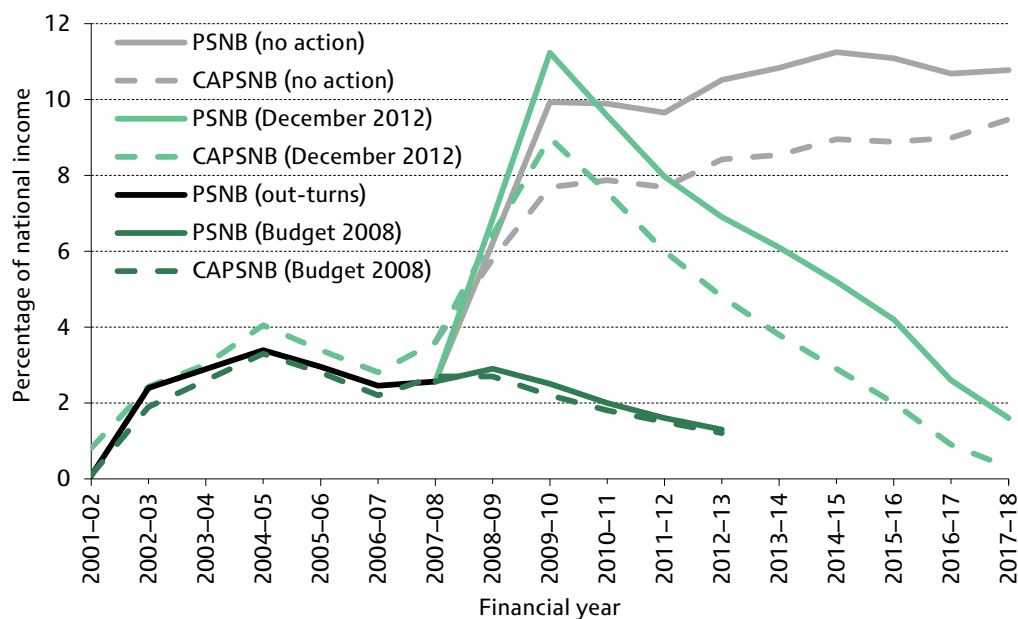
The fact that the majority of the fiscal consolidation is due to come from spending cuts rather than tax rises might be considered appropriate if the objective is to put public spending and tax receipts approximately back to their pre-crisis levels as a share of national income: certainly the sharp increase in public spending as a share of national income that occurred between 2007 and 2010 was not the intention of the Labour government when it held the October 2007 Comprehensive Spending Review (nor that of the then opposition Conservative Party when it signed up to those spending totals). The current plans imply public spending being the same share of national income in 2017-18 as it was in 2003-04 (and the same level in real terms as it was in 2008-09), while tax receipts would be slightly below the level they were at on the eve of the crisis in 2007-08.

By 2017-18, the planned fiscal cure (at 9.2% of national income, shown in Figure 5.8) is estimated to be somewhat above the estimated 8.2% of national income underlying deterioration in the outlook for the UK public finances that has been seen since March 2008 (shown in Figure 5.6). Therefore, the government's current plans imply that structural borrowing will be slightly lower in the medium term than it was projected to be in the March 2008 Budget. Indeed, the latest forecasts suggest that cyclically-adjusted PSNB will decline by 2017-18 to the lowest level seen since the height of the dot com bubble in 2001-02 (Figure 5.10).

This reduction in borrowing is sufficient to return public sector net debt to a sustainable path. Assuming that the cyclically-adjusted primary balance remains constant beyond

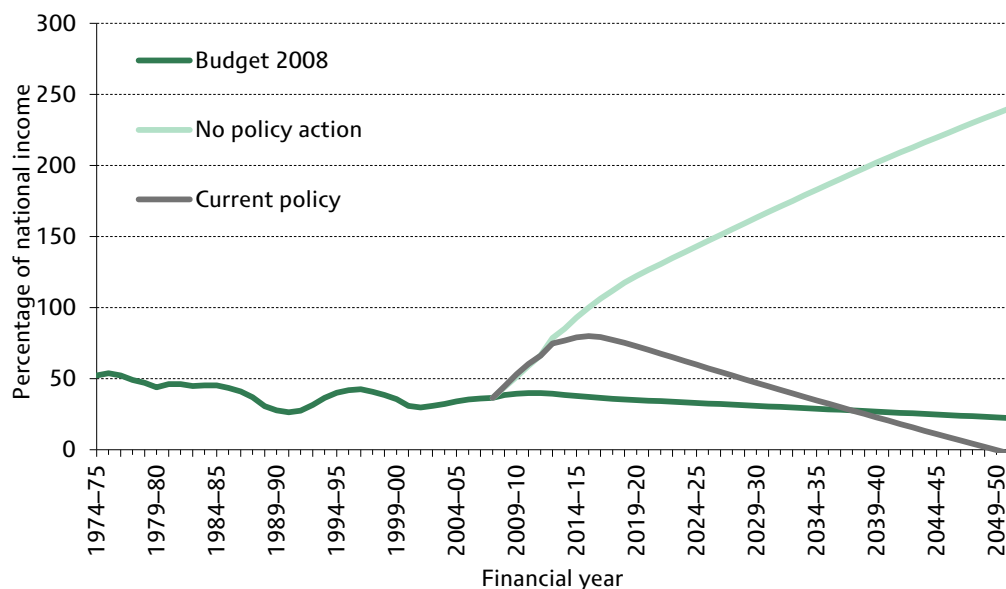
2018–19,<sup>5</sup> public sector net debt would peak at just below 80% of national income in 2015–16 and then decline thereafter. However, it would still not be projected to return to pre-crisis levels (of below 40% of national income) until 2032–33. (Figure 5.11.)

Figure 5.10. Public sector net borrowing – with and without policy action



Notes: As Figure 5.3.  
Source: As Figure 5.3.

Figure 5.11. Debt forecasts – with and without policy action



Notes: As for Figure 5.4.  
Sources: As for Figure 5.4.

<sup>5</sup> As mentioned above, this assumption requires, in particular, that the impact on the public finances of factors such as the costs of an ageing population and the likely erosion of revenues from fuel duties are offset with changes to taxes or spending rather than changes in borrowing.

## 5.4 Risks to the public finances

### Short-term risk: borrowing in 2012–13

One immediate risk to the Chancellor's fiscal plans is that borrowing this year will overshoot the latest official forecast from the OBR. Data that have become available since the OBR published its latest forecast in December 2012 lead us to believe that borrowing this year will be somewhat higher than the OBR forecasts. Specifically, the IFS baseline forecast is that borrowing in 2012–13 will overshoot the OBR's December 2012 forecast by £4.9 billion, as shown in Table 5.3. A number of factors contribute to this judgement. (Much more detailed information on the IFS public finance forecasts can be found in Appendix A.)

Table 5.3. Comparisons of forecasts for government borrowing, 2012–13

<i>£ billion</i>	OBR March 2012	OBR December 2012	Green Budget February 2013	Difference between Green Budget forecast and:	
				March	December
Current receipts	591.5	593.8	590.5	–1.0	–3.3
Current expenditure <sup>a</sup>	686.8	682.9	684.5	–2.3	1.6
Surplus on current budget	–95.3	–89.1	–94.0	1.3	–4.9
Net investment	–3.4	–8.5	–8.5	–5.1	0.0
Total managed expenditure	683.4	674.3	676.0	–7.4	1.6
Public sector net borrowing	91.9	80.5	85.5	–6.4	4.9

a. In line with the National Accounts, depreciation has been included as current expenditure.

Note: Public sector net investment, total managed expenditure and public sector net borrowing are all reduced by the £28 billion of negative capital spending from Royal Mail Pension Fund.

Source: Authors' calculations. Office for Budget Responsibility, *Economic and Fiscal Outlook*, March 2012 and *Economic and Fiscal Outlook*, December 2012 (both available at <http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>).

In December 2012, the OBR revised up its forecast for revenues this year (from £591.5 billion to £593.8 billion). However, this reflected the addition of some new income streams (in particular, from the Bank of England's Asset Purchase Facility) more than offsetting a downwards revision to underlying tax revenues. In the light of further data that have become available since the OBR made its forecast, we judge that receipts will be a further £3.3 billion lower in 2012–13 than the OBR forecast.<sup>6</sup> In particular, we have a more pessimistic forecast for revenues from income tax, VAT and corporation tax, somewhat offset by more optimistic forecasts for revenues from NICs, stamp duties and excise duties.

In December 2012, the OBR also revised down its forecast for public sector current spending by £3.9 billion, which included an estimate that central government departments would underspend their allocated budgets by £4.5 billion. This forecast

<sup>6</sup> For example, as the OBR acknowledged in its commentary on the public finance figures for December that were published on 22 January, 'VAT receipts since we produced the December EFO forecast have not shown the expected increase in growth rates' (<http://budgetresponsibility.independent.gov.uk/pubs/Jan-2013-PSF-Commentary-1.pdf>).

requires central government spending on the delivery and administration of public services to grow by just 1.1% over the last five months of this year, compared with the same period last year (while growth averaged 1.5% over the first seven months of the year). The data that have become available since the OBR forecast was published show that growth in central government current spending on the delivery and administration of public services has picked up.<sup>7</sup> Our baseline forecast is, therefore, for current spending to be £1.6 billion higher in 2012–13 than the OBR forecasts. In other words, we assume that central government departments will underspend on the day-to-day delivery of public services by £2.9 billion, rather than the £4.5 billion assumed by the OBR. In all other areas, we assume that the OBR is correct in its forecast for spending.

Taken together, the IFS baseline forecast is therefore for the current budget deficit (that is, the difference between receipts and non-investment spending) to be £94.0 billion in 2012–13, which is £4.9 billion higher than the OBR's forecast of £89.1 billion. Because the IFS baseline forecast is for the same level of public sector net investment spending as the OBR forecasts, borrowing (that is, the gap between revenues and total spending, including investment) is also projected to be £4.9 billion higher than the OBR's forecast, at £85.5 billion.

Headline borrowing of £85.5 billion would be lower than the £121.4 billion of borrowing in 2011–12. However, the 2012–13 figure includes the impact of the nationalisation of the Royal Mail Pension Plan assets and the Chancellor's decision to transfer the Asset Purchase Facility from the Bank of England to the Treasury – both of which depress borrowing in 2012–13 but do not strengthen the public finances over the long run. Stripping out these effects, the IFS baseline forecast is that (on a like-for-like basis) borrowing would rise from £121.4 billion in 2011–12 to £125.4 billion in 2012–13 (or from 7.9% to 8.0% of national income).

While this disagreement between our forecast and the OBR's forecast for borrowing this year (of £4.9 billion) might sound large, it is well within the bounds of normal uncertainty surrounding official in-year forecasts for public sector net borrowing. With data from the final three months of the financial year still to come and much uncertainty remaining, it is still possible that borrowing could ultimately rise or fall in nominal terms between last year and this year. Furthermore, while cash borrowing rising year-on-year might be politically sensitive, fundamentally – regardless of whether there is a small fall (as forecast by the OBR in December) or a small rise (as our baseline forecast suggests) – borrowing is likely to be substantively unchanged between last year and this year. Far more important for determining fiscal policy is the medium- and longer-term outlook for borrowing and debt.

## Medium-term risks

One way of thinking about how certain we might be about the latest official forecasts for borrowing is to examine how accurate they have been in the past. Previous IFS Green Budgets have used the errors made in previous official fiscal forecasts to present a 'fan chart' around our central forecasts for borrowing. From its inception, the OBR has chosen to present its forecasts in the same way. This method of quantifying uncertainty relies on three key assumptions: first, that the central forecast is as likely to be an underestimate

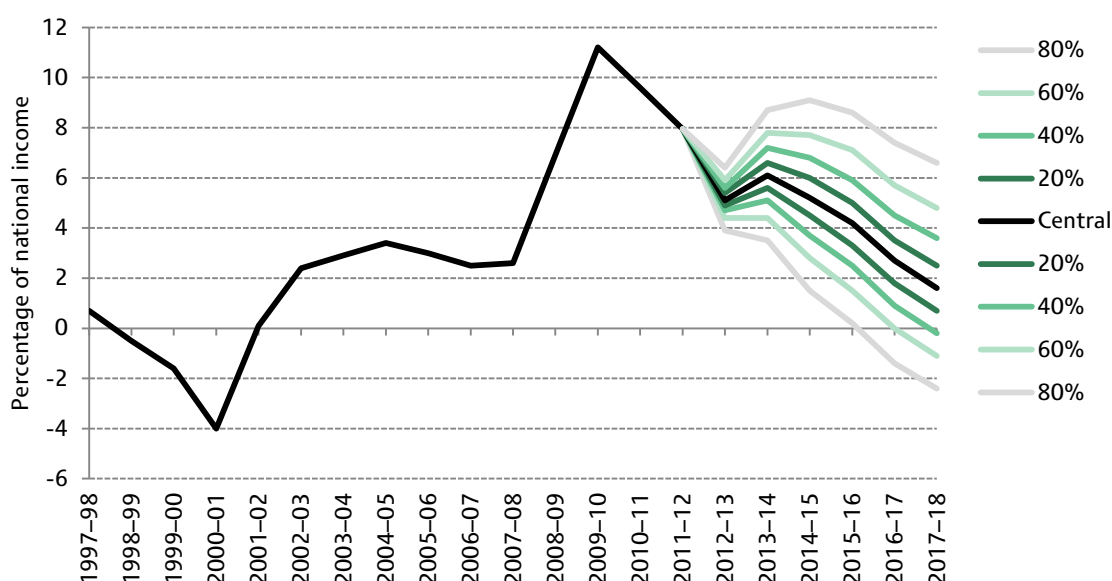
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<sup>7</sup> Source: Office for National Statistics & HM Treasury, *Public Sector Finances, December 2012*, <http://www.ons.gov.uk/ons/rel/psa/public-sector-finances/december-2012/index.html>.

as it is to be an overestimate; second, that the latest forecasts are likely to be as (in)accurate as previous Pre-Budget Report forecasts made by HM Treasury; and third, that there are no further new policy announcements.

The OBR's latest forecasts for public sector net borrowing are shown in fan-chart style in Figure 5.12. Its central forecast is that borrowing will fall to 1.6% of national income in 2017–18. But the figure shows that, under the assumptions described above, there is an 80% chance – on the OBR's central forecast – that public sector net borrowing in 2017–18 will be between a deficit of 6.6% of national income and a surplus of 2.4% of national income, with the narrower bands corresponding to ranges with lower likelihoods of occurring. In other words, there is a 10% chance that there will be a surplus of more than 2.4% of national income and a 10% chance that borrowing will exceed 6.6% of national income.

Figure 5.12. Probabilities of public sector net borrowing outcomes



Source: Chart 4.6 of Office for Budget Responsibility, *Economic and Fiscal Outlook: December 2012* (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>).

This highlights the importance of considering not only the OBR's central forecast for the public finances (or indeed anyone else's, including our own) but also the risks around that forecast. This subsection discusses a number of these risks. The first set of risks concerns the possibility that the government may not implement the fiscal consolidation plans as currently set out. A possible downside risk for borrowing is that the government is unable to impose such harsh spending cuts as currently planned in the run-up to the next election. A possible upside risk for borrowing is the possibility that an incoming government after the next general election would choose to increase taxes more than is currently planned, as many new governments have done in recent decades.

The second set of risks concerns the outlook for the economy. On the upside for borrowing, the trend level of the UK economy could be higher than the OBR currently thinks – implying more scope for cyclical recovery – and/or tax receipts could, for other reasons, grow more quickly than the OBR expects (for example, because growth could be more heavily concentrated in highly-taxed sectors of the economy). On the downside for borrowing, the trend level of the UK economy could be lower than the OBR currently thinks and/or tax receipts could, for other reasons, recover less quickly than the OBR

expects. We explore the risks to the public finances arising from uncertainty about the outlook for the size and structure of the UK economy by presenting forecasts for the UK's public finances under four alternative sets of macroeconomic assumptions – the OBR's December 2012 forecast, the Oxford Economics central forecast, a more optimistic OE scenario and a more pessimistic OE scenario. The three OE scenarios are described in more detail in Chapters 1 and 2.

### *Implementing the planned fiscal consolidation*

One major risk to the public finances is that the government may not be able to deliver the ambitious fiscal consolidation plans that it has announced. The UK has not (at least since the Second World War) experienced a spending squeeze of the size or duration that is currently planned and, as shown in last year's Green Budget, prior to the current crisis perhaps the only relevant example of such deep cuts being delivered elsewhere in recent decades is Ireland in the late 1980s.<sup>8</sup> Chapter 6 discusses in detail the challenges facing the government in delivering this spending squeeze.

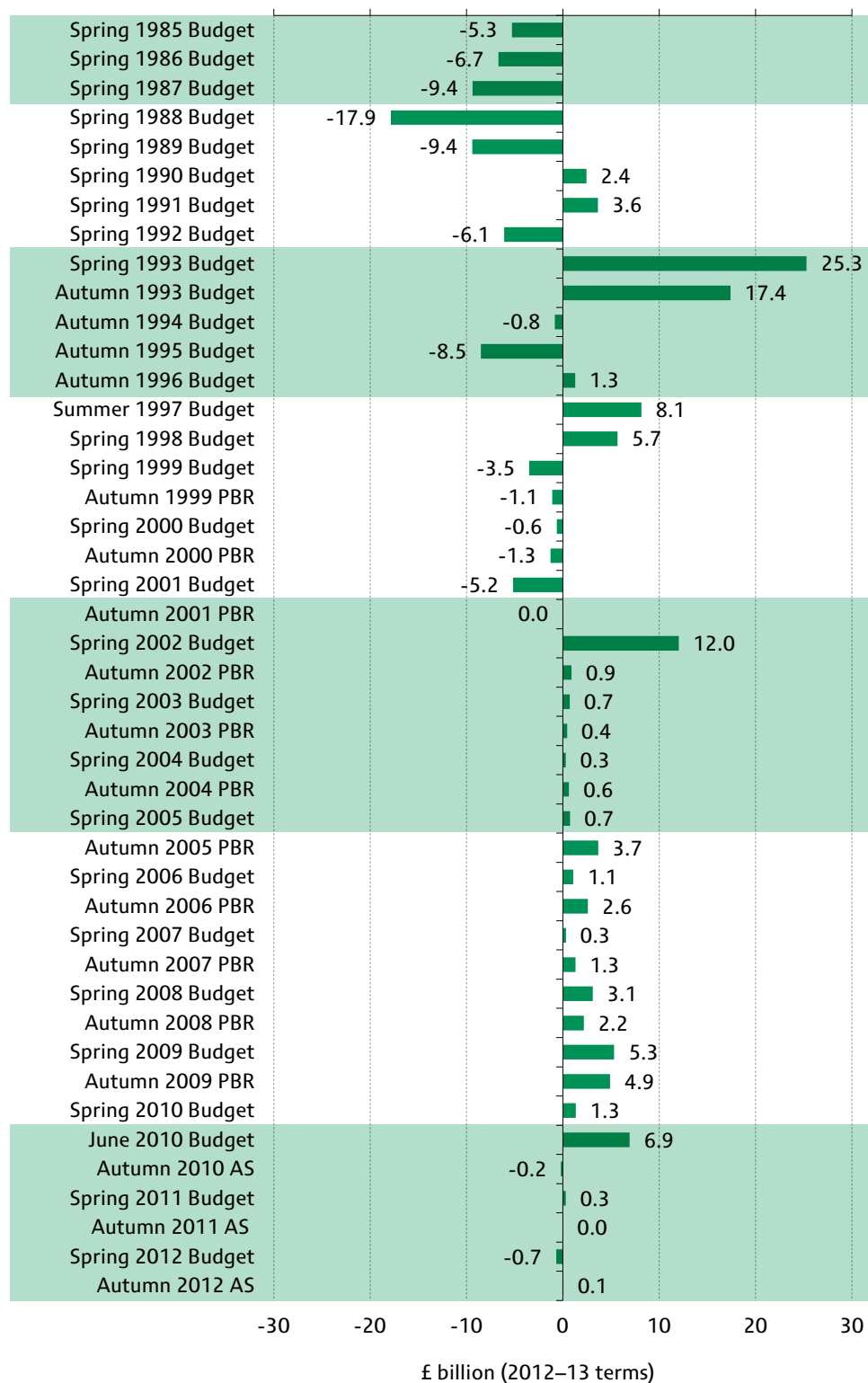
The tax increases that have been announced are much smaller than the spending cuts and most of them have already been implemented (as shown in Figure 5.8), so there is perhaps less risk that these will be reversed. As we get closer to the next election, with the electorate having suffered through five years of austerity and a long period in which, on average, household incomes have been squeezed, there is a possibility that politicians could be tempted to announce some pre-election tax cuts – as the Conservative government did in 1992 – in order to attempt to win over some voters. Figure 5.13 examines how common a phenomenon this has been before other recent UK elections; parliamentary terms are marked by the shaded areas. Over the 28 years since 1985, there has been an average net discretionary tax increase announced each year of £1.3 billion (in 2012–13 terms). But, in the 12 months before elections, governments have tended to announce tax giveaways – amounting on average to £2.2 billion a year in 2012–13 terms. If the current government were to follow this precedent, the public finance position could be weakened in the run-up to the next election.

However, much more striking in Figure 5.13 than the pre-election tax giveaways are the post-election tax increases. In the 12 months following the last six general elections, newly-elected governments have tended to announce tax rises – averaging £7.5 billion a year in the long run. Given the continuing pressures on the public finances, it might not be surprising if the next election were also to be followed by some substantial tax increases.

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<sup>8</sup> See table 3.5 of R. Crawford, C. Emmerson and G. Tetlow, 'Fiscal repair: painful but necessary', in C. Emmerson, P. Johnson and H. Miller (eds), *The IFS Green Budget: February 2012* (<http://www.ifs.org.uk/budgets/gb2012/12chap3.pdf>).

Figure 5.13. Long-run takeaway from discretionary tax measures



Sources: Authors' calculations using all HM Treasury Budgets, Pre-Budget Reports and Autumn Statements between March 1985 and December 2012 (from the March 1998 Budget up to the March 2010 Budget available at [http://www.hm-treasury.gov.uk/budget\\_archive.htm](http://www.hm-treasury.gov.uk/budget_archive.htm); June 2010 Budget onwards available at <http://www.hm-treasury.gov.uk/budget.htm>; Autumn Statements available at [http://www.hm-treasury.gov.uk/as2012\\_index.htm](http://www.hm-treasury.gov.uk/as2012_index.htm)) and all OBR Economic and Fiscal Outlooks between June 2010 and December 2012 (all available at <http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>).

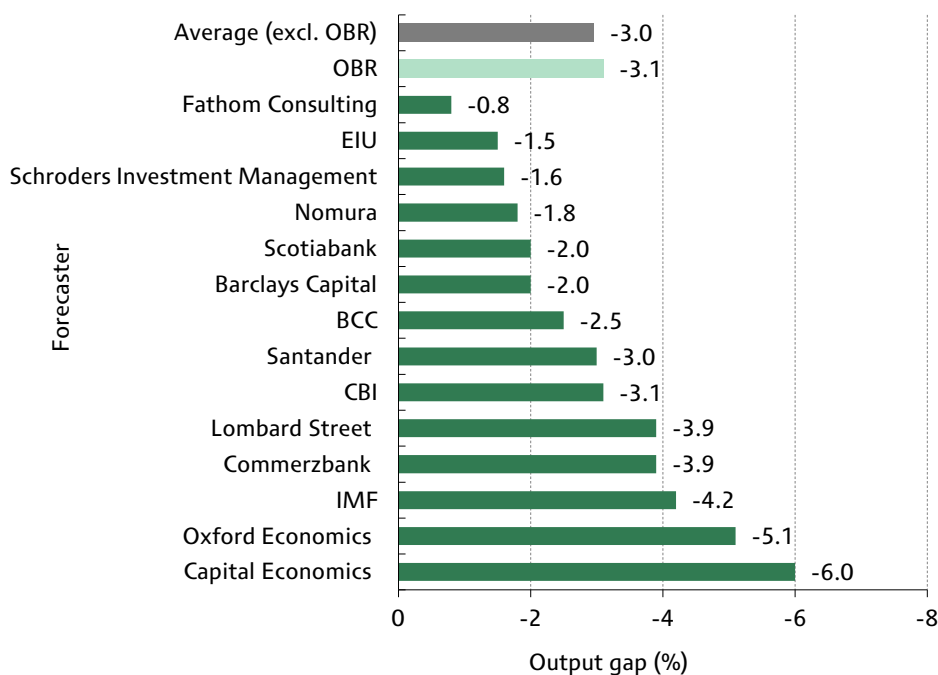


### How much scope is there for economic recovery?

How much active fiscal consolidation (in the form of permanent spending cuts and tax increases) will actually be required to get the public finances back to a sustainable position depends in large part on how much ‘spare capacity’ there is in the economy. This is measured by the output gap – a concept that defines the difference between the trend and actual levels of GDP. A larger output gap implies that borrowing will fall by more as the economy bounces back.

However, it is difficult enough to measure how much output an economy is actually producing, and even more difficult to measure how much it *could* be producing. The OBR and several other institutions publish estimates of the output gap, but there is no consensus on the best approach to take and there is substantial variation between estimates of past, current and future output gaps. (As Box 5.2 sets out, the official estimate of the damage done to the public finances by the financial crisis and recession has changed significantly over the last four years, and this has largely been driven by changes to the official estimate of the trend level of GDP.)

Figure 5.14. Alternative estimates of the output gap in 2012



Source: HM Treasury, ‘Forecasts for the UK economy: a comparison of independent forecasts’, January 2013 (<http://www.hm-treasury.gov.uk/forecasts>).

In December 2012, the OBR estimated that in 2012 the UK economy was operating 3.1% below its trend level. This is just above the average of the latest estimates by other independent forecasters (2.9%), as shown in Figure 5.14. However, among the other independent forecasters, there is a large range of estimates for the size of the output gap in 2012 – spanning from –0.8% to –6.0%.

The OBR’s latest forecast is for headline borrowing of 5.1% of national income this financial year – of which 3.0 percentage points is thought to be structural and 2.1 percentage points is thought to be purely cyclical. It is possible to quantify the potential impact of different output gap estimates on the level of borrowing (and thus decompose headline borrowing into the part that is structural and the part that is cyclical) using

estimates of how the UK public finances have varied over the ups-and-downs of previous economic cycles. For example, if Fathom Consulting is correct and the output gap is 2.3 percentage points smaller than the OBR estimates, the structural deficit would be estimated currently to be around 1.6% of national income larger.<sup>9</sup> Were the OBR to adopt this estimate of the output gap, and leave its assumed growth in trend output unchanged, the government would need to find approximately another £25 billion of tax increases or spending cuts to expect to reach the same cyclically-adjusted borrowing level that it is targeting for 2017–18. At the other extreme, if Capital Economics is correct that the output gap is actually 2.9 percentage points larger than the OBR estimate, this would suggest that the structural deficit was currently around 2.0% of national income smaller than the OBR thinks. Were the OBR to adopt this estimate of the output gap, and leave its assumed growth in trend output unchanged, approximately £32 billion less would be needed in the way of tax increases and spending cuts than is currently planned.

This gives an idea of the range of uncertainty surrounding estimates of how large the UK's structural borrowing currently is – and thus what active policy response might be required to return borrowing to more sustainable levels, such as the level that Mr Osborne is aiming for. However, the simple rule-of-thumb calculations we have just set out assume that the current period of weak economic performance has the same relationship with government borrowing as that seen in previous economic recessions and booms. If the recent recession or the coming recovery is different from past experience (or if the responsiveness of the tax and benefit system to the economic cycle has changed – for example, due to policy reforms or to changes in individual behaviour over the cycle), then the scope for receipts to bounce back and for spending to fall as the economy recovers may be different. Therefore, in the next subsection, we take a more detailed look at how different views of the current and future state of the economy affect our view of the fiscal position by presenting bottom-up forecasts for the UK's public finances under four alternative scenarios for the macroeconomy.

### *What will happen to borrowing as output recovers?*

The last subsection has shown that the health of the public finances is crucially determined by the potential level of output in the economy and that that is quite uncertain. What also matters is the strength of the public finances for any given level of output. This will depend on the composition of output, how this interacts with the tax and benefit system, and what the government chooses to spend on the provision of public services. This subsection uses the IFS model of the public finances to project their strength under different scenarios for the future size and composition of (actual and potential) output in the UK.

We start by examining the path of the public finances under the assumption that the economy evolves as the OBR projects. This baseline forecast highlights areas in which we take a different view from the OBR on how tax receipts and spending will evolve given the same underlying economic forecast. These differences are important and understanding where the forecasts differ is especially so. However, it is important to stress that the differences are relatively small in the context of the overall fiscal situation. There is

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<sup>9</sup> This figure is calculated by multiplying the difference in the output gap estimate by the OBR's estimate for how the output gap affects borrowing levels; the OBR estimates that a 1 percentage point increase in the output gap reduces structural borrowing as a share of national income by 0.7 percentage points. Source: T. Helgadottir, G. Chamberlin, P. Dhami, S. Farrington and J. Robins, 'Cyclically adjusting the public finances', OBR Working Paper No. 3, 2012 (<http://budgetresponsibility.independent.gov.uk/wordpress/docs/Working-paper-No3.pdf>).

nothing in our fiscal forecasts, given the OBR's macroeconomic forecasts, that would lead us to take a qualitatively different view of the scale of the fiscal challenge.

Much bigger differences in the outlook for the public finances would arise if we took a different macroeconomic forecast. Here we consider three alternative sets of public finance forecasts based on different macroeconomic scenarios. The first set assumes the UK economy performs as projected under the Oxford Economics central scenario. In this case, headline growth over the next five years is very similar to that projected by the OBR but the composition of this growth is different (for example, oil and equity prices are higher while property price growth and economy-wide inflation are lower) and the trend level of output is considerably higher than the OBR assumes. To examine some potential upside risks, the second case we examine is the more optimistic Oxford Economics scenario. In this scenario, business investment picks up more quickly and both headline growth and the level of potential output are higher than under the OE central scenario. Finally, we look at the more pessimistic Oxford Economics scenario. In that scenario, both headline growth and the potential level of output in the UK are severely depressed relative to the OE central scenario. More details of the three Oxford Economics scenarios can be found in Chapters 1 and 2. Much more detailed information on the IFS public finance forecasts under all of these scenarios can be found in Appendix A.

### **IFS baseline forecast**

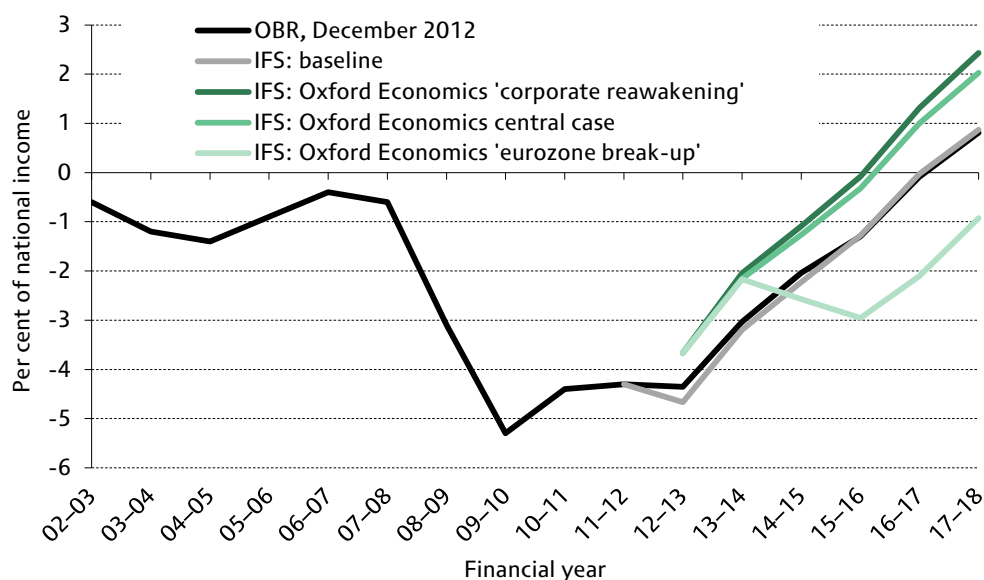
The IFS baseline forecast is for similar growth in total receipts to that in the OBR forecast. This is perhaps not terribly surprising given that we are basing our revenue forecast on the same underlying economic projections. Details of differences in the projections for individual taxes can be found in Appendix A (in particular in Figure A.2). However, our baseline forecast for spending differs more significantly. In particular, we believe that there is a significant risk that Whitehall departments do not underspend their budgets in 2013–14 and 2014–15 to the extent that the OBR factored into its latest forecast. Therefore, whereas the OBR assumed in its December 2012 forecast that Whitehall departments will underspend their budget allocations by £3.5 billion in 2013–14 and £3.0 billion in 2014–15, we assume that departments will actually spend all of their allocations. This is in line with the assumption we have made in previous IFS Green Budgets – and, indeed, in line with the assumption underpinning the official public finance forecasts made for years beyond the current financial year by the OBR (and, under the previous Labour government, by the Treasury) prior to Autumn Statement 2012. While there have often been underspends in recent years, these could become less common as the spending cuts become much deeper. We – like the OBR – are attempting to forecast the strength of the public finances under current policy (i.e. we are not trying to anticipate the net fiscal impact of possible future announcements of changes to taxation or spending). Given that government policy is – presumably – for Whitehall departments to spend the funds that have been allocated to them, it seems appropriate to us to assume that these funds will be spent in future years. In 2015–16 and beyond, this difference in assumption does not affect the level of spending in our baseline forecast.<sup>10</sup>

By 2017–18, there is little difference between the headline fiscal aggregates forecast under the IFS baseline and the OBR's latest forecast. The Chancellor would still meet his fiscal mandate (as shown in Figure 5.15) and be on course to miss his supplementary

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<sup>10</sup> Government policy is that, after economy-wide inflation, total public spending should be cut at the same rate in real terms between 2014–15 and 2017–18 as over the period from 2010–11 to 2014–15, *ignoring the impact of any assumed underspend in 2014–15*.

Figure 5.15. Cyclically-adjusted current budget balance forecasts



Note: Figures shown exclude the impact of reclassifying on the public balance sheet Northern Rock Asset Management and Bradford & Bingley, as well as the financial transactions relating to the Asset Purchase Facility.

Source: Authors' calculations. Oxford Economics. Tables 4.4, 4.17, 4.26, 4.32 and 5.1 and box 4.1 of OBR, *Economic and Fiscal Outlook*, December 2012, Cm 8481

(<http://cdn.budgetresponsibility.independent.gov.uk/December-2012-Economic-and-fiscal-outlook23423423.pdf>).

target (see Figure 5.16). For more discussion of the Chancellor's fiscal targets, see Chapter 4.

### Oxford Economics central case

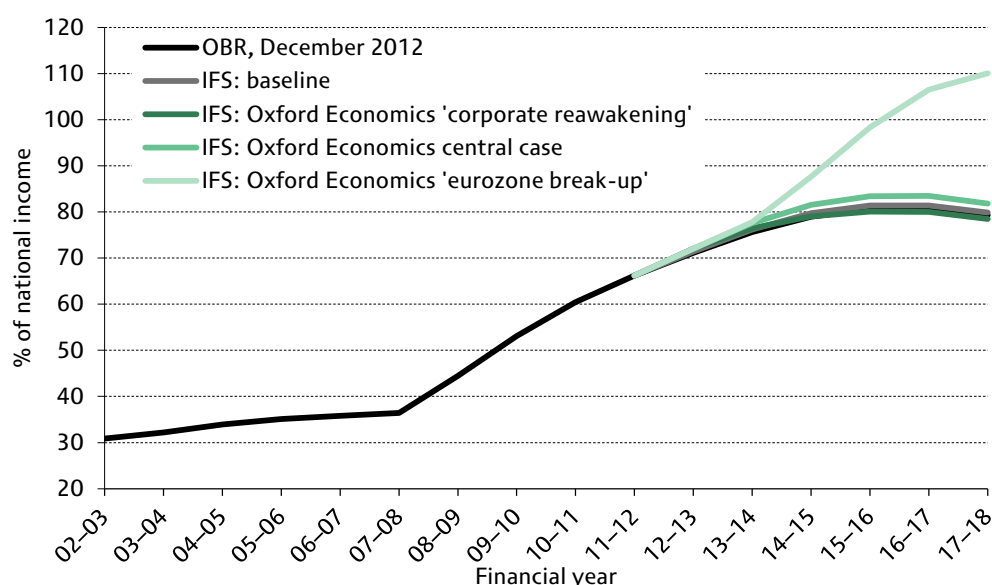
Under the Oxford Economics central scenario, the IFS forecast is again for the headline fiscal aggregates in 2017–18 to be similar to the OBR's latest forecast. However, under this scenario, trend output is higher than the OBR estimates and therefore there is more spare capacity in the UK economy throughout the forecast horizon. This means that, whereas under the OBR's forecast the headline current budget deficit of 0.4% of national income in 2017–18 translates into a cyclically-adjusted surplus of 0.9%, our forecast headline deficit of 0.2% of national income under the Oxford Economics central scenario translates into a much larger cyclically-adjusted surplus of 2.1% of national income.<sup>11</sup> Therefore, we judge that the underlying health of the public finances would be significantly better under the Oxford Economics central scenario than under the OBR's scenario. If the economy and public finances were to follow the path suggested by the Oxford Economics central scenario (and our forecasts for the public finances on that basis), Mr Osborne could reduce the total planned fiscal consolidation from 9.2% of national income to 8.0% of national income by 2017–18 and still leave cyclically-adjusted borrowing the same as projected by the OBR in the December 2012 Autumn Statement – and, therefore, still comply with his fiscal mandate with the same margin as suggested by

<sup>11</sup> The figures for the cyclically-adjusted current budget surplus presented in Figure 5.15 have (unlike those cited in the text and those in the tables in Appendix A) been adjusted to strip out the effect of the reclassification of the Bank of England's Asset Purchase Facility, Bradford & Bingley and Northern Rock Asset Management on the public balance sheet. See Chapter 4 for a longer discussion of these changes and why we argue that the Chancellor's fiscal targets should continue to be judged on a basis that excludes these reclassifications, as shown in Figure 5.15.

the OBR's latest forecast. This 1.2% of national income difference is equivalent to £19 billion in today's terms.

However, even though the underlying health of the public finances is significantly better under the Oxford Economics central case than under the OBR's forecast, we forecast that there would nonetheless be a slightly higher level of total borrowing over the next few years – largely driven, as in our baseline forecast, by higher spending by central government departments than the OBR assumes. Therefore, we forecast that public sector net debt would peak at 82.7% of national income in 2015–16 (2.8 percentage points above the peak level forecast by the OBR) before falling to 79.7% of national income in 2017–18.<sup>12</sup> Under this scenario, as under the OBR's forecast and our baseline one, the Chancellor would be on course to miss his supplementary fiscal target. This is shown in Figure 5.16.

Figure 5.16. Public sector net debt forecasts



Note: As Figure 5.15.

Source: As Figure 5.15.

### Oxford Economics optimistic case: 'corporate reawakening'

Under the more optimistic Oxford Economics scenario, stronger economic growth – in particular in employment, consumer spending and real earnings – means that we forecast the public finances would recover more quickly. We forecast that public sector net borrowing would fall to just 0.7% of national income in 2017–18 (compared with the OBR's forecast of 1.6% and our baseline forecast of 1.5%). Part of the faster growth in this scenario represents a more rapid recovery from recession and is, therefore, only a cyclical improvement. But part represents stronger growth in trend output. As a result, the cyclically-adjusted position is also stronger than under any of the other scenarios we consider. Under this scenario, the Chancellor would still be on course to miss his supplementary fiscal target, as we forecast that net debt would rise between 2014–15

<sup>12</sup> The figures for public sector net debt presented in Figure 5.16 have (unlike those cited in the text and those in the tables in Appendix A) been adjusted to strip out the effect of the reclassification of the Bank of England's Asset Purchase Facility, Bradford & Bingley and Northern Rock Asset Management on the public balance sheet. See Chapter 4 for a longer discussion of these changes and why we argue that the Chancellor's fiscal targets should continue to be judged on a basis that excludes these reclassifications, as shown in Figure 5.16.

and 2015–16 (as shown in Figure 5.16). However, he could reduce his planned fiscal consolidation by 1.6% of national income (or £25 billion in today's terms) and still meet his fiscal mandate with the same margin as forecast by the OBR in December 2012. Oxford Economics places a 15% chance on a scenario similar to this occurring.

#### **Oxford Economics pessimistic case: 'eurozone break-up'**

Under the more pessimistic Oxford Economics scenario, we forecast that the health of the UK public finances through to 2017–18 would be much worse. Another deep recession in 2014–15 and 2015–16 (driven in this scenario by six countries leaving the eurozone by the end of 2014), with a decline in employment and much lower growth in corporate profits than forecast under the other scenarios, is projected to lead to public sector net borrowing rising to 9.1% of national income in 2015–16. This would leave the Chancellor on course to breach his supplementary target and, depending on when such a scenario emerged, potentially in breach of his fiscal mandate. More fundamentally, we estimate that a scenario similar to this would send public sector net debt above 100% of national income. This would leave the UK even less well prepared to deal with future public finance challenges, such as any arising from the ageing of the population (discussed later) or from future recessions. Oxford Economics places a 15% chance on a scenario similar to this occurring.

#### **Summary of different scenarios of the public finances**

These alternative scenarios for the public finances highlight some of the risks surrounding the latest official forecasts and the government's fiscal consolidation plans. The upside risks that are elucidated by these scenarios are as follows:

- Oxford Economics central estimate is that the trend level of output is higher than the OBR currently estimates. This suggests there could be greater scope for tax receipts to grow and spending to fall as the economy bounces back.
- Our forecast for the public finances under the more optimistic Oxford Economics scenario shows how the public finances could recover more quickly if a more optimistic picture for the UK economy than the OBR expects materialises over the next five years.

If these upside risks materialised, some of the currently-planned fiscal consolidation could be reversed while still meeting the Chancellor's fiscal mandate with the same margin as forecast by the OBR in December 2012. Our public finance forecast suggests that under the Oxford Economics central scenario the planned fiscal consolidation could be reduced from 9.2% of national income to 8.0% of national income (a reduction of £19 billion in today's terms), whereas were OE's more optimistic scenario to emerge it could be reduced to 7.6% of national income (or by £25 billion in today's terms).

Conversely, the downside risks that are highlighted by these scenarios are the following:

- Our forecast is that central government departments will not underspend their allocated budgets in the next three years by as large a margin as the OBR forecast in December 2012. As a result of this, we expect central government spending (and hence borrowing) to be higher than forecast by the OBR.
- Our forecast for the public finances under the more pessimistic Oxford Economics scenario shows how the public finances could deteriorate further and then take even longer to recover if a more pessimistic picture for the UK economy materialises over the next five years.



Part of these downside risks are purely temporary and so would not require an additional permanent tightening of fiscal policy – although even a temporarily weaker outlook for the public finances would push the debt level up and this increase could be quite sharp, as suggested by the more pessimistic Oxford Economics scenario, which would see public sector net debt projected to exceed 100% of national income in 2016–17. In addition, part of the weaker economic performance under this scenario is forecast to be permanent and would thus eventually require a further permanent tightening of fiscal policy to return borrowing in the longer run to the levels implied by the latest OBR forecast.

## **The next challenge: pressures of an ageing population**

Even if the public finances evolve as the OBR expects up to 2017–18, further policy changes may still be required to keep the public finances on a sustainable path in the longer term. This is because there are a number of further known challenges for the public finances over the next few decades:

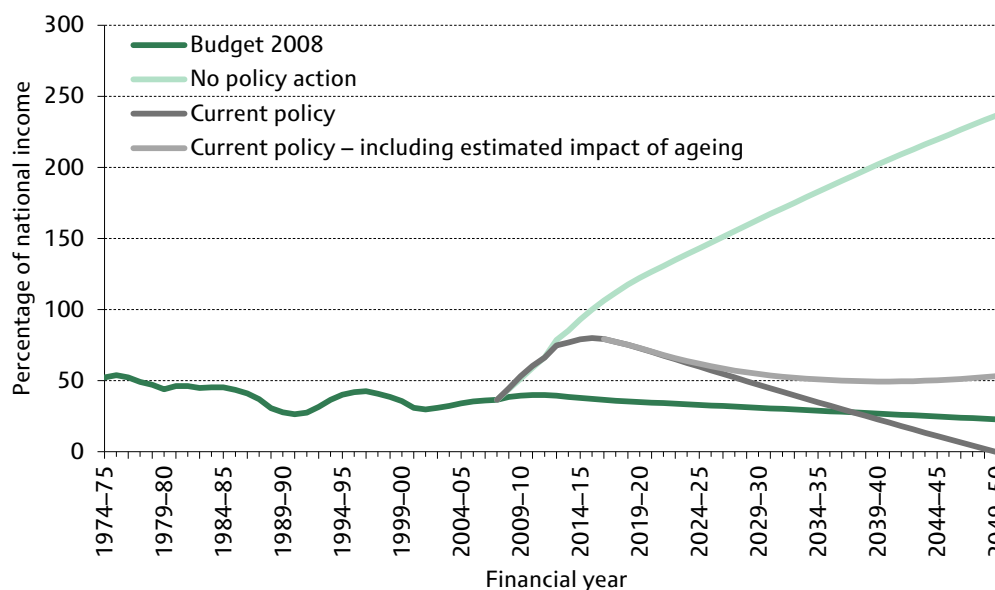
- The depletion of North Sea oil and gas reserves will lead to an important revenue stream drying up (see Chapter 10 for a discussion of the taxation of North Sea oil and gas).
- A shift to more efficient motor vehicles – which is necessary if the UK is to meet its targets to decarbonise – will erode revenues from both vehicle excise duty (VED) and fuel duties.
- As a result both of individuals living longer and of fluctuations in historic birth rates, the UK population is ageing. Under current policies, this is projected by the OBR to lead to an increase in public spending as a share of national income, as higher spending on the NHS, long-term care and state pensions outweighs the forecast decline in spending on areas such as education and public service pensions.

The first two of these imply that adjustments need to be made to offset these declining tax revenues. For example, other taxes could be increased to try to keep the overall tax burden unchanged. (The demise of revenues from VED and fuel duties strengthens further the argument for comprehensive road pricing and hopefully makes such a reform more politically feasible.) The costs of an ageing population will, arguably, require harder choices, as either a larger tax burden or cuts to spending (either in areas where it is increasing as a share of national income as the population ages or in areas where it is, or both) will be required if borrowing is to be kept constant.

If fiscal policy were to adjust fully to the public finance cost of the ageing of the population – with tax rises or spending cuts sufficient to offset completely the additional costs of an ageing population – public sector net debt would be on course to decline over time and to fall back to pre-crisis levels of 40% of national income by around 2032–33, as was shown in Figure 5.11 and is repeated in Figure 5.17. However, if instead neither taxes nor spending adjust to deal with the costs of an ageing population and thus borrowing is simply allowed to rise, public sector net debt would be on course to fall to around 50% of national income but then gradually to increase again. To avert this, and to keep us on the ‘current policy’ path, would not be painless: the estimates in the OBR’s July 2012 Fiscal Sustainability Report suggest that a combination of tax rises and spending cuts worth a total of 4.2% of national income, or £65 billion in today’s terms, would be required. The single-tier pension proposals set out in a recent DWP White Paper proposed a reform to state pensions that DWP estimates could reduce long-run spending on state pensions by



Figure 5.17. Public sector net debt – alternative scenarios



Notes: As for Figure 5.4. 'Including estimated impact of ageing' uses the OBR's latest forecasts for changes in age-related spending between 2017–18 and 2050–51 from tables 3.6 and 3.10 of Office for Budget Responsibility, *Fiscal Sustainability Report: July 2012* (<http://budgetresponsibility.independent.gov.uk/fiscal-sustainability-report-july-2012/>).

Source: As for Figure 5.4.

0.4% of national income (which is not included in Figure 5.17); this would go about a tenth of the way to offsetting the pressures of an ageing population on public spending.<sup>13</sup>

## 5.5 Conclusions

Since 2008, the UK has experienced a large economic shock that has not only temporarily affected our level of economic output but also changed most forecasters' views about the potential strength of the UK economy for evermore. As a result, we have experienced high levels of public borrowing in recent years and are only partway through a large planned fiscal consolidation designed to get the UK's public finances back to a more sustainable position. The fiscal consolidation plans include a substantial squeeze on public service spending over a seven-year period, the majority of which is yet to materialise and is set to continue well into the next parliament. One key risk to the public finances, therefore, is that this or the next government proves unable or unwilling to cut public spending as sharply as currently planned. The difficult choices implied by the planned cuts to public service spending are discussed in more detail in Chapter 6.

There is also a risk to the public finances that net tax cuts are implemented in coming Budgets. While recent history suggests that, on average, small net tax cuts have been announced in the Budgets preceding general elections, a more striking pattern is the tendency for net tax rises to be announced in the 12 months following a general election.

<sup>13</sup> Department for Work and Pensions, *The Single-Tier Pension: A Simple Foundation for Saving*, Cm 8528, 2013 (<http://www.dwp.gov.uk/docs/single-tier-pension.pdf>).

There are also a number of other uncertainties surrounding the outlook for the UK's public finances. The economy and public finances could turn out better or (as recent years have demonstrated) worse than the OBR currently expects.

On the upside, the trend level of UK economic output could be higher than the OBR currently estimates; the OBR's estimate of spare capacity in the UK economy is roughly in the middle of other independent forecasts. If spare capacity is actually greater than the OBR thinks, there would be more scope for tax revenues to grow and spending to fall as the economy bounces back over the coming years. This upside risk is demonstrated by our public finance forecast under the Oxford Economics central scenario, which suggests that structural borrowing would be 1.2% of national income (or £19 billion in today's terms) lower in the medium term than the OBR's latest forecast. Were the OBR to adopt such a scenario, Mr Osborne could reduce his planned fiscal consolidation package from 9.2% of national income to 8.0% of national income and still expect to reduce the structural deficit as his plans currently imply.

One obvious downside is that the trend level of economic output could be lower than the OBR estimates. That is certainly the view of a number of forecasters. If the currently least optimistic independent forecaster (Fathom Consulting) is correct and the output gap is 2.3 percentage points smaller than the OBR estimates, the structural deficit would be estimated currently to be around 1.6% of national income larger. Were the OBR to adopt this estimate of the output gap, and leave its assumed growth in trend output unchanged, the government would need to find approximately another £25 billion of tax increases or spending cuts to expect to reach the same cyclically-adjusted borrowing level that it is targeting for 2017–18.

In addition, there could be further adverse shocks to the UK economy – for example, driven by changes in the global economy. This could lead to substantially higher borrowing in the medium term than currently expected. Our forecast under the more pessimistic Oxford Economics scenario is that headline borrowing would still be at 7.4% of national income in 2017–18 and that public sector net debt would climb sharply to above 100% of national income. This would represent a further considerable worsening in the outlook for public sector net debt since 2008 and would leave the UK even less well prepared to deal with future public finance challenges such as those arising from the ageing of the population and those arising from any future recession.

## 6. Public spending and pay

Rowena Crawford, Jonathan Cribb and Luke Sibieta (IFS)

### Summary

- The government's fiscal consolidation plan involves significant and sustained real cuts to spending on public services. Departmental spending is forecast to be cut in real terms by 10.6% between 2010–11 and 2014–15. This would reduce departmental spending as a share of national income to 21.7% in 2014–15, the level it was back in 2002–03.
- A spending review is scheduled for 2013 to allocate spending cuts between departments in 2015–16. On average, departmental spending is set to be cut by a further 2.4% in real terms, but the government has pledged to protect NHS spending, international aid and non-investment spending on schools from real-terms spending cuts. This would leave other 'unprotected' departments facing cuts to their non-investment budgets of 2.8% and to their investment budgets of 4.9%.
- Forecasts also imply further cuts to departmental spending between 2015–16 and 2017–18. In the absence of further policy announcements, departmental spending looks set to fall by 18.6% in real terms between 2010–11 and 2017–18. If the NHS, schools and aid spending were protected from cuts through to 2017–18, then 'unprotected' departments would face budget cuts averaging 33.2% over this seven-year period. To mitigate this, further tax rises or more cuts to social security benefits after the next general election might well be on the cards.
- The public sector paybill accounts for about half of total non-investment spending by departments. To date, cuts to the public sector paybill have largely been achieved through cuts in employment rather than cuts in average pay per head. Public sector employment has fallen by about 5% (300,000) between 2010–11 and 2012–13.
- The OBR forecasts that general government employment will fall by 900,000 between 2010–11 and 2017–18. This assumes the total paybill is cut at broadly the same rate as non-investment departmental spending. However, plans submitted to the Treasury by government departments suggest that the central government paybill will be cut by more than non-investment spending up to 2014–15. Incorporating these plans up to 2014–15 implies that general government employment will be 200,000 lower in 2017–18 than forecast by the OBR. If the trend of larger cuts in the paybill continues through to 2017–18, general government employment would be 300,000 lower than OBR forecasts by 2017–18.
- The government has not yet set public sector pay awards beyond 2014–15. The number of future job cuts could be reduced by maintaining tight pay awards. The OBR currently assumes that pay-per-head will grow in cash terms by 3% per year between 2014–15 and 2017–18. If this were reduced to 2% per year (similar to that under the current pay awards), then the total number of net job losses could be reduced by 140,000. Before setting future public sector pay policy, it would seem prudent for the government to investigate the impact of the current pay freeze on public sector recruitment and retention, and the relative effects of workforce quality, workforce size and cuts to non-labour inputs on public service quality.

## 6.1 Introduction

The government is currently partway through implementing a planned seven-year fiscal consolidation package, and is relying heavily on cuts to public spending to achieve its planned reduction in public sector borrowing. Total public spending is planned to be cut by 4.6% in real terms between 2010–11 and 2017–18. However, spending on some areas, such as debt interest payments and spending on social benefits (particularly pensioner benefits), is forecast to grow in real terms over this period (by 35.3% and 4.6% respectively), meaning that the pressure on public service spending is even greater. Spending by Whitehall departments on the delivery and administration of public services is forecast to fall by 18.6% in real terms between 2010–11 and 2017–18.

Since a large proportion of departmental spending goes to pay public sector workers (about half of non-investment spending in 2010–11), it is unsurprising that these spending cuts are partly being delivered through cuts to public sector pay and employment. Pay in the public sector is being squeezed, with freezes in headline pay levels in 2011–12 and 2012–13 (except for the lowest-paid workers), and 1% average increases in each of 2013–14 and 2014–15. In addition, the Office for Budget Responsibility (OBR) is currently forecasting that general government employment<sup>1</sup> will fall by over 900,000 between 2010–11 and 2017–18.

This chapter starts by discussing the outlook for departmental spending and the decisions made by the government to date: Section 6.2 describes the decisions taken in the 2010 Spending Review, shows how spending settlements for departments might pan out in 2015–16, and discusses the trade-off between departmental spending and tax increases or social security spending cuts that the latest official public finance projections suggest will be faced in 2016–17 and 2017–18. It ends by describing what effect the government's decisions have had on the changing composition of public spending. Section 6.3 then focuses on public sector pay and employment. The contribution of each of these to the spending cuts experienced to date is described, followed by a discussion of the outlook for public sector employment, pay and government pay policy. Section 6.4 concludes.

## 6.2 Departmental spending since 2010–11

### The overall outlook for departmental spending

For the purposes of planning public spending HM Treasury divides total public spending into 'departmental expenditure limits' (DEL) and 'annually managed expenditure' (AME). The former are annual limits for departmental programme and administration expenditure, which are usually planned some years in advance in Spending Reviews and are essentially the amount that Whitehall departments spend on the administration and delivery of public services. The latter contains items of spending that the Treasury argues are less under its direct control, such as social security and debt interest spending (which will be affected by the prevailing economic conditions at the time), spending by local authorities financed from council tax and spending by public corporations.<sup>2</sup>

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<sup>1</sup> This definition includes central and local government but excludes public corporations.

<sup>2</sup> The government actually has greater control over some aspects of AME than its classification suggests; for example, the number of people qualifying to receive particular benefits under given rules may be out of the

The October 2010 Spending Review set total departmental spending for the four years 2011–12 to 2014–15, and allocated this DEL budget between departments. These plans have been revised slightly subsequently, with the 2011 and 2012 Autumn Statements allocating additional capital (investment) spending and planning some further cuts to departments' resource (non-investment) spending. In addition, the OBR expects departments to underspend against their current budget allocations in 2012–13, 2013–14 and 2014–15. The latest OBR forecast is for total DEL to be 10.6% lower in real terms by 2014–15 than its 2010–11 level. (If the total DEL forecast for 2014–15 were unchanged since the 2010 Spending Review, this would imply a real DEL cut of 9.9% from its 2010–11 level.) This cut to DEL is planned to fall disproportionately on investment spending, with capital DEL forecast to fall by 21.1% in real terms over this four-year period and resource DEL forecast to fall by 9.0%.

**Table 6.1. Implied departmental spending growth after 2014–15**

	Spending, 2010–11 (2012–13 prices)	Implied departmental spending growth			
		2010–11 to 2014–15	2014–15 to 2015–16	2015–16 to 2017–18	2010–11 to 2017–18
Average annual real growth rate					
Total managed expenditure	£724.9bn	–0.8%	–0.1%	–0.6%	–0.7%
of which:					
Annually managed expenditure	£331.2bn	1.4%	2.1%	2.0%	1.6%
Departmental spending limits	£393.7bn	–2.8%	–2.4%	–3.4%	–2.9%
of which:					
Resource DEL (excl. depreciation)	£341.4bn	–2.3%	–1.7%	–3.7%	–2.6%
Capital DEL	£52.3bn	–5.8%	–8.1%	–0.5%	–4.6%
Cumulative real growth rate					
Total managed expenditure	£724.9bn	–3.3%	–0.1%	–1.2%	–4.6%
of which:					
Annually managed expenditure	£331.2bn	5.5%	2.1%	4.0%	12.1%
Departmental spending limits	£393.7bn	–10.6%	–2.4%	–6.6%	–18.6%
of which:					
Resource DEL (excl. depreciation)	£341.4bn	–9.0%	–1.7%	–7.3%	–17.1%
Capital DEL	£52.3bn	–21.1%	–8.1%	–1.0%	–28.3%

Notes: Forecasts for TME, DEL and AME include measures announced in the 2012 Autumn Statement. AME and DEL figures are adjusted to reverse the effects of the business rate retention policy and the localised council tax reduction schemes (which have changed the definition of some spending between DEL and AME) in order to provide a more consistent comparison over time. Total managed expenditure has been adjusted for the effects of Spectrum auction receipts (2000–01 and 2012–13), the transfer of the Royal Mail Pension Fund into the public sector (2012–13), the closure of the Asset Purchase Facility (2012–13 onwards) and the reclassification of Bradford & Bingley and Northern Rock Asset Management (2012–13 onwards).

Source: Authors' calculations using table 1.1 of HM Treasury, *Public Expenditure Statistical Analyses 2012* ([http://www.hm-treasury.gov.uk/pespub\\_pesa12.htm](http://www.hm-treasury.gov.uk/pespub_pesa12.htm)), table 2.4 of HM Treasury, *Autumn Statement 2012* ([http://cdn.hm-treasury.gov.uk/autumn\\_statement\\_2012\\_complete.pdf](http://cdn.hm-treasury.gov.uk/autumn_statement_2012_complete.pdf)) and table 4.21 and table D (in box 4.2, including correction at [http://budgetresponsibility.independent.gov.uk/wordpress/docs/Correction-to-Table-D-in-Box-4\\_2.pdf](http://budgetresponsibility.independent.gov.uk/wordpress/docs/Correction-to-Table-D-in-Box-4_2.pdf)) of OBR, *Economic and Fiscal Outlook*, December 2012 (<http://cdn.budgetresponsibility.independent.gov.uk/December-2012-Economic-and-fiscal-outlook23423423.pdf>).

government's control, but it can determine the qualification criteria and the generosity of the payment concerned. In addition, over a third of future social security spending is on state pensions, which is relatively easy to predict.

The government has not made explicit plans for departmental spending after 2014–15. However, given its policy assumption for total spending (total managed expenditure, TME), and the OBR's forecasts for AME in the absence of any new policies, there is an implicit forecast for future departmental spending.<sup>3</sup> The current implied forecast for real growth in departmental spending after 2014–15 is described in Table 6.1. While total public spending is planned to be essentially frozen in real terms between 2014–15 and 2015–16, AME is forecast to increase by 2.1%, implying that departmental spending would be cut by 2.4% in real terms in 2015–16. Given the government's stated policy assumption for public sector gross investment (a real freeze after 2014–15), within departmental spending capital spending is implied to be cut to a greater extent than resource spending, by 8.1% in real terms as opposed to 1.7%. In part this is due to the temporary boost to capital spending allocated for 2014–15 in the 2012 Autumn Statement – in the absence of that extra £2.95 billion in 2014–15, capital spending in 2015–16 would only be 1.3% lower in real terms than in 2014–15.

Between 2015–16 and 2017–18, total public spending is forecast to be cut by 0.6% a year on average in real terms. Given that AME is still forecast to be growing (by an average 2.0% a year), this leaves departmental spending facing implied cuts of 3.4% a year on average (3.7% a year average real cuts to resource spending and 0.5% a year average real cuts to capital spending). Of course, these years will form part of the next Parliament, and a future government may choose to top up the total spending plans or reduce AME spending further in order to mitigate these implied cuts to departmental spending. Growth in AME spending over this period is discussed in more detail in Box 6.1.

#### **Box 6.1. Growth in AME, 2014–15 to 2017–18**

Over the period of the government's fiscal consolidation, 2010–11 to 2017–18, total public spending is forecast to be cut by an average 0.7% a year. However, this aggregate disguises marked differences in the growth of different components of public spending: AME is actually forecast to increase in real terms, while DEL spending is forecast to be cut by an average 2.9% a year in real terms. The cuts to DEL spending could be reduced, within a given total spending envelope, if the government introduced new policies that reduced AME spending. However, by definition, AME includes many areas of spending that are less easy for the government to control in the short run. Table 6.2 describes the forecast growth in the largest components of AME over the period 2010–11 to 2017–18. Spending on social security and tax credits (the largest single component of AME, accounting for nearly two-thirds of AME in 2010–11) is forecast to increase by an average 0.6% a year over these seven years, contributing around 24% to the total real increase in AME. By 2017–18, spending on social security and tax credits is expected to be 4.6% greater than it was in 2010–11. In large part, this increase is due to increased spending on pensions: forecasts from the Department for Work and Pensions (DWP) suggest that spending on the state pension in Great Britain, which accounts for nearly half of all benefit expenditure administered by DWP, will increase by nearly 20% in real terms between 2010–11 and 2017–18 (an average annual real increase of 2.5%).

<sup>3</sup> The government's stated policy assumption is that, after 2014–15, TME should continue to fall at the same average annual real rate as over the Spending Review period and public sector gross investment should remain constant in real terms (paragraph 4.114 of OBR, *Economic and Fiscal Outlook*, December 2012 (<http://cdn.budgetresponsibility.independent.gov.uk/December-2012-Economic-and-fiscal-outlook23423423.pdf>)). The reason that the growth rate of TME described in Table 6.1 is not constant after 2014–15 is that the government excludes from its measure of 2014–15 spending the effect of some measures announced in the 2011 and 2012 Autumn Statements and the OBR's forecast underspends.

Table 6.2. Growth in components of AME

	2010–11 (£ billion, 2012–13 prices)	Average annual real growth			
		2010–11 to 2014–15	2014–15 to 2015–16	2015–16 to 2017–18	2010–11 to 2017–18
AME	317.6	1.6%	1.9%	1.8%	1.7%
<i>of which:</i>					
Capital AME	15.6	–4.9%	0.3%	–0.2%	–2.9%
Resource AME	302.0	1.9%	2.0%	1.9%	1.9%
<i>of which:</i>					
Social security and tax credits	203.5	0.5%	0.9%	0.7%	0.6%
<i>of which:</i>					
State pension (GB)	73.3	3.2%	1.8%	1.6%	2.5%
Gross debt interest payments	44.9	2.6%	7.1%	6.7%	4.4%
Locally-financed expenditure	23.5	2.0%	2.1%	1.9%	2.0%
Net public service pensions	5.9	20.3%	7.2%	5.8%	14.1%
Other	24.1	5.4%	–1.0%	–0.6%	2.7%

Notes: Resource AME excludes depreciation. AME in this table is defined according to the OBR definition, and includes only those components that are included in the fiscal aggregates of public sector current expenditure and public sector gross investment. The figures therefore differ from those presented in Table 6.1, where AME is defined according to the HM Treasury definition that includes some other components. A reconciliation between the two definitions is provided by the OBR Economic and Fiscal Outlook Supplementary Fiscal Tables.

Sources: Office for Budget Responsibility, Economic and Fiscal Outlook, March 2012 (Table 4.17) and December 2012 (Table 4.18). State pension spending in Great Britain from Department for Work and Pensions, Benefit Expenditure Tables, medium-term forecast.

Gross debt interest payments, locally-financed expenditure (the part of local authority spending financed through council tax), and net public service pension payments (i.e. payments to those receiving these pensions less the contributions of current members) are also all forecast to be growing in real terms. Together these areas of spending comprised less than one-quarter of AME in 2010–11, but they are forecast to account for 71% of the total real increase in AME over the seven years to 2017–18. Importantly, the level of spending on these areas is largely out of the government's immediate control.

Other resource AME includes transfers to EU institutions, single-use military expenditure, spending on the BBC and spending on environmental levies (which is largely balanced by receipts), along with some smaller areas of spending. Together these areas of AME are forecast to grow by an average 2.7% a year in real terms between 2010–11 and 2017–18.

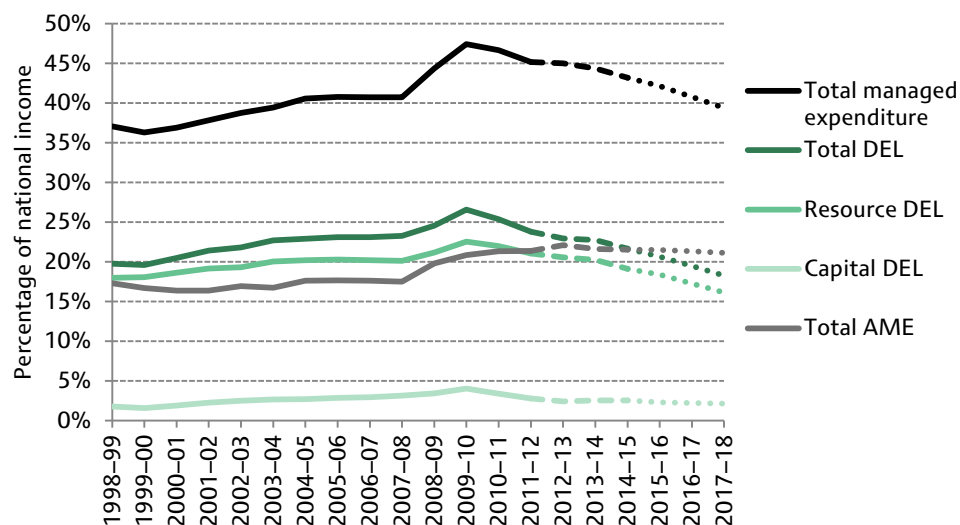
To achieve a reduction in future AME that would have a significant impact on the possible growth rate of DEL spending, a future government would likely have to look at further reductions to spending on social security and tax credits for working-age individuals or decide to cut back on spending on pensioners. Some options are described in more detail in Chapter 8.

Taking the period of the government's planned fiscal consolidation as a whole, in the absence of new policies total departmental spending would be cut by 18.6% in real terms between 2010–11 and 2017–18. Capital DEL is currently forecast to be cut by 28.3% over this seven-year period, and resource DEL by 17.1%.



Figure 6.1 describes what these projected real growth rates imply for TME, DEL and AME as a share of national income through to 2017–18, and how this compares with the levels seen since 1998–99 (the earliest year for which consistent data exist). Departmental spending increased rapidly under the last Labour government, from 19.7% of national income in 1998–99 to 23.2% in 2007–08. Over this period, AME spending was essentially unchanged at around 17.5% of national income. Total public spending, departmental spending and AME as a share of national income all increased particularly rapidly in 2008–09 and 2009–10. However, this was more to do with unexpectedly low levels of national income (due to both inflation and real growth over these years being lower than expected at the time of the October 2007 Comprehensive Spending Review) than a deliberate policy decision to increase spending as a share of national income over this period.

Figure 6.1. Departmental spending, 1998–99 to 2017–18



Notes: As Table 6.1. Resource DEL includes depreciation. Solid lines indicate out-turn data. Dashed lines indicate Treasury plans for the remaining years of the 2010 Spending Review period. Dotted lines indicate OBR forecasts for DEL on the basis of unchanged policies.

Source: Resource DEL, capital DEL and total managed expenditure are authors' calculations using HM Treasury, *Public Expenditure Statistical Analyses* (various years), HM Treasury, *Autumn Statement 2012* ([http://cdn.hm-treasury.gov.uk/autumn\\_statement\\_2012\\_complete.pdf](http://cdn.hm-treasury.gov.uk/autumn_statement_2012_complete.pdf)) and Office for Budget Responsibility, *Economic and Fiscal Outlook December 2012* (Supplementary Material). Total DEL is calculated as the sum of resource DEL and capital DEL. Total AME has been calculated as the residual between TME and total DEL.

The government is planning to cut DEL as a share of national income from 25.3% in 2010–11 to 21.7% in 2014–15. This would bring departmental spending back to the share of national income that it was in around 2002–03. The implicit forecasts for departmental spending suggest it would fall to 18.3% of national income by 2017–18 – the lowest level seen over the two decades since the DEL/AME framework for planning public spending was introduced. AME, on the other hand, is not forecast to fall as a share of national income over this period – by 2017–18, it is forecast to amount to 21.1% of national income, around the same as in 2010–11. An implication of this is that from 2015–16 onwards, AME will outstrip DEL for the first time and will account for more than half of total spending.

Figure 6.1 also splits departmental spending into resource DEL and capital DEL. Resource DEL spending is to be cut from 22.0% of national income in 2010–11 to 19.1% in 2014–

15, and is implied to fall further to 16.1% by 2017–18. Capital DEL is to be cut from 3.4% of national income in 2010–11 to 2.5% in 2014–15, and is implied to fall to 2.1% by 2017–18. The majority of departmental spending is therefore not on investment. Capital DEL increased from below 10% of total DEL in 1998–99 to over 15% in 2009–10, and is forecast to fall back to around 12% of total DEL by 2017–18.

## Spending Review 2010 (2011–12 to 2014–15)

The October 2010 Spending Review allocated total DEL between Whitehall departments for the four years 2011–12 to 2014–15. These plans have been revised slightly subsequently, with the 2011 and 2012 Autumn Statements allocating additional capital spending and planning some further cuts to departments' resource spending. In addition, the OBR is forecasting that departments will underspend against their allocated budgets in 2012–13, 2013–14 and 2014–15 (by £7.5 billion, £4.5 billion and £3.5 billion respectively). The latest forecast cuts between 2010–11 and 2014–15 by department are described in Figure 6.2 – these figures for individual departments do not include the OBR's forecast underspend as the OBR has not specified which departments it expects to underspend or by how much.

The relative winners from the 2010 Spending Review allocations were: the Department for International Development, which saw an increase in its budget so that overseas aid spending could be increased to 0.7% of gross national income by 2013, in line with the government's commitment; the Department for Energy and Climate Change (DECC), which saw an increase in its capital budget, in large part to fund the development of carbon capture and storage (CCS) technology; and the NHS, for which the Prime Minister promised real budget increases each year over the course of this Parliament. The biggest loser from the Spending Review was the Department of Communities and Local Government (DCLG), which is forecast to see a two-thirds reduction in its Communities budget – in large part due to cuts to spending on social housing.<sup>4,5</sup>

To date, we only have out-turn data for the first year of the 2010 Spending Review period, 2011–12. In 2011–12, the majority of Whitehall departments actually underspent on their budgets. Figure 6.3 shows, for departments that underspent by more than £0.1 billion, the proportion of their budgets that were surrendered through Budget Exchange with agreement of HM Treasury (and will therefore be available to spend in 2012–13) and the proportion of their budgets that were underspent and will not be transferred into future years.<sup>6</sup> The department that underspent the largest proportion of its budget was the Department for Energy and Climate Change, whose £0.4 billion underspend was 13.6% of its 2011–12 budget. This is largely due to an underspend on developing CCS technology. In absolute terms, the largest underspender was the NHS – the biggest Whitehall department – which underspent by £1.8 billion (of which only £0.3 billion was

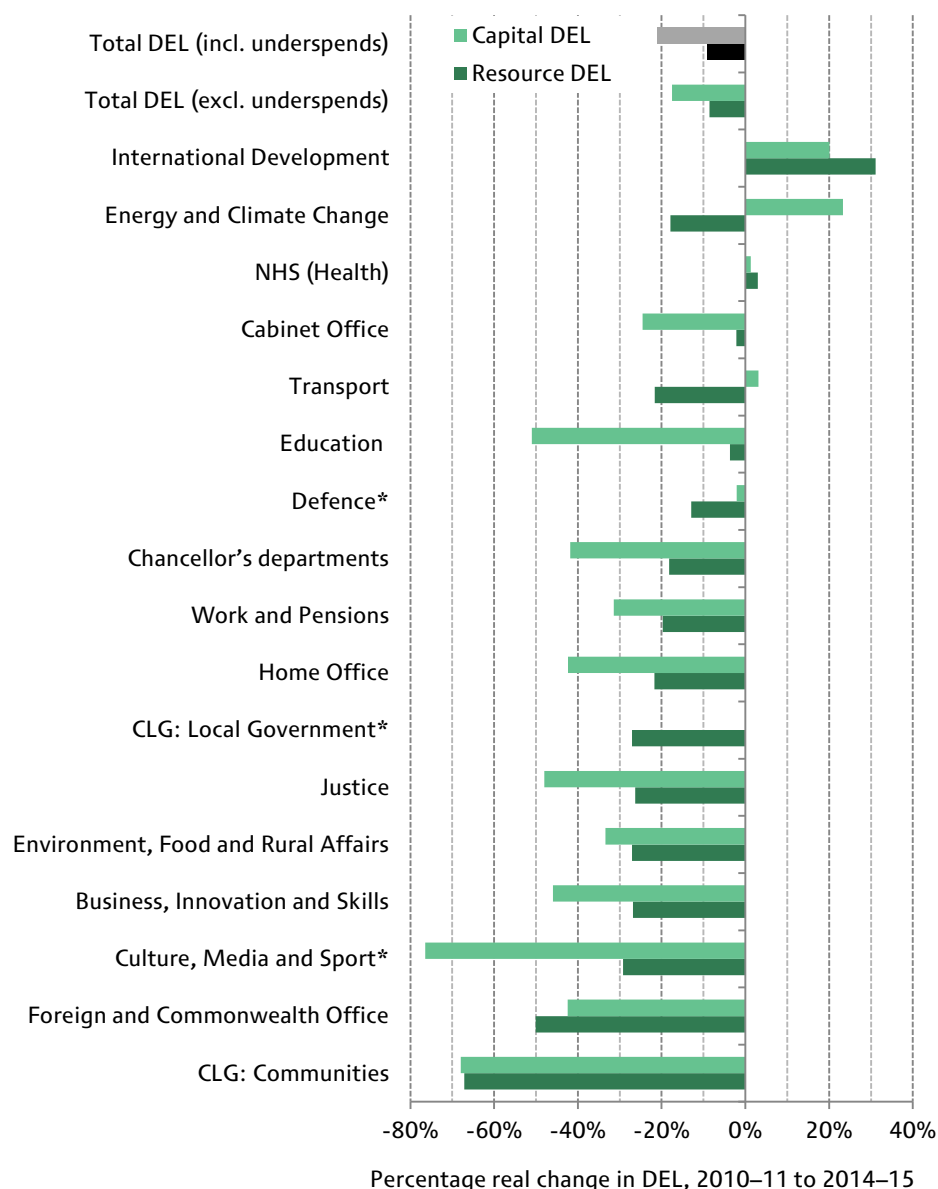
<sup>4</sup> The DCLG is unique in that it has two separate DELs. The 'CLG: Local Government' DEL includes Revenue Support Grant, national non-domestic rates, and related grants to local authorities in England that support services that are typically the overall responsibility of other government departments (such as police and social services). The 'CLG: Communities' DEL includes the department's main programme expenditure and administration costs.

<sup>5</sup> For more detail on the 2010 Spending Review settlements, see R. Crawford, C. Emmerson, D. Phillips and G. Tetlow, 'Public spending cuts: pain shared?', in M. Brewer, C. Emmerson and H. Miller (eds), *The IFS Green Budget: February 2011*, IFS Commentary 117, 2011 (<http://www.ifs.org.uk/budgets/gb2011/11chap6.pdf>).

<sup>6</sup> The Budget Exchange system allows departments to carry forward underspends of up to 1% of resource DEL and 2% of capital DEL from one year to the next, provided that the underspend is forecast in advance of the January Supplementary Estimates.

surrendered through Budget Exchange), which is equivalent to 1.7% of its 2011–12 budget.

Figure 6.2. Spending changes, 2010–11 to 2014–15, by department

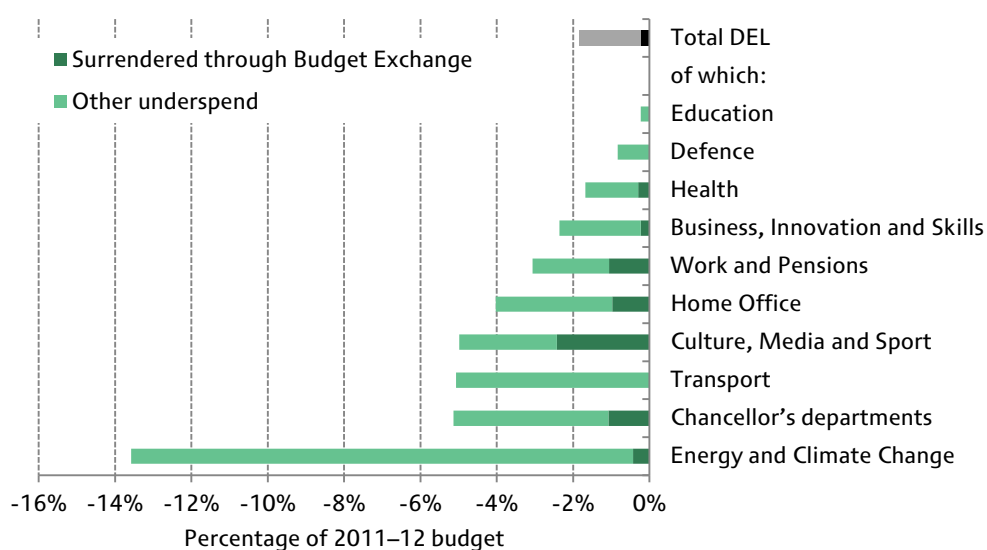


\* The Ministry of Defence budget excludes the cost of 'MOD operations and peacekeeping', which are met from the Special Reserve. CLG: Local Government does not have a capital DEL budget. Culture, Media and Sport includes costs associated with the Olympics.

Note: Figures for individual departments do not include the OBR's forecast underspend against planned budgets in 2014–15 since only a total underspend across DEL has been forecast. 'Chancellor's departments' includes HM Treasury, National Savings and Investments, Government Actuary's Department, HM Revenue and Customs, National Investment and Loans Office, Royal Mint and Crown Estate Office. Personal Social Services is included in CLG Local Government.

Source: Authors' calculations using table 1.12 of HM Treasury, *Public Expenditure Statistical Analyses 2012* ([http://www.hm-treasury.gov.uk/pespub\\_pesa12.htm](http://www.hm-treasury.gov.uk/pespub_pesa12.htm)), adjusted for table 2.2 of HM Treasury, *Autumn Statement 2012* ([http://cdn.hm-treasury.gov.uk/autumn\\_statement\\_2012\\_complete.pdf](http://cdn.hm-treasury.gov.uk/autumn_statement_2012_complete.pdf)). Table 1.18 of Ministry of Defence, *UK Defence Statistics 2011* (<http://www.dasa.mod.uk/modintranet/UKDS/UKDS2011/ukds.php>).

Figure 6.3. Underspends by department, 2011–12



Notes: Includes departments that underspent by more than £0.1 billion. Culture, Media and Sport includes costs associated with the Olympics. 'Chancellor's departments' includes HM Treasury, National Savings and Investments, Government Actuary's Department, HM Revenue and Customs, National Investment and Loans Office, Royal Mint and Crown Estate Office.

Source: Authors' calculations using HM Treasury, *Public Expenditure Statistical Analyses* (2011 and October 2012 National Statistics update) and *Supplementary Estimates 2011–12* ([http://www.hm-treasury.gov.uk/psr\\_pse\\_201112.htm](http://www.hm-treasury.gov.uk/psr_pse_201112.htm)).

While small underspends are not normally surprising (indeed, it would be amazing if every department managed to spend its allocation exactly every year), in an era when most departments are facing budget cuts these underspends that are not qualifying for Budget Exchange are somewhat more strange. One possible explanation is that Whitehall departments have looked ahead to the cuts they face in 2012–13, 2013–14 and 2014–15 and decided that over-delivering on the cuts in 2011–12 would leave them better placed to keep within these tight budgets going forwards. Underspends could also be indicative of a political desire to be seen to be able to deliver the government's planned budget cuts (or aversion to being seen to be unable to control spending), or alternatively simply be symptomatic of poor financial management. The OBR has forecast further underspends against the Treasury planned DEL budgets in each year 2012–13 to 2014–15 (discussed in more detail in Chapter 5) – while an underspend looks likely for 2012–13 given data on central government spending to date, it remains to be seen how accurate its forecast is for years beyond that.

### Spending Review 2013 (2015–16)

The government has stated that it will hold a Spending Review in the first half of 2013, at which point it will set out the allocation of DEL between departments for 2015–16. As described above, on average in 2015–16 departmental spending is to be cut by 2.4% in real terms, with a 1.7% cut in resource DEL and an 8.1% cut in capital DEL. However, not all departments will see these average cuts in their budgets. The 2012 Autumn Statement says that, 'In line with the policy set at Spending Review 2010, spending on health, schools and ODA [Official Development Assistance] will be protected from further

reductions'.<sup>7</sup> This means that the other 'unprotected' departments will see larger than the average cut to their budgets.

Figure 6.4 shows two possible ways in which the spending cuts could be allocated between departments. In both scenarios, the total budget for the NHS in England is frozen in real terms, the Department for International Development (DFID) sees its total budget increase in line with nominal national income (which should enable spending on international aid to be maintained at 0.7% of gross national income) and, within the education budget, resource spending on schools is frozen in real terms. In addition, we assume that the Treasury will allocate £1 billion of resource spending and £0.5 billion of capital spending in 2015–16 to the Reserve (in other words, an amount unallocated between departments, which can then be made available to departments in future as need arises) and that no money will be allocated to the Special Reserve (which is used to fund the net additional costs of military operations). To the extent that a greater proportion of DEL than this is allocated to the reserves in 2015–16, the required DEL cuts across departments will be greater than those illustrated in Figure 6.4. The spending allocations for the devolved administrations of Scotland, Wales and Northern Ireland are calculated according to the Barnett formula and are discussed in Box 6.2.

The 2012 Autumn Statement stated that the government 'will operate on the principle that departmental resource budgets will continue on the same trajectory in 2015–16 as over the period of Spending Review 2010'.<sup>8</sup> We assume, by contrast, in the 'same trajectory' scenario described in Figure 6.4, that all 'unprotected' Whitehall departments receive the same percentage cut to their capital DEL as each other, while the real cut to their resource DEL is a fixed proportion of the real cut to their resource DEL budget between 2010–11 and 2014–15. Each 'unprotected' Whitehall department would be required to cut its real-terms resource budget by 46% of its average annual real cut over the 2010 Spending Review period in order for the government's cut to overall resource DEL spending to be achieved.

This 'same trajectory' scenario implies a worse settlement for those departments that saw their resource budgets cut by a larger-than-average amount in the 2010 Spending Review, such as the Communities part of the Department for Communities & Local Government and capital-intensive departments such as Transport and Energy & Climate Change. Whilst in some sense this might be interpreted as being a continuation of the government's priorities to date, departments that will have delivered large budget cuts since 2010–11 may not find it so easy to do so again. For example, a large proportion of the reduction in the DEL budget of the Department for Business, Innovation & Skills over the 2010–11 to 2014–15 period is being achieved through a dramatic change in the way in which teaching in higher education institutions is funded – shifting the burden from the taxpayer to future graduates.<sup>9</sup> To achieve an equivalent budget reduction in 2015–16 would require BIS to cut the non-higher-education aspects of its budget significantly (which might, for example, conflict with the government's recent policies to protect science spending, which is largely administered by BIS).

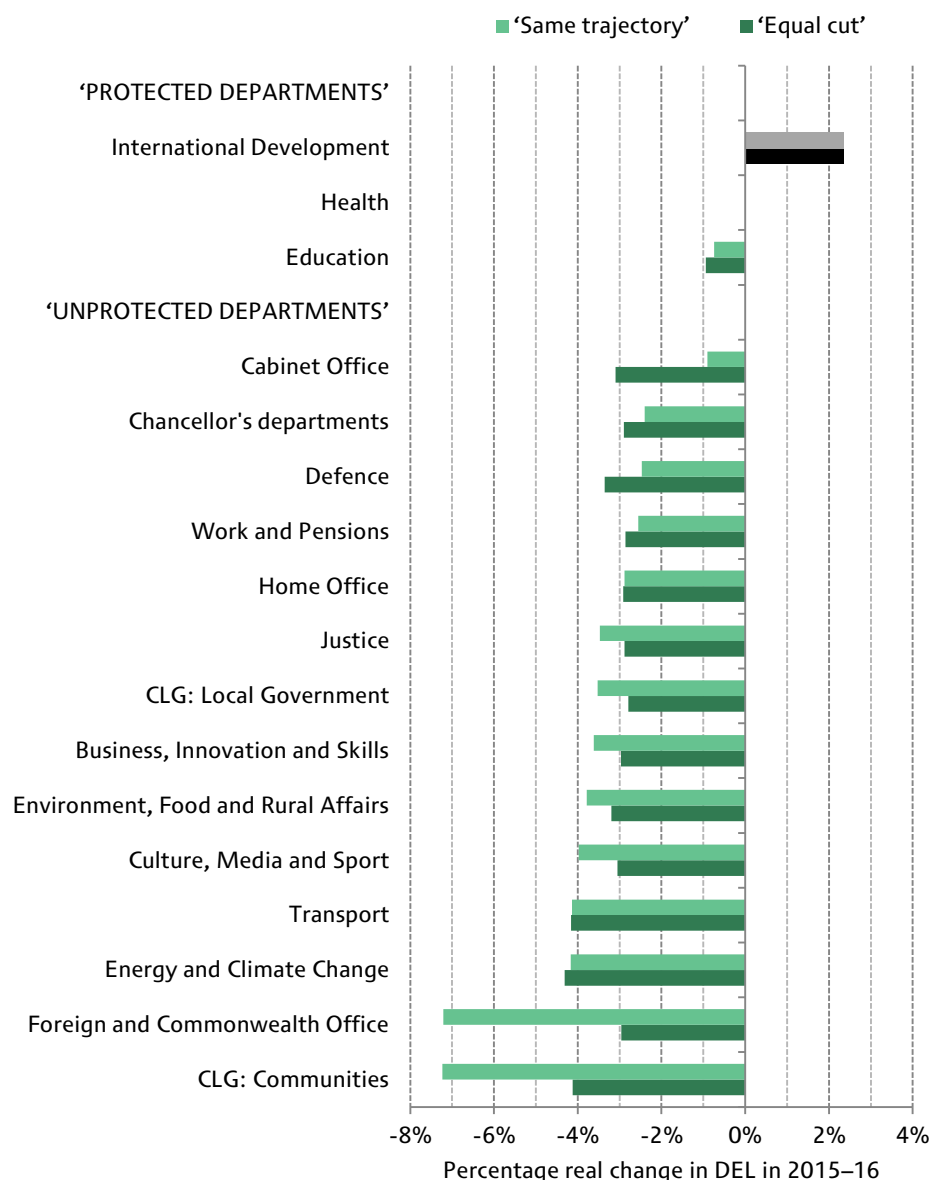
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<sup>7</sup> Paragraph 2.15 of HM Treasury, *Autumn Statement 2012* ([http://cdn.hm-treasury.gov.uk/autumn\\_statement\\_2012\\_complete.pdf](http://cdn.hm-treasury.gov.uk/autumn_statement_2012_complete.pdf)).

<sup>8</sup> Paragraph 2.15 of HM Treasury, *Autumn Statement 2012* ([http://cdn.hm-treasury.gov.uk/autumn\\_statement\\_2012\\_complete.pdf](http://cdn.hm-treasury.gov.uk/autumn_statement_2012_complete.pdf)).

<sup>9</sup> An analysis of the government's higher education reforms can be found in H. Chowdry, L. Dearden and G. Wyness, *Higher Education Reforms: Progressive but Complicated with an Unwelcome Incentive*, IFS Briefing Note 113, 2010, revised 2011 (<http://www.ifs.org.uk/publications/5366>).

Figure 6.4. Possible spending allocations by department



Notes: The Ministry of Defence budget excludes the cost of 'MOD operations and peacekeeping', which are met from the Special Reserve. 'Chancellor's departments' includes HM Treasury, National Savings and Investments, Government Actuary's Department, HM Revenue and Customs, National Investment and Loans Office, Royal Mint and Crown Estate Office. Personal Social Services is included in CLG Local Government. Figures for individual departments' spending in 2014–15 do not include the OBR's forecast underspend. Therefore to the extent that a department underspends against its 2014–15 budget, its percentage budget cut in 2015–16 would be lower than illustrated above for the same cash settlement in 2015–16.

Source: Authors' calculations using HM Treasury, *Public Expenditure Statistical Analyses 2012* ([http://www.hm-treasury.gov.uk/pespub\\_pesa12.htm](http://www.hm-treasury.gov.uk/pespub_pesa12.htm)), HM Treasury, *Autumn Statement 2012* ([http://cdn.hm-treasury.gov.uk/autumn\\_statement\\_2012\\_complete.pdf](http://cdn.hm-treasury.gov.uk/autumn_statement_2012_complete.pdf)), Ministry of Defence, *UK Defence Statistics 2011* (<http://www.dasa.mod.uk/modintranet/UKDS/UKDS2011/ukds.php>) and H. Chowdry and L. Sibiet, *Trends in Education and Schools Spending*, IFS Briefing Note 121, 2011 (<http://www.ifs.org.uk/bns/bn121.pdf>).

### Box 6.2. Spending Review 2013 and the devolved administrations

The devolved administrations of Scotland, Wales and Northern Ireland are funded largely through block grants from the Treasury; it is then up to the administrations to decide how this funding is allocated to different public services. The allocations made to Whitehall departments in the 2013 Spending Review will determine the change in the level of these block grants for 2015–16.

Changes in the block grants to the devolved administrations are determined by the Barnett formula (the levels of spending are determined by the levels of spending that existed before the introduction of the Barnett formula, and the changes in spending in each year since). The Barnett formula is designed to apply the same pounds-per-head nominal change in ‘comparable’ English spending automatically to Scotland, Wales and Northern Ireland. For example, if there is a £1 billion cash increase (decrease) in comparable English spending, the Scottish government would see a £99.2 million increase (decrease) in its block grant, the Welsh Assembly Government a £56.9 million increase (decrease) and the Northern Ireland Executive a £34.3 million increase (decrease), since the populations of Scotland, Wales and Northern Ireland are forecast to be 9.92%, 5.69% and 3.43% of the English population (respectively) in mid-2013 according to the ONS 2010-based population projections. ‘Comparable’ English spending is spending in England on functions that are devolved to Scotland, Wales and Northern Ireland. The Barnett formula is therefore not applied to changes in spending by Whitehall departments that is deemed to benefit the whole of the UK (for example, defence) or, for a given nation, to changes in spending on functions that are not devolved to that nation (for example, changes to spending on benefit administration by the Department for Work and Pensions will only affect Northern Ireland, as DWP’s spending covers England, Scotland and Wales).

Table 6.3. Implied real block grant change for the devolved administrations

	Real change, 2014–15 to 2015–16	Real change, 2010–11 to 2015–16
Scotland	–1.6%	–12.0%
Wales	–1.6%	–12.6%
Northern Ireland	–1.7%	–13.2%
UK	–2.4%	–12.8%

The implications of the ‘same trajectory’ scenario for the budgets of the devolved administrations in 2015–16 are calculated according to the Barnett formula and are shown in Table 6.3.<sup>a</sup> The real cuts to the block grants of Scotland, Wales and Northern Ireland are smaller than the average real cut to departmental spending across the UK as a whole (1.6%, 1.6% and 1.7% respectively, compared with 2.5%). In part this is because spending deemed to benefit the whole of the UK (such as defence) is projected to be cut by more on average than spending on England (large parts of which – for example, health – have been relatively protected). However, in part this effect also arises simply because of the way the Barnett formula works. The level of spending per head is greater in Scotland, Wales and Northern Ireland than it is in England, and so the same pounds-per-head reduction in spending would represent a smaller proportionate budget cut to Scotland, Wales or Northern Ireland than it would to England.

<sup>a</sup> The ‘Barnetttable’ proportions of each department’s budget are assumed to be broadly the same as in the 2010 Spending Review statement of funding. For more explanation of the Barnett formula, see box 6.2 of R. Crawford, C. Emmerson, D. Phillips and G. Tetlow, ‘Public spending cuts: pain shared?’, in M. Brewer, C. Emmerson and H. Miller (eds), *The IFS Green Budget: February 2011*, IFS Commentary 117, 2011 (<http://www.ifs.org.uk/budgets/gb2011/11chap6.pdf>).



For comparison, therefore, Figure 6.4 also shows an ‘equal cut’ scenario, in which all ‘unprotected’ Whitehall departments see the same percentage change in their resource budgets (a real cut of 2.8%) and the same percentage change in their capital budgets (a real cut of 4.9%).<sup>10</sup> The different percentage changes in total DEL across different departments under this scenario arise from the different compositions of their total budget – those for which capital spending accounts for a larger proportion of their budgets, such as the Department for Energy & Climate Change and the Department for Transport, have a slightly larger-than-average total DEL cut.

**Table 6.4. Total real DEL cuts since 2010–11 (‘same trajectory’ scenario)**

Cumulative real growth between 2010–11 and 2015–16	Capital DEL	Resource DEL	Total DEL
CLG: Communities	–69.5%	–70.8%	–70.0%
Foreign and Commonwealth Office	–45.3%	–53.8%	–53.2%
Culture, Media and Sport	–77.6%	–32.0%	–45.3%
Business, Innovation and Skills	–48.6%	–29.4%	–31.5%
Environment, Food and Rural Affairs	–36.7%	–29.6%	–31.1%
Justice	–50.5%	–28.8%	–30.1%
CLG: Local Government	N/A	–29.6%	–29.5%
Home Office	–45.2%	–23.9%	–25.5%
Work and Pensions	–34.7%	–21.7%	–22.2%
Chancellor’s departments	–44.7%	–20.0%	–21.3%
Defence	–6.8%	–14.3%	–12.5%
Transport	–1.9%	–23.8%	–11.0%
Education	–53.4%	–4.1%	–10.1%
Cabinet Office	–28.2%	–2.4%	–7.0%
Health	1.3%	3.0%	2.9%
Energy and Climate Change	17.3%	–19.8%	3.8%
International Development	22.9%	34.2%	31.8%
<b>Total</b>	<b>–27.5%</b>	<b>–10.5%</b>	<b>–12.8%</b>

Notes: CLG: Local Government does not have a capital DEL budget. Personal Social Services is included in CLG Local Government. Culture, Media and Sport includes costs associated with the Olympics. The Ministry of Defence budget excludes the cost of ‘MOD operations and peacekeeping’, which are met from the Special Reserve. ‘Chancellor’s departments’ includes HM Treasury, National Savings and Investments, Government Actuary’s Department, HM Revenue and Customs, National Investment and Loans Office, Royal Mint and Crown Estate Office.

Source: As Figure 6.4.

The implications of the ‘same trajectory’ settlement described in Figure 6.4 for the total budget cut each government department would have experienced since 2010–11 are described in Table 6.4. The biggest casualty by far would be the Department for Communities and Local Government, which would see a 70% reduction in its Communities budget by 2015–16. Many other departments would see their budgets cut by around 20–30%. The departments of international development, health and education are relatively ‘protected’, although it is worth bearing in mind that the Department for Education is projected to see its investment budget more than halved between 2010–11 and 2015–16. The relative winners aside from these ‘protected’ departments would be

<sup>10</sup> To illustrate the sensitivity of these numbers to the assumption that £1 billion of resource DEL and £0.5 billion of capital DEL will be allocated to the reserves in 2015–16, if instead £2 billion and £1 billion were allocated respectively, the average cut across departments’ resource and capital budgets would be 3.6% and 6.4%.

the Department of Energy & Climate Change and the Department for Transport. The latter is projected to have fared particularly well given that it is such a capital-intensive department,<sup>11</sup> with a cut to its capital DEL of just 1.9%, compared with an average across all departments of 27.5%.

## Spending in the next Parliament (2016–17 and 2017–18)

The last two years of the government's current forecast horizon, 2016–17 and 2017–18, fall in the next Parliament, and so decisions regarding the level and allocation of spending across departments in those years will be made by the next government. Unless departmental spending is increased at the expense of either higher borrowing, higher taxes or lower social security spending than pencilled in by the current government, the implication is that real departmental spending would have to be cut by 6.6% over 2016–17 and 2017–18, an average cut of 3.4% a year. As shown in Table 6.1, this would be a greater average annual real DEL cut than currently forecast for either the 2010 Spending Review period (2.8%) or 2015–16 (2.4%).

Figure 6.5. Trade-off between cuts to departmental spending and tax increases or social security spending cuts

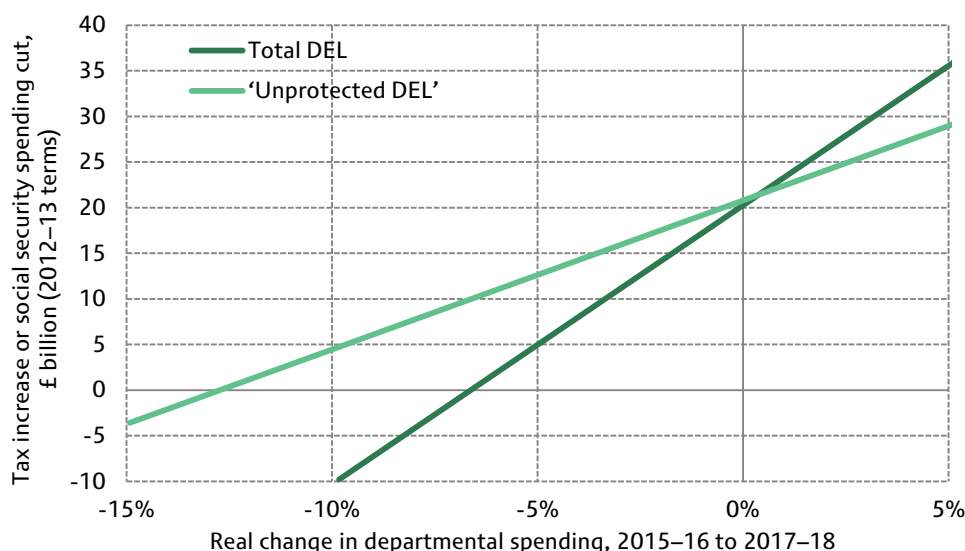


Figure 6.5 describes how tax increases or further cuts to social security spending could be used to reduce this required cut to departmental spending. Reducing the average annual cut to DEL to 2.8% (the same as over the 2010 Spending Review period) – in other words, a cut of 5.5% over the two-year period – would require around £3 billion to be raised from a combination of tax increases and social security spending cuts. To put this in context, increasing the standard rate of VAT by 1 percentage point would raise around £5 billion.<sup>12</sup> To keep DEL spending constant in real terms between 2015–16 and 2017–18 would require tax increases or social security spending cuts amounting to some £20 billion.

<sup>11</sup> The Department of Transport's capital DEL accounted for nearly 60% of its total DEL in 2010–11, compared with an average across all departments of 13%.

<sup>12</sup> Alternatively, for example, increasing the basic rate of income tax by 1 percentage point would raise around £4 billion, while reducing the income tax personal allowance by £900 would raise around £5 billion. Source: <http://www.hmrc.gov.uk/statistics/expenditures/table1-6.pdf>.

If a future government making these decisions chose to protect spending on health, schools and international aid, as the current government has done since 2010–11, the choices in 2016–17 and 2017–18 for other, ‘unprotected’ departments would be somewhat more difficult. If the total budget of the NHS and the non-investment budget for schools were frozen in real terms between 2015–16 and 2017–18, and the total budget of the Department for International Development were increased in line with national income, then all other areas of departmental spending would see their budgets cut by 12.7% between 2015–16 and 2017–18 (an average real annual cut of 6.6%) in the absence of any further tax increases or spending cuts. Over the whole seven-year period since 2010–11, these ‘unprotected’ areas of departmental spending would then have seen their real budgets cut by 33.2%.

Figure 6.5 shows how the cuts to these ‘unprotected’ areas of spending could be traded off against further tax increases or social security spending cuts. Reducing the average budget cut between 2015–16 and 2017–18 across these ‘unprotected’ areas to 10.5% (an average annual cut of 5.4%, the same as the average over 2010–11 to 2014–15 for these areas) would require tax increases or spending cuts amounting to around £4 billion. Reducing the real cut across the ‘unprotected’ areas over the two-year period to 5.5% would require tax increases or spending cuts amounting to around £12 billion.

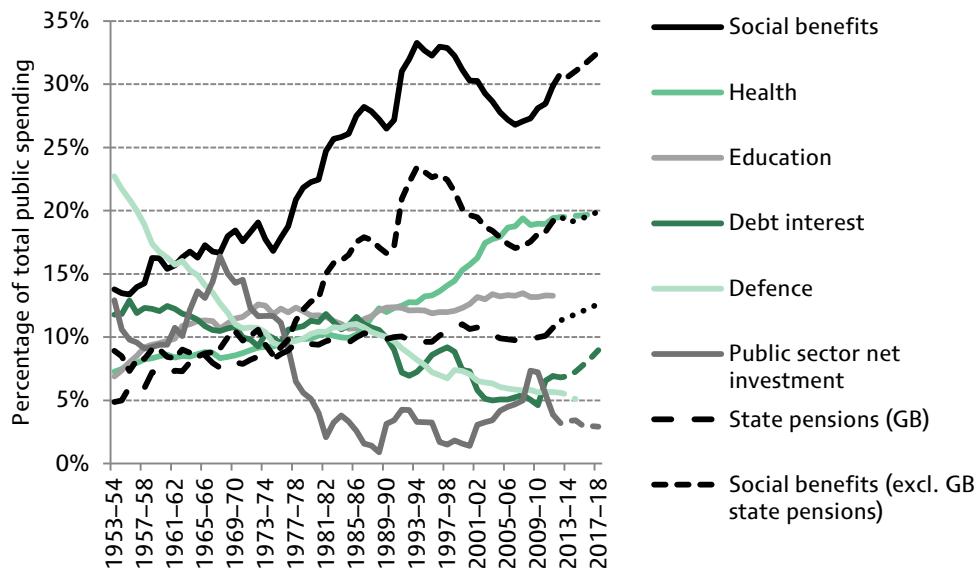
## The changing composition of spending over time

The implications of the government’s spending choices since 2010–11 for the composition of public spending are described in Figure 6.6. Spending on net social benefits (social security plus net tax credits) is forecast to increase from 28.5% of total spending in 2010–11 to 32.5% by 2017–18 (as total spending falls significantly and spending on net social benefits increases slightly in real terms). This is, however, simply the continuation of a long-run trend of social security taking up a rapidly increasing share of public spending, which was only tempered in the early 2000s when spending on public services was increased significantly by the Labour government. Were the government to cut spending on net social benefits in order to finance higher spending on public services by, say, £12 billion by 2017–18, net social benefits spending would increase only slightly as a share of total spending to 31.0%.

Figure 6.6 also splits out social benefit spending into spending on state pensions (in Great Britain) and other social security (and net tax credit) spending. The relative importance of spending on state pensions has been steadily increasing over time – from just under 5% of total public spending in the early 1950s to 10.1% in 2010–11. In future, the proportion of spending going on state pensions is forecast to increase slightly more rapidly, reaching 11.8% in 2014–15 and 12.6% in 2017–18. These increases are dwarfed, however, by the increased proportion of spending going on other social security benefits: spending on net social benefits excluding state pensions (in Great Britain) increased from 8.5% of total spending in 1974–75 to 18.3% in 2010–11 (with particularly large spikes in between associated with the recessions of the late 1980s and early 1990s). Spending on net social benefits excluding state pensions is also forecast to increase in relative importance in future, reaching 19.9% of total public spending in 2017–18.

The relative protection afforded to health spending by the current government is forecast to result in health also taking up an increasing proportion of total public spending. This is, again, the continuation of a long-run trend: health spending has been taking up an increasing share of public spending since the inception of the NHS. The rate of increase is, however, forecast to be much lower than that over the past two decades.

Figure 6.6. The changing composition of public spending



	2010–11	2014–15	2017–18
Total public spending (% of national income)	46.7	43.2	39.4
Percentage of public spending on:			
Net social benefits	28.5	31.0	32.5
of which:			
State pensions (Great Britain)	10.1	11.8	12.6
Other	18.3	19.2	19.9
Health	19.0	19.6	19.9
Education	13.3	–	–
Central government gross debt interest	6.6	7.3	9.0
Defence	5.7	5.1	–
Public sector net investment	5.5	3.4	2.9

Notes: Health spending forecast assumes total real UK health spending constant in real terms between 2010–11 and 2017–18. To the extent that the devolved administrations do not maintain real spending on the NHS since 2010–11, this will overstate future health spending. Defence spending forecast assumes that total defence spending grows at the same rate as the combined budget of the Ministry of Defence and the Special Reserve. ‘–’ indicates that forecasts are unavailable.

Source: Out-turn data are from the Office for National Statistics (series ANLY for net social benefits, JW2Z for net investment, JW2P for gross debt interest payments), Office of Health Economics for health spending, ONS Blue Books and HM Treasury *Public Expenditure Statistical Analyses* (various years) for education and defence spending, and DWP Benefit Expenditure Tables for GB state pension spending. Forecasts are from OBR *Economic and Fiscal Outlook December 2012* (table 4.18 for net investment; Supplementary Fiscal Tables: table 2.28 for net social benefits and gross debt interest payments), DWP Benefit Expenditure Tables (for GB state pensions) and authors’ calculations (for health and defence).

The coalition government’s cuts to defence spending are also in line with long-run trends. Defence spending has been accounting for an ever-smaller proportion of total spending since the late 1980s: in 1985–86, defence spending accounted for 11.0% of total spending; by 2010–11, this had fallen to 5.7%; and the projections in Figure 6.6 suggest it could fall further to 5.1% by 2014–15.

Spending on gross debt interest payments has also been falling (both as a share of total spending and as a share of national income) since the 1980s. However, the large increase in public sector net borrowing and, consequently, public sector net debt since the financial crisis has meant that the relative importance of debt interest payments is on the

increase again. While gross debt interest payments in 2010–11 accounted for 6.6% of total spending, by 2017–18 they are forecast to account for 9.0%.

Public sector net investment as a share of total spending is forecast to fall sharply under the coalition government, from 5.5% of national income in 2010–11 to 2.9% by 2017–18. This trend is in marked contrast to that over the preceding decade, under the Labour government, but results in a similar proportion of total spending as was invested on average in the 1980s and 1990s.

## 6.3 Public sector pay and employment

In the previous section, we showed that current plans imply that departmental spending will be cut by just over 10% in real terms between 2010–11 and 2014–15, with larger cuts to capital spending (over 20%) than to resource spending (9%). Since about half of resource (non-investment) departmental spending is on pay, it would be difficult to deliver such spending cuts without also cutting the paybill, either through real-terms reduction in pay per head, reductions in employment or both. In this section, we consider how the spending cuts to date have been delivered, and what the outlook is for public sector pay and employment in future.

### Composition of the spending cuts to date

Departmental spending consists of a range of different elements. Table 6.5 shows the total level of central government spending within resource DELs on different items: paybill, gross procurement and other spending. The level of spending on these items is shown for 2010–11, 2012–13 and 2014–15 (all in 2012–13 prices), as are the expected total real-terms changes in each item between 2010–11 and 2012–13 and between 2010–11 and 2014–15. Together, spending on these areas comprises the total level of resource DEL spent by central government. Education spending is separated out from each of these figures due to large discontinuities resulting from the significant growth in the Academies programme – the level and change in the education DEL is shown separately. Current grants to local government are also shown separately. The total level of resource DEL therefore represents the sum of central government resource DEL (excluding education), education resource DEL and grants to local government.

We focus on the central government paybill here (which excludes local government workers) because figures for the local government paybill are not currently available up to 2012–13. However, in 2010–11, the paybill for local government workers (including teachers in maintained schools) was £80.9 billion (2012–13 prices).<sup>13</sup> The central government paybill we consider here thus represents just over half of the total general government paybill (about £174.5 billion in 2010–11). The total paybill, including both local and central government, represented about a half of total resource DEL in 2010–11.

Gross current procurement represents expenditure on goods, services, rental payments, and payments for contract and agency staff and also includes the purchase of services from GPs. As such, gross current procurement is likely to include wages and salaries for

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<sup>13</sup> This figure is taken from table 7.8 of HM Treasury, *Public Expenditure Statistical Analyses 2012* ([http://www.hm-treasury.gov.uk/pespub\\_pesa12.htm](http://www.hm-treasury.gov.uk/pespub_pesa12.htm)) and relates to pay for local government workers in the UK as a whole.

Table 6.5. Departmental resource spending by economic category over period covered by 2010 Spending Review (2010–11 to 2014–15)

	<i>£ billion, 2012–13 prices</i>			<i>Total real-terms change</i>	
	2010–11	2012–13	2014–15	2010–11 to 2012–13	2010–11 to 2014–15
Pay*	93.6	87.8	82.1	–6.3%	–12.3%
Procurement*	119.3	118.6	113.6	–0.6%	–4.8%
Other*	16.5	15.1	15.3	–8.7%	–7.2%
Reserves		1.9	3.9		
<b>Central government resource DEL (excluding education)</b>	<b>229.5</b>	<b>225.2</b>	<b>218.8</b>	<b>–1.8%</b>	<b>–4.6%</b>
Current grants to local government*	58.0	49.5	43.4	–14.6%	–25.2%
Education	53.7	52.4	52.1	–2.4%	–3.0%
<b>Total resource DEL</b>	<b>341.2</b>	<b>327.2</b>	<b>314.3</b>	<b>–4.1%</b>	<b>–7.9%</b>
<i>Total resource DEL (post 2012 Autumn Statement)</i>	<i><b>341.4</b></i>	<i><b>321.3</b></i>	<i><b>310.6</b></i>	<i><b>–5.9%</b></i>	<i><b>–9.0%</b></i>

\* Due to discontinuities created by the growth in the Academies programme, we have excluded education spending from all categories. Education spending indicates all spending by both maintained schools and Academies.

Notes: Resource DEL excludes depreciation. Data on spending by economic category are taken from PESA 2012 and therefore do not include the additional cuts to DEL announced in the 2012 Autumn Statement. In the absence of these policy changes the real change in total resource DEL between 2010–11 and 2014–15 would be a cut of 7.9% (penultimate row) rather than the cut of 9.0% described in Table 6.1 and shown in the last row of this table.

Source: Authors' calculations based on tables 1.12 and 2.1 from *Public Expenditure Statistical Analyses 2012* ([http://www.hm-treasury.gov.uk/pespub\\_pesa12.htm](http://www.hm-treasury.gov.uk/pespub_pesa12.htm)); table 2.2 from *Autumn Statement 2012* ([http://cdn.hm-treasury.gov.uk/autumn\\_statement\\_2012\\_complete.pdf](http://cdn.hm-treasury.gov.uk/autumn_statement_2012_complete.pdf)); HM Treasury.

individuals undertaking work for the public sector but who are not officially public sector workers.<sup>14</sup>

Looking at the different items of spending, a number of patterns emerge. First, cuts to local government grants (excluding education) are large and front-loaded, with nearly two-thirds of the total 25% cut expected to be delivered by the end of 2012–13. The main elements of local government spending (excluding education) are social care, police and transport. In last year's Green Budget, we analysed plans for local government spending up to 2011–12 and showed that spending on some smaller elements of local authority spending were experiencing relatively large cuts proportionate to their size (planning and development, libraries, and leisure and culture), whilst other services were relatively protected (social care, fire services, and environment and refuse).<sup>15</sup>

Second, the central government paybill is being cut in real terms, with a total planned cut of 12% by 2014–15 spread evenly over time. The cuts to the central government paybill are also proportionately much larger than the planned cuts to central government resource spending within DEL (excluding education), indicating that departments are

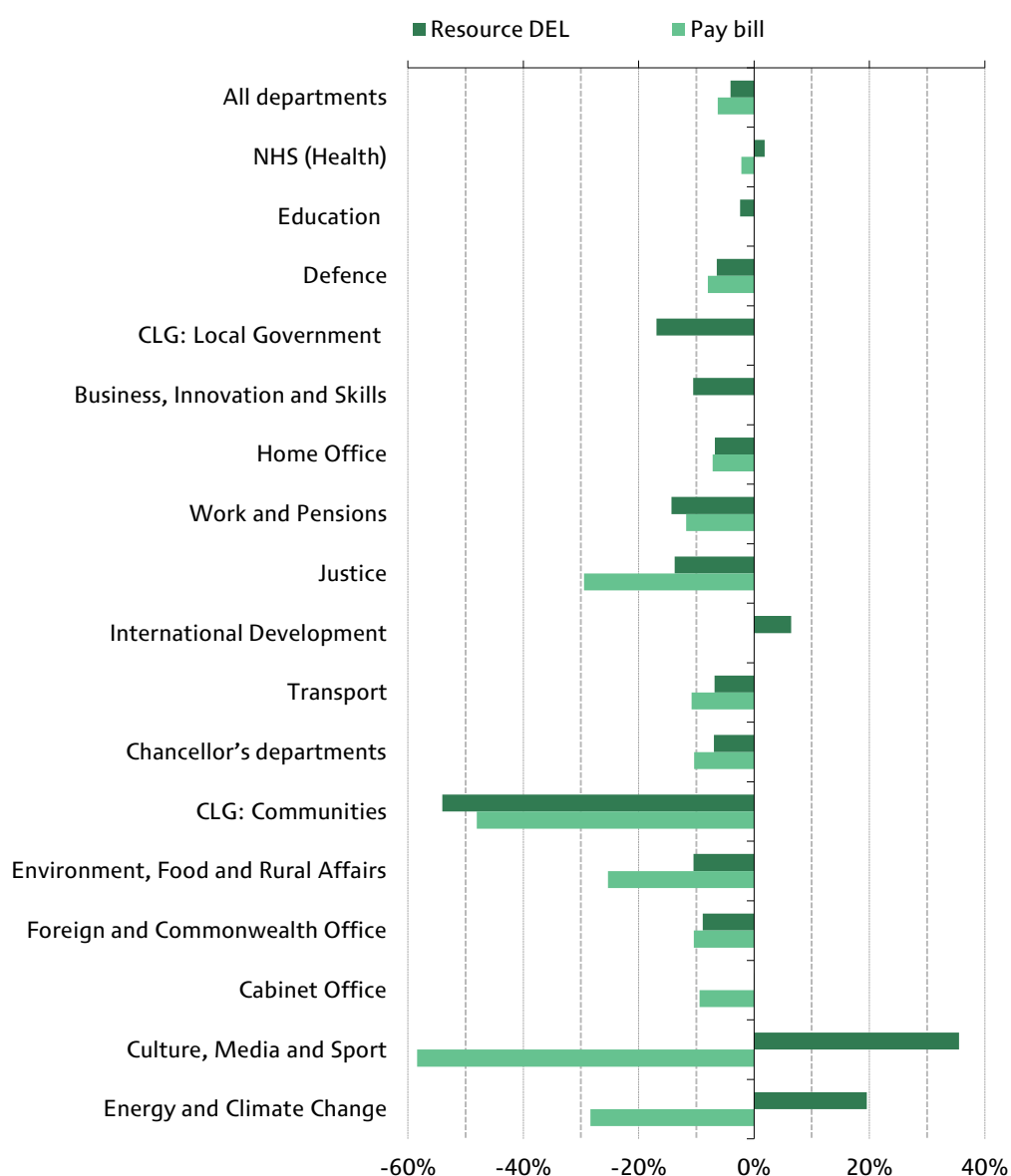
<sup>14</sup> Further details about these categories can be found in HM Treasury, *Public Expenditure Statistical Analyses 2012* ([http://www.hm-treasury.gov.uk/pespub\\_pesa12.htm](http://www.hm-treasury.gov.uk/pespub_pesa12.htm)).

<sup>15</sup> See R. Crawford and D. Phillips, 'Local government spending: where is the axe falling?', in C. Emmerson, P. Johnson and H. Miller (eds), *The IFS Green Budget: February 2012*, IFS Commentary 122, 2012 (<http://www.ifs.org.uk/budgets/gb2012/12chap6.pdf>).

squeezing the paybill by more than the overall cuts to their budgets. Furthermore, these figures are likely to underestimate the underlying cuts to the paybill, as they include the cost of redundancy schemes, which is likely to be increasing between 2010–11 and 2012–13.

Cuts to procurement spending are much smaller than cuts to other items of spending and compared with the overall planned cuts to department spending, with most of the cuts back-loaded to the period after 2012–13. The largest component of current procurement spending comes from the NHS (£58 billion in 2012–13), which includes the purchase of services from GPs and the cost of agency staff. This is expected to have grown by 2.4% in

**Figure 6.7. Percentage changes in resource spending and paybill by department (2010–11 to 2012–13)**



Notes: Resource DEL excludes depreciation. Changes in the paybill are not shown for Education or for CLG: Local Government; nor are they shown where the paybill represents less than 10% of total resource DEL. Departments are ordered by the total size of their resource DEL budget in 2010–11.

Source: Authors' calculations based on tables 1.12 and 2.1 from *Public Expenditure Statistical Analyses 2012* ([http://www.hm-treasury.gov.uk/pespub\\_pesa12.htm](http://www.hm-treasury.gov.uk/pespub_pesa12.htm)); HM Treasury.



real terms between 2010–11 and 2012–13. This growth in NHS procurement spending is the main reason why overall procurement spending has not fallen by more over the period. Non-NHS procurement spending is expected to fall by 3.6% in real terms between 2010–11 and 2012–13.

Table 6.5 also shows planned cuts to resource spending for the Department for Education. Here, we see that this department is relatively protected compared with other departments, experiencing smaller cuts up to 2012–13 and up to 2014–15, which mainly result from the relative protection offered to non-investment schools spending in the 2010 Spending Review.

In the last row of the table, we show the changes in resource DEL spending after announcements in the 2012 Autumn Statement. This shows that resource spending is now expected to fall by more in real terms, largely due to the OBR's expectation that departments will not spend all of their budgets each year (although the level of underspending by individual departments has not been forecast), but also due to further measures announced in the 2012 Autumn Statement.

In order to analyse the cuts in the paybill in more detail, Figure 6.7 shows, for each government department, the expected cut to its paybill between 2010–11 and 2012–13 and the planned cut in its total resource DEL over the same period. In this context, the paybill again only relates to employees of central government; it thus excludes teachers in maintained schools and local government employees. The paybill is expected to have fallen in real terms across all departments shown. Furthermore, in most cases, the cut in the paybill has been proportionately greater than the cut to resource DEL. For instance, in the case of the NHS, the paybill has fallen in real terms, whilst overall resource DEL has risen in real terms.

### **Fall in the public paybill: job losses or cuts to pay per head?**

To what extent are reductions in the total paybill across departments between 2010–11 and 2012–13 down to reduced numbers of employees and to what extent are they due to lower pay per head? Focusing on the first of these, Figure 6.8 shows levels of employment in the public (light green) and private (dark green) sectors over time. Financial sector employees are included in the private sector throughout for consistency. The public sector here includes employees of central government, local government and public corporations.

The absolute size of the public sector workforce grew in the first part of the 2000s, reaching about 6.1 million workers by 2005. Between 2005 and 2010, the size of the public sector workforce hovered at just over 6 million workers, with little change during the financial crisis. In contrast, the private sector workforce grew through to 2007 and then shrank during the financial crisis, with a fall of over 800,000 employees between the start of 2008 and the end of 2009. As a result of these changes, the public sector workforce represented 21% of the total workforce by the end of 2009, a similar level to that seen in the mid-2000s but slightly higher than in 1999 (around 20%).

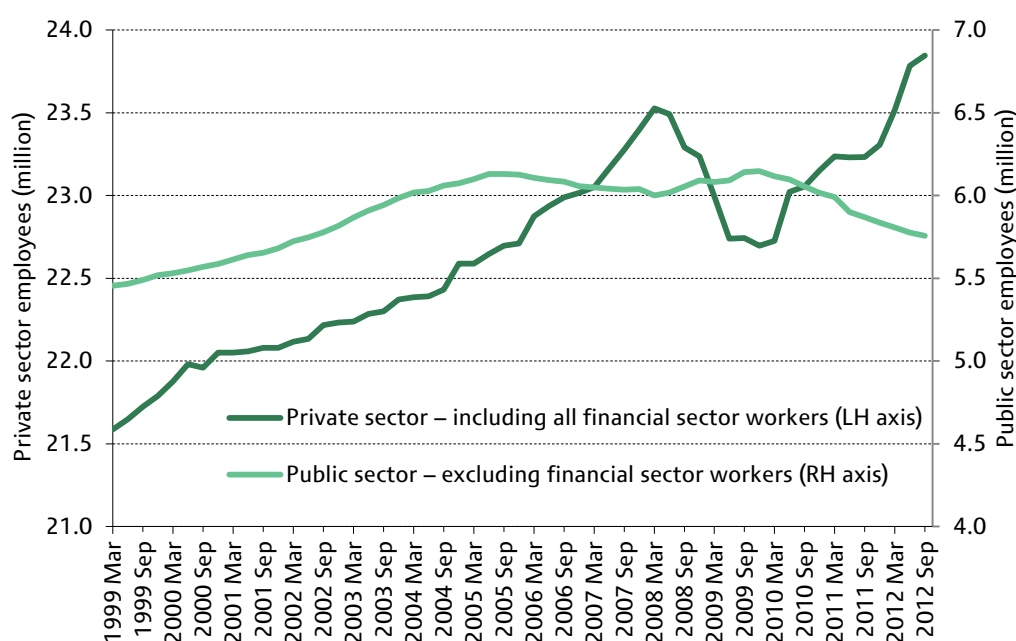
Between the start of 2010 and the third quarter of 2012 (the latest available set of figures), the overall level of employment has risen by a little over 750,000. However, as one would expect, the public and private sectors experienced quite different trends over this time. The public sector workforce fell by 360,000 or by about 6%, whilst the private

sector workforce grew by over 1 million workers to reach a higher level than that seen before the crisis<sup>16</sup> (see Chapter 3 for more information on public sector outputs and productivity). As a result of these trends, the public sector workforce is about the same size as it was in 2002 and is a smaller share of total employment (just over 19%) than at any point since at least 1999.

Changes in employment are different in different areas of the public sector. Table 6.6 shows employment levels across different areas of the public sector for 1999 (Q2), 2010 (Q3) and 2012 (Q3). These figures exclude workers in publicly-owned financial corporations.

The overall level of public sector employment fell by about 300,000, or 5%, between 2010 and 2012 (slightly less than the figure quoted above due to falls in public sector employment during the first two quarters of 2010). Nevertheless, there were still about 300,000 more people employed in the public sector in 2012 than there were in 1999. About one third of the fall in public sector employment since 2010 can be accounted for by job losses in public administration, which includes the civil service, non-departmental public bodies and many functions of local government. There were also falls of around 10% in the number of jobs within the police force (including both officers and civilians),

Figure 6.8. Employment by public and private sectors, over time



Notes: For comparability over time, publicly-owned financial corporations (RBS and Lloyds Banking Group) are excluded from the public sector series and included in the private sector series. Both series are seasonally adjusted. Public sector includes projected number of employees in former public sector further education colleges, with the projection based on the level remaining constant at 196,000 since 2012Q1.

Source: Office for National Statistics, Public Sector Employment Statistics, December 2012 (<http://www.ons.gov.uk/ons/rel/pse/public-sector-employment/q3-2012/index.html>); authors' calculations.

<sup>16</sup> In absolute terms, the ONS measure of total employment shows an increase of 500,000 (1.8%) in the year to 2012Q3, a fifth of which can be attributed to the number of people on government schemes. While the inclusion of those on government schemes has been criticised – see, for example, <http://www.guardian.co.uk/uk/2013/jan/15/statistics-doubt-coalition-500000-jobs> – this follows international standards (set by the International Labour Organisation) and has been consistent over long periods.

Table 6.6. Public sector employment by area of public sector

	Headcount (thousands)			Change (2010 to 2012)	
	1999	2010	2012	Absolute (‘000)	Percentage change
Education	1,396	1,689	1,683	–6	0%
National Health Service	1,212	1,588	1,553	–35	–2%
Public administration	1,180	1,189	1,082	–107	–9%
Other public sector	730	698	639	–59	–8%
Other health and social work	391	352	306	–46	–13%
Police	230	289	261	–28	–10%
HM Forces	218	196	183	–13	–7%
Construction	110	48	43	–5	–10%
<b>Public sector employment</b>	<b>5,467</b>	<b>6,055</b>	<b>5,756</b>	<b>–299</b>	<b>–5%</b>
<i>Of which:</i>					
<b>General government</b>	<b>5,106</b>	<b>5,719</b>	<b>5,457</b>	<b>–262</b>	<b>–5%</b>
Central government	2,346	2,768	2,661	–107	–4%
Local government	2,760	2,957	2,802	–155	–5%
<b>Public sector corporations</b>	<b>361</b>	<b>330</b>	<b>293</b>	<b>–37</b>	<b>–11%</b>

Notes: 1999 refers to Q2, whilst 2010 and 2012 refer to Q3. The industrial classification is largely based on SIC07 (<http://www.companieshouse.gov.uk/infoAndGuide/sic/sic2007.shtml>). Education includes teachers, but not workers in the higher education sector. It also includes projected numbers of former public sector employees in further education and sixth-form colleges (based on the level remaining constant at 196,000 since 2012Q1), which were officially reclassified to the private sector from 2012Q2 onwards. Police includes police officers and civilian staff. Workers in Academies are included in local government throughout the period and are excluded from central government. Industry-level figures may not sum to total public sector employment as the industry-level series are seasonally adjusted independently of total public sector employment.

Source: Office for National Statistics, Public Sector Employment Statistics, December 2012 (<http://www.ons.gov.uk/ons/rel/pse/public-sector-employment/q3-2012/index.html>); Office for National Statistics (<http://www.ons.gov.uk/ons/about-ons/what-we-do/publication-scheme/published-ad-hoc-data/labour-market/january-2013/estimated-employment-in-academies.xls>); authors' calculations.

health and social work outside of the NHS, and other elements of the public sector. In contrast, job losses within the NHS were much smaller (2%) and there were no net job losses within the education sector over this period.

When forecasting public sector employment levels, the OBR has focused on general government employment, which excludes workers in public sector corporations.<sup>17</sup> At the foot of Table 6.6, we thus also show changes in these two components of public sector employment over the period. These show that general government employment has fallen by about 5% between 2010 and 2012, or by about 260,000. This is only slightly below the 300,000 fall in general government employment forecast by the OBR between 2010–11 and 2012–13.<sup>18</sup>

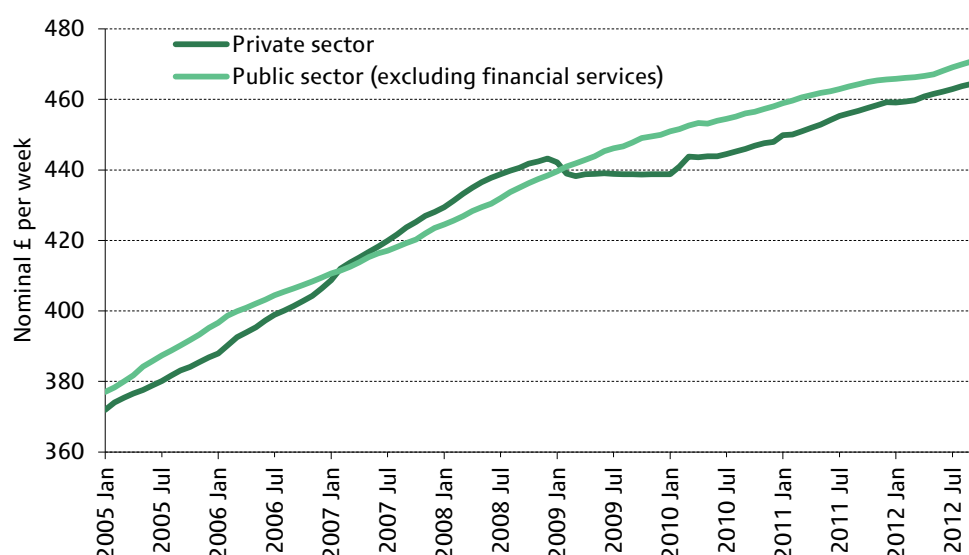
<sup>17</sup> Public sector corporations are public sector bodies that are market entities (defined by having more than 50% of production costs covered by sales of goods and services). For instance, Royal Mail, Manchester Airport and the commercial arm of the BBC (BBC Worldwide) are public sector corporations. For more information, see <http://www.ons.gov.uk/ons/guide-method/classifications/na-classifications/index.html>.

<sup>18</sup> These forecasts relate to the final quarter of each financial year and are thus not fully consistent with figures shown in Table 6.6.

We can also break general government employment down into central and local government.<sup>19</sup> This breakdown shows that net job losses have been slightly larger in absolute and proportionate terms in local government than in central government. Local government employment has fallen by 5% between 2010 and 2012 (or by just over 150,000), with central government employment falling by around 4% (just over 100,000). It is worth noting that a large part of the education workforce will be included in local government, but we already know that there have been no net job losses within education.

Figure 6.9 shows the level of average weekly earnings in the private and public sectors (excluding financial corporations in the public sector) between January 2005 and October 2012, with both series shown in nominal terms. In later analysis, we show that the difference in hourly wage rates between public and private sector workers is currently much larger than this difference in average earnings, which is likely to reflect differences in hours worked and the proportion of part-time workers. All such raw differences are also likely to reflect the different characteristics of workers across the public and private sectors, with public sector workers more likely to be female and possessing higher education levels, on average.

**Figure 6.9. Average weekly earnings in the public and private sector (rolling 12-month averages)**



Notes: Measured as a 12-month rolling average of monthly (not seasonally adjusted) average weekly earnings. Includes bonuses.

Source: Authors' calculations using Office for National Statistics series KA4U for the public sector (excluding financial services) and series KA4O for the private sector, derived from the Monthly Wages and Salaries Survey (<http://www.ons.gov.uk/ons/rel/lms/labour-market-statistics/december-2012/index.html>).

<sup>19</sup> We include workers in Academies within local government and exclude them from central government. According to official definitions, workers in Academies are part of central government and workers in maintained schools are part of local government. However, due to large numbers of conversions to Academy status over this period, including Academies within central government would have led us to underestimate the underlying cut to central government employment. If we were to include Academies within central government instead, central government employment would have seen an increase over this period (between 2010 (Q3) and 2012 (Q3), the number of workers in Academies is estimated to have grown from 42,000 to 242,000).

Before the financial crisis, earnings growth was stronger in the private sector than in the public sector. As a result, average earnings in the private sector were slightly above those in the public sector by the end of 2008, despite having been slightly below public sector earnings in 2005.

During the financial crisis and recession, average earnings in the private sector flatlined. In contrast, public sector earnings continued to grow at pre-crisis levels. In large part, this reflects the fact that the pay of many public sector workers, including teachers, NHS workers and the police, was subject to three-year settlements from 2008 through to 2011. These settlements were made shortly after the 2007 Comprehensive Spending Review, before the recession happened and before it was known that private sector earnings would stop growing. In this sense, the increase in public sector earnings relative to the private sector over the financial crisis was not the intended result of public policy. Indeed, groups not covered by three-year pay settlements (for example, local government workers and senior administrators in central government) received much tighter settlements in 2009–10 than workers subject to three-year settlements. The three-year settlement for (non-senior) civil servants was abandoned in favour of a pay freeze for 2009–10.

Since the end of the financial crisis, private sector earnings have grown again, but only by a total of 4.0% in cash terms between 2010 and 2012.<sup>20</sup> Public sector earnings grew at the slightly slower pace of 3.3% over the same period. However, since 2008, average public sector earnings have grown by more than average private sector earnings (by 7.6% in total, compared with 4.9%).

The slow growth in average public sector earnings since 2010 largely reflects the government's decision to freeze the level of public sector pay scales in 2011–12 and 2012–13 for all but the lowest-paid workers (those earning a full-time equivalent of £21,000 or less received a pay rise of £250 per year over the two years, an increase of at least 1.2% per year). The fact that nominal public sector pay has increased during 2011 and 2012 despite this pay freeze will be due to the combination of pay rises for the lowest-paid workers, and 'pay drift'-- the increase in paybill per head over and above the increase in basic pay awards. Pay drift can occur as a result of compositional changes in the workforce. For instance, a freeze in hiring of less experienced workers may increase the proportion of higher-paid workers. There would also be a shift towards higher-paid workers if more lower-paid workers left or lost their jobs. Pay drift can also occur when workers are moved faster up pay scales than previously, or when pay scales are changed to remove increments at the bottom of the pay scale or increase the number of increments at the top.<sup>21</sup>

Focusing on the period covered by the 2010 Spending Review, average earnings in the public sector increased 3.3% between 2010 and 2012 (comparing average earnings over the 12 months ending October 2010 with average earnings over the 12 months ending October 2012). This amounts to a real-terms fall of 1.5% using the GDP deflator as a

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<sup>20</sup> Comparing the average over the 12 months ending October 2010 with the average over the 12 months ending October 2012.

<sup>21</sup> It should be noted, however, that the existence of pay scales and increments in the public sector does in itself lead to pay drift. Given that workers generally move up pay scales, as long as they move up pay scales at the same rate (and have new workers entering at the bottom and workers leaving at the top at a constant rate), the proportion of the workforce at each point will remain the same. Only if there is reduced intake at the bottom, increased retention at the top or faster movement up the pay scale will the pay scale's existence cause pay drift.

measure of economy-wide inflation. This suggests that real-terms falls in pay-per-head are making a relatively small contribution to the overall cuts in the paybill, with falls in employment playing a much larger role. It is also noteworthy that the central government paybill is expected to fall by just over 6% in real terms between 2010–11 and 2012–13, and central government employment by around 5%, directly implying a relatively small contribution from real-terms falls in pay-per-head.

The GDP deflator is the measure of economy-wide inflation usually used to calculate real-terms changes in public spending. Since here we are seeking to examine the contributions of falls in employment and falls in real pay-per-head to real-terms changes in the public sector paybill (and, by extension, real-terms changes in public spending), for consistency we also use the GDP deflator to calculate real changes in pay-per-head. If we instead used the consumer price index as a measure of inflation, average public earnings would have fallen by 4.0% in real terms over this period. This implies a larger impact on household living standards than suggested by the previous figure.

In summary, between 2010–11 and 2012–13, the central government paybill (excluding education) has fallen by over 6% in real terms, with an equally large fall expected between 2012–13 and 2014–15. Equivalent figures for the local government paybill are not yet available. However, we have been able to examine trends in public sector employment and pay-per-head. These show that falls in the overall public sector paybill have largely been driven by job losses, with public sector employment levels having fallen by about 5% between 2010–11 and 2012–13; real-terms falls in pay-per-head are making a smaller contribution.

## Outlook for public sector pay and employment

In this section, we describe the current outlook for public sector pay and employment up to 2014–15 (the last year for which the government has announced any policy on public sector pay), and set out the trade-offs and choices facing the government in terms of setting levels of public sector pay and employment in 2015–16 and beyond.

### *Forecasts for general government employment*

In the 2011 Autumn Statement, the government announced that pay awards will be set on average at 1% in each of the two years 2013–14 and 2014–15, although it has not set out whether this is to be uniform across the public sector or whether some workers are to receive larger or smaller increases. Table 6.7 shows the OBR's forecasts for public sector and private sector earnings growth in 2012–13 and beyond, given this announced pay policy. The OBR expects average pay in the public sector to grow by 1.9% in 2012–13, 2.2% in 2013–14 and 2.5% in 2014–15 (greater than the headline pay award of 1.0% because of its estimate of 'pay drift', described above, which is currently 1.0% per year). From 2015–16 onwards, the OBR's assumption is that there will be annual nominal pay growth of 3% in the public sector, compared with around 4% in the private sector. This figure for public sector earnings growth appears to be based on an assumption that settlements will average around 2% while wage drift will account for annual increases of around 1%. The assumption about settlements is inevitably somewhat arbitrary but would imply settlements being close to projected CPI inflation.

Table 6.7. Forecasts of public and private sector earnings and employment

	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18
<i>OBR assumptions</i>						
Total UK employment (million)	29.6	29.6	29.8	30.0	30.2	30.5
General government employment (million)	5.2	5.1	5.0	4.8	4.7	4.6
General government employment (share)	17.6%	17.2%	16.8%	16.0%	15.6%	15.1%
<i>Average % growth in:</i>						
Earnings	2.6	2.4	3.0	3.8	4.0	4.0
Public sector pay	1.9	2.2	2.5	3.0	3.0	3.0
Implied private sector pay	2.7	2.4	3.1	3.9	4.2	4.2
Implied change in unconditional public sector pay differential since 2011–12 (cumulative)	–0.8ppts	–1.0ppts	–1.6ppts	–2.5ppts	–3.7ppts	–4.8ppts
Implied change in unconditional public sector pay differential since 2007–08 (cumulative)	+1.8ppts	+1.6ppts	+1.0ppts	+0.1ppts	–1.1ppts	–2.2ppts

Notes: Private sector pay growth is authors' calculations using the forecasts of public sector pay, total earnings growth and the share of workers in general government employment (GGE). The implied change in the public sector pay differential is estimated as the forecast growth in public sector pay less forecast growth in private sector pay. The forecast fall in GGE includes the reclassification of workers in further education colleges and sixth-form college corporations to the private sector, which occurred in 2012–13, which led to an extra fall of nearly 0.2 million in that year. Note that OBR forecasts GGE in 2017–18 and then assumes a constant fall in GGE in each year from 2010–11 to 2017–18. The implied change in unconditional public pay differential since 2007–08 uses authors' calculations from the Labour Force Survey that show the unconditional pay differential rising by 2.6 percentage points over the period 2007–08 to 2011–12. Source: Total employment and average earnings growth OBR forecasts are from tables 4.1 and 3.5 of the OBR *Economic and Fiscal Outlook* December 2012. General government employment is from table 1.10 of OBR *Supplementary Economy Tables – December 2012*. Average growth in public sector pay is from table 2.26 of OBR *Supplementary Fiscal Tables – December 2012*. Implied private sector earnings and change in public–private differential are authors' calculations from data in named sources. All measures of earnings growth are in nominal terms.

Given these assumptions about paybill per head, one needs a forecast of total paybill in order to forecast general government employment. The OBR does this by making the, apparently neutral, assumption that total paybill will rise in line with resource DEL over the period to 2017–18.<sup>22</sup> On this basis, the OBR's latest projections show general government employment falling by a total of 900,000 between 2010–11 and 2017–18.<sup>23</sup> As a result, general government employment would fall to about 15% of total employment in 2017–18.

<sup>22</sup> It also takes into account local authority self-financed expenditure and BBC current expenditure, although in 2011–12 resource DEL was 91% of the aggregate spending relevant to paybill used by the OBR to forecast general government employment.

<sup>23</sup> These figures exclude the reclassification of workers in further education and sixth-form colleges to the private sector, which occurred in 2012–13.



These projections depend crucially on the assumption that total paybill falls in line with total resource DEL. However, data from the Public Expenditure Statistical Analyses 2012 (which are based on spending plans submitted to the Treasury by government departments) show that the central government paybill is actually forecast to fall at a faster rate than the central government resource DEL over the next few years. This is shown in Table 6.5. These figures suggest that, from 2010–11 to 2014–15, the central government paybill (excluding education) will fall by 3.2% a year on average compared with a 1.2% a year fall in central government resource DEL (excluding education).

For the OBR to be right, this pattern would have to unwind quite sharply after 2014–15. This might happen if cuts to non-pay elements of spending take longer to deliver or if further cuts to the paybill are harder to implement after a period of pay freezes and significant net job losses. However, there are other scenarios to consider.

Suppose that the pattern of central government paybill falling 2 percentage points faster than resource DEL (RDEL) happens up to 2014–15, as departmental plans suggest, and that the local government paybill falls at the same rate as total RDEL over this period. After 2014–15, one possibility is that the total paybill falls in line with RDEL (call this scenario A). If this happens, then the total paybill would fall by 17.9% in real terms between 2010–11 and 2017–18, compared with 14.5% as forecast by the OBR. This would lead to a total fall in general government employment of 1.1 million by 2017–18 – 200,000 more than the OBR forecasts.

If however, the trend of cutting the central government paybill more quickly than RDEL were to continue through to 2017–18 (call this scenario B), then total paybill would fall by 20.1% in real terms between 2010–11 and 2017–18. This would lead to an additional fall in general government employment of 300,000 by 2017–18 compared with OBR forecasts, implying a fall of 1.2 million since 2010–11.

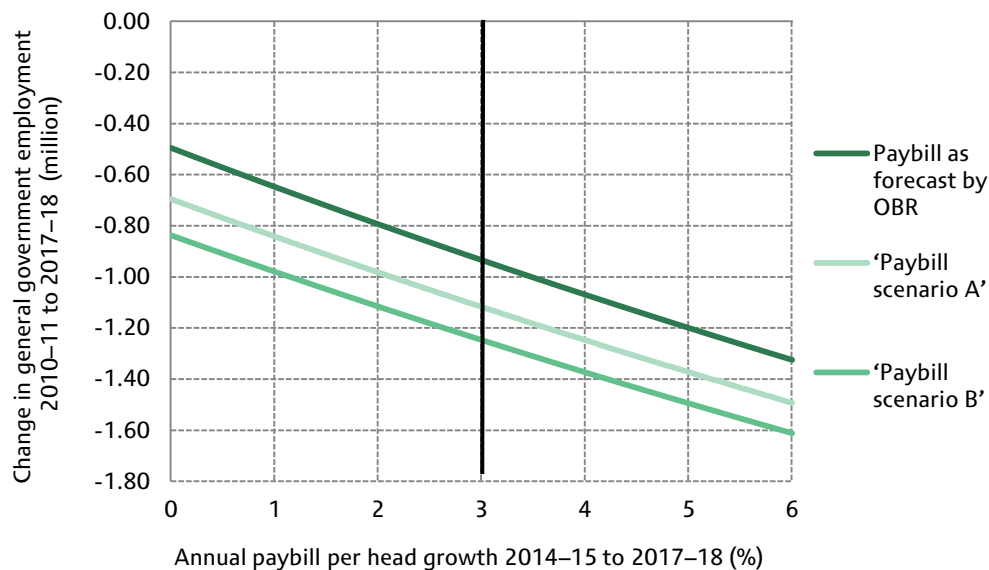
This suggests that the OBR forecast of a 900,000 fall in the total number of public sector workers by 2017–18 is a relatively low estimate, and that in fact the change in employment levels may be more likely to be in the order of 1.1 to 1.2 million.

Of course, there is substantial uncertainty surrounding future government employment forecasts, and the actual out-turn will depend upon the spending choices made by individual departments as well as government public sector pay policy. The government has yet to announce any pay headline settlements for 2015–16 and beyond, and so employment forecasts through to 2017–18 are particularly speculative. The government could reduce the scale of public sector job losses relative to current forecasts by announcing headline pay awards beyond 2014–15 that reduce the growth in public sector pay per head below that currently assumed by the OBR (3.0% per year in cash terms between 2014–15 and 2017–18). It is worth noting that this implies private sector earnings are forecast to rise faster than 3% after 2014–15.

Figure 6.10 highlights the trade-off between public sector pay and jobs. Currently, the OBR forecasts 3.0% annual paybill-per-head growth in the three years to 2017–18. This would imply a decline in general government employment of 900,000, 1.1 million or 1.2 million under the OBR forecasts for the total paybill, scenario A and scenario B respectively. Assuming the forecast total paybill is constant, cutting paybill-per-head growth by 1 percentage point in each of the three years to 2017–18 (for example, reducing paybill-per-head growth from 3% to 2%) could lead to 140,000 fewer job losses

by 2017–18. Note that under scenario B, even zero paybill-per-head growth between 2014–15 and 2017–18 implies job losses of more than 800,000.

**Figure 6.10. Trade-off between paybill-per-head growth and general government job cuts by 2017–18**



Notes: Change in general government employment excludes the reclassification of further education and sixth-form colleges to the private sector. The black vertical line at 3.0% signifies the current OBR assumption for paybill-per-head growth in the three years to 2017–18. 'Paybill scenario A' and 'Paybill scenario B' are two alternative forecasts for the change in the total general government paybill. Paybill scenario A assumes that the paybill falls 1.1 percentage points faster than RDEL from 2010–11 up to 2014–15 and at the same rate as RDEL from then until 2017–18. Scenario B is that the real paybill falls 1.1 percentage points faster than RDEL from 2010–11 to 2017–18.

### Public sector pay policy

Whether or not the government should announce a headline pay award for years beyond 2014–15 partly depends on the effect such an announcement (and the award itself) would have on recruitment and retention in the public sector. It also depends on the impact it would have on public service quality (both in terms of the trade-off between quality and quantity within the public sector workforce and in terms of the trade-off between the workforce and the other inputs into public service provision such as equipment). In large part, the ease with which the public sector can recruit and retain quality staff will depend on the comparability of the overall remuneration packages between the public and private sectors, with headline pay being the most significant component of those packages.

Table 6.8 uses Labour Force Survey data to examine the average difference between private and public sector wages<sup>24</sup> and the extent to which it is explained by observed characteristics. The first row shows the average percentage point difference between wages in the public and private sectors in the year to the end of the third quarter of 2012. On average, a public sector worker earns 25.1% more than a private sector worker, with female public sector workers having a higher raw differential. Controlling for age, experience, qualifications and region, the average differentials fall to 7.5% for women and

<sup>24</sup> Note that this analysis is based upon usual hourly wages as opposed to average weekly earnings as presented in Figure 6.9.

2.0% for men, the latter of which is only statistically significantly different from zero at the 10% level. On average, these results give an estimated public–private sector wage differential of 5.2% in the period 2011Q4 to 2012Q3.

**Table 6.8. Estimated average public–private hourly wage differentials (2011Q4 to 2012Q3)**

	<b>Male</b>	<b>Female</b>	<b>All</b>
Raw differential	+21.9*** (1.3)	+27.3**** (1.0)	+25.1*** (0.8)
Controlling for age, experience, qualifications and region	+2.0* (1.1)	+7.5*** (1.0)	+5.2*** (0.7)

Notes: The wage differentials controlling for various factors are estimated by ordinary least squares (OLS). Each number is the coefficient estimate from regressing log hourly wage on a dummy variable for public sector worker and controls as indicated on the left-hand side of the table. Both regressions in the last column ('All') also contain a sex dummy. All control variables in the last column are interacted with the individual's sex. All regressions are weighted using LFS income weights. The second row of estimates control for a vector of important variables, to capture observed differences between private and public sector workers. These are: highest qualification (higher degree, degree, non-degree higher education qualification, A level (or equivalent), GCSE (or equivalent), any other qualification or no qualification); dummies for 12 regions of the UK; age and age squared, both of which are interacted with a three-category qualification variable (indicating higher education, secondary education or other/no education); and experience (calculated as Age – Age left education) and experience squared. Hourly wages are calculated using usual hours as reported by the survey respondents. Survey respondents are only included the first time they are observed in the LFS. Robust standard errors are reported in parentheses. \*, \*\* and \*\*\* indicate statistical significance at the 10%, 5% and 1% levels respectively.

Source: Authors' calculations using Labour Force Survey data, 2011Q4 to 2012Q3.

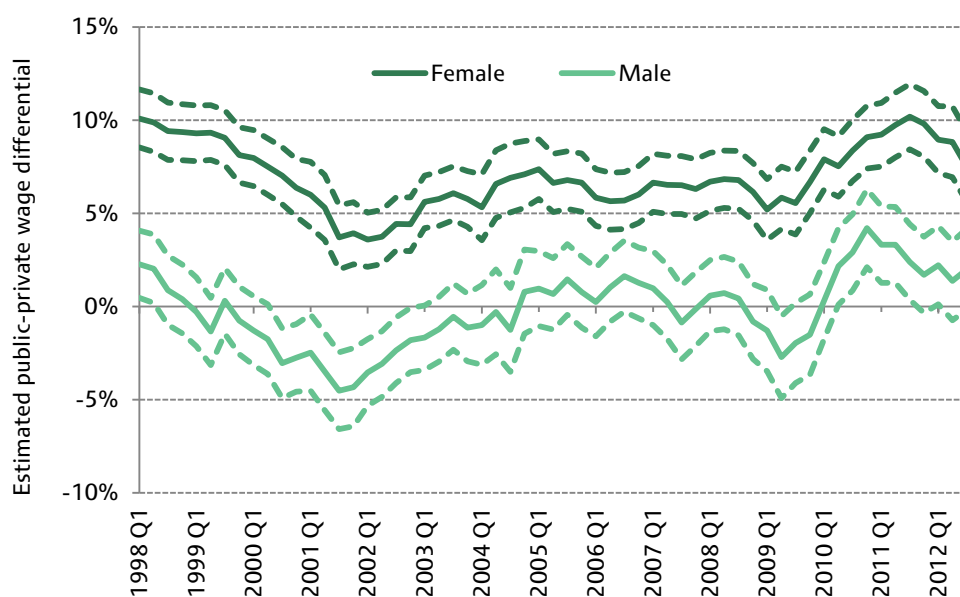
It is possible that these numbers are capturing unobserved differences between public and private sector workers, and therefore do not reflect a true pay 'premium' per se. In addition, there may be differences in non-pay elements of worker's remuneration, such as the value of pensions, pay in kind and holiday rights, or differences in the risk to employment, income or pension wealth, or differences in the flexibility of working arrangements, that mean that total remuneration is more (or less) comparable than a difference in pay alone would suggest. However, understanding how the pay differential has changed over time is still interesting, not least because, to the extent that non-pay differences between the public and private sectors are constant over time, changes in the estimated pay differential would reflect changes in the true public (or private) sector premium over time.<sup>25</sup>

Figure 6.11 presents the estimated public–private hourly pay differential since 1998, for men and women separately. The public sector pay differential increased during the recession, such that there was a significant positive public sector premium for men as well as women by early 2011, which had not been seen since 1998. As can be seen with reference to Figure 6.9, this was not the result of a conscious policy decision, but instead the result of stagnant nominal pay in the private sector. As seen in Figure 6.11, the estimated male public sector premium reached its peak in the fourth quarter of 2010 and the peak for females came in the third quarter of 2011. Since then, the estimated pay differential has fallen by 2.2 and 2.7 percentage points for men and women respectively.

<sup>25</sup> If anything, over the last 20 years, it is likely that the non-pay elements of remuneration – in particular, pensions – have moved in a way that benefits the public sector more than the private sector (with the exception of those at the very top of the earnings distribution), as private sector pension schemes have become relatively less generous and more risky with the move towards defined contribution schemes. For more details, see R. Crawford, C. Emmerson and G. Tetlow, 'Occupational pension value in the public and private sectors', IFS Working Paper, WP10/03, 2010 (<http://www.ifs.org.uk/publications/4804>).

How might the public–private wage differential evolve going forwards? The estimates in Figure 6.11 show that public sector pay was about 7.5% higher than private sector pay for women, and 2.0% for men, in the year to September 2012. Between 2011–12 and 2014–15, the OBR estimates that private sector pay will outperform public sector pay by 1.6 percentage points (see Table 6.7). However, as shown in Figure 6.11 and Table 6.7, this forecast squeeze in public earnings relative to private earnings comes after a period during the recession in which the public pay differential rose substantially. This means that if public and private sector earnings turn out as forecast, it would reduce the public–private pay differential in 2014–15 to a similar level to that seen in the three years before the financial crisis.<sup>26</sup>

Figure 6.11. Estimated average public–private hourly wage differential over time



Notes: The estimated public–private differential is estimated controlling for age, experience, qualifications and region, as in the final row of Table 6.8. The dashed lines represent 95% confidence intervals. Each data point is based on a four-quarter LFS sample, ending in the labelled quarter.

Source: Authors' calculations using Labour Force Survey data.

The public–private sector differential is estimated to fall less quickly over this period than was expected last year,<sup>27</sup> largely because the OBR's implied forecast for private sector pay growth has fallen sharply since its 2011 Autumn Statement. This means that the government's headline pay awards for 2013–14 and 2014–15 now look more generous relative to the private sector than they did when they were announced.

In this context, what is the outlook for public sector pay policy beyond 2014–15? The overall objective of the government should be to achieve the planned cuts to departmental spending with the minimum detrimental impact on public service quality. However, this involves a number of difficult trade-offs: there is a trade-off between

<sup>26</sup> The implied change in the public–private pay differential reported in the final row of Table 6.7 will be an underestimate of the change in the estimated conditional public sector premium going forward if at least part of the estimate of pay drift of 1.0% p.a. is due to an increase in the proportion of highly skilled workers.

<sup>27</sup> See C. Emmerson and W. Jin, 'Public sector pensions and pay', in C. Emmerson, P. Johnson and H. Miller (eds), *The IFS Green Budget: February 2012*, IFS Commentary 122, 2012 (<http://www.ifs.org.uk/budgets/gb2012/12chap5.pdf>).

squeezing pay and reducing employment (outlined above), but also the government could continue cutting non-labour inputs into public service provision. All of these might be expected to have a negative impact on public service quality, but as yet the future relative importance of these three choices is not clear. In addition, the effect that future pay squeezes might have on recruitment and retention is far from known.

This suggests that, instead of committing to long-term pay awards, it would be sensible for the government to maintain the ability to respond to changes in private sector pay or the revealed effect of different types of spending cuts on service quality in future. The fact that, during the recession, public sector pay continued to grow while private sector pay was stagnant implies that public sector pay awards were not responsive enough to conditions in the private sector during this period. Finally, it should not be forgotten that the public sector is not a single entity. The effects of squeezing pay on the quality of the workforce, and the effects of cutting workforce quality, workforce size or non-labour inputs on the quality of service delivered, will likely differ substantially across different parts of the public sector. It would seem sensible therefore, if the government is to make headline pay awards, that it makes higher awards in sectors that appear to suffer recruitment and retention problems, or where workforce quality is having a more serious impact on service quality, and lower awards in sectors that do not appear to suffer such problems.

## 6.4 Conclusions

The government's fiscal consolidation plan involves significant and sustained real cuts to departmental spending. Over the four years of the 2010 Spending Review period (2011–12 to 2014–15), departmental spending is forecast to be cut by 10.6% in real terms. Some areas of spending such as the NHS and non-investment spending on schools were protected from cuts over this period, and aid spending has increased in line with the government's international commitment. That has left other departments facing cuts to their budgets of 12.7% over these four years.

Additional cuts to departmental spending of 2.4%, on average, are planned for 2015–16. These will be allocated to departments in a Spending Review early this year, but the government has already pledged to protect again the NHS, non-investment spending on schools and aid spending. This means that the other 'unprotected' areas will see, on average, a 2.8% cut to their non-investment budgets and a 4.9% cut to their capital budgets. Given the government's pledge to allocate the spending cuts in a similar way in 2015–16 to that over the 2010 Spending Review period, departments such as Defence might be expected to do well, at least relative to other 'unprotected' departments, and departments such as Communities and Local Government relatively badly even relative to other 'unprotected' departments.

The government has also pencilled in plans for total spending in 2016–17 and 2017–18, which, in the absence of new policy action, would leave departmental spending facing further cuts of 6.6% over these two years. This would bring the total real cut to departmental spending since 2010–11 to 18.6%. If the government continued its protection of the NHS, schools and aid, other areas of departmental spending would be facing cuts of 12.7% over these two years, or a reduction in their real budgets of a third since 2010–11. The start of the next Parliament therefore brings no end to the difficult decisions regarding the appropriate balance of taxation and spending and, within spending, between social security spending and public services and between different

public services. If such further cuts to departmental spending are not possible without a decline in the quality or quantity of public services that is unacceptable to politicians or to voters, then higher borrowing, further tax increases or social security spending cuts – perhaps after the next general election – must be on the cards.

Of the cuts to non-investment departmental spending seen to date, a disproportionate amount has come from cuts to the public sector paybill. Between 2010–11 and 2012–13, the paybill across departments (excluding education and local government) is expected to fall in real terms by 6.3%. So far, cuts to the overall public sector paybill have largely been achieved through reductions in employment rather than reductions in the real level of pay per head. Public sector employment fell by 5% (300,000) between 2010 and 2012, although with marked differences across different parts of the public sector. Employment in public administration, health and social work outside the NHS, and the police has fallen by around 10% over these two years, whilst in the NHS employment has fallen by 2% and there have been no net job losses within education.

The OBR is currently forecasting a fall in general government employment of 900,000 between 2010–11 and 2017–18. However, these forecasts are based on the assumption that the general government paybill is cut at broadly the same rate as resource DEL. Central government departments are currently forecasting that their paybill will fall significantly faster than central government resource DEL over the period 2010–11 to 2014–15. If they were to achieve this, and then revert to cutting paybill at the same rate as RDEL, the implied fall in general government employment would increase to 1.1 million by 2017–18. If the trend of larger cuts to the paybill continue to 2017–18, the total fall in general government employment would reach 1.2 million in 2017–18.

The government could attempt to reduce the number of job losses (or the size of cuts to non-pay spending) by announcing further policies to restrain public sector pay awards after 2014–15. For example, squeezing annual paybill-per-head growth by 1 percentage point per year in the three years to 2017–18 could lead to 140,000 fewer job losses by 2017–18. However, it seems more prudent for the government to investigate the impact the current pay restraint is having on public sector recruitment and retention, and the relative effects that workforce quality, workforce size and the cuts to non-labour inputs are having on public service quality, before making new policy announcements. Furthermore, it would be advisable for the government to maintain flexibility in awarding more or less generous pay awards to different parts of the public sector in response to these factors, rather than imposing a uniform award across all workers.

## 7. Tax and welfare reforms planned for 2013–14

Robert Joyce and David Phillips (IFS)

### Summary

- Tax and welfare reforms in 2013–14 will amount to a small net ‘giveaway’ in aggregate, at an average of about £33 per household (£0.9 billion in total) in that year. This may come as a surprise, as these changes are taking place in the context of efforts to reduce the budget deficit substantially. However, tax and benefit measures implemented since April 2010 as a whole do represent a significant net ‘takeaway’ of £1,360 per household (£35.9 billion in total).
- The 2013–14 reforms comprise a £6.2 billion gross giveaway mostly offset by a £5.3 billion gross takeaway. The gross giveaway is mostly accounted for by tax cuts, with a large increase in the income tax personal allowance being the most substantial. The gross takeaway is accounted for by various welfare cuts and some small tax rises. Overall, tax measures amount to a net giveaway of £4.2 billion and welfare measures amount to a net takeaway of £3.4 billion. This broad pattern of tax giveaways and welfare takeaways means that the changes, on average, reduce net incomes towards the bottom of the income distribution and increase net incomes in the middle and upper parts of the distribution.
- This set of changes should be seen in the context of a whole raft of reforms implemented, or to be implemented, as part of the fiscal consolidation plan. Up to 2015–16, those at the very top of the income distribution will have tended to lose the most, by some distance, from tax and benefit changes introduced since 2010. Those on working-age benefits, found predominantly towards the bottom of the income distribution, will have been hit the next hardest. Households in the middle and upper-middle will have tended to lose less than other groups, in no small part because they are the biggest gainers from the substantial increases to the income tax personal allowance. However, those on middle and higher incomes have been most squeezed by the failure of earnings to grow in real terms, and this is forecast to continue in 2013–14.
- In terms of the structural changes to the tax and welfare system, the government’s record is mixed. On the welfare side, Universal Credit will shortly start to replace six means-tested benefits and tax credits with a single integrated benefit. This could constitute a welcome simplification and remove some of the weakest incentives to work faced by claimants under the current system. But the localisation of Council Tax Benefit, also taking effect in 2013–14, may well undermine some of these advantages.
- The government has clear strategies both in relation to income tax for individuals on low incomes and for corporation tax, and has stuck to them. Elsewhere, a clear tax strategy is lacking. Perhaps the prime example is fuel duties, for which policy has been set in a haphazard way by repeatedly delaying (and eventually cancelling) annual cash-terms uprating that would otherwise have kept their level constant in real terms.



- A more careful and systematic statement of how things should be indexed would also be welcome. Indexation policy matters hugely for the future shape of the tax and benefit system and the public finances. A change in April will mean that future Local Housing Allowance rates – which set the maximum rents against which private sector tenants can claim Housing Benefit – will depend upon historical local rent levels but not current ones. This is difficult to square with any intelligible policy objective. And the government's recent comments on relative patterns of benefits and earnings growth suggest that it may not view straightforward price indexation of most benefit rates – the current default assumption – as the appropriate rule. An explicit statement of what it thinks *is* appropriate in the long run is needed.

## 7.1 Introduction

The coming fiscal year, 2013–14, is the fourth successive year of substantial tax and welfare changes, aimed in part at contributing to the government's efforts to reduce the structural budget deficit. Approximately 15% of the reduction in government borrowing by 2017–18 is planned to come from tax increases, and a further 16% from welfare cuts (the remaining 69% of the fiscal consolidation is planned to be accomplished via other spending cuts).<sup>1</sup>

Perhaps surprisingly, then, the tax and welfare reforms taking effect in fiscal year 2013–14 are estimated to amount to a modest net 'giveaway' in aggregate of about £0.9 billion in that year, or an average of about £33 per household.<sup>2</sup> Including a number of changes introduced in January 2013 (which are therefore not included in the above figures for reforms taking effect in 2013–14),<sup>3</sup> this brings the total tax and welfare net takeaway since April 2010 to £35.9 billion, or £1,360 per household, in 2013–14.<sup>4</sup>

The aggregate figures are the result of many specific policy changes. In 2013–14, the average net giveaway of £33 per household comprises a £234 gross giveaway offset by a £201 gross takeaway. Households may lose and gain from different reforms, leading to a complex pattern of winners and losers across the population. The giveaway is largely accounted for by tax cuts, mostly of the same form that we have already seen during this parliament. There are real cuts to income tax (the personal allowance and the rate of income tax on incomes over £150,000), fuel duties, council tax, and the main rate of corporation tax. The takeaway is made up primarily of cuts to the welfare budget. Overall, tax measures amount to a net giveaway of £4.2 billion and welfare measures amount to a net takeaway of £3.4 billion.

All taxes are ultimately incident on households. For example, although corporation tax is formally 'paid by companies', it must eventually be borne by households as consumers, employees or shareholders. But the focus of this chapter is mostly on personal taxes – such as income tax and fuel duties – which tend to have immediate and measurable effects on more readily identifiable groups of households, rather than changes to

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<sup>1</sup> See Chapter 5 of this Green Budget.

<sup>2</sup> The number of households is estimated at 26.4 million in 2012. Source: <http://www.ons.gov.uk/ons/rel/family-demography/families-and-households/2012/stb-families-households.html>.

<sup>3</sup> These changes include the tapering away of Child Benefit for families where at least one adult has a taxable income of more than £50,000 per year, and an increase in the bank levy.

<sup>4</sup> Cash-terms estimate of the impact of tax and benefit policy measures in 2013–14, based upon policy costings listed in various Budget documents since 2009.

corporation tax, the carbon price floor and so on. The overall net giveaway of £0.9 billion from tax and benefit reforms in 2013–14 is made up of a £0.4 billion (or £16 per household) net giveaway in household taxes, social security and tax credits and a £0.4 billion (or £16 per household) net giveaway in business and other taxes.

The chapter proceeds as follows. Section 7.2 provides an overview of all reforms to the tax and benefit system coming into effect in 2013–14, alongside their consequences for the public finances in 2013–14 and the longer run. Section 7.3 analyses in more detail the specific changes to personal direct and indirect taxes, and Section 7.4 looks in more detail at the changes to the welfare system. Overall distributional analysis of the changes to personal direct and indirect taxes and welfare is presented in Section 7.5. Section 7.6 summarises and concludes.

## 7.2 Overview of tax and welfare changes in 2013–14

Table 7.1 lists the changes to the tax and benefit system to be implemented in 2013–14, separately by category of reform. It shows the estimated revenue effects in both 2013–14 and the longer run when the changes are fully in place. All of the reforms will ultimately affect households, but those in italics are excluded from the distributional analysis in Section 7.5, as they cannot be robustly attributed to particular groups of households precisely enough with the data available. It should be borne in mind that changes in spending on public services will also affect households, but the focus of this chapter is on taxation, cash benefits and tax credits, rather than benefits in kind which again are difficult to attribute to particular households.

The table shows that there is to be an annual net ‘giveaway’ of about £0.9 billion from tax and benefit reforms introduced in 2013–14, rising to about £1.4 billion in the longer run as the effects of the changes are fully felt (see the note to the table for how the longer-run impact is calculated). This comprises a gross giveaway of about £6.2 billion and a gross takeaway of about £5.3 billion (rising to £8.3 billion and £7.0 billion, respectively, once the changes introduced in 2013–14 are fully felt).

The largest giveaway is the substantial increase in the income tax personal allowance for those aged under 65. Net of the concurrent reduction to the higher-rate threshold – the point at which the higher marginal income tax rate starts to be paid – that acts to limit the gain to higher-rate taxpayers, the change costs £4.0 billion in 2013–14. Considered alongside increases in the personal allowance in April 2011 and April 2012, this means that about 1.5 million fewer individuals will pay income tax in 2013–14 than if the current government had just used the uprating defaults that it inherited.<sup>5</sup> It takes the cost of all the government’s changes to the personal allowance and associated reductions to the higher-rate threshold to £9.0 billion per year.<sup>6</sup> Cuts to the higher-rate threshold mean that there are 1.6 million more higher-rate taxpayers than there would have been had the higher-rate threshold been uprated in line with RPI inflation since 2010–11.<sup>7</sup>

<sup>5</sup> Source: authors’ calculations using the 2010–11 Family Resources Survey and TAXBEN, the IFS tax and benefit microsimulation model.

<sup>6</sup> This is the sum of the costings given in the ‘2013–14’ columns of table 2.2 of the March 2011 Budget ([http://cdn.hm-treasury.gov.uk/2011budget\\_complete.pdf](http://cdn.hm-treasury.gov.uk/2011budget_complete.pdf)); tables 2.1 and 2.2 of the March 2012 Budget ([http://cdn.hm-treasury.gov.uk/budget2012\\_complete.pdf](http://cdn.hm-treasury.gov.uk/budget2012_complete.pdf)); and table 2.1 of the 2012 Autumn Statement ([http://cdn.hm-treasury.gov.uk/autumn\\_statement\\_2012\\_complete.pdf](http://cdn.hm-treasury.gov.uk/autumn_statement_2012_complete.pdf)).

<sup>7</sup> Source: authors’ calculations using the 2010–11 Family Resources Survey and TAXBEN, the IFS tax and benefit microsimulation model.

Table 7.1. Estimated revenue effects of tax, benefit and tax credit changes to be introduced in 2013–14

	2013–14 estimated revenue effect (£ million)	Long-run estimated revenue effect (£ million)
<b>Personal direct taxes</b>	<b>–3,320</b>	<b>–2,950</b>
Increase personal allowance by £1,115 above indexation to £9,440 and reduce basic-rate limit, upper earnings limit and upper profits limit by £2,360 in cash terms	–3,990	–3,920 <sup>a</sup>
Freeze age-related personal allowances in cash terms and restrict to existing beneficiaries	+360	+360 <sup>b</sup>
Reduce additional marginal income tax rate from 50% to 45% on income above £150,000	–50	–100 <sup>a</sup>
CPI-index some National Insurance thresholds	+135	+135 <sup>b</sup>
<i>Reform taxation of non-domiciled residents</i>	+110	+50 <sup>c</sup>
<i>Company car tax rate changes</i>	+115	+115
<i>Introduce a cap on certain tax reliefs</i>	0	+410 <sup>a</sup>
<b>Other personal taxes and indirect taxes</b>	<b>+225</b>	<b>+945</b>
Funding for council tax freeze <sup>d</sup>	–270	0 <sup>c</sup>
Postpone fuel duties uprating to September	–410	0 <sup>a</sup>
Tobacco duty escalator	+50	+50 <sup>b</sup>
Alcohol duty escalator	+125	+125 <sup>b</sup>
<i>Increase landfill tax by £8 per tonne</i>	+80	+80
<i>Introduce a carbon price floor</i>	+615	+615
<i>Freeze inheritance tax threshold</i>	+35	+75 <sup>a,b</sup>
<b>Corporation tax and other taxes</b>	<b>–1,130</b>	<b>–1,765</b>
<i>Reduce main corporation tax rate to 23%</i>	–390	–750 <sup>a</sup>
<i>Introduce corporation tax Patent Box</i>	–350	–910 <sup>c</sup>
<i>Various other tax changes ('giveaways')</i>	–550	–360 <sup>a,c</sup>
<i>Various other tax changes ('takeaways')</i>	+160	+255 <sup>a,c</sup>
<b>Benefits and tax credits</b>	<b>+3,355</b>	<b>+2,380</b>
CPI-index most benefits and tax credits	+425	+425 <sup>b</sup>
Increase working-age benefits and tax credits by nominal 1%	+505	+505 <sup>b</sup>
Increase Basic State Pension by highest of earnings growth, CPI inflation and 2.5%	+80	+80 <sup>b</sup>
Freeze Child Benefit	+270	+270
Disability Living Allowance: reform gateway from 2013–14 (introduction of Personal Independence Payment, PIP)	+345	+1,495 <sup>c</sup>
Cut Housing Benefit entitlement for underoccupying working-age social sector tenants	+490	+490

	2013–14 estimated revenue effect (£ million)	Long-run estimated revenue effect (£ million)
Uprating of Local Housing Allowance rates capped by CPI inflation	+90	+90 <sup>b</sup>
Introduce benefits cap	+275	+275
Reduce Pension Credit Savings Credit in cash terms	+105	+105 <sup>b</sup>
Increase Pension Credit Guarantee Credit by same cash amount as Basic State Pension	–70	–70
Freeze basic and 30-hour elements of Working Tax Credit in cash terms	+180	+180
Introduce Universal Credit	+70	–2,230 <sup>c</sup>
<i>Tax credits: reduce disregard for in-year rises in income from £10,000 to £5,000</i>	+200	+280 <sup>a</sup>
<i>Localise Council Tax Benefit and reduce expenditure by 10%<sup>e</sup></i>	+485	+485
<i>Extend support for mortgage interest</i>	–95	0 <sup>c</sup>
<b>Gross ‘giveaway’</b>	–6,175	–8,340
<b>Gross ‘takeaway’</b>	+5,305	+6,950
<b>Grand total</b>	–870	–1,390
<i>Of which:</i>		
<b>Tax</b>	–4,225	–3,770
<b>Welfare</b>	+3,355	+2,380
<b>Personal taxes and welfare</b>	–435	–320
<b>Business and other taxes</b>	–435	–1,070

<sup>a</sup> Estimated revenue effects in 2014–15.

<sup>b</sup> These reforms involve a departure from or a change to default uprating in years after 2013–14. However, the revenue effects included in the table are for the departure/change in 2013–14 only, isolating the impact of the reform in that year.

<sup>c</sup> Estimated revenue effects in 2015–16 (reform taxation of non-domiciles; extension of support for mortgage interest; funding for the council tax freeze), 2016–17 (replacement of DLA with PIP; the Patent Box) or 2017–18 (introduction of Universal Credit; changes to business rates included within ‘various other tax changes’).

<sup>d</sup> These figures refer to the £270 million per year for two years that the UK government will provide to local authorities that freeze council tax in 2013–14. This is equivalent to approximately 1% of current council tax revenues in England. It is not yet clear how many local authorities will take up this offer or what the increase in council tax would be in the absence of this policy. The distributional analysis in Section 7.5 assumes all councils take up this offer and would have increased council tax by 2.9% in the absence of this policy.

<sup>e</sup> These figures refer to the planned cut in grants to local government and the Welsh and Scottish governments to pay for council tax rebates for low-income households. In practice, councils may choose to cut support by more or less than this amount. Section 7.4 provides details. The distributional analysis in Section 7.5 assumes that support remains at the same level as currently in Scotland and England and that Wales implements its announced plans. For systems where Universal Credit is in place, the default council tax support scheme is assumed.

Notes: This table includes tax and benefit changes taking effect in fiscal year 2013–14; revenue estimates relate only to those reforms. Three significant changes took effect in January 2013 and are excluded from the table: the tapering away of Child Benefit for families where at least one adult has a taxable income of more than £50,000 per year; a temporary increase in the corporation tax annual investment allowance; and an increase in the bank levy. We also exclude revenues from the tax deal with Switzerland, a large part of which will be paid in 2013–14. We count as a reform any change to tax or benefit rules or parameters and any departure from the default uprating rules as of January 2010. Reforms that were announced but subsequently modified appear only once, in their modified form. For reforms announced before the Autumn Statement 2012, the most recently published Treasury revenue estimates were based on OBR economic forecasts that have now been superseded – where possible, the estimates here have been adjusted in an attempt to account for this.

*Notes continue*

*Table 7.1 Notes continued*

HM Treasury's policy change scorecard reports revenues on a cash receipts basis, as opposed to an accruals basis. This means that the full effect of some reforms in 2013–14 – such as those to corporation tax and income tax for those on high incomes – are only picked up in the 2014–15 costings. In this instance, the 'long-run' effects are stated as the 2014–15 costing (see note a). If a policy change is temporary and has only short-run revenue implications, the 'long-run' revenue effect is recorded as 0. For policy changes that take several years to be fully felt or rolled out – such as Universal Credit – the long-run effect is taken from the year in which the policy is fully rolled out (see note c). Note, however, that when showing the public finance implications of changes in tax and benefit uprating rules, we show the effect of the change in uprating in 2013–14 only (i.e. the further effects of changes in indexation in subsequent years are *not* included in the 'long-run' effect) (see note b).

Source: Chapter 2 and policy costings documents of HM Treasury, *Budget 2010* (June), *Budget 2011* and *Budget 2012* (<http://www.hm-treasury.gov.uk/budget.htm>); chapter 2 and policy costings documents of HM Treasury, *Autumn Statement 2011* ([http://www.hm-treasury.gov.uk/as2011\\_index.htm](http://www.hm-treasury.gov.uk/as2011_index.htm)) and *Autumn Statement 2012* ([http://www.hm-treasury.gov.uk/as2012\\_index.htm](http://www.hm-treasury.gov.uk/as2012_index.htm)); HMRC, 'Direct effects of illustrative changes' (<http://www.hmrc.gov.uk/statistics/expenditures/table1-6.pdf>); DWP's July 2012 Impact Assessment of the Benefits Cap (<http://www.dwp.gov.uk/docs/benefit-cap-wr2011-ia.pdf>); and authors' calculations using the Family Resources Survey 2010–11 and the IFS tax and benefit microsimulation model, TAXBEN. Note that some small changes to policy have been made since the latest costings were produced (for example, the roll-out of the benefits cap will be slightly slower than initially expected); the revenue implications of these changes are expected to be small.

Another substantial cut in income tax is the reduction in the additional rate of income tax on incomes of over £150,000 per year, from 50% to 45%. However, because the Treasury expects significant behavioural response (for example, greater work effort, and less tax evasion and avoidance), the official estimate of the cost to the exchequer is just £50 million in 2013–14 and £100 million per year in the longer run.

There are other modest rises in personal direct taxes in 2013–14, but they offset the large tax cuts only partially: overall, changes to income tax, National Insurance contributions and company car tax are expected to cost the Treasury £3.3 billion in 2013–14 (falling to £3.0 billion in the longer run).

Changes to other personal taxes and indirect taxes are, on average, a net takeaway: a postponement of increases in fuel duties is more than offset by higher tobacco and alcohol duties, higher landfill tax, the introduction of a carbon price floor, and a cash-terms freeze in the inheritance tax threshold. Changes to corporation tax and other taxes are a net giveaway, costing the Treasury £1.1 billion in 2013–14 (rising to £1.8 billion in the longer run), with cuts in the main rate of corporation tax and the introduction of the 'Patent Box' accounting for most of this.

Most of the takeaways in 2013–14 take the form of cuts to working-age benefits and tax credits. The most significant in revenue terms are changes to the amount by which benefits and tax credits are uprated, the cuts to funding for council tax support, and cuts to Housing Benefit for those deemed to underoccupy social housing. In the longer run, the reassessment of Disability Living Allowance (DLA) claimants and the replacement of DLA by the Personal Independence Payment are set to raise £1.5 billion per year by 2016–17. However, not all changes to benefits and tax credits are takeaways. The year 2013–14 also sees the start of the roll-out of Universal Credit, which, although expected to raise £70 million in 2013–14, is expected to cost around £2.2 billion a year when fully rolled out in 2017–18.

Overall, tax measures taking effect in 2013–14 are expected to cost the exchequer about £4.2 billion in that year, falling to about £3.8 billion in the long run. Changes to benefits and tax credits taking effect in 2013–14 are expected to raise £3.4 billion in that year, falling to £2.4 billion in the longer term as the changes to DLA and Universal Credit are rolled out fully.

## 7.3 Personal tax reforms

We now turn to the details of the reforms to personal taxes listed in Table 7.1. Some of the changes continue the pattern set by earlier reforms in this parliament, including a further rise in the income tax personal allowance for those aged under 65 and further real cuts to fuel duties and council tax. But there are other changes too, including a cut to the additional marginal income tax rate and the phasing-out of age-related personal income tax allowances. This section analyses the consequences of these reforms for the incomes, incentives and behaviour of those affected.

### Increase to income tax personal allowance for under-65s, and associated changes to higher-rate threshold

The income tax personal allowance for those aged under 65 will rise from £8,105 per year to £9,440 per year in April 2013.<sup>8</sup> This is a discretionary increase of £1,115 over and above default RPI indexation, and translates into an annual cash gain of £223 for basic-rate taxpayers.<sup>9</sup> Combined with simultaneous changes to the higher-rate threshold that act to restrict the gains to higher-rate taxpayers to just £8.50 per year (see below), the measure costs about £4.0 billion in 2013–14.<sup>10</sup> The government's goal of a £10,000 personal allowance will now be reached in April 2015 simply as a result of RPI indexation in April 2014 and April 2015, unless inflation undershoots the Office for Budget Responsibility's (OBR's) forecasts.

This latest discretionary increase in the personal allowance should be viewed in the context of previous substantial above-RPI increases in April 2011 and April 2012. The cumulative impact is for the personal allowance to be £2,095 higher in April 2013 than it would have been under the uprating defaults that this government inherited. Individuals under 65 who face the basic marginal rate of income tax in 2013–14 will be £419 per year better off than they would have been without all these changes. A further 1.5 million individuals who would have paid some income tax in 2013–14 in the absence of these changes will not pay any,<sup>11</sup> and will therefore also gain, although by less than £419 per year.

At the same time, the higher-rate threshold – the point at which the marginal income tax rate rises from 20% to 40% – is being reduced by £1,025 in cash terms. The upper earnings limit – the point at which the marginal rate of employee National Insurance

<sup>8</sup> Note that this personal allowance also applies to individuals aged 65 or over if their taxable income exceeds (as of April 2013) £28,220 per year, because additional age-related allowances are tapered away as income rises above (as of April 2013) £26,100. We estimate that this will apply to about 9% of individuals aged 65 or over in 2013–14. For simplicity, we continue to simply refer to this personal allowance as the allowance 'for those aged under 65'.

<sup>9</sup> Unlike for benefits and tax credits, and certain National Insurance thresholds, RPI indexation (as opposed to CPI indexation) remains the default uprating policy for the personal allowance until it reaches £10,000 in cash terms.

<sup>10</sup> This is the sum of the costings for the increases in the personal allowance announced in the 2012 Budget and Autumn Statements, and the freeze in the basic-rate limit announced in the June 2010 Budget (see Table 7.1). The original sources are tables 2.1 and 2.2 of the March 2012 Budget ([http://cdn.hm-treasury.gov.uk/budget2012\\_complete.pdf](http://cdn.hm-treasury.gov.uk/budget2012_complete.pdf)) and table 2.1 of the 2012 Autumn Statement ([http://cdn.hm-treasury.gov.uk/autumn\\_statement\\_2012\\_complete.pdf](http://cdn.hm-treasury.gov.uk/autumn_statement_2012_complete.pdf)).

<sup>11</sup> Source: authors' calculations using the 2010–11 Family Resources Survey and TAXBEN, the IFS tax and benefit microsimulation model. Relative to a baseline in which the incoming coalition government had also implemented the pre-announced £130 below-inflation rise in the personal allowance in April 2011, this number rises from 1.5 million to 1.6 million.



contributions falls from 12% to 2% – is sensibly being kept aligned with the higher-rate threshold. The combined effect of these income tax and National Insurance changes on earners who pay the higher rate of income tax is a gain of just £8.50 in 2013–14, relative to the default of RPI indexation.<sup>12</sup>

This continues the recent pattern of restricting the gains to higher-rate taxpayers (and hence the exchequer cost) from increases in the personal allowance.<sup>13</sup> The higher-rate threshold – that is, the point at which an individual starts to pay the higher marginal rate of income tax – will be £41,450 in 2013–14. Had it simply been uprated in line with the RPI since 2010–11, it would have been 20% higher, at £49,845, and there would have been an estimated 1.6 million fewer higher-rate income tax payers in 2013–14 as a result.<sup>14,15</sup> Note that, because the higher-rate threshold and the upper earnings limit have been kept aligned (see above), the effect has been to raise the combined income tax and employee National Insurance rate from 32% to 42% on income between £41,450 and £49,845.

By lowering the marginal income tax rate from 20% to 0% over a range of (low) income, increases in the personal allowance strengthen the financial incentive for low earners to work and for those with incomes no higher than the allowance to earn a little more (although it is important to note that for those also subject to the withdrawal of benefits and tax credits when entering work or increasing earnings, the strengthening of work incentives can be much more modest than the decline in headline income tax rates suggests). But they are also giveaways to every basic-rate taxpayer aged under 65 in the country, and this has two important consequences.

First, alongside the fact that the lowest-income families tend not to pay income tax anyway, it helps explain why, contrary to popular perception, the policy is not ‘progressive’. The largest average gains – in cash terms and as a percentage of income – go to those in the middle and upper-middle of the income distribution. In particular, two-earner couples gain twice over. (This is, however, the most progressive way of cutting income tax.)

Second, increases in the personal allowance are expensive. Even net of the various adjustments to the higher-rate threshold that have been used to limit the gains to higher-rate taxpayers, the government’s discretionary increases to the personal allowance in this parliament will cost the exchequer about £9.0 billion in 2013–14.<sup>16</sup>

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<sup>12</sup> This does not apply to those with taxable incomes exceeding £100,000 per year, who lose overall from these changes. The personal allowance is gradually withdrawn as taxable income rises between £100,000 and £118,880, so individuals with incomes this high do not gain (or gain only partially) from increases to the personal allowance, but they lose from reductions to the higher-rate threshold.

<sup>13</sup> In fact, without any adjustment to the basic-rate limit, higher-rate taxpayers would gain twice as much in cash terms as basic-rate taxpayers from personal allowance increases. This is because the higher-rate threshold is not a tax parameter that is explicitly uprated – rather, it is simply the sum of the personal allowance and the basic-rate limit, which are each uprated individually. Therefore, an increase in the personal allowance in isolation increases the higher-rate threshold by the same amount. Without a corresponding adjustment to the basic-rate limit, the effect on higher-rate taxpayers is to save them 40% tax over a range of income (rather than 20% as for basic-rate taxpayers).

<sup>14</sup> Source: authors’ calculations using the 2010–11 Family Resources Survey and TAXBEN, the IFS tax and benefit microsimulation model.

<sup>15</sup> The government also plans to increase the higher-rate threshold by 1% in cash terms – a further real cut, provided inflation exceeds 1% as currently forecast – in both April 2014 and April 2015.

<sup>16</sup> This is the sum of the costings given in the ‘2013–14’ columns of table 2.2 of the March 2011 Budget ([http://cdn.hm-treasury.gov.uk/2011budget\\_complete.pdf](http://cdn.hm-treasury.gov.uk/2011budget_complete.pdf)); tables 2.1 and 2.2 of the March 2012 Budget ([http://cdn.hm-treasury.gov.uk/budget2012\\_complete.pdf](http://cdn.hm-treasury.gov.uk/budget2012_complete.pdf)); and table 2.1 of the 2012 Autumn Statement ([http://cdn.hm-treasury.gov.uk/autumn\\_statement\\_2012\\_complete.pdf](http://cdn.hm-treasury.gov.uk/autumn_statement_2012_complete.pdf)).



### Income tax and National Insurance thresholds

The increases in the income tax personal allowance mean that a significant gap has opened up between the point at which people start paying income tax and the point at which they start paying National Insurance contributions (NICs). The primary threshold, at which employees start to pay NICs, will be £7,748 per year in 2013–14 – £1,692 less than the income tax allowance. There is therefore a small but growing range of income over which the combined income tax and NICs rate is 12% before rising to 32% when income tax becomes payable. We estimate that about 1.0 million individuals will therefore pay NICs but not income tax in 2013–14.<sup>17</sup>

The government could have spent the same revenue it has spent on raising the personal allowance in isolation on aligning the primary threshold and the personal allowance and then increasing both thresholds together. This alternative would have better served the government's aim to 'reward work', a stated objective of the policy:<sup>18</sup> because cuts to NICs do not affect tax paid on unearned income, the total tax cut on earned income could have been larger at the same total cost. And this would have cut taxes for an even lower-earning group than the government's policy. Treating both thresholds together would also have simplified the combined income tax and National Insurance marginal rate schedule. As it is, no earner has been taken out of the income tax and National Insurance system by the government's changes. This continues the trend of policymakers seemingly ignoring the fact that National Insurance contributions are a tax on earned incomes just as surely as is income tax.

### Phasing-out of age-related income tax personal allowances

The second reform to income tax personal allowances is a takeaway rather than a giveaway. Currently, those aged at least 65 have a higher allowance: £10,500 per year for those aged 65 to 74 and £10,660 per year for those aged 75 or over. These additional age-related allowances will start to be phased out from April 2013. We estimate that about 3.6 million individuals (37% of those aged 65 or over) will pay more income tax in 2013–14 as a result, losing an average of £68 per year.<sup>19</sup>

First, the allowances will be frozen in cash terms from April 2013 until they are no higher than those for the under-65 population, at which point the additional age-related allowances will be abolished. Current policy for the under-65s' allowance, and the OBR's inflation forecasts, imply that the age-related allowances will therefore have been fully phased out by April 2019.<sup>20</sup>

<sup>17</sup> Source: authors' calculations using the 2010–11 Family Resources Survey and TAXBEN, the IFS tax and benefit microsimulation model.

<sup>18</sup> See paragraph entitled 'Policy objective' on page 1 of <http://www.hmrc.gov.uk/budget2012/tiin-2044.pdf>.

<sup>19</sup> Source: authors' calculations using the 2010–11 Family Resources Survey and TAXBEN, the IFS tax and benefit microsimulation model.

<sup>20</sup> This is based on forecasts of annual RPI inflation in the year to September in 2013 and 2014, and forecasts of annual CPI inflation in the year to September in 2015, 2016 and 2017. This is because current policy is for the indexation of the personal allowance for those aged under 65 to switch from RPI to CPI inflation once the allowance reaches £10,000 in nominal terms, which is set to happen in April 2015. Given these forecasts, the £10,500 allowance currently for those aged 65 to 74 will have been phased out fully by April 2018; and the £10,660 allowance currently for those aged at least 75 will have been phased out fully by April 2019, assuming CPI inflation in September 2018 of at least 0.1% (the OBR's forecast horizon means that its last forecast of September inflation is currently for 2017).

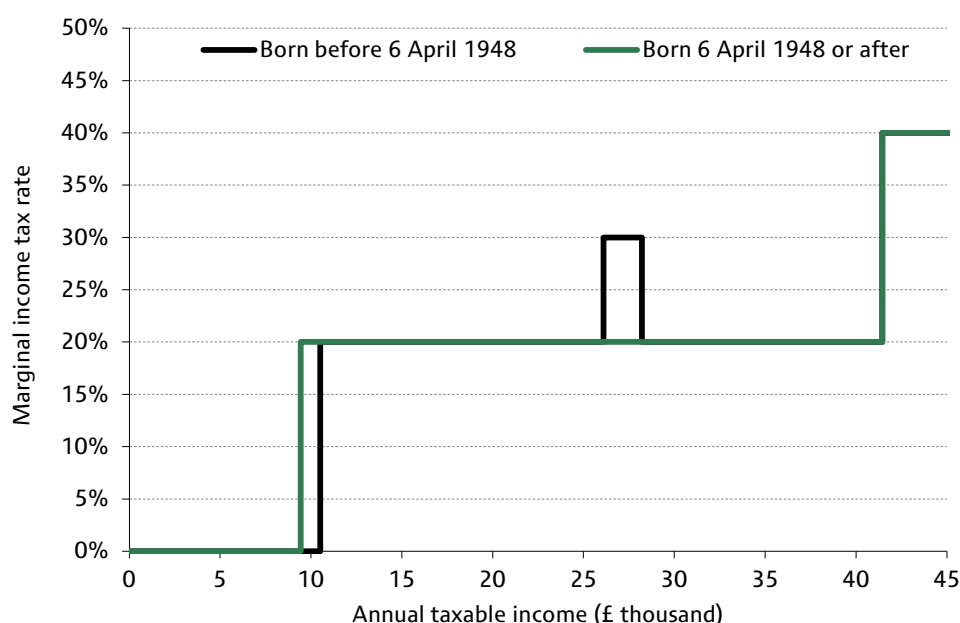
Second, from April 2013, the age-related allowances will be restricted to existing beneficiaries. This means that cohorts born on or after 6 April 1948 (i.e. turning 65 on or after 6 April 2013) will never get an additional age-related allowance.<sup>21</sup>

Neither the lowest-income nor the highest-income pensioners are affected. About 5.4 million individuals aged 65 or over (55% of the total) with relatively low taxable incomes would not have paid income tax in 2013–14 anyway; and a further 800,000 (9% of the total) would not have benefited from the additional age-related personal allowance because it is tapered away as annual taxable income rises above (as of April 2013) £26,100.<sup>22</sup>

For existing beneficiaries of the additional age-related allowances, the cash freeze increases liability to income tax in 2013–14 by up to £56 per year relative to the previous default of RPI indexation. The biggest cash losses, relative to previous policy, are for individuals who turn 65 *during* 2013–14 and who would, in the absence of this policy, have benefited in full from the additional age-related allowance<sup>23</sup> but instead will have the same allowance as those aged under 65. Those individuals will pay £268 per year (just over £5 per week) more in income tax than they would otherwise have done. Note that this loss is considerably less than it would have been without the substantial increases to the allowance for those currently aged under 65.

Because the allowance for those aged under 65 has recently increased so rapidly in real terms, the most obvious economic justification for giving pensioners higher personal

**Figure 7.1. Marginal income tax rate schedule in 2013–14 for individuals born either side of 6 April 1948 (but on or after 6 April 1938)**



Source: Authors' calculations.

<sup>21</sup> It also means that cohorts born between 6 April 1938 and 5 April 1948 inclusive will get an annual allowance of £10,500 rather than the £10,660 to which they would have become entitled when turning 75 in the absence of this policy change.

<sup>22</sup> Source: authors' calculations using the 2010–11 Family Resources Survey and TAXBEN, the IFS tax and benefit microsimulation model.

<sup>23</sup> Those with annual taxable income between £10,780 and £26,100.

allowances – to save those with modest levels of private income from having to interact with the income tax system and fill in self-assessment forms – has been weakening. And as well as simplifying the income tax system generally by harmonising the treatment of different age groups, the reform also simplifies pensioners' marginal income tax rate schedules, as shown by Figure 7.1. Those who benefit from the additional age-related allowances have 50p of the allowance withdrawn for every £1 by which taxable income exceeds a certain level (£26,100 in 2013–14), until their allowance is no higher than that for under-65s. This creates an odd 10 percentage point spike in the individual's marginal income tax rate,<sup>24</sup> and it does so in a way that lacks transparency. A welcome side effect of abolishing age-related allowances is the abolition of this confusing taper.

One can always debate the appropriate generosity of the system to different groups, given differing distributional objectives. But as a structural simplification of the tax system, this reform is sensible.

### Cut in additional marginal income tax rate from 50% to 45%

The third significant change to income tax is the reduction in the additional marginal rate of income tax on incomes of over £150,000 from 50% to 45% in April 2013. This represents a significant cut in the tax rate for approximately the top 1% of income tax payers in the UK. It would, in the absence of any behavioural response, cost approximately £3.0 billion in 2013–14 (on an accruals basis), or around £10,000 per affected taxpayer. However, the OBR thinks that there will be substantial behavioural responses to the lower tax rate, including additional work effort and reduced avoidance and evasion activity, that act to reduce its post-response central estimate of the cost to just £80 million in 2013–14 (£50 million on a cash basis), rising to £100 million in the following few years.<sup>25</sup> As well as significantly reducing the cost of the policy to government, if at least part of the response takes the form of real increases in economic activity leading to more income (and hence more tax revenue) – rather than simply changes in tax avoidance and evasion – then the pre-tax incomes of affected individuals will increase. HM Revenue and Customs (HMRC), in its initial assessment of the impact of the current 50% additional rate, cites studies that 'suggest that between one-third and one-half of the response comes from genuine [changes] in ... income'.<sup>26</sup>

The 50% tax rate was announced in Budget 2009 and introduced in April 2010. In the March 2010 Budget, it was predicted that the 50% rate would raise around £2.7 billion per year after accounting for behavioural response (compared with £6.5 billion before behavioural response). This was based on an assumption about the responsiveness of high-income individuals to taxation that was somewhat lower than found in previous UK and US studies of their behaviour. HMRC's initial assessment of the 50% tax rate – the first estimate based on evidence from the actual introduction of the 50% tax rate – found that the behavioural response was larger than that assumed by HM Treasury in 2010, and more in line with other studies. This suggested that the 50% rate was raising considerably less than initially anticipated, and was the basis for the updated behavioural assumptions used by HMRC and the OBR to calculate the cost of reducing the rate to 45%.

<sup>24</sup> Losing 50p of personal allowance costs 10p in additional tax, given the basic 20% rate of income tax.

<sup>25</sup> Costings taken from HMRC, 'The exchequer effect of the 50 per cent additional rate of income tax', March 2012 (<http://www.hmrc.gov.uk/budget2012/excheq-income-tax-2042.pdf>). Unless otherwise stated, figures cited in this subsection are taken from this document.

<sup>26</sup> Page 44 of HMRC, 'The exchequer effect of the 50 per cent additional rate of income tax'.

The estimates of responsiveness produced by the HMRC model are, however, very imprecise, and the cost of cutting the additional rate of tax to 45% is highly sensitive to how responsive people are. This means that there is considerable uncertainty around the central estimate that the reduction in the additional marginal rate from 50% to 45% costs £100 million per year: HMRC estimates that the policy would cost more like £800 million if people were as responsive as initially assumed by the Treasury or could raise around £700 million if they were just over a fifth more responsive than under the new central estimate.

So, much uncertainty remains over the revenue effects of cutting the 50p rate back to 45p. Several things are clear though. First, even on the Treasury's original assumptions, raising the top rate of tax to 50p would have had major behavioural effects. Second, HMRC's analysis quite clearly demonstrates significant amounts of behavioural change by affected individuals, and especially the shifting of incomes between years ('forestalling'). Such large distortions to behaviour are indicative of an economically inefficient tax and remind us that it is important not to fixate simply on how much the 50p rate raised (or cost) and how much the move back to 45p will cost (or raise). There are likely to be better ways of raising money from a similar group of high-income individuals that entail less avoidance or distortion to economic activity than a 50p income tax rate (see Chapter 9 for analysis of how additional revenues could be raised from the rich).

## **Grants for councils to freeze council tax**

The government is making £270 million available in both 2013–14 and 2014–15 for councils in England that do not increase council tax in cash terms in 2013–14 and for the devolved administrations according to the Barnett formula.

At this stage, it is uncertain how many councils will take up the option of additional funding from Westminster in return for lower council tax rates. First, the funding available from central government in 2013–14 and 2014–15 is equivalent to about 1% of council tax revenue. Local authorities that would, in the absence of this policy, have increased council tax by more than 1% in cash terms in 2013–14 would therefore not have the revenue shortfall fully plugged by the central government funding available if they instead chose to freeze council tax. Second, the central government funding is available only temporarily, for two years. Councils that do take up the option will face a choice in 2015–16 and beyond when the additional grants from central government expire. They could raise council tax to whatever it would have been in the absence of the temporary grants from central government, implying a particularly large cash rise in council tax in April 2015. Or they could continue with indefinitely lower council tax rates than they would have set in the absence of the temporary grants, and make up the permanent shortfall from elsewhere in their budgets.

The fact that a similar policy is already in place in 2012–13 – about 85% of local authorities in England froze council tax in April 2012 and received central grants that covered this for one year only<sup>27</sup> – may mean that local authorities are less likely to take up the government's offer again. Those that freeze council tax again would ultimately find themselves with council tax rates that have been cut in real terms for two consecutive years without any permanent funding from central government to plug the revenue

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<sup>27</sup> Source: Communities and Local Government statistics, available at [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/6638/2110513.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6638/2110513.pdf).

shortfall.<sup>28</sup> Note, however, that the government has stipulated that any local authority wishing to raise council tax by 2.0% or more in cash terms in 2013–14 would have to hold a local referendum on the matter.

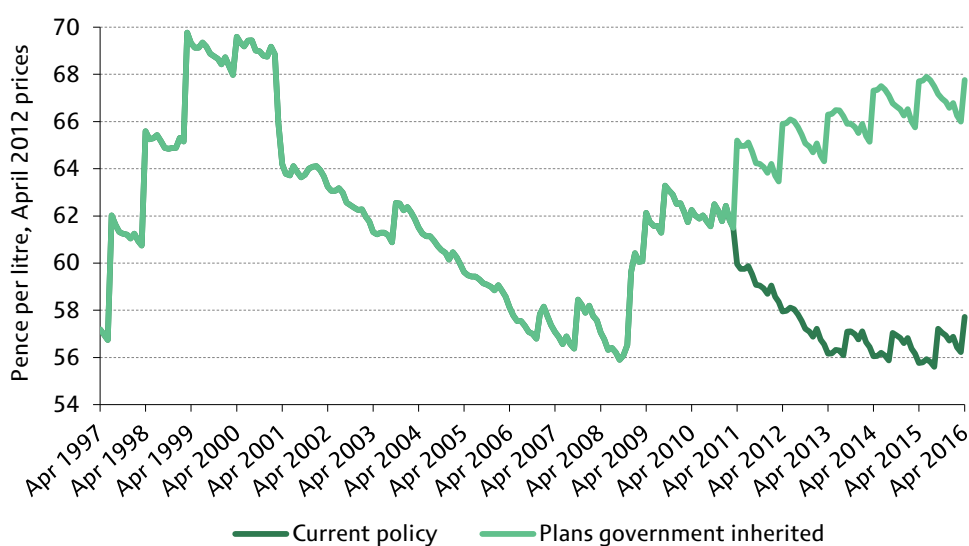
If local authorities do take up the funding and freeze council tax in cash terms in 2013–14, most people will directly gain (although the gains may be only temporary, as discussed).<sup>29</sup> Of course, those who do not pay council tax – students and some of those on benefits – would not be affected.

## Indirect taxes: real rises for some, real cuts for others

The alcohol and tobacco duty escalators set by the previous government remain in place, meaning that total duty per unit will rise in April 2013 by RPI inflation plus 2%. This would mean a nominal increase of 5.1% under the OBR's current forecast.<sup>30</sup>

The rise in fuel duties in line with RPI inflation that was scheduled for April 2013 has been postponed to September 2013 (and the government has planned the same switch from April to September uprating for 2014 and 2015). When considering 2013–14 in isolation, this is a relatively minor half-year delay. But it should be seen in the context of a series of other recent real cuts to fuel duties. Current plans imply that duty on petrol and diesel until August 2013 will be one penny lower *in cash terms* than before it was cut on 23 March 2011. The last cash increase in these duties in line with inflation that was actually implemented remains that for April 2010 (and even that was implemented over three stages, with the last stage in January 2011). The resulting decline in the real value of fuel duties is illustrated in Figure 7.2. The series of cuts to fuel duties amount to

Figure 7.2. Real duty on a litre of petrol or diesel



Note: Nominal fuel duties converted to real values using the RPI.

Source: Authors' calculations.

<sup>28</sup> Council tax was also frozen in cash terms across England and Scotland in 2011–12, but on that occasion the UK government provided permanent funding for it.

<sup>29</sup> The distributional analysis in Section 7.5 assumes that local authorities in Great Britain do freeze council tax in cash terms in 2013–14 and continue with lower council tax in 2015–16 than would otherwise have been the case, despite the expiry of temporary government grants, by finding savings elsewhere in their budgets.

<sup>30</sup> The relevant measure of RPI inflation used for these purposes is the forecast of RPI inflation in the year to the third quarter *following* the respective change. The OBR's forecast at the time of the March 2013 Budget will determine the April 2013 increase.

approximately a £4.7 billion annual giveaway by 2015–16 relative to the plans this government inherited,<sup>31</sup> which included a fuel duty escalator of RPI plus one penny per litre (abolished in the March 2011 Budget). The biggest gainers from these cuts to fuel duties, as a proportion of income or expenditure, are mostly found in the middle and upper-middle of the income and expenditure distributions. In cash terms, the gains generally increase straightforwardly with income and expenditure levels, on average.<sup>32</sup>

Current fuel duties policy appears, at best, haphazard. The annual rise in line with inflation that was originally planned for April 2011 was delayed three times before it was finally cancelled altogether in the 2012 Autumn Statement; and the annual cash increase initially scheduled for April 2012 was also delayed once before it was eventually cancelled in the 2011 Autumn Statement. The government now plans to move the cash increases scheduled for each of the next three Aprils to the corresponding Septembers, only to return to April uprating in 2016. The credibility of this plan is highly questionable in the context of the numerous recent policy changes in this area.

The government should clarify how it thinks the real value of fuel duties should evolve in a way that provides predictability for firms, households and the public finances. Given the external costs associated with motoring, the *economic* case for continued real cuts in fuel duties is weak. There are also substantial revenue implications of continuing to cut them. If the government wants to increase fuel duties in cash terms (for instance, so that they stay constant in real terms), it could consider ways of reducing the seasonal political pressure to cancel annual upratings. One option would be to move to more frequent (for example, monthly) uprating. This would ensure a smoother time profile of real duty rates, and may cause fewer political difficulties than under the current system, in which sharper overnight jumps in fuel duties once every year seem to cause irresistible political pressure to delay or cancel them.

Beyond the immediate future, there is a strong economic case for changing the way that motoring is taxed by moving towards a system of road pricing.<sup>33</sup> This form of taxation could be much better targeted at the costs of road use and would be more sustainable fiscally as vehicles become more fuel-efficient over time. But this would require a clear strategy, which is lacking at present.

## 7.4 Welfare reforms

We now discuss the significant changes to the social security and tax credit system taking effect in 2013–14. These include measures that reduce entitlements and hence form part of the government's wider attempts to reduce the deficit. But there are also major structural changes, such as the start of the phased introduction of Universal Credit and the localisation of Council Tax Benefit (CTB).

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<sup>31</sup> This is the sum of the costings given in the '2015–16' columns of table 2.1 on page 42 of the March 2011 Budget ([http://cdn.hm-treasury.gov.uk/2011budget\\_complete.pdf](http://cdn.hm-treasury.gov.uk/2011budget_complete.pdf)); table 2.1 on page 46 of the 2011 Autumn Statement ([http://cdn.hm-treasury.gov.uk/autumn\\_statement.pdf](http://cdn.hm-treasury.gov.uk/autumn_statement.pdf)); and table 2.1 on page 56 of the 2012 Autumn Statement ([http://cdn.hm-treasury.gov.uk/autumn\\_statement\\_2012\\_complete.pdf](http://cdn.hm-treasury.gov.uk/autumn_statement_2012_complete.pdf)).

<sup>32</sup> The bottom income decile group, which gains a lot from fuel duty cuts, is an exception. This reflects the fact that this group has very high average spending (including spending on fuel) relative to its income. This suggests that many of the group have low incomes only temporarily or that their incomes have been mismeasured, providing a strong case for focusing more on effects by expenditure when considering indirect tax changes in isolation.

<sup>33</sup> P. Johnson, A. Leicester and G. Stoye, *Fuel for Thought: The What, Why and How of Motoring Taxation*, report for the RAC Foundation, London, 2012 (<http://www.ifs.org.uk/publications/6175>).



## Universal Credit

Universal Credit is set to replace six means-tested benefits and tax credits for working-age claimants with a single integrated benefit. Specifically, it will replace Income Support, income-based Jobseeker's Allowance (JSA), income-based Employment and Support Allowance (ESA), Housing Benefit, Working Tax Credit and Child Tax Credit. The roll-out of Universal Credit is planned to begin in some pilot areas in the North West of England in April 2013, and in the rest of the country from October 2013. New claimants of Income Support and income-based JSA will be the first group to be treated under the new system. Existing claimants will begin to be moved onto Universal Credit from April 2014. Although relatively few families will be affected by the change during 2013–14, over time Universal Credit will represent one of the biggest changes to the structure of the welfare system for working-age people since 1948.<sup>34</sup>

### A single benefit claim

Whereas under the current system many claimants have to submit claims for a number of different benefits to different agencies (such as local councils for Housing Benefit, the Department for Work and Pensions (DWP) for Income Support, and HMRC for tax credits), Universal Credit will require a single claim for a single benefit.<sup>35</sup> This should be simpler for claimants – saving them time, and possibly reducing error and increasing take-up – and be easier to administer and check (reducing error and fraud). By integrating the systems of out-of-work benefits and in-work tax credits, it might also encourage more people to enter paid work by smoothing the transition.

### Less frequent payments

Most families will receive Universal Credit on a monthly basis, with entitlements based on circumstances during the previous month and calculated using 'real-time' information from employers. This should result in far fewer under- and over-payments than the current system and may reduce the amount of fraud and error. The flip side is that using information from the previous month (rather than self-reported information) may mean payments do not respond to changes in circumstances as quickly as they can now.<sup>36</sup> Concerns have also been raised about the ability of Universal Credit recipients to budget properly on a monthly, as opposed to weekly, basis and to manage payment of rent to landlords<sup>37</sup> (Housing Benefit is generally paid directly to landlords in the social rented

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<sup>34</sup> IFS researchers have previously analysed Universal Credit in some detail, using information available from the government's White Paper *Universal Credit: Welfare that Works* (DWP, 2010, Cm 7957, <http://www.dwp.gov.uk/docs/universal-credit-full-document.pdf>). See M. Brewer, J. Browne and W. Jin, 'Universal Credit: a preliminary analysis of its impact on incomes and work incentives', *Fiscal Studies*, 2012, 33, 39–71 (available at <http://www.ifs.org.uk/publications/6147>). However, changes to Universal Credit earnings disregards and conditionality were subsequently announced at the 2012 Autumn Statement. IFS researchers plan to publish updated detailed analysis of Universal Credit later in 2013.

<sup>35</sup> Although claimants will need to make a separate claim to their local authority for Council Tax Benefit (see below).

<sup>36</sup> Under the current system, means-tested benefits are assessed on a weekly basis. Tax credits are assessed annually, but prospectively, so if a claimant anticipates a change in income over the coming year they can allow for this when making their tax credit claim, and can report a change in income or other circumstances at any time and have their tax credit payments adjusted accordingly (but if they fail to report relevant changes in income or circumstances, they may have to deal with under- or over-payments).

<sup>37</sup> See, for instance, A. Tarr and D. Finn, *Implementing Universal Credit: Will the reforms improve the service for users?*, Joseph Rowntree Foundation, 2012 (<http://www.jrf.org.uk/publications/implementing-universal-credit>).



sector, which currently accounts for about two-thirds of Housing Benefit claimants<sup>38</sup>). The government has stated that these changes are designed to encourage responsibility and to ensure that Universal Credit payments ‘mimic work and receipt of a salary’.<sup>39</sup>

### *Extension of work search requirements*

The Universal Credit regulations allow for the extension of work search requirements to many more individuals than currently face them under the JSA regime. Under the existing system, income-based JSA entitlements and therefore work search requirements will generally cease at £77 of earnings per week for a single person and £123 for a couple, in 2013–14. The current plan is that, initially, work search requirements under Universal Credit will continue to be applied to the same group as currently subject to them under the JSA regime.<sup>40</sup> However, regulations allow for those receiving Universal Credit to eventually be expected to look for higher-paid employment (whether through more hours of work or a higher wage) if they earn less than 35 times the minimum hourly wage per week (currently approximately £217),<sup>41</sup> whilst couples may be required to earn double that between them (approximately £433). Over time, therefore, the number of people subject to conditionality could increase substantially, especially among couples.

### *Changes in benefit withdrawal rules and entitlements*

Out-of-work entitlements to benefits will be the same as under the current system for most claimants, but there will be substantial increases to ‘earnings disregards’ – that is, the amounts that one can earn before entitlement starts being reduced. The biggest increases in disregards are for those with children (especially lone parents) and those with a ‘limited capability for work’. Those not claiming support for housing costs (mostly homeowners) will also generally have higher earnings disregards than otherwise-identical households that are claiming support for housing costs.

As earnings rise above the applicable earnings disregard, there will also be a reduction in the rate at which entitlements are tapered away. Existing out-of-work benefits are withdrawn pound for pound as after-tax earnings rise, whereas Universal Credit recipients will lose only 65p of entitlement for every £1 increase in after-tax earnings. Together with the higher earnings disregards, this will increase the incentive for many households to have someone in paid work, because they will get to keep more of their benefits when doing so. Hence, the most striking effect of Universal Credit on financial work incentives is to strengthen them significantly for those households facing the weakest incentives under the current system.<sup>42</sup>

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<sup>38</sup> Source: the caseload figures in the ‘Housing Benefit’ sheet Benefit Expenditure Tables (available at [http://statistics.dwp.gov.uk/asd/asd4/index.php?page=medium\\_term](http://statistics.dwp.gov.uk/asd/asd4/index.php?page=medium_term)). For 2012–13, the row labelled ‘Total Social Sector’ is 67% of the row labelled ‘Total’.

<sup>39</sup> As stated in the latest DWP Impact Assessment (<http://www.dwp.gov.uk/docs/universal-credit-wr2011-ia.pdf>).

<sup>40</sup> See the Explanatory Memorandum to the Universal Credit Regulations, [http://www.legislation.gov.uk/ukdsi/2013/9780111531938/pdfs/ukdsiem\\_9780111531938\\_en.pdf](http://www.legislation.gov.uk/ukdsi/2013/9780111531938/pdfs/ukdsiem_9780111531938_en.pdf).

<sup>41</sup> Based on the adult rate of the National Minimum Wage applicable between October 2012 and September 2013.

<sup>42</sup> Note, however, that the impact of Universal Credit on work incentives is not always positive. A significant number of households that currently benefit from Working Tax Credit will face a somewhat weaker incentive to have someone in work because entitlements to Universal Credit can be lower than entitlements under the current system of benefits and tax credits. Furthermore, households will tend to face a weaker incentive to have a second worker in work. This is partly due to a higher withdrawal rate for Universal Credit than is the case currently for tax credits alone. However, it also reflects the fact that those households that are entitled to more support under Universal Credit when one person works than currently will have *more support to lose* if a second worker enters work.

In particular, the new out-of-work claimants placed on Universal Credit in 2013–14 would keep more of their welfare entitlement if they entered a low-paid job than they would under the current system, and this will act to substantially strengthen financial work incentives for some. This might also create an incentive for unemployed people who expect to be able to find a job with low earnings to delay their benefits claim until the Universal Credit roll-out begins in October 2013.

On the other hand, Universal Credit entitlement will be reduced by £1 for every £1 of *unearned* income, such as income from savings or property or spousal maintenance (but not child maintenance), and those with over £16,000 of financial capital will not be entitled to Universal Credit at all. This is less generous than the treatment under tax credits and the existing means-tested benefits. This means new out-of-work claimants after October 2013 with unearned income or financial assets will be worse off when claiming Universal Credit than they would have been under the existing system. In addition, new claimants where one partner is aged over and the other under the female State Pension Age (61 years and 9 months in October 2013) will see a very significant reduction in their entitlement – this group will no longer be able to claim Pension Credit.<sup>43</sup> The changes may incentivise these groups to bring forward benefit claims to before the national roll-out of Universal Credit in October 2013; or they may discourage them from moving into employment in the short term if they think there is a risk of them losing that job and subsequently having to make a new out-of-work benefit claim, at which point they would be treated under the Universal Credit rules. Probably at least in part because of lower entitlements for some new out-of-work recipients than under the current system, the roll-out of Universal Credit is expected to reduce entitlements by £70 million in 2013–14, even though it is a net giveaway to households in the long run.

DWP's Impact Assessment<sup>44</sup> estimates that, overall, changes in financial work incentives as a result of Universal Credit could lead to between 100,000 and 300,000 additional people in employment in Great Britain. DWP also estimates that Universal Credit will increase average net incomes within the lowest-income 40% of the population, and somewhat reduce average net incomes within the next 30% of the population (with little effect on the top 30%). Around 3.1 million households will have entitlements increased and 2.8 million households will have them reduced in the long run, relative to the current system (though note that, in the shorter term, cash-terms transitional protection applies at the point of transition to the Universal Credit system). Among out-of-work households, 0.6 million will gain in entitlement, 1.1 million will lose in entitlement and 2.4 million will have entitlements unchanged in the long run.

In summary, the start of the roll-out of Universal Credit in 2013–14 is the beginning of a process that will have substantial impacts on the incomes and work incentives of many people. It also has the potential to simplify the structure and operation of the means-tested benefits system. Relatively few people will feel the impact during 2013–14, but some of those who do may be substantially affected.

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<sup>43</sup> This creates a particularly large 'couple penalty' for such couples, whereby benefit entitlements are lower when claiming as a couple than when claiming as two single adults.

<sup>44</sup> <http://www.dwp.gov.uk/docs/universal-credit-wr2011-ia.pdf>.

## **Below-inflation increases in benefit and tax credit rates**

Many benefit and tax credit rates will rise by less than the now-default CPI inflation in 2013–14, cutting the welfare bill by about £1.1 billion in that year.<sup>45</sup> This is due to a combination of the start of a three-year policy of uprating many working-age benefits and tax credits by 1% in cash terms, announced in Autumn Statement 2012; previously-announced cash-terms freezes for Child Benefit and for the basic element and 30-hour premium in Working Tax Credit; and a cash-terms reduction in the maximum award of the Savings Credit element of Pension Credit.

The reduction in the Savings Credit is the only discretionary reduction to a pensioner benefit and is being used to pay for an above-indexation increase to the guarantee element of Pension Credit (some pensioners with modest levels of private income will lose overall from these two changes, and pensioners with low incomes claiming Pension Credit will gain).

Major benefits and tax credits that will continue to rise by at least CPI inflation are: most pensioner benefits (notwithstanding the two changes to Pension Credit mentioned above);<sup>46</sup> Disability Living Allowance; the support component within Employment and Support Allowance (this goes to the ESA recipients assessed as belonging to the more disabled category who are not expected to engage in work-related activities); Incapacity Benefit; and disability, carers' and pensioners' premiums in benefits and tax credits.

Nominal increases of 1% in April 2013 imply a 1.2% cut relative to the default of CPI indexation. The nominal freezes for Child Benefit and elements of Working Tax Credit imply a 2.2% real cut on the same basis. Given the OBR's current CPI inflation forecasts, the three-year 1%-uprating policy implies cumulative 3.9% cuts relative to CPI uprating for the affected benefits and tax credits by 2015–16. But note that, as uprating has been set in advance in cash terms, the actual implications for real benefit levels by 2015–16 depend upon unknown future inflation rates.<sup>47</sup>

Clearly, these below-inflation increases and cash freezes should be seen in the context of a government wanting to reduce spending on benefits and tax credits as part of its fiscal consolidation efforts. They represent a simple and sizeable reduction in expenditure that is broad-based (among working-age welfare recipients) rather than focused on particular groups of claimants. Because the cut is so broad-based, the patterns of losses essentially reflect the patterns of benefit and tax credit entitlement among the working-age population. The below-CPI inflation increases and cash freezes in 2013–14 will reduce real entitlements for about 2.4 million out of 2.8 million out-of-work households of working age (who will lose about £90 in 2013–14, on average) and 7.3 million out of 14.1 million in-work households of working age (who will lose about £80 in 2013–14, on average).<sup>48</sup> Note that about 2.7 million of those 7.3 million in-work households affected

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<sup>45</sup> This is the sum of the relevant figures in Table 7.1.

<sup>46</sup> The 'triple lock' means that the Basic State Pension is set to rise by 2.5% in April 2013, more than CPI inflation of 2.2%. It will rise by the maximum of CPI inflation, earnings and 2.5% in subsequent years.

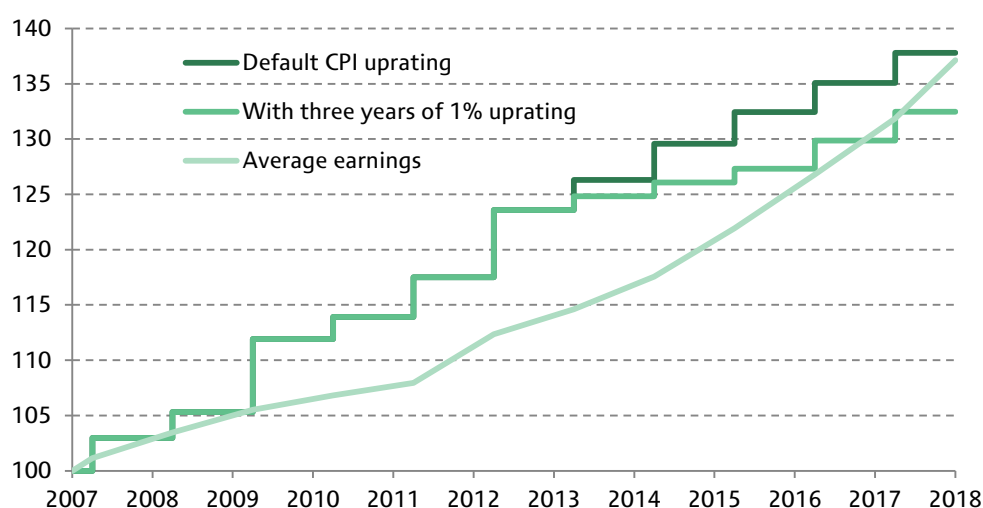
<sup>47</sup> Note, however, that the policy cannot result in real *rises* in benefits, as the Welfare Benefits Uprating Bill (<http://www.publications.parliament.uk/pa/bills/cbill/2012-2013/0116/20130116.pdf>) stipulates that the 1% uprating does not apply in April 2014 and April 2015 if the relevant measures of inflation turn out to be less than 1%.

<sup>48</sup> Note that 'working-age' here is defined as households in which no adult is above the female State Pension Age, because these households are ineligible for Pension Credit, and are therefore the households primarily affected by the cuts to working-age welfare.

will lose only from the freeze to Child Benefit (at an average loss of about £65 in 2013–14).<sup>49</sup> Of course, the measures have the biggest impact on low-income households.

The government has pointed out that benefits uprated in line with prices have risen more quickly than average earnings since the financial crisis, as is shown in Figure 7.3.<sup>50</sup> This is because earnings have not kept pace with inflation, whereas price-indexed benefits have broadly done so (by definition). This pattern is unusual – in normal economic times, real earnings grow, and price-indexed benefits therefore fall relative to earnings (although above-indexation increases have seen some entitlements grow substantially faster than prices over the last 15 years, particularly for families with children). Relative to that ‘normal’ scenario, the recent faster growth in out-of-work benefits than in earnings looks even more dramatic. On the other hand, as indicated by Figure 7.3, since earnings are expected to start outpacing prices once more, they would soon have recovered their pre-crisis position relative to out-of-work benefits anyway. The three-year 1%-uprating policy implies that this will happen two years earlier than it would otherwise have done (by 2016–17 as opposed to 2018–19).

Figure 7.3. Average earnings and out-of-work benefits (Jan 2007 = 100)



Source: Past earnings from ONS series DTWM, ROYK, MGRZ and MGRQ. Past benefits from DWP (JSA personal allowance for a single person over 25). Forecasts of inflation and earnings growth from OBR.

The government's current default assumption about benefit uprating is straightforward price indexation. If the government doubts whether this is the appropriate rule – which seems plausible, given its recent references to relative patterns of benefits and earnings growth<sup>51</sup> – then it would be helpful for it to clarify its position on long-run indexation policy: this matters enormously for the future shape of the benefits system and for the

<sup>49</sup> Source: authors' calculations using the 2010–11 Family Resources Survey and TAXBEN, the IFS tax and benefit microsimulation model.

<sup>50</sup> The outpacing of earnings by benefit rates is one reason why 2010–11, the latest year for which data are available, saw a significant drop in inequality, with incomes falling less quickly towards the bottom of the distribution than at the middle and top end of the distribution. For more details, see J. Cribb, R. Joyce and D. Phillips, *Living Standards, Poverty and Inequality in the UK: 2012*, IFS Commentary 124, 2012 (<http://www.ifs.org.uk/publications/6196>)

<sup>51</sup> For example, in the Chancellor's 2012 Autumn Statement speech ([http://www.hm-treasury.gov.uk/as2012\\_statement.htm](http://www.hm-treasury.gov.uk/as2012_statement.htm)), he said 'we have to acknowledge that over the last five years those on out of work benefits have seen their incomes rise twice as fast as those in work. With pay restraint in businesses and government, average earnings have risen by around 10% since 2007. Out of work benefits have gone up by around 20%.'

public finances. In doing so, a couple of important points are worth bearing in mind. First, a policy of straightforward earnings indexation would imply substantially *higher* expected benefit rates in the long run than currently planned, and would therefore increase projected welfare spending.<sup>52</sup> Second, a policy of uprating by the lesser of inflation and earnings growth each year is unlikely to be desirable. This would imply that, in the long run, benefits would rise by less than both prices and earnings. Whilst one can always reasonably debate the appropriate *level* of entitlements, it is not clear why any government should want benefits to be falling indefinitely over time both in real terms and relative to earnings.

## Disability Living Allowance replaced by Personal Independence Payment

From April 2013, the Personal Independence Payment (PIP) will start to replace Disability Living Allowance for adults aged under 65. This is a major reform: DLA is the most widespread benefit payment on grounds of disability, with 1.9 million working-age claimants and an estimated total spend for that group of £7.5 billion in 2012–13. This compares with only 1.2 million working-age claimants and an exchequer cost for that group of £4.3 billion in 1997–98 (in 2012–13 prices). The transition from DLA to PIP is expected to reduce spending by about £1.5 billion per year by 2016–17, as a result of an expected one-fifth of DLA claimants being assessed as ineligible for PIP.<sup>53</sup> Existing DLA claimants aged 65 or over will be able to continue on DLA (new claimants aged 65 or over already have to claim Attendance Allowance rather than DLA, and that will continue). The government has committed to a separate consultation before any move to extend the migration from DLA to PIP for children currently entitled to DLA (of whom there are about 350,000).<sup>54</sup>

The transition to the PIP is scheduled to take place between 2013 and 2016. New claimants aged under 65 will be assessed for entitlement to PIP from April 2013 in a small number of areas<sup>55</sup> and from June 2013 elsewhere. Reassessment of existing DLA claimants aged under 65 will begin in October 2013 and is expected to be completed by the end of 2016.

The government has said that the disability test for PIP will involve an assessment of the ability of an individual to participate fully in society rather than the severity of impairment.<sup>56</sup> This means that, unlike in DLA, there will be no medical conditions that will lead to automatic entitlement to PIP. The PIP will also involve continuing assessment of claimants' needs. The assumption is that it will be awarded for a fixed term, of between one and ten years. Claimants will automatically be reassessed at the end of their term, as well as during that term if circumstances change.

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<sup>52</sup> It is worth noting that the long-term public finance forecasts produced by the OBR assume that benefit rates will rise in line with earnings rather than prices. This is because, over many years, default price indexation would likely lead to a significant decline in the value of benefits relative to earnings.

<sup>53</sup> Page 36 of HM Treasury, *Budget 2010 Policy Costings*, June 2010 ([http://www.hm-treasury.gov.uk/junebudget\\_costings.htm](http://www.hm-treasury.gov.uk/junebudget_costings.htm)).

<sup>54</sup> Figures on current and historical expenditure and claimant numbers in this paragraph are from DWP's Benefit Expenditure Tables ([http://research.dwp.gov.uk/asd/asd4/index.php?page=medium\\_term](http://research.dwp.gov.uk/asd/asd4/index.php?page=medium_term)).

<sup>55</sup> Merseyside, North West England, Cumbria, Cheshire and North East England.

<sup>56</sup> Details of the policy described here can be found at <http://www.dwp.gov.uk/pip>.

Existing DLA claimants are found largely towards the middle of the income distribution – often because their DLA income pushes them up to the middle of the income distribution (though note that they are likely to face higher living costs due to their disability, and standard measures of household income do not account for this). However, it is unknown whether those assessed to be eligible for PIP will be similarly distributed.

### **Localisation and funding cut for council tax support**

From April 2013, Council Tax Benefit (CTB) will be abolished across Britain and support for low-income families in paying their council tax will be localised. English local authorities, and the devolved Scottish and Welsh governments, will be able to design their own schemes. At the same time, funding will be cut by 10% in the sense that the new central government grants will be based on 90% of what the UK government estimates would otherwise have been spent on CTB in that nation or English local authority. Northern Ireland is in practice affected in much the same way as Scotland and Wales, although formally the details are slightly different.<sup>57</sup> Entitlements for pensioners in England will be set by the UK government and will be maintained at their existing level. This implies an estimated 19% reduction in funding for the English working-age population.<sup>58</sup>

There is no obligation for local authorities in England, or the devolved governments, to spend the amount of the new grant on council tax support: they may, for example, choose to maintain support at its existing level and find the necessary savings elsewhere in their budgets, or to cut entitlements by more and use the surplus for other purposes.

IFS researchers have previously analysed the options for designing a replacement for CTB for local authorities in England and the Welsh government.<sup>59</sup> There is, as ever, a trade-off between protecting those with the lowest incomes and maintaining incentives to work. Reducing entitlements for all claimants slightly strengthens work incentives but imposes significant losses on even the poorest households. Reforms that means-test support for council tax more aggressively lead to weaker work incentives than those that reduce support for all claimants. In order to save the full 10%, councils would have to either reduce support for those currently entitled to maximum CTB – those on the lowest incomes – or significantly weaken work incentives via much more aggressive means-testing.

The devolved governments have all decided that the existing systems of support for local property tax (council tax in Scotland and Wales, and domestic rates in Northern Ireland) will be retained in 2013–14. Hence, by implication, they will need to find savings elsewhere in their budgets equivalent to about 10% of the cost of providing that support. Contrastingly, research by the New Policy Institute<sup>60</sup> has found that, of 235 local authorities in England surveyed at the time of writing (out of a total of 326), only 20% will maintain the existing system of support and hence absorb the full funding cut

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<sup>57</sup> Northern Ireland's system of local property tax is domestic rates (not council tax) and support for that tax is provided through 'rates rebates'. In practice, the rates rebates scheme mirrors CTB in Great Britain. The UK government will now give Northern Ireland a grant equal to 90% of the funding that it expects it would otherwise have given for the cost of rates rebates.

<sup>58</sup> S. Adam and J. Browne, *Reforming Council Tax Benefit*, IFS Commentary 123, 2012 (<http://www.ifs.org.uk/publications/6183>).

<sup>59</sup> Ibid.

<sup>60</sup> *Council Tax Support Update*, 31 January 2013, <http://counciltaxsupport.org/the-story-so-far/>.



elsewhere in their budgets (or levy higher council tax rates than they would otherwise have done). About two-thirds of English local authorities have decided that all working-age households will pay at least some council tax. Around 50% of such local authorities have set a minimum payment of 8.5% of the council tax bill and around 35% have opted for a minimum payment of between 10% and 20% of the bill, with the remainder setting a minimum payment of more than 20% of the bill.<sup>61</sup> Another common feature of the schemes is to reduce or remove the Second Adult Rebate, which claimants are entitled to if they share their home with someone on a low income. Other less common changes include introducing a cap on support entitlements to the amount available for a band D property, reducing the amount of financial assets claimants can have, changing backdating rules, and counting other benefits as income when assessing support entitlement. Very few (6%) will change the withdrawal rate to means-test support more aggressively.

The stated aims of localisation are to allow support to reflect local priorities, and to strengthen the incentives of the devolved governments and English local authorities to promote employment and growth in the local economy. But it could also change other incentives. It could reduce incentives to increase council tax rates, reduce incentives to facilitate low-value housing development, increase incentives to discourage low-income families from living in the area, reduce incentives to encourage take-up of support and strengthen incentives to reduce overpayments. The overall pattern of change in incentives is complex, empirically unknown and not unambiguously positive.

It is difficult to think of reasons why the government's original plan to integrate CTB into Universal Credit was inferior to the current policy (with, if the government had wished, a centralised cut to reduce spending by £0.5 billion). Keeping them separate creates difficult issues regarding how they will interact (a particularly important question is whether Universal Credit will count as income in any CTB means test) and reintroduces the possibility of people being subject to overlapping means tests and hence having extremely weak work incentives. By localising support for council tax, the central government has passed these difficult issues on to the devolved governments and local authorities, which have no experience in designing welfare systems; and the resulting variation in council tax rebate schemes that is clearly developing will reduce transparency and increase complexity and bureaucracy. Sadly, this is all at odds with the basic (commendable) principle of simplification underlying Universal Credit.

## **Uprating of Local Housing Allowance rates capped by CPI inflation**

Local Housing Allowance (LHA) is Housing Benefit for those in privately rented accommodation.<sup>62</sup> There are currently about 1.3 million LHA recipients in Great Britain, claiming an average of about £107 per week.<sup>63</sup> They can, subject to a means test, have their rent<sup>64</sup> covered up to a maximum of their applicable 'LHA rate'. These LHA rates vary

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<sup>61</sup> The large number of councils choosing an 8.5% minimum payment likely reflects the £100 million made available by the UK government for one year to councils that limit the minimum payment to 8.5% of council tax liabilities and whose council tax support schemes satisfy certain other conditions. IFS researchers have previously discussed this temporary funding in an observation (<http://www.ifs.org.uk/publications/6410>).

<sup>62</sup> Excluding those whose Housing Benefit claim began before April 2008, as they are still treated under pre-LHA rules.

<sup>63</sup> As of August 2012 (see <http://research.dwp.gov.uk/asd/index.php?page=hbctb>).

<sup>64</sup> Minus deductions for non-dependants in the household.



geographically, according to Broad Rental Market Areas (BRMAs), and by family type, which for these purposes determines the number of bedrooms that the family is deemed to need. There are 192 BRMAs in Great Britain, which makes them about twice the average size of local authorities.

Since April 2011, LHA rates have been set at the 30<sup>th</sup> percentile of non-LHA private sector rents within the relevant BRMA and ‘number of bedrooms’ category (subject to overall national caps, which are binding in parts of London); previously, rates were set at the 50<sup>th</sup> percentile. Hence, since the introduction of LHA in April 2008, the maximum amounts of rent against which private sector tenants can claim Housing Benefit have depended upon the current applicable rent distribution in the local area. There is therefore substantial geographical variation. For example, LHA rates in Great Britain currently range from £64.62 per week in North Powys and Blaenau Gwent to £250 per week in Central London for families without children; and from £85 per week in Merthyr Cynon to £340 per week in Central London for families with three children.<sup>65</sup>

From April 2013, the link with current rents will in general be broken and LHA rates will rise in line with CPI inflation. The exception is that they will be set at the 30<sup>th</sup> percentile of local rents if that is lower than the implied CPI-uprated LHA rate. Assuming that rents continue to grow in real terms, this condition will become increasingly irrelevant over time for determining year-to-year changes in LHA rates. The government expects the change to cut LHA spending by about £90 million in 2013–14, but the savings will tend to grow indefinitely as long as private sector rents continue to grow in real terms.

In the 2012 Autumn Statement, the government announced that, in April 2014 and April 2015 only, LHA rates would in fact rise by no more than 1% in cash terms, except in those areas where rent growth is highest where they will instead rise in line with CPI inflation as previously planned (30% of what the exchequer would otherwise have saved from the temporary switch from CPI uprating to 1% uprating will be used to fund these exemptions). Here we ignore this and focus on the new long-run policy of capping annual LHA rate increases at CPI inflation, which is also the policy that will apply in April 2013.

The immediate consequence of the change is that LHA rates relative to local rents will tend to decline, and to decline more in areas that experience faster rent growth after 2012–13. Where local rents grow in real terms, those LHA claimants whose rent levels are already at least as high as their LHA rates will be affected by the reforms immediately; other claimants will be affected in time, as their rents will overtake their LHA rates and hence they will no longer have rents fully covered by LHA. Table 7.2 shows the characteristics of private sector tenants on Housing Benefit.<sup>66</sup> About nine in ten of them are of working age, and about one in three of those working-age claimants are single and out of work. Eventually, all of this group could be affected by the change to indexation of LHA rates. But note that the group that is affected immediately – those with rents already

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<sup>65</sup> Assumes children are all aged under 16. LHA rates for the period April 2012 to March 2013 (i.e. current rates) in each BRMA in England are downloadable from the Valuation Office Agency at <http://www.voa.gov.uk/corporate/RentOfficers/LHARates/april2013lha.html>; and the figures for Scotland and Wales are available at <http://www.scotland.gov.uk/Topics/Built-Environment/Housing/privaterent/tenants/money/localhousingallowance/Figures-1/2013> and <http://wales.gov.uk/topics/housingandcommunity/housing/private/renting/rentofficers/publications/lha13/?lang=en> respectively.

<sup>66</sup> About 18% of this group (as of August 2012 – see <http://research.dwp.gov.uk/asd/index.php?page=hbctb>) are still assessed under pre-LHA rules because their claim began before April 2008, so they could not be affected by this reform immediately. But, in time, all private sector tenants will be assessed under the LHA rules; the table is intended to describe the types of people who will be affected by this change in the long run.

at least as high as their LHA rate – may have different characteristics from other LHA recipients. For example, since they are already financing their rent partly via non-LHA resources, they may be relatively likely to be in work. Nevertheless, the table gives a sense of the types of people who will be affected by this policy change in the long run.

As with the other substantial LHA cuts that have already been implemented since April 2011,<sup>67</sup> though, a key uncertainty is the economic incidence of the reforms between tenants and landlords. Landlords who let to LHA claimants and who would otherwise be willing to let the property for less than the LHA rate have a financial incentive to raise rents to whatever the LHA rate is, since they know that LHA claimants will not face the cost. So cuts to rent subsidies may result in cuts to rents. The extent to which this happens will depend on the relative sensitivities to rent levels of supply of, and demand for, private rental accommodation; and on whether landlords of LHA tenants are willing and able to let their properties to non-LHA claimants who are unaffected by these reforms.

**Table 7.2. Characteristics of private sector tenants on Housing Benefit**

<b>Region/nation</b>	
North East	5%
North West	14%
Yorkshire and the Humber	7%
East Midlands	6%
West Midlands	9%
East of England	8%
London	14%
South East	12%
South West	10%
Wales	7%
Scotland	5%
Northern Ireland	4%
<b>Household type and work status</b>	
Single without children, out-of-work	15%
Single with children, in-work	3%
Single parent, out-of-work	14%
Single parent, in-work	7%
Couple without children, out-of-work	5%
Couple without children, in-work	4%
Couple with children, out-of-work	9%
Couple with children, in-work	16%
Single pensioner	7%
Couple pensioner	4%
Multi-family household without children	8%
Multi-family household with children	9%

Note: Regions are the former Government Office Regions.

Source: Authors' calculations using 2010–11 Family Resources Survey.

<sup>67</sup> These are: setting LHA rates at the 30<sup>th</sup> percentile of the applicable rent distribution rather than the 50<sup>th</sup> percentile; capping rates in all BRMAs at the four-bedroom rate (rather than the five-bedroom rate); introducing overall national caps – binding in parts of London – on LHA rates for each room band; and abolition of the £15 per week in LHA over and above rent that could be claimed where rent was lower than the applicable LHA rate.

Evidence from reforms to Housing Benefit in the UK in the mid-1990s, and from studies of rent subsidies in other countries, suggests that a substantial proportion of rent subsidies may indeed be incident on landlords.<sup>68</sup> So, while the effects of the current reforms need to be tested empirically, there is some reason to think they may result in lower rents than otherwise.

The details of this policy will lead to some very odd effects. Although the policy will break the link between levels of rent subsidy and levels of local rents, it will retain a link with *historical* levels of local rents. There seems no justification for geographical relativities in rent subsidies in 2050 depending upon geographical differences in rent levels in 2012.

One could make the argument that LHA rates should be more uniform across the country, so that claimants face some of the additional cost of choosing to live in higher-rent areas at greater expense to the taxpayer. But to the extent that there *is* any link between LHA rates and rents, the link should be with current rents (not historical ones). The policy does not achieve any move towards greater geographical uniformity compared with the current system: it will retain geographical variation in LHA rates just as now, based on historical differences in rent levels. If rents in high-rent areas did happen to grow more rapidly than those in low-rent areas, uprating all LHA rates by the same proportion rather than in line with local rents would stop further divergence in LHA rates that would otherwise have taken place. But the policy could also prevent convergence of LHA rates: if an expensive area experiences relatively low rent growth (but remains expensive), the effect of the change will actually be to strengthen the incentives of tenants to live in that area over cheaper areas with faster rent growth. Indeed, if the ranking of BRMAs by their rent levels changes at all after 2012–13 – as it surely will – then in future there will be areas that have *higher* rent levels than other areas and yet have *lower* LHA rates.

The decision to set LHA rates each year at the *minimum* of the 30<sup>th</sup> percentile of local rents and last year's LHA rate uprated in line with CPI inflation could also have strange impacts. This is because mere *volatility* in local rents in the short run could affect the *level* of LHA rates in an area permanently. And rents at a local level can indeed be volatile from year to year. For example, the LHA rate for people without children is currently £75 per week in both North Nottingham and West Pennine.<sup>69</sup> Rents at the 30<sup>th</sup> percentile have recently declined in North Nottingham, so its LHA rate from April 2013 will be reduced to £69.23. In West Pennine, rents at the 30<sup>th</sup> percentile have recently risen and the LHA rate will rise with CPI inflation in April, to £76.65 – 11% higher than North Nottingham's. Imagine that, subsequently, rents in both areas always grow in real terms, but they initially grow faster in North Nottingham until rent levels in both areas are the same once more. LHA rates in both areas would rise in line with CPI inflation after 2013–14. The LHA rate in North Nottingham in (for example) 2050 would therefore be 11% lower than that in West Pennine, purely because of rent volatility more than 30 years previously. This highlights one reason why using 'minimum rules' for uprating is generally not sensible: such rules mean that *future levels* of a benefit can depend on *past volatility* in what it is indexed to (for example, prices, earnings or rents).

<sup>68</sup> S. Gibbons and A. Manning, 'The incidence of UK Housing Benefit: evidence from the 1990s reforms', *Journal of Public Economics*, 2006, 90, 799–822; G. Fack, 'Are housing benefits an efficient way to redistribute income? Evidence from a natural experiment in France', *Labour Economics*, 2006, 13, 747–71; S. Susin, 'Rent vouchers and the price of low-income housing', *Journal of Public Economics*, 2002, 83, 109–52.

<sup>69</sup> For current LHA rates and those applicable from April 2013, see <http://www.voa.gov.uk/corporate/RentOfficers/LHARates/april2013lha.html>.

Given the desire to find welfare savings as one element of the deficit reduction package, it is understandable that cuts to Housing Benefit – which is one of the largest working-age benefits in expenditure terms – are considered. But the details of this particular policy do not look well designed. It may lead to differences in future LHA rates in different parts of the country resulting purely from historical *volatility* in local rents. And it will mean that future geographical differences in LHA rates will depend on past differences in rents but not on current differences, so that (for example) an area where rent is higher than in another area could end up with the lower LHA rate.

## **Cuts to Housing Benefit for ‘underoccupying’ working-age social sector tenants**

From April 2013, working-age<sup>70</sup> Housing Benefit (HB) claimants in social housing who are deemed to be underoccupying their homes will have their maximum HB awards reduced. Bedroom needs will be assessed as a function of family type, in exactly the same way as already happens for LHA claimants in the private rented sector.<sup>71</sup> The stated rationales for the policy are to reduce expenditure, to encourage more efficient use of the social housing stock and to treat private renters (whose HB entitlements are already linked to family size) and social renters more equitably. It is expected to affect about 660,000 families in 2013–14, which is about one-third of working-age social-renting Housing Benefit claimants. The 81% of affected families who have one more bedroom than they are deemed to need will have awards cut by 14%; the other 19% of those affected, who have at least two more bedrooms than they are deemed to need, will have awards cut by 25%. The affected families stand to lose an average of about £14 per week, and this is expected to cut the Housing Benefit budget by about £490 million per year.<sup>72</sup>

Who ‘underoccupies’ social housing? Table 7.3, based on DWP’s Impact Assessment,<sup>73</sup> shows how the proportion of working-age social sector Housing Benefit claimants who are underoccupying varies geographically and by claimant type.

Social landlords may respond to the policy by allocating families to properties using different criteria;<sup>74</sup> increasing efforts to identify overcrowding and underoccupying tenants and encourage them to exchange homes; and building more smaller (particularly one-bedroom) properties. Affected tenants will have somewhat strengthened work incentives (there will be less Housing Benefit to lose if they enter work or increase their earnings) and there may therefore be employment responses on their part. If they are unable to find an appropriately sized socially rented property, they may respond by moving to a private rental property and claim LHA (this could, in principle, end up as more or less expensive to the taxpayer than the original Housing Benefit claim). Another possible behavioural response, which illustrates the sorts of trade-offs one always has to

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<sup>70</sup> ‘Working-age’ for these purposes is defined as between the ages of 16 and the female State Pension Age. This is gradually rising from its current level of 61 to 66 by 2020. Therefore, all else equal, the number of claimants affected by this measure will rise slightly over time.

<sup>71</sup> In addition to one room for a childless single person or couple, families are considered to need additional rooms for any other person in the household aged 16 or over, any two children of the same sex aged under 16, any two children (regardless of sex) aged under 10, and any other child.

<sup>72</sup> The last figure comes from table 2.2 of HM Treasury, *Budget 2012*, March (<http://www.hm-treasury.gov.uk/budget2012.htm>). Other figures in this paragraph are from DWP’s Impact Assessment, June 2012 (<http://www.dwp.gov.uk/docs/social-sector-housing-under-occupation-wr2011-ia.pdf>).

<sup>73</sup> <http://www.dwp.gov.uk/docs/social-sector-housing-under-occupation-wr2011-ia.pdf>.

<sup>74</sup> For example, if young people without children are currently given properties with more than one bedroom in expectation that they will shortly have children, this may be less likely in future.

Table 7.3. ‘Underoccupying’ Housing Benefit claimants by region/nation and claimant type

	<i>Underoccupying claimants</i>		
	Number	% of working-age claimants	Average loss per week
<b>Great Britain</b>	660,000	31%	£14
<b>Region</b>			
Wales	40,000	46%	£12
North West	110,000	43%	£14
Yorkshire and Humberside	80,000	43%	£13
North East	50,000	37%	£13
Scotland	80,000	33%	£12
West Midlands	60,000	31%	£13
Eastern	50,000	30%	£15
East Midlands	40,000	27%	£12
London	80,000	22%	£21
South East	40,000	22%	£15
South West	30,000	20%	£15
<b>Claimant type</b>			
Age 60 or over but under Pension Credit age	50,000	53%	£15
Under 60, couples with children	70,000	20%	£15
Under 60, lone parents	150,000	21%	£13
Under 60, couples without children	80,000	68%	£16
Under 60, single people	320,000	38%	£14

Source: DWP's Impact Assessment, June 2012 (<http://www.dwp.gov.uk/docs/social-sector-housing-under-occupation-wr2011-ia.pdf>).

bear in mind in designing benefit policies, is in fertility rates. One way for an underoccupying family to avoid an increased rent shortfall without having to move home is to have an additional child or, perhaps more plausibly, bring forward the birth of an additional child that they would have had anyway. About 42% of Housing Benefit claimants affected by the reform are aged under 45 (roughly childbearing age).<sup>75</sup>

It is worth noting that the greater the extent to which the policy encourages more efficient usage of social housing, the less it will reduce expenditure on Housing Benefit. If underoccupying and overcrowding households effectively swap homes in response, then both groups of households will be able to cover all their rent through HB claims, just as they could before the policy was implemented.

## Benefits cap

In April 2013, an overall benefits cap will be introduced for working-age families.<sup>76</sup> It will be set at £350 per week for childless single people and £500 per week for other families.

<sup>75</sup> See A. Clarke and P. Williams, *Under-Occupation and the New Policy Framework*, Cambridge Centre for Housing and Planning Research, 2011 (<http://www.cchpr.landecon.cam.ac.uk/Downloads/Underoccupation%20report.pdf>).

<sup>76</sup> The government has recently announced that the cap will apply immediately in only four local authorities – Bromley, Croydon, Enfield and Haringey. The cap will be fully in place throughout Great Britain by ‘summer 2013’. See <http://www.dwp.gov.uk/newsroom/press-releases/2012/dec-2012/dwp139-12.shtml>. The

The government expects this to affect a relatively small number of households (56,000 in Great Britain). But those who are affected will tend to lose substantial amounts, with average reductions in entitlement of £93 per week. This will reduce the benefits bill by about £275 million in 2013–14.<sup>77</sup>

The cap will initially be implemented through the Housing Benefit system (by local authorities), and then through Universal Credit. There are exemptions (apart from the fact that it applies only to those of working age) for war widows and widowers, families in receipt of DLA, the PIP, the support component of ESA, an industrial injuries benefit or Working Tax Credit, and those on Universal Credit whose family earnings exceed £430 per month. It will also not apply for 39 weeks after the end of an employment spell if that spell lasted for at least one year.

The biggest benefit (in terms of expenditure) that will not be counted for the purposes of determining whether a family's entitlement exceeds the cap is Council Tax Benefit, which is being localised and kept separate from Universal Credit (see above). The childcare element of Universal Credit will also be excluded (childcare support is effectively excluded for those not on Universal Credit, because it is currently paid through Working Tax Credit, whose recipients are exempt from the cap). Non-cash benefits and passported benefits (for example, free school meals and free prescriptions) will also not count.

The level of the benefits cap means that it will essentially only affect families with large numbers of children and/or high housing costs who are consequently receiving a lot of child-contingent support and/or Housing Benefit.<sup>78</sup> This is reflected by the fact that an estimated 73% of affected households contain at least three children and 49% are in Greater London (where rents are high).<sup>79</sup>

The government has said that it hopes there will be two forms of behavioural response: families may move to cheaper accommodation to reduce their housing costs and/or may take up paid work because their out-of-work benefit entitlement will have been reduced. A third possible form of behavioural response is in fertility rates, since the cap will effectively reduce state financial support for some large families.<sup>80</sup> If this were the main intended impact, though, one would expect to see the policy affecting only claims for additional children. A fourth possible behavioural impact is for fewer people to cohabit (or, at least, declare that they cohabit), since the benefits cap is to apply at the family level, and hence living apart could split benefits across families and mean that the cap impacts less (or even that neither is subject to a cap). For instance, a couple with three children renting a private property for £300 per week would, after paying their rent, have an income from benefits of £200 per week (compared with around £346 without the cap).

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distributional analysis in Section 7.5 models the full-year effects of the cap, i.e. as though it were implemented in full from April 2013.

<sup>77</sup> Source: DWP's Impact Assessment, July 2012 (<http://www.dwp.gov.uk/docs/benefit-cap-wr2011-ia.pdf>). Note that these estimates were produced before the government announced that it would delay slightly the implementation of the benefits cap in most parts of the country (see footnote 76). The true effect on government revenues in 2013–14 will therefore be slightly smaller than this figure, which should be taken as an estimate of the long-run effect.

<sup>78</sup> As an example, an out-of-work non-disabled lone parent with three non-disabled children claiming Income Support, Child Benefit, Child Tax Credit and Housing Benefit would need to have rent of £196 a week or more to be affected by the cap. A couple in the same circumstances would need to be paying rent of £156 a week or more to be affected. (Source: authors' calculations using TAXBEN and planned benefit rates for 2013–14.)

<sup>79</sup> Source: DWP's Impact Assessment, July 2012 (<http://www.dwp.gov.uk/docs/benefit-cap-wr2011-ia.pdf>).

<sup>80</sup> For previous research on the effect of financial incentives on fertility, see M. Brewer, A. Ratcliffe and S. Smith, 'Does welfare reform affect fertility? Evidence from the UK', *Journal of Population Economics*, 2011, 25, 245–66.



If they separated, the partner with whom the children lived would still have an income of £200 per week after paying rent. However, the other partner would also be entitled to benefits of at least £71.70 per week after paying their rent. If, instead, one child lived with the second partner, the first partner would still have benefit income of £200 per week and the second partner would now have £161 per week – a combined income 80% greater than if they cohabited. Thus the family-level cap may exacerbate the ‘couple penalty’ that a family-level benefit system sometimes creates.<sup>81</sup>

The implication behind the cap is that the government believes that the welfare system is too generous to some out-of-work families who are currently able to claim for very large amounts of support due to their high housing costs and/or large numbers of children. However, it is important to recognise that the application of an overall cap on benefit entitlement breaks the link between circumstances and entitlements that the rules of individual benefits imply, at the margin. And yet circumstances and entitlements will remain inextricably linked until benefits reach the level of the cap. The government should consider carefully what it thinks is problematic about current entitlements: there may be better-targeted ways of dealing with the perceived problem via changing the specific benefit rates responsible for overall benefit entitlements that exceed the caps (for example, the amounts that families can claim to cover their rents).

## 7.5 Distributional impact of tax and benefit reforms in 2013–14

We now present estimates of the overall distributional impact of the reforms planned for 2013–14. We exclude the impact of those reforms in *italics* in Table 7.1, such as the reduction in the main rate of corporation tax, which cannot be allocated to particular households precisely enough with the data available. However, all tax and benefit changes will ultimately affect households, so the figures here must be seen as indicative rather than exact. The changes we are unable to model are, in aggregate, a small net takeaway.<sup>82</sup>

It is important to see the effects of these measures in the context of the tax and benefit changes already introduced during the fiscal consolidation and those planned for the rest of the parliament. We therefore show the estimated impacts of those other reforms – which are much more significant, on average – alongside those of the 2013–14 reforms. In doing so, we also separate the changes that have already happened from those planned for 2014–15 and 2015–16. We model Universal Credit as if it were fully in place in 2015–16 (in reality, it will be only partially rolled out at that point), to give the best possible sense of the long-run effects of the changes.<sup>83</sup>

The estimated distribution of net income under the planned tax and benefit system is compared with the corresponding distribution under a ‘counterfactual’ system. The

<sup>81</sup> Figures in this paragraph are authors’ calculations using TAXBEN and planned benefit rates for 2013–14.

<sup>82</sup> According to published figures, the unmodelled reforms represent a net takeaway of around £0.4 billion in 2013–14, falling to £0.3 billion in the longer term.

<sup>83</sup> We assume that the means tests in the local systems of council tax support alongside Universal Credit in 2015–16 count Universal Credit as income but add rents to earnings disregards. This would leave the devolved governments and English local authorities needing to find cuts elsewhere in their budgets equal to roughly 10% of what Council Tax Benefit expenditure (or, in Northern Ireland, rates rebates expenditure) would have been in that area without the cuts to central government funding for council tax support (see Section 7.4)



counterfactual is a system where tax rates and benefit withdrawal rates remain unchanged from previous years, and benefit amounts and tax thresholds are uprated in line with the public finance defaults inherited by the current government.<sup>84</sup> Because the government has itself changed some of the uprating defaults, the estimated impacts of reforms include the continuing impact of those changes to indexation: the CPI indexation of benefits and tax credits, which began in April 2011; the CPI indexation of some National Insurance thresholds, which began in April 2012; and the ‘triple lock’ for the Basic State Pension, which began in April 2012.

It is important to note that behaviour and pre-tax prices are held constant in this analysis.<sup>85</sup> This is consistent with HM Treasury’s distributional analysis (most recently alongside the Autumn Statement of December 2012), but not with the revenue estimates in Table 7.1, which do allow for some behavioural responses. The analysis is on an entitlements and liabilities basis (for example, it does not account for incomplete take-up of means-tested benefits). This also means that the effects of reforms on incomes are modelled as though taxes are paid when liability accrues, rather than on a National Accounts basis (for example, the changes by and in 2013–14 shown in Figures 7.4–7.6 capture the full long-run impact of adjustments to the higher-rate income tax threshold, even though the government will not actually receive much of the revenue from this until the following year, 2014–15). Again, this is consistent with HM Treasury’s distributional analysis but not with the revenue estimates in Table 7.1.

With these caveats in mind, Figure 7.4 shows the distributional impact of the reforms by income decile group. The total monetary gain or loss for each group – income gained or lost plus decreases or increases in indirect taxes paid – is given as a proportion of that group’s net income. Households are arranged into decile groups using an equivalised income measure, which accounts for the fact that households of different types need different income amounts to achieve the same living standards. To give a sense of monetary amounts, Table 7.A1 in the annex to this chapter gives the income amounts that example households would need to put them at different points of the income distribution. The cash numbers underlying these proportional gains and losses are also included in the annex.<sup>86</sup> Analysis is presented at the household level.

Figure 7.4 shows that the modelled reforms in 2013–14 are, on average, a net takeaway from lower-income households and a net giveaway to middle- and higher-income households. The various real cuts to benefits and tax credits – including, most significantly, the below-inflation uprating of almost all working-age benefit and tax credit rates (see Section 7.4)<sup>87</sup> – account for the net takeaway within the bottom half of the

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<sup>84</sup> See annex A of HM Treasury’s June Budget 2010 policy costings document ([http://www.hm-treasury.gov.uk/d/junebudget\\_costings.pdf](http://www.hm-treasury.gov.uk/d/junebudget_costings.pdf)).

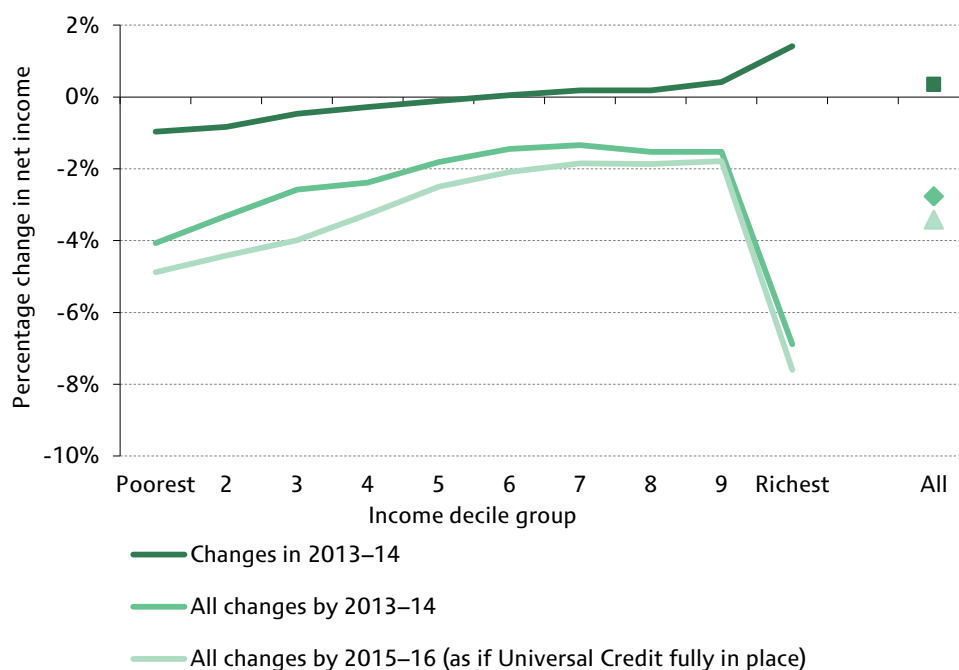
<sup>85</sup> It is probably not realistic that households’ behaviour would be completely unaffected by these changes, but this does not mean that incorporating behavioural responses would yield a better impression of the impact on people’s welfare. For example, people may move into work in response to lower out-of-work benefit entitlements, but this implies a welfare cost for those individuals as well as the benefit of extra earnings (otherwise they would presumably have chosen to work even before the reform in question). The assumption that pre-tax prices are unaffected by tax and benefit reforms may affect the estimated distributional impacts of those reforms. For example, it implies that retailers fully pass on to consumers the real increases in tobacco and alcohol duty in the form of higher retail prices, but in practice they may not, and the impact of the higher duties may therefore be to reduce shareholder returns or employee wages instead.

<sup>86</sup> Figures 7.A1–7.A4 corresponding to Figures 7.4–7.7.

<sup>87</sup> As mentioned, the counterfactual we use is a policy of RPI uprating of benefit and tax credit rates, although the government has itself changed the default uprating assumption for benefits and tax credits to CPI. We continue to use the pre-consolidation defaults as the counterfactual, so that we can put the measures being implemented in 2013–14 in the important context of all changes over the consolidation as a whole.

income distribution, as this is where the majority of benefit recipients are. The major factor underlying the gains in the upper-middle of the distribution is the substantial above-indexation increase in the income tax personal allowance, which benefits basic-rate income tax payers by £223 per year (see Section 7.3). Those at the very top of the distribution also gain from the reduction in the additional marginal rate of income tax from 50% to 45%.<sup>88</sup>

**Figure 7.4. Impact of modelled tax and benefit reforms since January 2010, by income decile group (percentage changes)**



Notes: Income decile groups derived by dividing all households into 10 equal-sized groups according to income adjusted for household size using the McClements equivalence scale. Decile group 1 contains the lowest-income tenth of households, decile group 2 the second lowest, and so on up to decile group 10, which contains the highest-income tenth. Assumes full take-up of means-tested benefits and tax credits.

Source: Authors' calculations using TAXBEN and Family Resources Survey 2010–11.

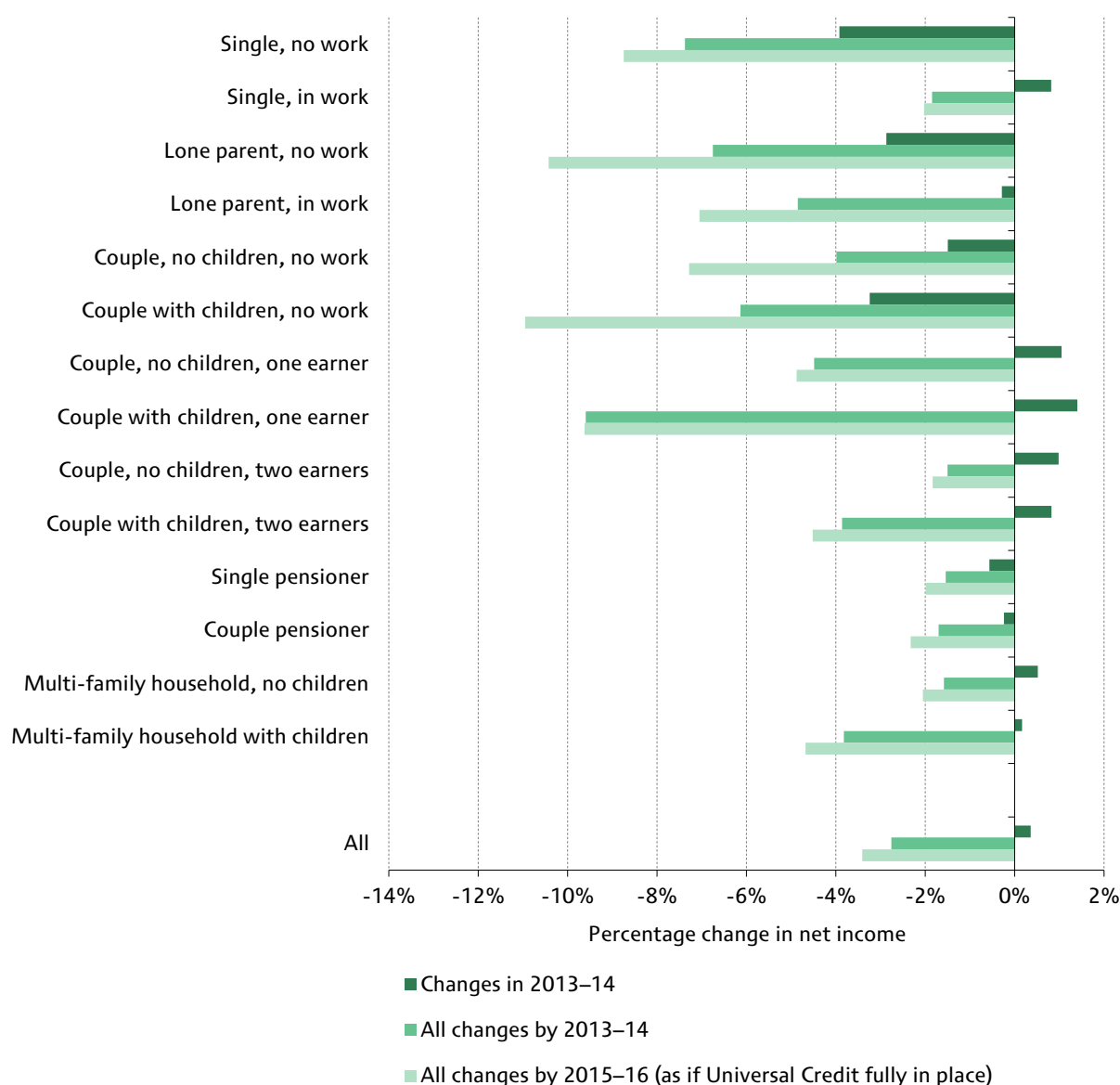
Comparing the impacts of the 2013–14 changes to with those of others implemented or planned during the fiscal consolidation, two striking patterns emerge. First, the increases in taxes and cuts to welfare are substantial overall, but the net effect on households of the reforms being implemented specifically in 2013–14 is small on average despite the large number of changes. The changes being implemented in 2013–14 do not, in aggregate, contribute to the fiscal consolidation, as significant takeaways – such as some of the cuts to benefits – are offset by large giveaways, such as the increase in the personal allowance. Second, those on the very highest incomes have clearly been hit the hardest when looking at the fiscal consolidation as a whole. In addition to real reductions in the higher-rate income tax threshold and rises in National Insurance, the very highest-income individuals have also lost out from the withdrawal of their personal allowance, the introduction of

<sup>88</sup> As with the rest of the distributional analysis, we model the reduction in the top rate of tax as if behaviour is held constant. Note that this gives a lower bound on the welfare gain to those benefiting from the cut – if they change their behaviour, it must be because doing so makes them 'better off' than holding behaviour constant. These gains for those paying the new 45% tax rate are consistent with the statement that there will be little or no exchequer cost of the change (see Table 7.1 and Section 7.3). This is because people may choose to work more (leading to higher income, higher tax revenues and a welfare gain) and spend less effort on complex tax avoidance activity (leading to higher revenues and a welfare gain).

the additional marginal income tax rate, and restrictions to tax relief on their pension contributions. Again, this differs from the pattern observed when looking only at the subset of those measures that will be implemented in 2013–14, which includes a cut in the additional marginal income tax rate to 45% (but this is still higher than the 40% marginal rate that applied over the same range of income before the fiscal consolidation). This highlights the importance of not fixating too much on one year's reforms in isolation.

Nevertheless, over much of the income distribution, the pattern of the impact of the reforms across the income distribution in 2013–14 is similar to the impact of the overall fiscal consolidation package. Those predominantly towards the bottom of the distribution who get a substantial proportion of their income from the state are among the hardest hit, due to welfare cuts; and a group of mostly middle- and upper-middle-income households have benefited particularly from large discretionary increases to the personal

**Figure 7.5. Impact of modelled tax and benefit reforms since January 2010, by household type and work status (percentage changes)**



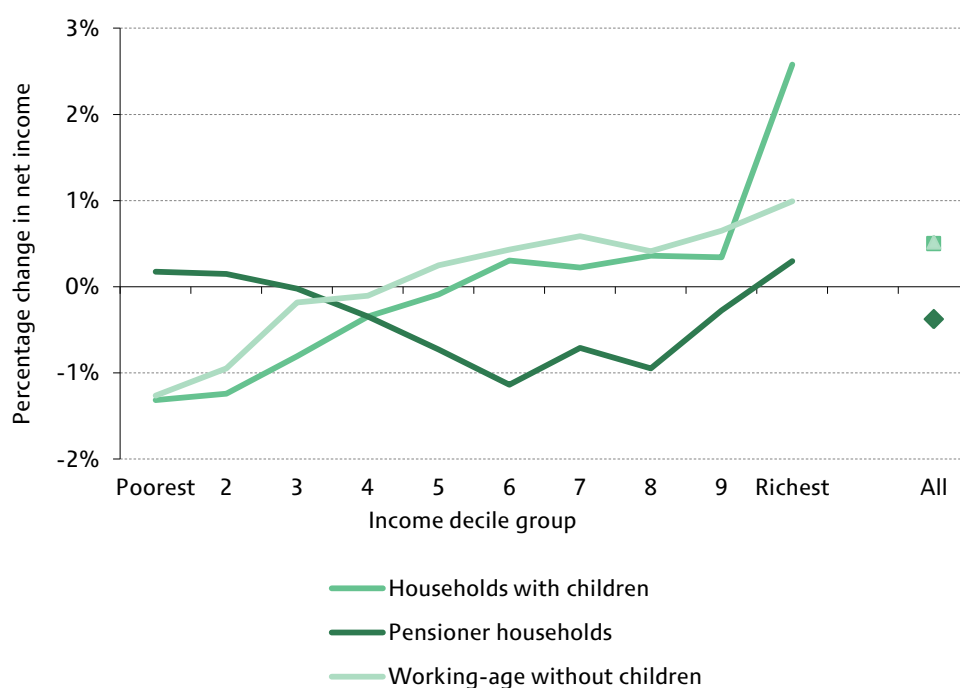
Notes and Source: As for Figure 7.4.

allowance. Note, however, that this analysis captures only the (direct) impacts of changes to tax and benefit policy: middle- and higher-income households have also been among the hardest hit by the failure of earnings growth to keep pace with inflation.

Figures 7.5 to 7.7 give more detail on the patterns of gains and losses. Figure 7.5 shows that in-work households tend to gain, on average, from reforms due in 2013–14. Although many lose from real cuts to in-work welfare (particularly tax credits), most of those also gain from the substantial increase to the income tax personal allowance, and a small high-income group of workers gain from the reduction in the top marginal rate of income tax. Over the consolidation as a whole, in-work households tend to lose more than non-working households, on average, but this is driven heavily by those at the very top of the income distribution who have been hit by substantial tax rises affecting only a small group of people (as made clear by the analysis by income decile group).

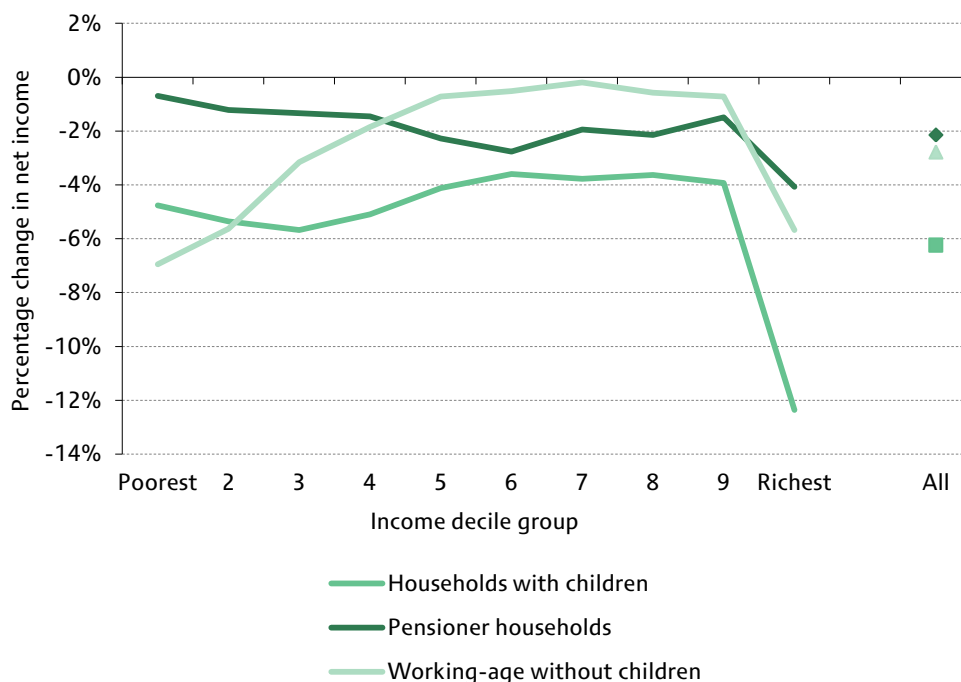
One respect in which the 2013–14 reforms look very different from the consolidation as a whole is that they hit pensioner households more than working-age ones, on average. As Figure 7.6 shows, this is driven largely by the patterns in the middle and upper-middle of the income distribution: that is, where most of the working-age gainers from increases to the personal allowance are, as well as the pensioners who lose from the phasing-out of age-related income tax personal allowances (a tax rise) and the cut to the maximum award in Savings Credit (a benefit cut). At the bottom of the income distribution, though, as with the consolidation as a whole (Figure 7.7), pensioners are largely protected from the broad-based welfare cuts affecting the working-age population in 2013–14, and indeed they gain from the above-indexation increase to the Guarantee Credit element of Pension Credit.

**Figure 7.6. Impact of modelled tax and benefit reforms in 2013–14, by income decile group and household type (percentage changes)**



Notes and Source: As for Figure 7.4.

Figure 7.7. Impact of modelled tax and benefit reforms between January 2010 and 2015–16, by income decile group and household type (percentage changes)



Notes and Source: As for Figure 7.4.

## 7.6 Conclusions

The changes to the tax and benefit system being introduced in 2013–14 represent a net giveaway of about £0.9 billion in that year, rising to £1.4 billion in the longer term as temporary measures expire and the full effects of other reforms (such as the introduction of Universal Credit) are felt. Those changes that are directly and immediately incident on households (as opposed to businesses) represent a net giveaway of about £16 per household (£0.4 billion) in 2013–14. But taxes that are formally ‘paid by businesses’ ultimately have to be paid by households too, either as consumers, employees or shareholders.

The modest net giveaway may come as a surprise, given that it is sandwiched between substantial net takeaways as part of the government’s efforts to reduce the budget deficit over this parliament (some of which just came into force in January 2013). It is comprised of significant cuts to income tax for those aged under 65 and cuts to corporation tax, offset by a number of smaller tax increases and a number of cuts to benefit and tax credit spending. Overall, tax measures amount to a net giveaway of £4.2 billion and welfare measures amount to a net takeaway of £3.4 billion. This broad pattern of tax giveaways and welfare takeaways means that the changes taking effect in the coming fiscal year are somewhat regressive, with losses for those towards the bottom of the income distribution, gains for those in the middle and upper-middle of the distribution, and larger gains for those towards the very top of the distribution who benefit from the reduction in the additional rate of income tax from 50% to 45%.

It is crucial to see this one set of changes in the context of a whole raft of reforms since April 2010 (both past and future). Looking at the planned fiscal consolidation as a whole

up to 2015–16, those at the very top of the income distribution have tended to lose the most by some distance, both in cash terms and as a percentage of income. The group hit the next hardest are those on working-age benefits, found predominantly towards the bottom of the income distribution, who have lost from the substantial cuts to the working-age welfare budget. Households in the middle and upper-middle of the distribution have tended to lose less than other groups, in no small part because they are the biggest gainers from the substantial increases to the income tax personal allowance.

In aggregate, the tax and benefit reforms coming in during 2013–14 do not contribute to the fiscal consolidation. But they do represent substantial structural changes. The most significant in 2013–14 will be the beginning of the multi-year roll-out of Universal Credit, which will replace six existing means-tested benefits and tax credits. The basic principles behind this have much to commend them, and – if the considerable administrative challenges associated with the move go well – Universal Credit should be a positive reform. But this welcome simplification is being at least partly undermined by the devolution of much of the design and administration of Council Tax Benefit (or rates rebates, in Northern Ireland) to English local authorities and the devolved administrations. The operation of a separate means test that sits outside of the Universal Credit system may lead to awkward interactions with it, weaken work incentives and lead to additional complexity for claimants (particularly since every local authority in England could in principle design a different scheme).

The government should think carefully about how benefits are uprated over time. First, a change in April to the indexation of Local Housing Allowance rates – which set the maximum rents against which private sector tenants can claim Housing Benefit – will have odd effects, such as making future LHA rates depend upon historical local rent levels but not current ones. Second, if the government doubts whether the current default assumption of uprating most benefits and tax credits in line with inflation is the appropriate rule – as suggested by its recent comments on relative patterns of benefits and earnings growth – then it would be helpful for it to clarify its position on what long-run indexation policy should look like. This matters hugely for the future shape of the benefits system and for the public finances. In doing so, the government should bear in mind that a switch to earnings indexation would be likely to increase the level of welfare spending in the long run. And a policy of uprating by the lesser of inflation and earnings growth each year would likely see benefits in the long run grow less quickly than both prices and earnings: although one can always reasonably debate the appropriate level of welfare entitlement, it is not clear why any government should want entitlements to be falling indefinitely over time, both in real terms and relative to general living standards.

On the tax side, the government has clear strategies both in relation to income tax for low earners and for corporation tax, and has stuck to them despite the considerable expense – increasing the personal income tax allowance is a giveaway to most income tax payers aged under 65, not just those on low incomes. But the existence of a strategy does not mean it cannot be improved upon: one simple way of improving the targeting of the government's policy of reducing tax for low earners would be to have raised the threshold for paying National Insurance as well, rather than fixating simply on income tax. Elsewhere, a clear tax strategy is lacking. Perhaps the prime example is fuel duties. These have been cut substantially in real terms under this government at a cost of about £4.7 billion per year. But this has happened in a haphazard way by repeatedly delaying (and eventually cancelling) annual cash-terms uprating that would otherwise have kept duties constant in real terms. That is no way to make tax policy.

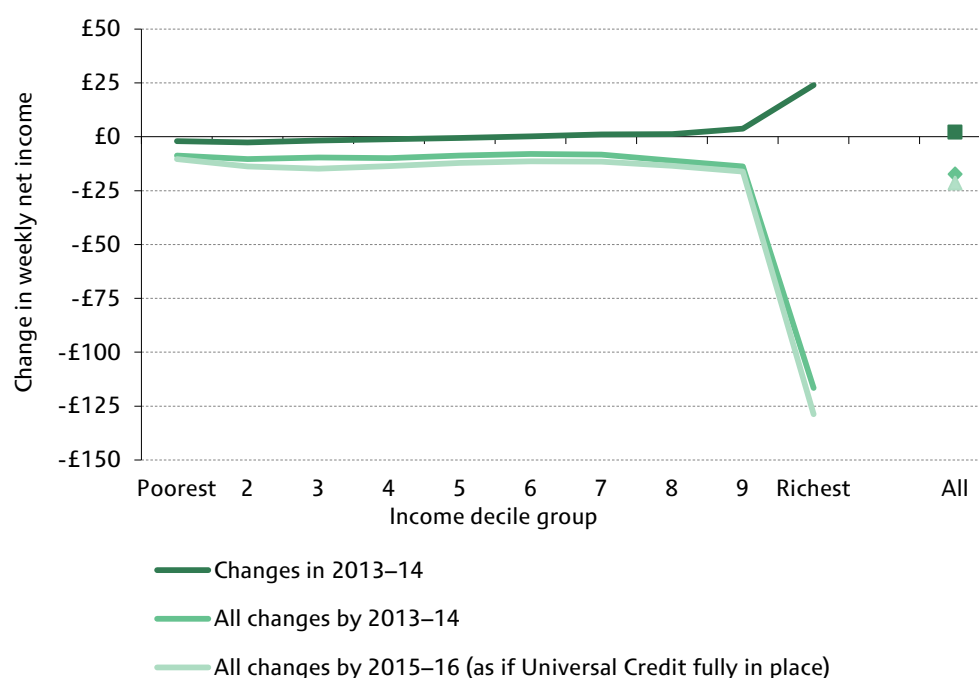
## Annex. Monetary amounts underlying distributional analysis

Table 7.A1. Income decile boundary points underlying distributional analysis in Section 7.5: equivalent weekly net income amounts for different household types

Income decile group	<i>Upper weekly net income limit</i>			
	Couple without children	Couple with two children	Single without children	Lone parent with two children
1	£267	£390	£163	£286
2	£324	£474	£198	£347
3	£373	£544	£227	£399
4	£426	£621	£260	£455
5	£487	£711	£297	£521
6	£557	£813	£340	£596
7	£642	£937	£392	£687
8	£760	£1,110	£464	£814
9	£998	£1,456	£609	£1,067

Notes: Based on the McClements equivalence scale, and assumes children are aged 8 to 10 (the scale varies according to the precise age-bands of children).

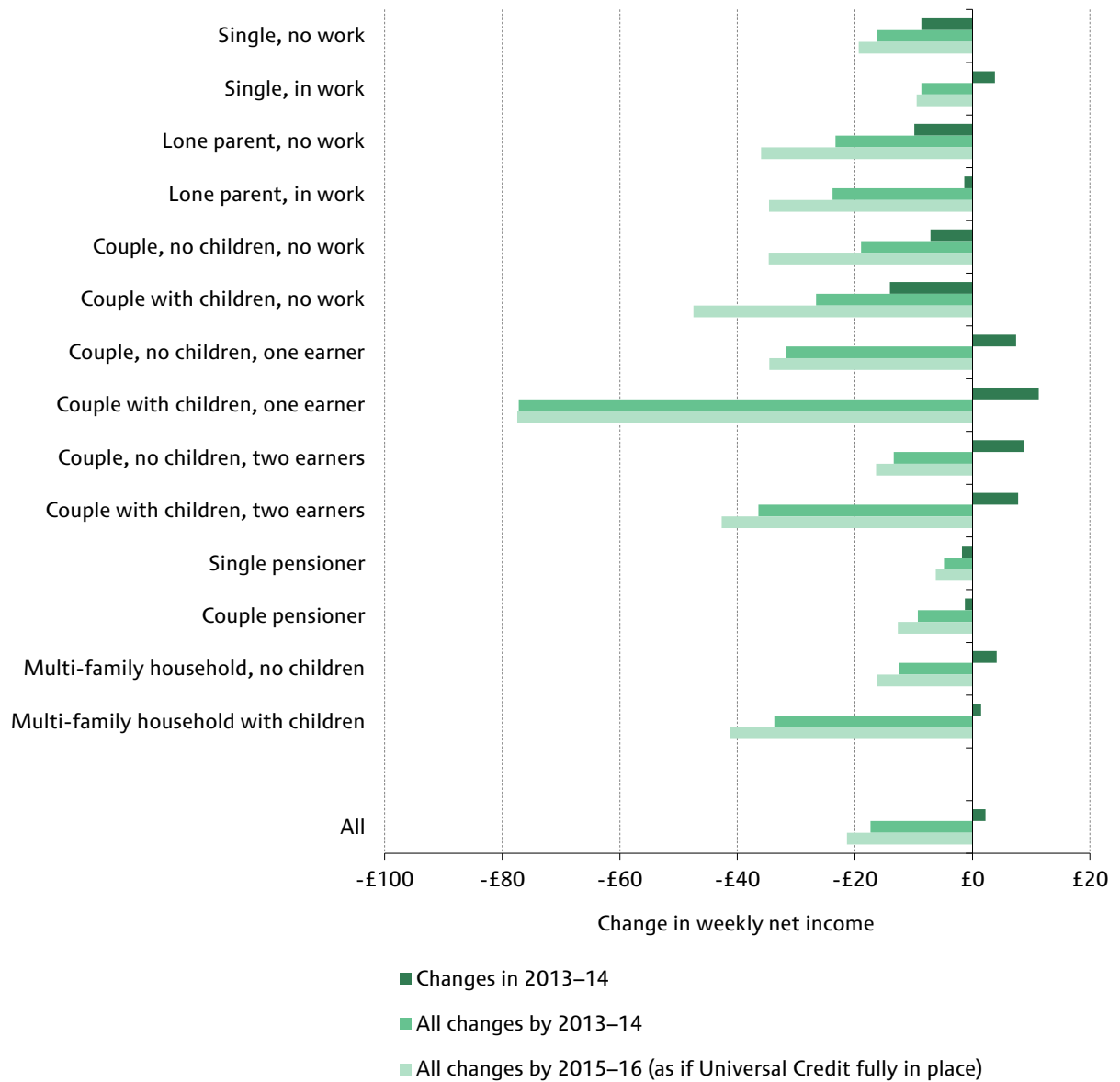
Figure 7.A1. Impact of modelled tax and benefit reforms since January 2010, by income decile group (cash amounts)



Notes and Source: As for Figure 7.4.

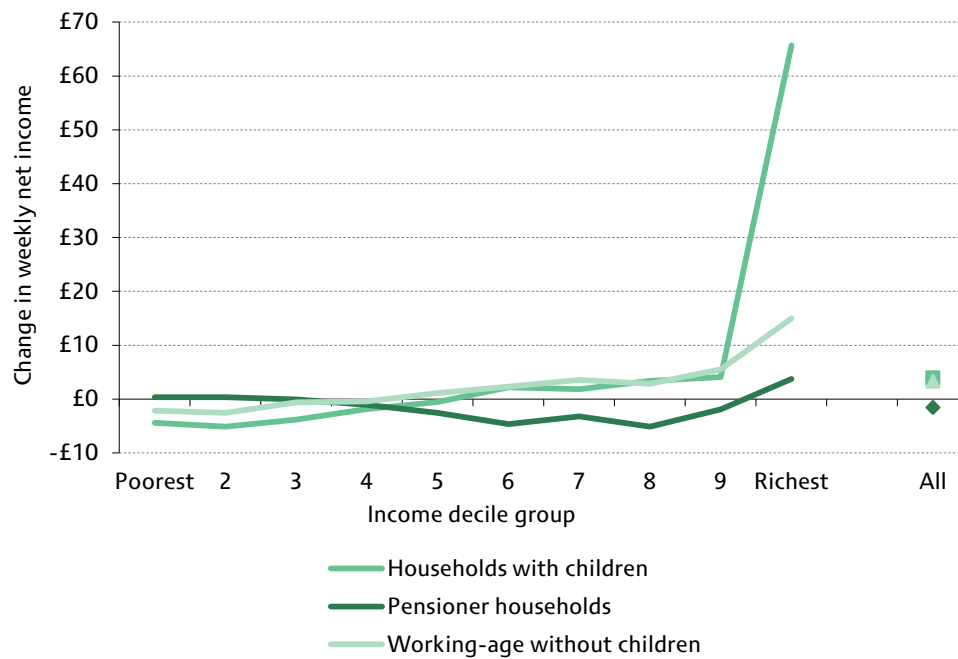


Figure 7.A2. Impact of modelled tax and benefit reforms since January 2010, by household type and work status (cash amounts)



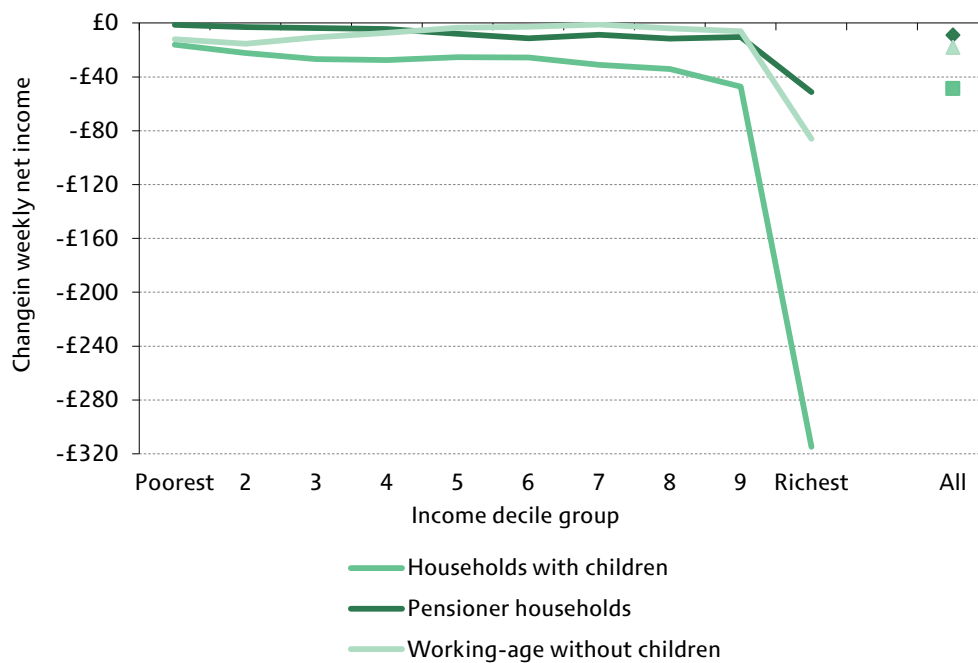
Notes and Source: As for Figure 7.4.

Figure 7.A3. Impact of modelled tax and benefit reforms in 2013–14, by income decile group and household type (cash amounts)



Notes and Source: As for Figure 7.4.

Figure 7.A4. Impact of modelled tax and benefit reforms between January 2010 and 2015–16, by income decile group and household type (cash amounts)



Notes and Source: As for Figure 7.4.

## 8. Options for cutting spending on social security

James Browne, Andrew Hood and Paul Johnson (IFS)

### Summary

- Spending on benefits, tax credits and state pensions accounts for 30% of all government expenditure. As the government seeks further deficit reduction measures by 2017–18, it will presumably consider reductions in social security spending, and tax rises (see Chapter 9), alongside spending on public services (see Chapter 6).
- The period from 1997–98 to 2010–11 saw significant increases in the generosity of benefits for pensioners and for families with children, though those of working age without children fared less well. Welfare cuts being introduced during the current parliament have reduced entitlements for those of working age but pensioners have been largely protected. These cuts have only partly offset the increase in generosity for families with children seen between 1997–98 and 2010–11, but entitlements for those without children will, on average, be lower in real terms in 2015–16 than they were in 1997–98.
- An obvious way of making savings to the social security budget across the board would be to increase benefits by less than inflation in the next few years. The Autumn Statement contained proposals to increase most working-age benefits by 1% for the next three years. Further savings could be achieved by freezing these benefits, extending below-inflation uprating to more benefits or extending the period of below-inflation uprating to more than three years. To achieve large savings, state pensions would need to be affected.
- In a speech in the summer of 2012, the Prime Minister suggested some areas where he believed that the benefit system was too generous and gave claimants what he saw as perverse incentives, in particular around support for housing costs for young people and support for large families. Changes in these areas could potentially generate large savings, but it is unclear how far the government is prepared to go in reducing support. Introducing exemptions to cuts could further distort incentives; for example, if those aged under 25 were excluded from Housing Benefit unless they had children, those under 25 would have a stronger incentive to have a child.
- Savings could also be achieved by more radical changes to the benefit system – for example, by means-testing more disability and carer’s benefits and by removing the last vestiges of the National Insurance system for those of working age. But these would be big changes in the nature of the support given by the benefit system. Careful consideration about who is deserving of support, and how much, should be given before making such changes.

## 8.1 Introduction

Spending on social security benefits and tax credits is expected to account for £212.1 billion in 2014–15, or more than 30% of total government spending. As the government considers further deficit reduction measures to be implemented by 2017–18,<sup>1</sup> it will presumably consider reductions in social security spending, and tax rises, as well as reductions in spending on public services. Indeed, prior to the Autumn Statement, both the Chancellor of the Exchequer and the Secretary of State for Work and Pensions stated an intention to reduce social security spending by £10 billion by 2016–17. The Autumn Statement contained £4.5 billion of additional cuts to social security spending in that year.

There are inevitable trade-offs associated with spending on social security. Clearly, spending will increase the incomes of those to whom it is targeted. But different elements of the system can also impact on people's incentives to work or to save, on their decisions over where to live and with whom, and even on choices about how many children to have (and when to have them). In the summer of 2012, the Prime Minister set out some of these trade-offs and expressed concern about what he saw as some perverse incentives within the system.

In this chapter, we examine ways in which further reductions could be made to the social security budget, taking account of some of these trade-offs.

Section 8.2 examines the current composition of the social security budget.<sup>2</sup> Section 8.3 considers the reasons behind the increase in spending seen over the period from 1997–98 to 2010–11 and shows the distributional impact of all tax and benefit reforms introduced since 1997–98. Section 8.4 considers possible future reforms that could be introduced to yield further savings from the social security budget, while Section 8.5 concludes.

## 8.2 Current spending on social security

Total expenditure on social security benefits and tax credits has fallen slightly from its record high of 13.8% of national income in 2009–10 to 13.5% of national income in 2012–13.<sup>3</sup> Slightly more than half of spending goes to pensioners, who make up around 20% of the total population. The composition of benefits that go to those above and below the State Pension Age is very different: the vast majority (around 80%) of benefits received by those of working age are means-tested in some way (this figure has recently increased as a result of the new 'high-income Child Benefit charge'), whereas state pensions (which are not means-tested, and depend on individuals' National Insurance contribution record) account for nearly three-quarters of social security spending on pensioners.<sup>4</sup>

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<sup>1</sup> See Chapter 6.

<sup>2</sup> Throughout this chapter, 'social security' is used to mean all benefits, personal tax credits and state pensions.

<sup>3</sup> Source: Authors' calculations using DWP Benefit Expenditure Tables, ([http://statistics.dwp.gov.uk/asd/asd4/index.php?page=long\\_term](http://statistics.dwp.gov.uk/asd/asd4/index.php?page=long_term)).

<sup>4</sup> Source: Authors' calculations using DWP Benefit Expenditure Tables, ([http://statistics.dwp.gov.uk/asd/asd4/index.php?page=long\\_term](http://statistics.dwp.gov.uk/asd/asd4/index.php?page=long_term)).

## Benefits for pensioners

Social security spending directed at those over the (female) State Pension Age<sup>5</sup> is expected to be around £111 billion in 2013–14. Table 8.1 details expenditure on each of the main benefits available to this population. As we would expect, the Basic State Pension is by far the largest component (57%) of social security spending on pensioners. A further 17% of the total will go on additional state pensions (the Graduated Retirement Pension, SERPS and S2P), bringing the total cost of all state pensions to around £82 billion.

**Table 8.1. Pension-age welfare expenditure, 2013–14**

	<b>Expenditure (£ billion)</b>
Basic State Pension	63.4
Additional state pensions	18.8
Attendance Allowance / Disability Living Allowance	10.5
Pension Credit	7.3
Housing Benefit	6.4
Winter Fuel Payments and TV licences	2.8
Other	1.9
<b>Total</b>	<b>111.0</b>

Note: Does not include spending on council tax support schemes that will be run by local authorities in England and the Scottish and Welsh Governments from April 2013.

Source: Authors' calculations using DWP Benefit Expenditure Tables ([http://statistics.dwp.gov.uk/asd/asd4/index.php?page=long\\_term](http://statistics.dwp.gov.uk/asd/asd4/index.php?page=long_term)).

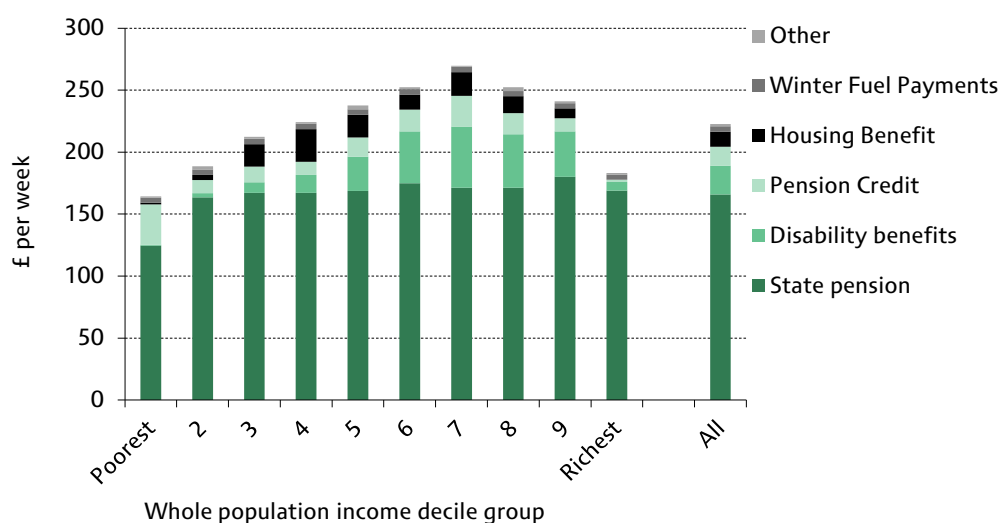
Perhaps more surprising is the composition of the remaining £30 billion. Pension Credit, the more generous means-tested benefit available to pensioners, accounts for less than £8 billion, and the much discussed universal benefits (Winter Fuel Payments and free TV licences for those aged 75 and over) cost around £2.8 billion, or less than 3% of the total social security spending on pensioners. The other main contributors to the total are disability benefits for pensioners, which now cost the exchequer more than £10 billion each year, and Housing Benefit, which will cost around £6.4 billion in 2013–14.

As Figure 8.1 shows, benefit entitlement among pensioner households varies relatively little according to where they are in the income distribution.<sup>6</sup> This is primarily the result of the fact that entitlement to the state pension is not means-tested. Spending on Pension Credit, the means-tested benefit for pensioners, is unsurprisingly concentrated towards the bottom of the income distribution. On the other hand, spending on disability benefits for pensioners is highest in the upper-middle of the income distribution. To give a sense of where pensioners are in the income distribution, Figure 8.2 shows what proportion of pensioners are in each decile. We can see that pensioner households are most highly concentrated in the lower-middle of the income distribution (income decile groups 2 to 5) and that relatively few pensioner households have very high incomes (in the top three income decile groups).

<sup>5</sup> The female State Pension Age is being increased from 60 to 66 between April 2010 and October 2020 and currently stands at around 61½.

<sup>6</sup> Note that we are ranking households according to their income after taxes and benefits; thus one household may be in a higher income decile than another if it receives more in benefits even if it is identical in all other respects.

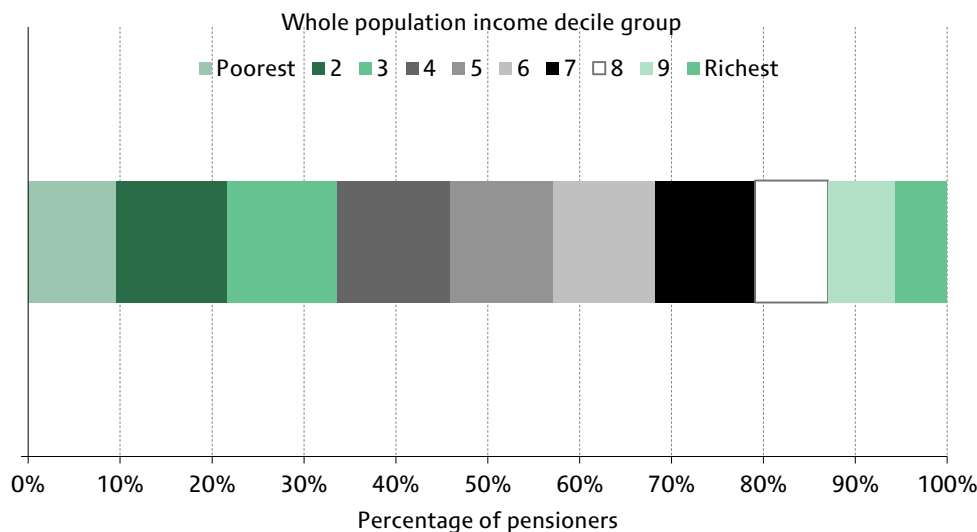
Figure 8.1. Average weekly benefit entitlement among pensioner households in 2013–14



Notes: Income decile groups are derived by dividing all households into 10 equal-sized groups according to income adjusted for household size using the McClements equivalence scale. Does not include spending on council tax support schemes that will be run by local authorities in England and the Scottish and Welsh Governments from April 2013.

Source: Authors' calculations using 2010–11 Family Resources Survey and TAXBEN, the IFS tax and benefit microsimulation model.

Figure 8.2. Proportion of pensioner households in each income decile group



Source: Authors' calculations using TAXBEN run on the 2010–11 Family Resources Survey.

## Benefits for those of working age

Total expenditure on benefits and tax credits directed at those of working age is forecast to be £91.2 billion in 2013–14. Table 8.2 lays out where that money will go. Perhaps most striking is the relatively small proportion of working-age welfare expenditure accounted for by benefits available only to those out of work. Together, Jobseeker's Allowance (JSA), Employment and Support Allowance (ESA), Incapacity Benefit (IB) and Income Support

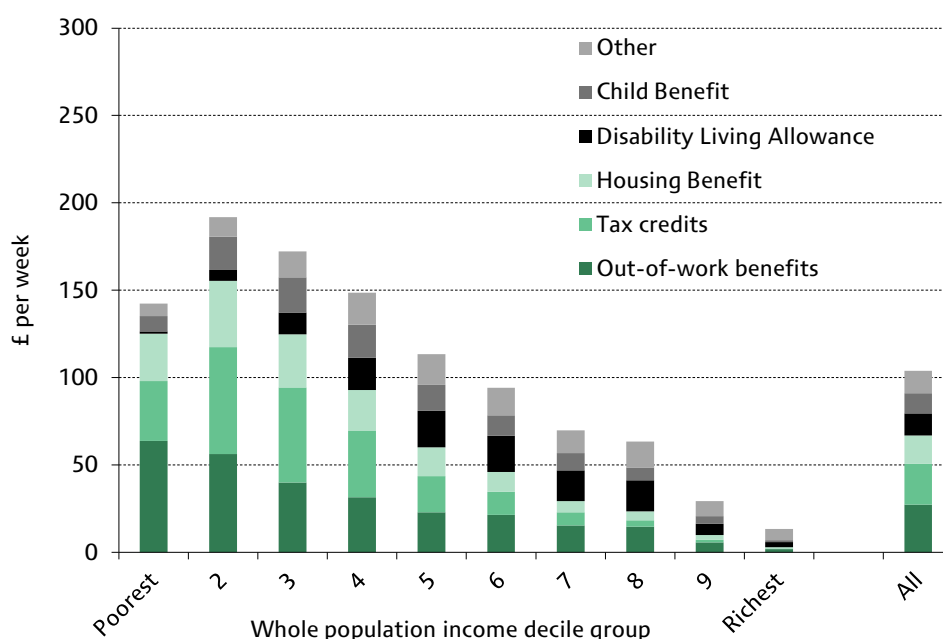
**Table 8.2. Working-age welfare expenditure, 2013–14**

	Expenditure (£ billion)
Tax credits	28.8
Out-of-work benefits	19.5
<i>of which:</i>	
Employment and Support Allowance	9.2
Jobseeker's Allowance	5.7
Income Support	3.0
Incapacity Benefit	0.9
Severe Disablement Allowance	0.7
Housing Benefit	17.1
Child Benefit	10.4
Disability Living Allowance / Personal Independence Payment	9.1
Statutory Maternity Pay	2.4
Carer's Allowance	2.0
Other	2.0
<b>Total</b>	<b>91.2</b>

Note: Does not include spending on council tax support schemes that will be run by local authorities in England and the Scottish and Welsh Governments from April 2013.

Source: Authors' calculations using DWP Benefit Expenditure Tables and OBR Economic and Fiscal Outlook.

**Figure 8.3. Average weekly benefit entitlement among working-age households in 2013–14**



Notes and source: As for Figure 8.1.



(IS) cost under £20 billion, or less than a fifth of total working-age expenditure, though workless families are also entitled to benefits that are also received by those in work, such as tax credits, Housing Benefit, Child Benefit and Disability Living Allowance. Because there are many more in-work than out-of-work families, of the £29 billion spent on tax credits in 2010–11, over £20 billion went to working families.<sup>7</sup>

The contrast between Figures 8.1 and 8.3 is striking. Unlike the pensioner population, benefit entitlement for working-age households is heavily concentrated in the bottom half of the distribution, reflecting the importance of means-testing in determining eligibility among the working-age population. It is noticeable that Disability Living Allowance is the one major benefit (since the introduction of the Child Benefit income tax charge) for which entitlement does not decline dramatically as one moves up the income distribution.<sup>8</sup>

## 8.3 How we got here: benefit and tax credit changes since 1997

This section examines how the levels and composition of benefit spending for pensioners and those of working age have changed since 1997–98 before isolating the impact of tax and benefit policy reforms on household incomes during this period.

### Benefits for pensioners

Figure 8.4 shows how total spending on pensioners and each of the pensioner benefits has changed since 1997–98. It shows that between 1997–98 and 2010–11, social security spending directed at pensioners rose in real terms by around 60%, from £66 billion to £105 billion (in 2012–13 prices), with nearly two-thirds of this increase being driven by higher spending on state pensions.

This spending increased for several reasons. First, there was an increase in the number of pensioners: the number of people aged above State Pension Age rose from 10.4 million in 1997 to 11.9 million in 2010.<sup>9</sup> If spending per pensioner had remained constant across the period, total expenditure would have been £10 billion higher. In fact, expenditure increased by £39 billion in real terms; demographic change can therefore only explain around a quarter of the increase in expenditure. The amount each pensioner receives from the state has increased as well, by 39% in real terms between 1997–98 and 2010–11. This is faster than the real earnings growth of 20% that occurred during this period.<sup>10</sup> There are four broad reasons why this has happened. First, those who retired during this period had higher entitlements to state pensions as the State Earnings-Related Pension Scheme (SERPS) came to maturity:<sup>11</sup> expenditure on additional state pensions more than trebled over this period. Second, discretionary benefit changes introduced during this

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<sup>7</sup> Source: HMRC, *Child and Working Tax Credit Statistics: Finalised Annual Awards 2010–11*, 2012 (<http://www.hmrc.gov.uk/statistics/fin-main-stats/cwtpc-awards.pdf>).

<sup>8</sup> Note that we are including disability benefits in the income measure used when ranking households to put them into income decile groups but do not take account of the costs associated with having a disability.

<sup>9</sup> Source: ONS Population Estimates.

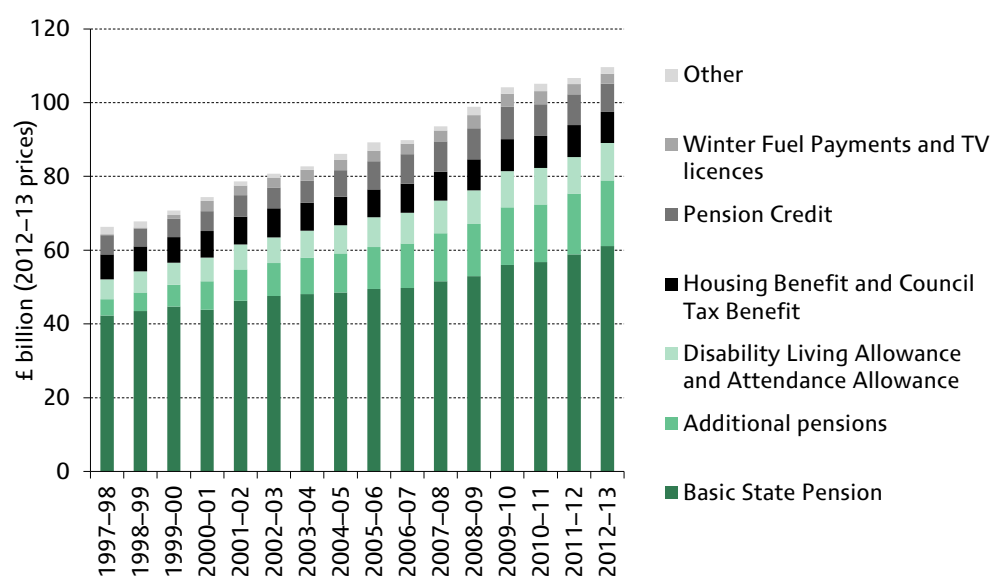
<sup>10</sup> Source: Authors' calculations using DWP Benefit Expenditure Tables and ONS Population Estimates.

<sup>11</sup> Accrual of rights under SERPS started in 1978 and individuals required 20 years of contributions to gain full entitlement. Thus, the first cohort of pensioners to benefit from full entitlement to SERPS retired in 1998.

period increased the generosity of means-tested support for pensioners (the Pension Credit was £150 for a single pensioner and £229 for a couple in current prices in 2010–11, compared with just £109 and £169 for a pensioner aged under 75 in 1997–98 under its predecessor, Income Support).<sup>12</sup> Spending per pensioner on means-tested support increased by 46%. Third, new universal payments for pensioners such as Winter Fuel Payments and free TV licences were introduced. Fourth, the number of people over pension age in receipt of disability benefits has increased (perhaps because of an increase in the number of very old people: the number of people aged 80 and over increased by a quarter between 1997 and 2010), which caused spending on disability benefits for pensioners to increase by 83% during this period despite no significant policy reforms in this area.

Together, these increases in the amount of state support given to pensioners, and the increased levels of entitlement to private pensions among new retirees, meant that the income of the median pensioner increased by 29.4% between 1997–98 and 2009–10, compared with 26.0% for the median non-pensioner. By 2009–10, the median pensioner was richer than 40% of the population, whereas in 1997–98 they were only richer than 35% of the population.<sup>13</sup> Spending on pensioner benefits has continued to rise in the last two years despite an increase in the female State Pension Age (legislated in 1995). Overall, real benefit levels have not been cut, whilst demographic trends have continued.

Figure 8.4. Pensioner welfare expenditure since 1997–98



Notes: Pension Credit includes Minimum Income Guarantee between 1999–2000 and 2002–03 and Income Support for pensioners prior to 1999–2000. Numbers underlying figure are in the annex to this chapter.

Source: Authors' calculations using DWP Benefit Expenditure Tables.

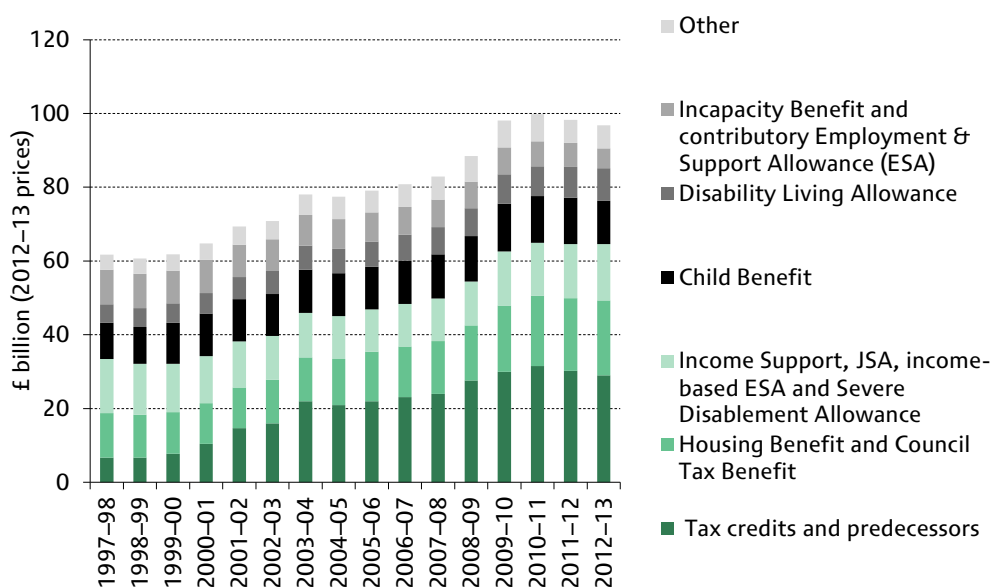
<sup>12</sup> Source: Authors' calculations using <http://www.ifs.org.uk/ff/pencredit.xls> and <http://www.ifs.org.uk/ff/is.xls>.

<sup>13</sup> For more details, see S. Adam, J. Browne and P. Johnson, *Pensioners and the Tax and Benefit System*, IFS Briefing Note 130, 2012 (<http://www.ifs.org.uk/bns/bn130.pdf>).

## Benefits for those of working age

Figure 8.5 shows the same analysis for those of working age. Real-terms spending directed at the working-age population grew slightly faster than that directed at pensioners from 1997–98 to 2010–11, increasing by 62% (compared with 59% for pensioners), from £62 billion to £100 billion in real terms across the period. If spending per head had stayed constant across the period, expenditure would only have increased by £3 billion, since the population below State Pension Age grew by only 5% across the period.<sup>14</sup> Nearly two-thirds of this real-terms cash increase was driven by higher spending on tax credits, which were substantially more generous than the benefits they replaced. This encompassed increases in means-tested support for families with children in general, and particularly big increases in support for those in work. Spending on tax credits for those in paid work increased from under £3.3 billion in 1997–98 to more than £20 billion by 2010–11.<sup>15</sup> In contrast, spending on income-replacement benefits for those with disabilities (principally Incapacity Benefit, which was starting to be replaced by Employment and Support Allowance towards the end of this period) fell following reforms to Incapacity Benefit in the mid-1990s that tightened the disability test for entitlement to incapacity benefits and restricted the flow of claimants onto these benefits. Since 2010–11, spending on benefits for those of working age has fallen slightly as employment rates have increased and benefit cuts have been introduced.

**Figure 8.5. Working-age social security and tax credit expenditure since 1997–98**



Notes: Tax credits include Family Credit, Working Families' Tax Credit, Child Tax Credit, Working Tax Credit and child additions to out-of-work benefits before 2003–04. Numbers underlying graph are in the annex to this chapter.

Source: Authors' calculations using DWP Benefit Expenditure Tables and HMRC Accounts, and OBR *Economic and Fiscal Outlook*.

<sup>14</sup> Source: ONS Population Estimates.

<sup>15</sup> Source: DWP Benefit Expenditure Tables ([http://statistics.dwp.gov.uk/asd/asd4/index.php?page=long\\_term](http://statistics.dwp.gov.uk/asd/asd4/index.php?page=long_term)) and HMRC, *Child and Working Tax Credit Statistics: Finalised Annual Awards 2010–11, 2012* (<http://www.hmrc.gov.uk/statistics/fin-main-stats/cwtc-awards.pdf>).

Again, trends in spending are driven not just by changes in policy. For example, despite minimal policy changes, spending on Disability Living Allowance increased by 62% across the period 1997–98 to 2010–11, from £5.0 billion to £8.1 billion in real terms, as numbers in receipt grew from around 1.4 million to around 2.2 million. The dramatic increase in Housing Benefit expenditure on working-age households from £10.3 billion to £16.3 billion across the same period largely reflects rapidly-rising private sector rents and a declining social housing stock, rather than substantial changes in policy.<sup>16</sup>

## Isolating the impact of policy reforms on household incomes

In assessing options for the future, it is also important to understand the effects of recent changes on the incomes of recipients.

We can give some indication of the scale of changes in benefit levels by looking at some examples. Table 8.3 shows, in real terms, how much would have been received in benefits in 1997–98, 2003–04, 2010–11 and 2015–16 for some example families.

But these examples can only provide a very partial picture. What we really need to do is look at how the combination of changes has affected groups of people. To do that, we use our model of the tax and benefit system to estimate the mechanical effects of tax and benefit changes across the income distribution. Note that this analysis does not allow for any impact of policy changes on households' behaviour or on pre-tax prices in the economy. Although this is a chapter on the benefit system, it is important in this context to see the effects of the tax and benefit system as a whole.

**Table 8.3. Weekly benefit entitlement by household type**

Family type	April 1997	April 2003	January 2010	April 2015
Unemployed lone parent with two children	£160.07	£206.33	£230.10	£207.30
Lone parent with two children, working 16 hours at minimum wage	£147.50	£199.85	£224.59	£207.30
Unemployed couple with two children	£194.52	£248.08	£280.06	£245.25
Couple with two children, one earns £25,000	£31.30	£75.24	£101.85	£75.01
Single unemployed person, no children	£73.25	£73.25	£73.25	£66.65
Single Incapacity Benefit / contributory ESA claimant, no children <sup>a</sup>	£104.60	£104.60	£104.60	£93.10
Pensioner with no private income or state pension entitlement	£103.46	£140.75	£142.46	£146.55

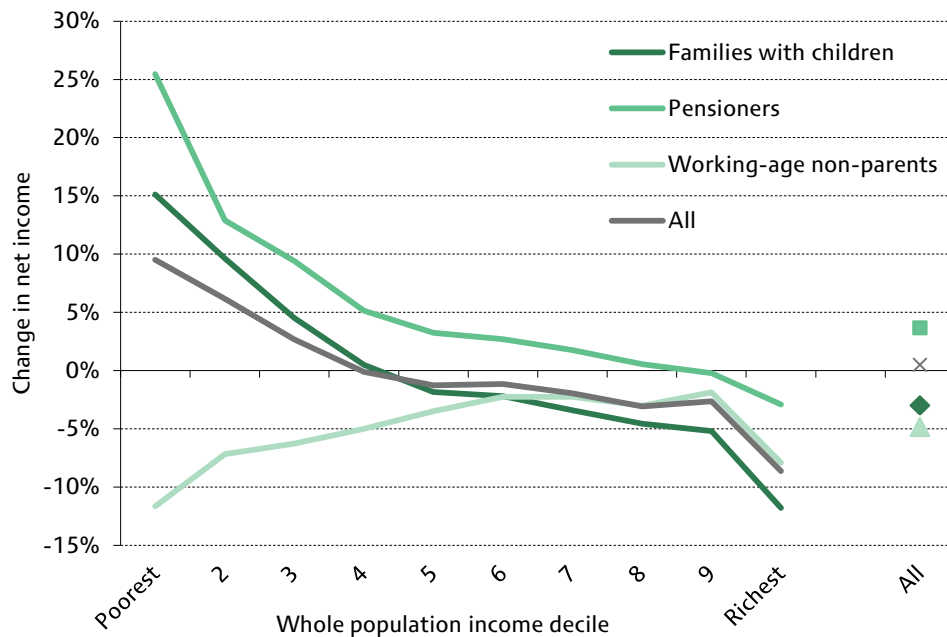
<sup>a</sup> Assumes Incapacity Benefit claimant began their claim aged over 45 and is in the work-related activity group in ESA.

Notes: Figures in 2012–13 prices. These figures do not include Housing Benefit or Council Tax Benefit.

Source: Authors' calculations using 2010–11 Family Resources Survey and TAXBEN, the IFS tax and benefit microsimulation model.

<sup>16</sup> Though, of course, in both of these cases, the decision not to make changes in the face of escalating costs represents a policy decision in itself.

Figure 8.6. Distributional impact of tax and benefit changes introduced between 1997–98 and 2015–16



Notes: Income decile groups are derived by dividing all households into 10 equal-sized groups according to income adjusted for household size using the McClements equivalence scale. Decile group 1 contains the poorest tenth of the population, decile group 2 the second poorest, and so on up to decile group 10, which contains the richest tenth. Ignores most ‘business taxes’ (notably corporation tax, business rates and employer National Insurance contributions) and capital taxes (notably inheritance tax, stamp duties and capital gains tax). Does not include changes to additional state pensions and localisation of support for council tax in April 2013.

Source: Authors’ calculations using the IFS tax and benefit microsimulation model, TAXBEN, run on uprated data from the 2010–11 Family Resources Survey and 2010 Living Costs and Food Survey.

Figure 8.6 shows the impact of reforms from 1997–98 to 2015–16 by comparing household incomes under an unreformed 1997–98 tax and benefit system (where unreformed means tax thresholds and benefit rates are increased each year in line with the baseline the Treasury uses in Budgets and Autumn Statements, which generally means increasing cash amounts in line with various measures of inflation) and a system with all reforms announced to be in place by 2015–16 (with, again, reforms measured relative to the baseline used in Budgets and Autumn Statements).

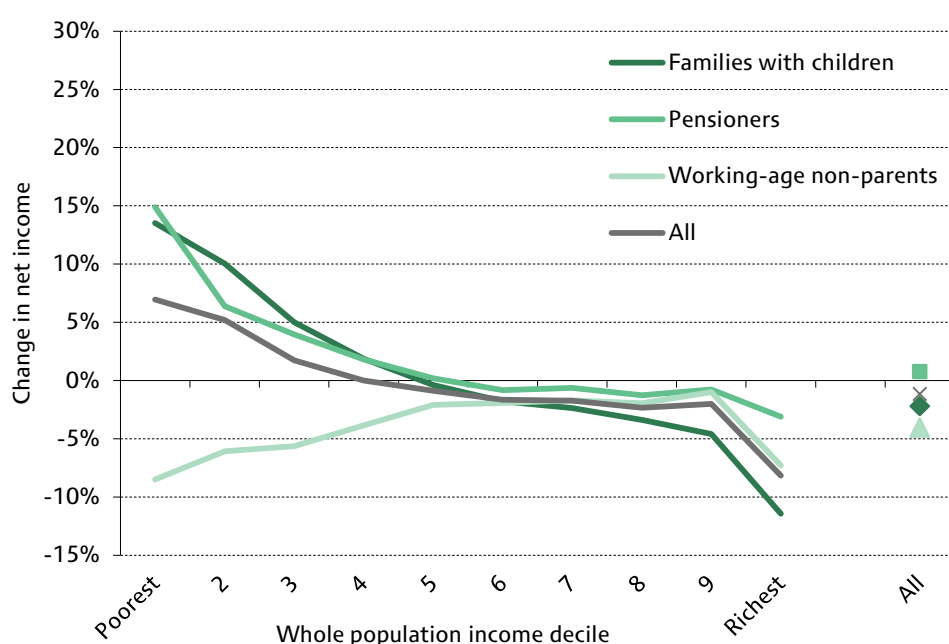
The figure shows that, on average, low-income households have gained overall from tax and benefit changes introduced between 1997–98 and 2015–16 – the ‘giveaways’ during the period from 1997–98 to 2010–11 more than offset the ‘takeaways’ that have been implemented since 2010.<sup>17</sup> However, these averages hide significant differences between different types of household. Whereas for low-income families with children and pensioners, the real-terms increases in benefits between 1997–98 and 2010–11 more than offset the impact of cuts being introduced in the period 2010–11 to 2015–16, benefits for working-age people without children were not increased significantly between 1997–98 and 2010–11 and are being reduced by the measures introduced since 2010. Working-age people in the top half of the income distribution did not benefit

<sup>17</sup> Figure 7.7 shows the impact of just those measures introduced since the start of the fiscal consolidation in January 2010. A comparison of the two therefore reveals the impact of reforms introduced between April 1997 and January 2010.

significantly from tax and benefit changes introduced between 1997–98 and 2010–11, and have lost out from tax rises introduced since then.

The impact of measures introduced since the start of the fiscal consolidation in January 2010 is isolated in Figure 7.4. That graph shows that at the lower end of the income scale pensioners have lost the least as a result of these changes, while at higher levels of income it is working-age households without children who have lost the least. This is because the income tax personal allowance for working-age people has been increased significantly, whereas pensioners' tax allowances will be frozen in nominal terms from April 2013. Better-off families with children have lost out from more aggressive means-testing of tax credits and the withdrawal of Child Benefit from families where (at least) one adult has an income above £50,000.<sup>18</sup>

**Figure 8.7. Distributional impact of tax and benefit changes introduced between 1997–98 and 2015–16 relative to earnings indexation**



Notes and source: As for Figure 8.6.

Another baseline against which we can compare tax and benefit reforms is one where cash amounts are increased in line with growth in average earnings over time. In normal times, increasing benefits in line with prices sees the incomes of those dependent on benefits falling behind the incomes of the rest of the population. It is for this reason that, in its long-run fiscal forecasts, the Office for Budget Responsibility (OBR) assumes that benefits will rise in line with earnings. Furthermore, as this baseline involves significant 'fiscal drag' over time (as more taxpayers fall into higher tax brackets because tax thresholds do not keep pace with growth in earnings), it also involves tax revenues increasing as a share of national income. As we can see in Figure 8.7, relative to a baseline of earnings indexation, the impact of reforms is much more even across the income distribution. Benefit increases for low-income families with children and pensioners, although large in real terms, were less significant relative to average earnings growth over the whole period. At the upper end of the income distribution, the losses from tax

<sup>18</sup> See Chapter 7 for more details of tax and benefit changes being introduced in 2013–14.

and benefit reforms appear larger relative to this baseline. This is because tax thresholds have not kept pace with real earnings growth, meaning that reforms relative to this baseline represent a larger net tax rise.

## Summary

Social security spending has increased substantially since 1997–98 for both pensioners and those of working age, both in real terms and as a share of national income. Higher spending on pensioners was driven by a combination of policy changes that increased the generosity of means-tested support for poorer pensioners, increases in the number of people above the State Pension Age and higher levels of entitlement to additional state pensions among more recent retirees. The increase in spending for those of working age was largely driven by policy reforms, particularly the significant increase in the level of support given to in-work families with children. In contrast to the increased generosity of child-contingent benefits between 1997–98 and 2010–11, benefits for those without children will be lower in real terms in 2015–16 than they were in 1997–98.

Measures introduced by the current government have reduced the incomes of low-income working-age people by more than those of low-income pensioners, who have been largely protected from welfare cuts.

## 8.4 Options for future savings

One part of the context, then, for thinking about where future savings might come from is an understanding of where the money goes, how and why spending levels have changed, and who has gained and who has lost from recent changes.

We will now look at some specific parts of the social security system and consider possible ways of saving money. But in doing so we will also be bearing in mind the trade-offs that are at the heart of the system, particularly in the context of some of the issues raised by the Prime Minister in the summer.

### Up-rating policy

The way in which benefits are up-rated at the start of each financial year has already been changed significantly by the current government (see Box 8.1). An obvious way of making additional savings to the social security budget through across-the-board cuts is to increase benefits less quickly. Most benefit rates for those of working age are being increased by 1% in April 2013 rather than the 2.2% by which they would have increased under normal indexation rules.

The current proposal is for the 1% cap to apply in 2013, 2014 and 2015. If the policy were extended for two additional years to cover the whole period of fiscal consolidation, the government would save an additional £1.2 billion in 2017–18. Alternatively, if the benefits currently subject to the 1% cap were instead frozen in nominal terms for three years, it would save another £1.5 billion by 2015–16. Freezing those benefits that are currently excluded from the 1% cap, but not the Basic State Pension and Pension Credit,



### Box 8.1. Up-rating policy under the current government

Before 2011, most benefit and tax credit rates increased in line with RPI (retail price index) or Rossi inflation<sup>a</sup> each year. The current government made two significant changes to this in 2010. First, the Basic State Pension will now be increased by the highest of CPI (consumer price index) inflation, earnings growth and 2.5% each year (the so-called ‘triple lock’).<sup>b</sup> This is a more generous treatment than had been proposed by the previous government, which had intended that the Basic State Pension should increase in line with earnings growth from 2012–13. Second, most other benefits are now increased in line with CPI inflation, which tends to give smaller increases in most years. The only significant benefits not affected by these changes were Pension Credit, which continues to increase in line with earnings growth each year by default, and Winter Fuel Payments, which are frozen in nominal terms. In terms of up-rating, then, benefits for pensioners have been protected from cuts, or even been made more generous, whereas those for working-age people have been made less generous.

In the Autumn Statement, the government justified the decision to increase benefits by less than CPI inflation for the next three years by pointing out that, as a result of earnings falling in real terms since the beginning of the financial crisis in 2007, benefits have increased more quickly than earnings since the beginning of 2007. Current policies will (on the OBR’s projections) bring the ratio of benefits to earnings back to its 2007 level some time in 2016, rather than in 2018 as would have happened under the previous policy.<sup>c</sup> The Prime Minister suggested in a speech in June 2012 that benefits should be linked to the lower of inflation and earnings growth. Such a change in default up-rating procedures would avoid the need for policy changes such as those announced in the Autumn Statement. But if this were a hard-and-fast rule for benefit up-rating in the long run, it would imply that benefits did not keep pace with either inflation or earnings growth – it is unclear why any government would want benefits to be falling indefinitely over time, even if it thought that the level of benefits should be lower. Such a policy would also bring the difference in indexation procedures for pensioner benefits and for benefits for people of working age into even more stark contrast: whereas pensioners would see their state pension increase in line with the higher of price inflation and earnings growth each year (and a minimum nominal increase of 2.5%), those claiming working-age benefits would see increases of the lower of these two indices.

Together, these changes to indexation policy (both the switch to CPI indexation and the 1% up-rating in 2013, 2014 and 2015) will yield around £7 billion<sup>d</sup> in savings by 2014–15, with larger savings in future years.

<sup>a</sup> The Rossi inflation measure is similar to the RPI measure but excludes housing costs. The rationale behind using this index for out-of-work benefits was that those entitled to these benefits have their housing costs paid for through Housing Benefit and so are unaffected by changes in housing costs.

<sup>b</sup> For example, the Basic State Pension is due to increase by 2.5% in April 2013 because both annual CPI inflation in September 2012 (at 2.2%) and earnings growth in the relevant period (at 1.6%) were less than 2.5%.

<sup>c</sup> For more details, see A. Hood, R. Joyce and P. Johnson, ‘The effects of the Welfare Benefits Up-rating Bill’, IFS Observation, 2013 (<http://www.ifs.org.uk/publications/6539>).

<sup>d</sup> Source: Table 2.1 of various Budgets and Autumn Statements.

would save another £1.9 billion by 2015–16.<sup>19</sup> Also freezing the Basic State Pension and Pension Credit would yield further savings of £4.5 billion. Alternatively, if the Basic State Pension and Pension Credit were increased by 1% in each of the next three years, this would save £2.8 billion a year by 2015–16.<sup>20</sup>

## **Pensioner benefits**

The government has committed to maintaining spending on the main benefits for pensioners at current levels. And, in England, local authorities will not be allowed to reduce the amount of support given to low-income pensioners for their council tax once they are given responsibility for designing council tax support schemes from this April. Given that we saw in Section 8.2 that more than half of the total social security budget goes to pensioners, expenditure on benefits for those of working age would have to be cut by more than 2% in order to save 1% on the overall budget while protecting pensioners entirely.

Were the government to find substantial spending reductions from pensioners, it would likely need to change either the levels or eligibility criteria for state pensions, since they account for nearly three-quarters of social security spending on pensioners. This is hard to achieve in the short run. Options might include reducing the levels of the Basic State Pension (perhaps by picking the triple lock) or increasing the State Pension Age more quickly than currently planned.

Given that there are already plans to accelerate increases in the State Pension Age over the next two decades, further increases might significantly disrupt the plans of those approaching pension age. It seems unlikely that pension age could be raised further in the next five years.

Making the indexation arrangements for state pensions less generous would reverse the government's own policy, and would leave pensioners unexpectedly worse off. It might also increase the actual and perceived risks associated with governments backtracking on what should be long-term commitments on pension policy. Even so, working-age benefit recipients are already suffering below-inflation benefit rises. As we have seen, applying the same policy to pensioners – by uprating state pensions and Pension Credit by 1% over the next three years – would save £2.8 billion a year by 2015–16.

A potential reform that is frequently discussed is means-testing the universal benefits received by pensioners – namely, Winter Fuel Payments and free TV licences. As we saw in Section 8.2, these benefits make up only a small proportion of the income that pensioners receive from the state: the total cost of Winter Fuel Payments is projected to be £2.1 billion in 2012–13, and free TV licences are expected to cost £600 million, out of total payments of £110 billion.<sup>21</sup> As these benefits are relatively small, designing a specific means test would likely be highly inefficient. They might most easily be restricted to only those claiming Pension Credit. There is some uncertainty over exactly how much this would save, not least because around a third of those entitled to Pension Credit do not

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<sup>19</sup> These are predominantly benefits received by those with disabilities, in particular Attendance Allowance, Carer's Allowance, Disability Living Allowance, Incapacity Benefit, disability premiums in means-tested benefits and the support group component of Employment and Support Allowance.

<sup>20</sup> All costings in this paragraph were made using TAXBEN run on the 2010–11 Family Resources Survey.

<sup>21</sup> The total cost of concessionary bus travel in England was just under £1 billion in 2011–12, though not all of this was for free bus passes for pensioners. Source: Table BUS0502 of Department for Transport statistics, <https://www.gov.uk/government/statistical-data-sets/bus05-subsidies-and-concessions>.

take it up.<sup>22</sup> Our modelling suggests that with full take-up of means-tested benefits, such a policy would reduce the cost of Winter Fuel Payments by around £1.2 billion and the cost of free TV licences by around £300 million. Taking account of low levels of take-up might increase the savings by £500 million (to around £2.0 billion). So some low-income pensioners who did not claim the means-tested benefits to which they are entitled would lose out from such a change.

This suggested saving of £1.5–£2 billion is not trivial. But in the context of total spending on pensioner benefits, it is still relatively small beer. The debate about these benefits seems to have become more totemic than a serious analysis of whether there is scope for reducing benefit payments to the elderly population.

## **Working-age benefits: Universal Credit**

The benefit system as it affects those of working age will shortly undergo one of its most radical structural changes since the 1940s, as six of the seven main means-tested benefits (or eight, now that Child Benefit is withdrawn from those with annual incomes above £50,000) for those of working age are replaced with a single payment, Universal Credit. The roll-out of Universal Credit will begin in a small number of pilot areas in April, before new claims of JSA cease everywhere in October 2013 and new claims for other means-tested benefits and tax credits stop in 2014. From October 2014, existing claimants of means-tested benefits and tax credits will see their claims shifted across to Universal Credit.<sup>23</sup> We therefore consider reforms to Universal Credit rather than changes to the existing set of means-tested benefits and tax credits. In seeking to reduce the cost of Universal Credit, the government faces two broad options: reduce the generosity of the elements that make up a family's maximum award, or means-test Universal Credit more aggressively.

### ***Housing component of Universal Credit***

As we saw in Section 8.3, spending on Housing Benefit (HB) has risen rapidly in recent years. The housing component of Universal Credit will replace Housing Benefit and, like it, will be set equal to the minimum of a family's Local Housing Allowance (LHA) amount and their rent for those in the private rented sector or actual rent (subject to certain restrictions) for those in the social rented sector. LHA amounts vary according to the number of bedrooms a family is deemed to need and the 'Broad Rental Market Area' (BRMA) in which they live.<sup>24</sup> For example, a lone parent with two children aged 10 or over of opposite sexes (and so entitled to a bedroom each) can claim up to £340 per week in central London, compared with less than £127 per week in central Manchester.

The swiftly-rising bill for HB has raised a number of concerns. The Prime Minister has suggested that there should be restrictions both on who is entitled to claim and on the maximum levels of rents. In both cases, he suggested that the benefit system currently

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<sup>22</sup> Latest DWP estimates suggest that around 35% of those who are entitled to Pension Credit do not take up their entitlements. See Department for Work and Pensions, *Income-Related Benefits: Estimates of Take-Up in 2009–10, 2012* ([http://statistics.dwp.gov.uk/asd/income\\_analysis/feb2012/tkup\\_full\\_report\\_0910.pdf](http://statistics.dwp.gov.uk/asd/income_analysis/feb2012/tkup_full_report_0910.pdf)).

<sup>23</sup> See Chapter 7 for more information on Universal Credit.

<sup>24</sup> A BRMA is an area 'within which a person could reasonably be expected to live having regard to facilities and services for the purposes of health, education, recreation, personal banking and shopping, taking account of the distance of travel, by public and private transport, to and from those facilities and services'. It must contain a variety of residential property types held on a variety of tenures. See Valuation Office Agency, 'Guidance to Rent Officers determining Broad Rental Market Areas', May 2012 (<http://www.voa.gov.uk/corporate/downloads/pdf/GuidanceToRentOfficersDeterminingBRMAsApril2012.pdf>). There are currently 192 BRMAs in Great Britain.

allows people who are not in paid work to occupy accommodation that they would not be able to afford were they to work, in particular with reference to people aged under 25 and those living in more expensive areas.<sup>25</sup>

In raising these issues, Mr Cameron was setting out one side of a real trade-off. If we do pay more where housing costs are higher, some people who are out of work will be subsidised to live in expensive areas. And the benefit system will make it easier for young people to leave the parental home. On the other hand, if the costs are not paid, it would become impossible for large numbers of people to live in some areas, people might be forced to move soon after losing a job, and young people with difficult home lives may be forced into homelessness.

In August 2012, around 380,000 people aged under 25 were receiving Housing Benefit, claiming the equivalent of £1.8 billion a year.<sup>26</sup> If eligibility to HB were completely removed from this group, a significant amount could therefore be saved. However, it is unlikely that such a blanket restriction on eligibility for HB would be introduced: as the Prime Minister acknowledged in his speech, ‘a lot of these young people will genuinely need a roof over their head. Like those leaving foster care, or those with a terrible, destructive home life, and we must always be there for them.’ The question of how far it is desirable to go in this direction is an inherently subjective one, but some statistics on the composition of the caseload give some idea of the difficulties one would face: for example, 45% of HB claimants aged under 25 are lone parents, and they account for nearly half of the expenditure. Restricting receipt to under-25s with children immediately creates a rather perverse incentive (the empirical importance of which we do not know) to have a child.

Reforms already introduced have restricted the ability of LHA claimants to live in the most expensive areas. New national caps on LHA rates mean that the amount claimed cannot exceed a certain level even if the rules that determine these amounts would imply a higher level (generally, LHA amounts are set at the 30<sup>th</sup> percentile of rents for properties of a given size in each BRMA, though this will change in April 2013 – see Chapter 7. The national caps currently only affect a few areas in Inner London. An obvious way to generate further savings would be to reduce these caps. However, since rents are so much higher in Inner London than anywhere else in Great Britain, relatively few additional areas would be affected by lowering the cap by, say, 10%. And since the introduction of the national caps in the first place will only save £70 million in 2013–14, the reductions in the national caps would have to be severe for significant savings to be made.

Another alternative that could be considered is to set regional caps on LHA amounts so that Housing Benefit claimants are not able to live in the most expensive areas in each region. Or, the BRMA could be made larger and/or the LHA rates set at a level lower than the 30<sup>th</sup> percentile of rents in each area.

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<sup>25</sup> In his speech on 25 June 2012 at Bluewater, Kent, the Prime Minister asked, ‘up to what age should we expect people to be living at home?’ and ‘those who work in expensive postcodes who aren’t on benefits typically have to move further out and commute in to work ... should those on benefits be financially helped to live exactly where they want to?’ (<http://www.number10.gov.uk/news/welfare-speech/>).

<sup>26</sup> £1.8 billion is 52 times weekly expenditure on Housing Benefit in August 2012 for those under 25. See tables 9a and 9b of DWP Housing Benefit and Council Tax Benefit Statistics, August 2012, <http://statistics.dwp.gov.uk/asd/index.php?page=hbctb>.

*Child element of Universal Credit*

As we saw in Section 8.3, the generosity of means-tested support for those with children increased significantly between 1997–98 and 2010–11. The child element of the Child Tax Credit was the main tool that was used to do this between 2003–04 and 2010–11: it increased from £1,939 to £2,486 in current prices during this period.<sup>27</sup> The child element of Universal Credit will provide the same support in broadly the same manner.

If the government wished to reverse this increase in generosity, it could reduce the child element of Universal Credit back to its 2003–04 real-terms level. This would save nearly £4 billion a year, a demonstration of how much additional resource was put into means-tested support for families with children over the last decade. Around 3.7 million families with children would lose out, and the average loss among these families would be around £20 per week.<sup>28</sup>

Of course, one of the reasons for increasing tax credits for low-income families with children was the desire of the previous government to try to meet its challenging targets for reducing income-based child poverty measures. New targets are now, in principle, legally binding on the government through the Child Poverty Act 2010. Reducing benefits for low-income families with children would increase income-based measures of child poverty and therefore would make achieving the targets set out in that Act harder to achieve. On the other hand, as IFS researchers have previously argued, there is in any case absolutely no chance that these supposedly legally-binding targets will be met.<sup>29</sup>

Another change that has been suggested to child-contingent benefits is to restrict the number of children that claimants receive benefit for, at least in some cases. In his June 2012 speech, the Prime Minister expressed concern about the way in which the structure of the benefit system means that ‘for most in work when they have a child their income will change very little but for many on out-of work benefits, their income will change substantially.... Quite simply, we have been encouraging working-age people to have children and not work, when we should be enabling working-age people to work and have children’. These incentives do exist, though it is not clear to what extent people respond to them. Previous IFS research has shown that the introduction of the Working Families’ Tax Credit, which gave additional support to in-work families with children but not those without, led to an increase in the number of births shortly afterwards. But it is not clear whether this was the result of people having more children than they otherwise would have or having them sooner.<sup>30</sup>

An across-the-board restriction on the number of children that families can claim Child Benefit and Child Tax Credit for would yield significant savings. Estimates using our model of the tax and benefit system, TAXBEN, suggest that expenditure on Child Benefit would be reduced by around £700 million and on Child Tax Credit by £2.4 billion if both benefits were restricted to two children.<sup>31</sup> But the government has signalled that any

<sup>27</sup> The child element of the Child Tax Credit is the maximum amount a family can claim for each additional child that they have.

<sup>28</sup> Source: Authors’ calculations using TAXBEN run on the 2010–11 Family Resources Survey.

<sup>29</sup> See M. Brewer, J. Browne and R. Joyce, *Child and Working-Age Poverty from 2010 to 2020*, IFS Commentary 121, 2011 (<http://www.ifs.org.uk/comms/comm121.pdf>).

<sup>30</sup> See M. Brewer, A. Radcliffe and S. Smith, ‘Does welfare reform affect fertility? Evidence from the UK’, IFS, Working Paper WP08/09, 2008 (<http://www.ifs.org.uk/wps/wp0809.pdf>).

<sup>31</sup> These figures are calculated using TAXBEN run on the 2010–11 Family Resources Survey, which significantly under-records the number of large families in the UK when compared with administrative data on receipt of Child Benefit and Child Tax Credit. The savings from this policy would likely be larger than them in practice.

policy changes in this area would be restricted to families where neither parent is in paid work so that this group would face the same costs of having additional children as others. If only out-of-work families were affected, the savings would fall to £1.4 billion for Child Tax Credit and £200 million for Child Benefit. There are also important questions about whether cuts should be imposed on those who already had more than two children at the time the policy was introduced or on those with three or more children who became unemployed. Savings would be very heavily reduced if protection were given to particular groups (for example, widows or those with disabilities) or if restrictions were only imposed on those who were out of work who had additional children, since only around 35,000 non-working families who already have at least two children have an additional child each year.<sup>32</sup>

### ***Means-testing more aggressively***

The basic structure of Universal Credit is that a family's maximum entitlement is calculated (based on the family structure, housing costs and disability status), a certain amount of earned income is disregarded for the purposes of the means test (with the size of the disregard depending on family type, housing tenure and disability status) and then each pound of earned income above the disregard reduces the Universal Credit award by 65p. Thus, there are two ways in which the means test could be made more aggressive, either by reducing the income level at which Universal Credit starts to be withdrawn (i.e. reducing the disregards) or by increasing the rate at which it is withdrawn as income rises (i.e. increasing the taper rate). Reducing all disregard amounts by 10% would save nearly £0.7 billion.<sup>33</sup> Increasing the rate at which Universal Credit is withdrawn as income rises from 65p for each additional pound of income to 70p would save around £1.3 billion a year.<sup>34</sup>

These reforms would not affect the Universal Credit entitlements of those with the lowest incomes. However, by protecting those not in work while reducing support for families with someone in paid work, both reforms would tend to weaken the incentive for those in families where no one is in paid work to start working. Furthermore, increasing the taper rate would weaken the incentive for those on the taper to increase their earnings slightly: taxpayers on the Universal Credit taper would lose 79.6p of each additional pound earned through a combination of higher taxes and lower Universal Credit entitlement, compared with 76.2p when the taper is 65%. Given that one of the aims of Universal Credit was to strengthen work incentives, it seems unlikely that the government would introduce large changes such as these.

## **Working-age benefits outside of Universal Credit**

There are a number of working-age benefits that fall outside of Universal Credit, including Child Benefit, Disability Living Allowance, Attendance Allowance and Carer's Allowance.

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<sup>32</sup> Source: Authors' calculations using the 2010–11 Family Resources Survey.

<sup>33</sup> Source: Authors' calculations using TAXBEN run on the 2010–11 Family Resources Survey.

<sup>34</sup> Source: Authors' calculations using TAXBEN run on the 2010–11 Family Resources Survey.



**Child Benefit**

Child Benefit, even after reforms just introduced which will remove it from families where someone has a taxable income over £60,000 a year, will go to 7.1 million families, in respect of 11.7 million children, at a cost of £10.4 billion in 2013–14.<sup>35</sup>

Significant savings are already planned from Child Benefit, not just by withdrawing it in its entirety from families containing a high-income individual, but also by freezing it for three years from 2011–12 and raising it only by 1% a year in 2014 and 2015. Together, these changes are expected to save around £3 billion in 2015–16.<sup>36</sup> Beyond further below-inflation increases, two straightforward cuts in coverage that would save some money might include limiting payment to the first two children only, saving around £715 million and affecting 850,000 families, or reducing the age of eligibility from 19 (for those in full-time education) to 16, saving around £720 million from around 825,000 families.<sup>37</sup>

Further reforms of this nature, particularly on top of the recent withdrawal from families containing an individual with an income greater than £50,000, would further undermine Child Benefit's role as a universal recognition of the additional costs of children. Were the government to want to pursue such a policy to its logical end point, it could both save money, and get round some of the oddities inherent in the current method for withdrawing Child Benefit from those on higher incomes, by simply abolishing it and increasing the appropriate components of Universal Credit such that those entitled to Universal Credit saw their Universal Credit amounts increased by the amount of Child Benefit they currently receive.

We calculate that this would save around £4.5 billion a year in the long run. Given that take-up of Child Benefit is close to 100% but take-up of Universal Credit is likely to be at least a little lower than this, the true savings would probably be somewhat higher. The losers from this policy would be those who currently receive Child Benefit but who will not be entitled to – or would not claim – Universal Credit. To give an idea of who these families are, entitlement to Universal Credit will expire at a gross salary of around £27,000 for a single-earner family with one child in owner-occupied accommodation, £33,000 if they have two children and £39,000 if they have three children. Child Benefit entitlement currently expires when the gross taxable income of the highest-income individual is £60,000. Around 4.3 million families would lose out from this policy, with the average loss around £20 per week or £1,040 per year among these families.<sup>38</sup>

An alternative policy would be to integrate Child Benefit with Universal Credit but withdraw it from a higher threshold, say the equivalent of a gross income level of £50,000 so that lone parents and single-earner couples would be broadly unaffected but some two-earner couples with a joint income above this level would lose out. (This would be a system similar to how the family element of Child Tax Credit was withdrawn from a higher-income threshold before April 2012.) This system would save £3.0 billion a year.<sup>39</sup> Figure 8.8 shows the total amount of support given for a single-earner couple with two

<sup>35</sup> Source: Authors' calculations based on HMRC Child Benefit Statistics, August 2011 (<http://www.hmrc.gov.uk/statistics/child-geog-stats/chb-geog-aug11.pdf>), OBR Economic and Fiscal Outlook, December 2012 and using TAXBEN run on the 2010–11 Family Resources Survey.

<sup>36</sup> Source: Table 2.1 of various Budgets and Autumn Statements.

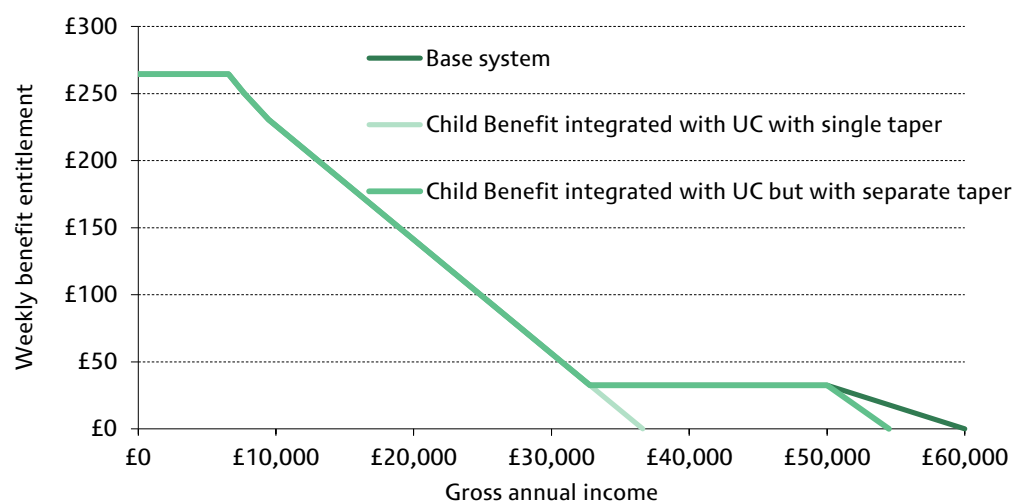
<sup>37</sup> Source: Authors' calculations using HMRC Child Benefit Statistics, August 2011.

<sup>38</sup> Source: Authors' calculations using TAXBEN run on the 2010–11 Family Resources Survey.

<sup>39</sup> Source: Authors' calculations using TAXBEN run on the 2010–11 Family Resources Survey.

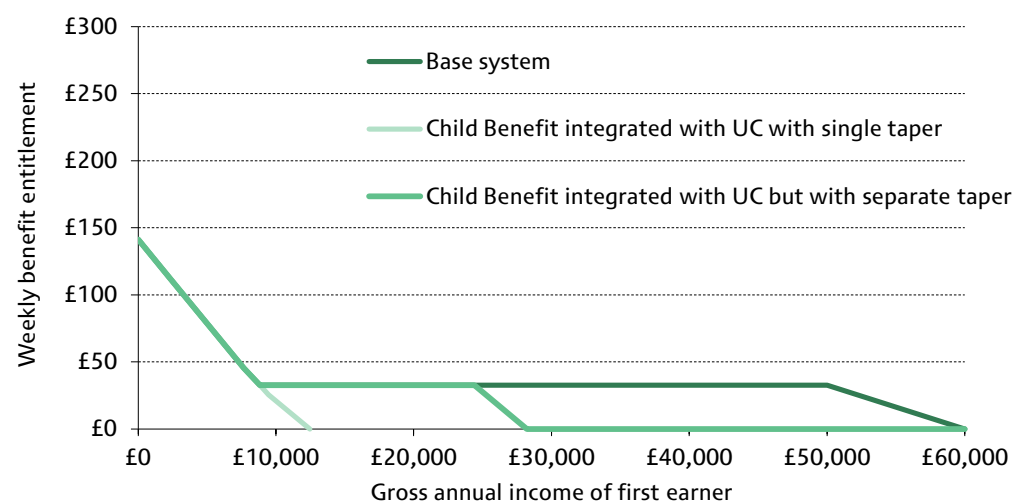


Figure 8.8. Total benefit entitlement for single-earner couple with two children under April 2015 Universal Credit system, and two reforms considered in this section



Notes: Family lives in owner-occupied accommodation. Ignores support for council tax.  
Source: Authors' calculations using TAXBEN.

Figure 8.9. Total benefit entitlement for two-earner couple with two children under April 2015 Universal Credit system, and two reforms considered in this section



Notes: Family lives in owner-occupied accommodation. Ignores support for council tax. Assumes gross annual earnings of £20,000 for second earner.  
Source: Authors' calculations using TAXBEN.

children in owner-occupied accommodation by income level under all three systems. Figure 8.9 shows the total amount of support given to a two-earner couple by the earnings of the first earner in the case where the second earner earns £20,000 per year before tax.

### Disability and carers' benefits

In 2012–13, it is projected that spending on Disability Living Allowance (DLA) will be £13.4 billion, with £5.5 billion spent on Attendance Allowance (AA) and £1.9 billion on Carer's Allowance (CA). Expenditure on DLA and AA has increased dramatically since

1997–98, as we saw in Section 8.3: in real terms, spending on DLA increased by over 80% and spending on AA by 56% between 1997–98 and 2010–11.<sup>40</sup>

DLA and AA exist to compensate those with disabilities for the additional costs that they face in terms of additional care and mobility costs, irrespective of how much other income they have or whether they are in work. Thus, these benefits are claimed by households at all income levels: as we saw in Section 8.2, the largest concentration of claimants of DLA and AA is in the upper-middle of the income distribution. CA exists to support those who provide care to someone on one of these benefits, and covers both pensioners and those of working age. These are all benefits that are worth the same amount to all recipients as they are neither means-tested nor taxable.

There are good reasons to keep things this way: these benefits compensate disabled people for the additional costs that they face and provide support for those who provide care for disabled people that might otherwise have to be paid for out of the public purse. Even so, a government looking for savings might consider taxing these benefits or replacing them with means-tested benefits so that support only went to those without other means of support (such as earned or unearned income or a spouse in paid work). The government would have to think carefully about the aims of disability and carers' benefits before making any such changes.

Making DLA taxable would save about £620 million a year; doing the same for AA would save £350 million.<sup>41</sup> Savings could also be made by scrapping these benefits and introducing new disability premiums in Universal Credit and Pension Credit. While it is hard to be precise about how much could be saved through such a policy, we estimate that around one-third of DLA and AA claimants will not be entitled to either Universal Credit or Pension Credit. While this does not imply that a full third of the cost of the benefits would necessarily be saved, it does suggest that a radical policy such as this could garner significant savings. Scrapping CA and allowing claimants to claim Universal Credit instead would save between £100 million and £200 million a year; the savings are relatively small as most claimants of CA would be entitled to claim another means-tested benefit to offset the loss.<sup>42</sup>

Another way of reducing expenditure on these benefits would be to make the disability test more stringent. The government has already done this for DLA, as it will be replaced with Personal Independence Payment for those of working age from this April, and it is expected that 20% of claimants will lose their entitlement as a result (see Chapter 7 for more details). If the new system were extended to those aged over State Pension Age, assuming the same proportion of claimants would lose eligibility under the new regime, a further £900 million a year could be saved in the short run.<sup>43</sup> Given that the disability tests for AA and the care component of DLA are similar at the moment, equivalent reforms could be introduced to AA; if this resulted in the same proportion of claimants losing their entitlement to support, around £1.1 billion could be saved.<sup>44</sup>

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<sup>40</sup> All figures in this paragraph are for expenditure on both those above and those below State Pension Age.

<sup>41</sup> Source: Authors' calculations using TAXBEN run on the 2010–11 Family Resources Survey.

<sup>42</sup> Source: Authors' calculations using TAXBEN run on the 2010–11 Family Resources Survey.

<sup>43</sup> Source: Authors' calculations using DWP Benefit Expenditure Tables. Note that in the long run, all claimants will have been subject to the new regime (DLA claimants can continue to claim over the age of 65, but new claimants have to claim AA rather than DLA if they are aged 65 or over).

<sup>44</sup> Source: Authors' calculations using DWP Benefit Expenditure Tables.

### **Contributory benefits**

Over time, the UK has moved away from a system of contributory benefits and means-testing has become a lot more important. For those of working age, the only remaining contributory benefits are contributory JSA and ESA which, together with Incapacity Benefit (which is closed to new claimants, with existing claimants being transferred to ESA), are projected to cost £6 billion in 2012–13.

We have gone so far down the road away from a contributory system that the government might want to scrap these remnants and save around £500 million by doing so.<sup>45</sup> This is a lot less than the £6 billion cost of the benefits, since most recipients would be entitled to means-tested Universal Credit in their absence.

But this raises a pretty fundamental question about the development of the social security system. Such a change would reduce the amount of social insurance against the risk of unemployment or disability offered to those with a partner in paid work or other unearned income, and would mean that those in couples would potentially receive no *individual* income in their own right if they became unemployed or disabled.<sup>46</sup> A proper social insurance system (where benefits received when out of work are linked to previous earnings in work) may be desirable if individuals see that the additional social insurance contributions they make when they increase their earnings give them higher entitlements to benefits in the future and so do not face the same disincentive effect from such contributions that they would from an income tax.<sup>47</sup> However, we are a long way from such a system in the UK: paying additional National Insurance contributions (NICs) has a minimal impact on entitlements to benefits, meaning that, at the margin, NICs act almost entirely as a tax.<sup>48</sup> Indeed, Disney (2004) shows that the ‘tax component’ of National Insurance contributions is among the highest in OECD countries.<sup>49</sup>

Abolishing the remaining contributory benefits would also appear to be inconsistent with some of the ideas expressed by Mr Cameron last summer:

Today we treat the man who’s never worked in the same way as the guy who’s worked twenty years in the local car plant, lost his job and now needs the safety net. So here we could ask whether your reward for paying in is that you won’t have to face all the tough conditions that we’re imposing on those who haven’t paid anything into the system at all.

There is still space for a substantial debate about the role of some form of contributory principle.

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<sup>45</sup> Source: Authors’ calculations using TAXBEN run on the 2010–11 Family Resources Survey.

<sup>46</sup> For more on this, see F. Bennett and H. Sutherland, ‘The importance of independent income: understanding the role of non-means-tested earnings replacement benefits’, Institute for Social and Economic Research (ISER), Working Paper 2011–09, 2011 ([https://www.iser.essex.ac.uk/files/iser\\_working\\_papers/2011-09.pdf](https://www.iser.essex.ac.uk/files/iser_working_papers/2011-09.pdf)).

<sup>47</sup> An extreme version of such a system, where an individual’s social security contributions are paid into and benefits paid out of a personal account, which is then used to purchase an annuity at retirement, is analysed by Bovenberg et al. (2008). They conclude that such a system could lead to significant efficiency gains in cases where the social security system primarily redistributes within periods in an individual’s lifetime rather than between individuals. See A.L. Bovenberg, M.I. Hanson and P.B. Sorensen, ‘Individual savings accounts for social insurance: rationale and alternative designs’, *International Tax and Public Finance*, 2008, 15, 67–86.

<sup>48</sup> The only benefit to paying additional NICs is for those with incomes between the low earnings threshold (currently £14,700 per year) and the upper accruals point (currently £40,040 per year), who in some cases will see their S2P entitlement increase as a result of increasing their earnings and paying more in National Insurance contributions.

<sup>49</sup> R. Disney, ‘Are contributions to public pension programmes a tax on employment?’, *Economic Policy*, 2004, 19, 267–311.

### **Other benefits**

There remain some benefits in the system that now appear outmoded, dating from an era when few married women were in paid work and industrial injuries were the most common reason for men being unable to work. Examples of these might include bereavement benefits and widows' pensions (expected to cost £598 million in 2012–13) and industrial injuries benefits (£905 million). Of course, if these benefits were abolished, claimants would become entitled to other benefits that are more widely claimed. The data available to us are such that we cannot reliably give an estimate for how much would be saved if all of these benefits were abolished, but abolishing widows' pensions would save only £200 million as most people who receive them would be entitled to higher levels of means-tested benefits if these pensions were removed.

Note that the bereavement benefits have already been made less generous for new claimants but existing claimants were protected at the time changes were made. Thus, changes that affected existing claimants would save more in the short run than in the long run.

## **8.5 Conclusions**

Social security and tax credit spending is expected to be £212.1 billion in 2014–15, more than 30% of total government spending. As well as supporting those with the greatest needs, handing out such sums of money inevitably affects people's behaviour in the labour market, their household structure and where they choose to live. This is the age-old trade-off between achieving redistribution and providing strong incentives that governments have to balance when designing the tax and benefit system.

Of the total social security budget, slightly more than half is spent on pensioners. Spending has risen substantially over the last 15 years, both because of demographic changes and because of discretionary increases in generosity to pensioners and low-income families with children. Those of working age without children have not fared so well. Support for working-age people is being cut back between 2010 and 2015, though pensioners have been largely protected from the austerity package so far: the indexation procedures for the Basic State Pension and Pension Credit have been made more generous or left unchanged while those for working-age benefits have been made less generous, and the universal pensioner benefits have been left untouched while Child Benefit has been withdrawn from families containing a high-income individual. There may be good reasons for doing this, but choosing to protect pensioner benefits means that proportionally larger cuts have to be made to those for working-age people to achieve a certain level of savings.

Given the government's intention to further tighten fiscal policy by 2017–18, it will presumably consider reductions in social security spending and tax rises alongside spending on public services. Choosing how to cut spending on social security will inevitably depend on subjective decisions on how much support different groups should receive, and on the distributional impact of other government policies such as monetary policy and cuts to public services.

Table 8.4 summarises the estimated potential savings from the changes we have considered. This provides important context for any discussion of future reductions to the welfare budget; the relatively small sum saved from means-testing universal pensioner benefits, for example, belies their role in the policy debate.

Table 8.4. Options for further savings

	Savings in 2015–16 <sup>a</sup> (£ billion a year)
<b>Uprating policy</b>	
Freeze all benefits for three years from April 2013	7.9
Freeze all benefits except the State Pension and Pension Credit for three years from April 2013	3.4
Extend 1% uprating to the State Pension and Pension Credit for three years from April 2013	2.8
Extend 1% uprating for those benefits currently affected to 2017–18	1.2 <sup>b</sup>
<b>Pensioner benefits</b>	
Extend disability reassessment to those aged 65 and over	2.0
Means-test Winter Fuel Payments and TV licences	1.5–2.0
Make Attendance Allowance taxable	0.35
<b>Working-age benefits</b>	
Integrate Child Benefit within Universal Credit	4.5
Reduce child element of Universal Credit to 2003–04 levels	3.8
End additional entitlements at the second child	> 3.1
Integrate Child Benefit within Universal Credit but have separate taper from £50,000	3.0
Abolish Housing Benefit for under-25s	1.8
End additional entitlements at the second child for workless families	> 1.6
Increase Universal Credit taper to 70%	1.3
Abolish Child Benefit for over-16s	0.7
Reduce Universal Credit disregards by 10%	0.7
Make Disability Living Allowance taxable	0.6
Abolish remaining contributory benefits	0.5
Abolish widows' benefits	0.2
Abolish Carer's Allowance	0.1–0.2

<sup>a</sup> Unless otherwise stated.<sup>b</sup> Estimated saving in 2017–18.

Source: Authors' calculations using TAXBEN and administrative data.

When deciding what policy changes to introduce, though, the government should think about how the social security system ought to be reformed rather than simply examining feasible ways of reducing expenditure. A number of the reforms we have considered in this chapter would fundamentally change the nature of the support given through the benefit system. Many of these would involve moving even further in the direction of means-testing – for example, Disability Living Allowance and Attendance Allowance could be taxed or means-tested and the remaining vestiges of the contributory benefits system abolished. Such reforms would mean that support for the additional costs caused by disabilities and social insurance against unemployment and work-limiting disabilities would be withdrawn from those with other means of support such as unearned income or a working partner. It is important to think about the structure of the system one wants in the long term and the judgements to be made over the various trade-offs that are an inevitable part of any social security system. At the highest level, one needs to be clear to

what extent there is a role for a social insurance system, how important means-testing should be and what role one sees for universal benefits. One then needs to consider particular trade-offs between benefit levels and structures and effects on poverty and income levels on the one hand, and incentives to work, save, have children, get married and choose particular sorts of housing on the other. The government has identified areas where it believes that the system is overly generous and allows those on benefits to make choices about where to live and how many children to have that those in paid work would find it costly to make. If reducing support in these areas would act to mitigate perverse incentives without introducing new ones, the case for those reductions would be stronger than that for others. But this is not necessarily true in the case of all of the examples the government has brought up: for example, many of those aged under 25 claiming Housing Benefit are lone parents or members of other vulnerable groups where it might not be reasonable to expect that they could live with their parents. Allowing only these groups to claim Housing Benefit might create an incentive for those aged under 25 to have a child – a demonstration of the trade-offs that exist in making these decisions.

So far, the government's strategy for welfare reform has appeared muddled at times. For example, it announced an intention to integrate all means-tested benefits for those of working age into a single payment but it kept support for council tax separate and introduced a new means test for Child Benefit. Integrating Child Benefit within Universal Credit would more comprehensively end its role as a universal recognition of the costs of children. But it could also deliver substantial savings. With regard to uprating policy, the government allowed a large nominal increase in benefit rates in April 2012 that ran well ahead of earnings growth before announcing real cuts in benefit rates in the following three years to restore the pre-crisis ratio of benefits to earnings levels more quickly. We do not know how the government thinks benefits ought to be uprated over time; we should do.

Most importantly, before thinking further about how to reduce expenditure, the government should set out a clear strategy for the design of the benefit system and how benefit rates should be related to other economic variables.

## Annex. Social security spending, 1997–98 to 2012–13

Table 8.A1. Pensioner benefits

	<i>Expenditure in £ billion (2012–13 prices)</i>						
	Basic State Pension	Additional pensions	DLA & AA	HB & CTB	Pension Credit	Winter Fuel Payments & TV licences	Other
1997–98	42.3	4.4	5.4	6.8	5.2	0.3	2.0
1998–99	43.5	5.0	5.7	6.8	4.9	0.3	1.6
1999–00	44.7	5.9	6.0	6.9	5.0	1.0	1.2
2000–01	43.8	7.8	6.4	7.2	5.4	2.7	1.1
2001–02	46.3	8.5	6.8	7.6	5.8	2.7	1.1
2002–03	47.6	9.0	6.9	7.9	5.6	2.7	1.0
2003–04	48.1	9.9	7.3	7.5	6.0	2.9	1.0
2004–05	48.5	10.6	7.6	7.7	7.2	2.9	1.5
2005–06	49.5	11.4	8.0	7.6	7.6	2.9	2.3
2006–07	49.8	12.1	8.3	7.9	7.9	2.9	1.0
2007–08	51.6	13.1	8.8	7.8	8.3	2.9	1.2
2008–09	53.0	14.1	9.2	8.4	8.4	3.5	2.3
2009–10	56.0	15.6	9.8	8.6	8.8	3.5	1.8
2010–11	56.8	15.6	9.9	8.6	8.7	3.5	2.1
2011–12	58.9	16.5	9.9	8.7	8.3	2.8	1.7
2012–13	61.1	17.8	10.1	8.5	7.6	2.7	1.8

Note: Pension Credit includes Minimum Income Guarantee between 1999–2000 and 2002–03 and Income Support for pensioners prior to 1999–2000.

Source: Authors' calculations using DWP Benefit Expenditure Tables.

Table 8.A2. Working-age benefits and tax credits

	<i>Expenditure in £ billion (2012–13 prices)</i>						
	Tax credits & predecessors	HB & CTB	IS, JSA, income-based ESA & SDA	Child Benefit	Disability Living Allowance	IB & contributory ESA	Other
1997–98	6.7	12.1	14.6	9.9	5.0	9.4	4.1
1998–99	6.7	11.6	13.8	9.9	5.2	9.3	4.2
1999–00	7.7	11.3	13.1	11.1	5.3	8.9	4.4
2000–01	10.4	11.1	12.7	11.5	5.6	9.0	4.5
2001–02	14.7	11.1	12.5	11.5	5.9	8.8	4.9
2002–03	16.0	11.8	11.9	11.4	6.2	8.6	5.0
2003–04	22.0	11.9	12.1	11.7	6.5	8.4	5.5
2004–05	20.9	12.5	11.6	11.6	6.6	8.1	6.0
2005–06	22.0	13.4	11.5	11.6	6.9	7.9	5.9
2006–07	23.1	13.7	11.5	11.7	7.0	7.6	6.2
2007–08	23.9	14.4	11.5	12.0	7.3	7.5	6.3
2008–09	27.6	15.0	11.9	12.3	7.6	7.2	6.9
2009–10	29.9	18.0	14.7	12.9	8.1	7.2	7.3
2010–11	31.5	19.0	14.3	12.7	8.1	6.8	7.4
2011–12	30.2	19.7	14.7	12.6	8.4	6.5	6.2
2012–13	29.0	20.3	15.4	11.7	8.9	5.4	6.2

Note: Tax credits include Family Credit, Working Families' Tax Credit, Child Tax Credit, Working Tax Credit and child additions to out-of-work benefits before 2003–04.

Source: Authors' calculations using DWP Benefit Expenditure Tables and HMRC Accounts, and OBR *Economic and Fiscal Outlook*.



## 9. Broad shoulders and tight belts: options for taxing the better-off

Stuart Adam, Carl Emmerson and Barra Roantree (IFS)

### Summary

- A stated aim of many government ministers is to ensure that the well-off bear the greatest burden of fiscal consolidation. They tend to be less forthcoming about who they consider to be ‘rich’ or ‘well-off’. Are they referring to a judgement about people’s wealth or their income?
- Tax payments are already very concentrated on those with the highest incomes, and the fiscal consolidation so far has hit those right at the top of the income distribution (though not the remainder of the top half) harder than those in the bottom half.
- The burden of increases in all rates of income tax, National Insurance contributions (NICs) or (to a lesser extent) VAT would fall disproportionately on those in the top half of the income distribution. Such increases would affect many of those in the upper-middle of the income distribution who have so far been spared much of the pain of tax and benefit reforms introduced as part of the fiscal consolidation.
- The most obvious way of targeting a tax rise at higher-income individuals would be to increase the higher rate of income tax or the additional rate of NICs. Either could raise significant amounts, with the losses concentrated among those in the highest-income tenth of the population.
- Many unattractive alternatives exist that could raise revenue from those with high incomes and/or high wealth. A wealth tax would have major economic and practical disadvantages. Restricting income tax relief on pension contributions would be expensive to administer, be unfair and inappropriately distort behaviour. Stamp duty land tax (SDLT) is wholly ill-conceived and increasing it makes it worse.
- There are, however, more attractive options. Forgiveness of capital gains tax (CGT) at death and inheritance tax (IHT) reliefs for business assets, agricultural land and gifts made more than seven years before death are highly distortionary. The tax-free lump sum on private pensions is badly targeted, and the NICs treatment of employer pension contributions is excessively generous. Proposals for a ‘mansion tax’ have a sensible logic underpinning them, but it would be better to make council tax proportional to up-to-date property values.
- Many of the existing taxes examined in this chapter – CGT, IHT SDLT and council tax – could be improved in a way that both makes them more efficient and, if so desired, raises more revenue from the rich. It would be sensible to look at reforming these taxes before considering the introduction of new ones.

## 9.1 Introduction

The way in which the burden of fiscal consolidation should be distributed across the population is a central theme in current political discourse. The Chancellor of the Exchequer, George Osborne, in his speech to the 2012 Conservative Party conference, pledged that ‘the broadest shoulders will continue to bear the greatest burden’.<sup>1</sup> Deputy Prime Minister Nick Clegg, in his speech at last year’s Liberal Democrats party conference, said, ‘the key question we will all have to answer is who will have to tighten their belts the most? Our position is clear. If we have to ask people to take less out or pay more in, we’ll start with the richest and work our way down, not the other way around’.<sup>2</sup>

However, it is rarely clear from such statements which types or groups of individuals or households are considered as possessing the broadest shoulders. An important distinction frequently missed in such discussions is that between wealth and income. Wealth is a ‘stock’ measure, the total amount of assets held at a particular point in time. Income, on the other hand, is a ‘flow’ measure, an amount received in a particular period of time. It is entirely possible for a wealthy individual to have a low current income or for someone with a high current income to have little wealth.

The absence of a clear statement of intent as to what types of people the government feels should be bearing the greatest burden makes it hard to identify the most appropriate policy measures. In terms of scale, taking £10 billion a year from 10% of households would imply an average increase in tax of £3,800 per year among those affected. Such large potential amounts highlight the importance of using a sensibly-designed, well-targeted tax instrument, since otherwise there is considerable scope for undesirable and unnecessary distortions and for households being affected (or unaffected) inappropriately.

This chapter discusses the ways in which more revenue can be raised from the better-off in society, however defined, and the complications and trade-offs that arise. Section 9.2 describes the current distribution of income and wealth. Section 9.3 provides some details of the extent to which the tax system currently takes from those with higher incomes. Section 9.4 outlines how the burden of fiscal consolidation has been borne so far. The chapter then turns to examine different measures that would take, on average, more from the better-off than from other groups. Section 9.5 looks at options using broad-based increases in the three main taxes on income and spending. Section 9.6 examines increases in the rates of income tax and National Insurance contributions targeted at those on higher incomes. Section 9.7 examines capital gains tax, Section 9.8 considers the tax treatment of private pensions and Section 9.9 examines possible taxes on wealth and housing. Section 9.10 concludes.

## 9.2 How much do the better-off have?

This section provides a description of the distributions of income and wealth and outlines how the composition of that income and wealth varies across their respective distributions.

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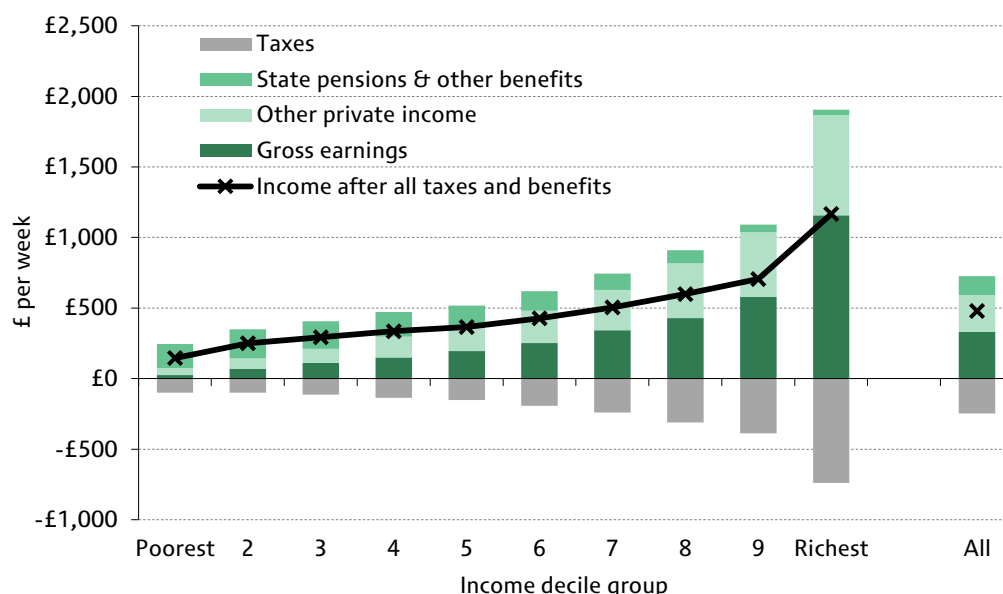
<sup>1</sup> [http://www.cpc12.org.uk/Speeches/George\\_Osborne.aspx](http://www.cpc12.org.uk/Speeches/George_Osborne.aspx).

<sup>2</sup> [http://www.libdems.org.uk/speeches\\_detail.aspx?title=Nick\\_Clegg%E2%80%99s\\_speech\\_to\\_Liberal\\_Democrat\\_Autumn\\_Conference&PK=8e54e7cf-41d4-4476-b393-fd4cdf7e2d40](http://www.libdems.org.uk/speeches_detail.aspx?title=Nick_Clegg%E2%80%99s_speech_to_Liberal_Democrat_Autumn_Conference&PK=8e54e7cf-41d4-4476-b393-fd4cdf7e2d40).

## Income

Figure 9.1 divides households into 10 equal-sized groups (decile groups) according to their income after direct taxes and benefits adjusted for household size. The solid line shows the estimated average household income of each decile group of the income distribution after adding all state benefit entitlements and deducting tax liabilities including indirect taxes on what they spend. The bars in the figure decompose this measure of household income into gross earnings, other private income, state pensions and other benefits, and, as a negative number, taxes.

**Figure 9.1. The distribution and composition of household income, 2013–14**



Notes: Income decile groups are derived by dividing all households into 10 equal-sized groups according to income after direct taxes and benefits, adjusted for household size using the McClements equivalence scale. Assumes full take-up of benefits and tax credits. 'Taxes' includes income tax, employee National Insurance contributions, VAT, excise duties and council tax; it excludes most 'business taxes' (notably corporation tax, business rates and employer National Insurance contributions) and capital taxes (notably inheritance tax, capital gains tax and stamp duties).

Source: Authors' calculations using the IFS tax and benefit microsimulation model, TAXBEN, to apply the 2013–14 tax and benefit system to uprated data from the 2010 Living Costs and Food Survey.

Across all households, average gross (i.e. private) income is around £592 per week. The highest-income tenth of households have an average gross income of more than three times this, £1,869 per week (almost £100,000 per year); they receive nearly a third of total private income. Indeed, the private income of the top decile is 80% higher than that of the second-highest decile group. While earnings from employment and self-employment make up, on average, 56% of gross income for the population as a whole (£331) – the remainder coming primarily from private pensions, other savings and investment income, and maintenance payments – that figure is a little higher for the highest-income decile group, at 62%. The highest-income tenth, of course, pay much more than average in taxes (£740 per week rather than £247) and receive much less in state pensions and other benefits (£39 rather than £135). So, after accounting for all these taxes and benefits, the average income after (direct and indirect) taxes and benefits of the highest-income decile group is £1,167 per week (just over £60,000 per year), a little under two-and-a-half times the average for all households (£479 per week).

Table 9.1. Weekly net income amounts required for example household types to be in each income decile

Income decile group	<i>Lower weekly net income limit</i>			
	Couple without children	Couple with two children aged 8–10	Single person without children	Lone parent with two children aged 8–10
2	£270	£395	£165	£289
3	£319	£466	£195	£342
4	£363	£530	£221	£388
5	£406	£592	£247	£434
6	£461	£673	£281	£493
7	£525	£766	£320	£562
8	£608	£888	£371	£651
9	£721	£1,053	£440	£772
Richest	£929	£1,357	£567	£994

Note: Based on the McClements equivalence scale.

Source: As Figure 9.1.

There is also considerable income inequality within the top decile of the income distribution. Because of a small number of extremely high-income households, the average (mean) income in the top decile group (adjusted for household size) is 14% higher than that of the middle household in that decile group and 41% higher than that of the lowest-income household in the group.

Because the income deciles used in Figure 9.1 are based on household incomes adjusted for household size, the income required to be in each decile group depends on household size. The minimum income required to be in each decile of the income distribution are shown for some example household types in Table 9.1. To be in the highest-income tenth of the population, a couple without children would need an income (after direct taxes and benefits) of £929 per week (£48,300 a year). The equivalent figures are £1,357 per week for a couple with two children, £567 per week for a single person without children and £994 per week for a lone parent with two children. This means that a single person on gross earnings of more than £41,000 per year would be in the top decile, whereas for a one-earner couple with two children aged 8–10 the equivalent figure is £119,000.<sup>3</sup> This highlights the extent to which hitting households in the highest-income tenth of the population would be affecting groups that might not be considered very rich or, equivalently, that measures focused on the super-rich would hit fewer households than might be expected.

## Wealth

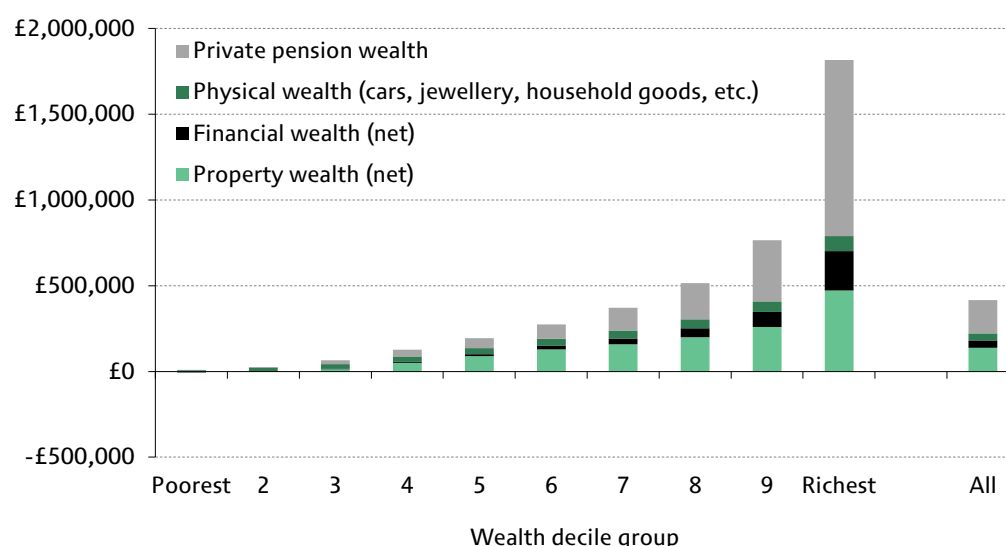
Wealth is more unequally distributed than income. The wealthiest tenth of households own an estimated £4.5 trillion between them, 44% of the nation's aggregate household wealth; the bottom half put together own barely £1 trillion.<sup>4,5</sup> Figure 9.2 shows that, while

<sup>3</sup> Assumes no income except earnings, and living in a band D property in a local authority setting the England and Wales average band D council tax rate of £1,429 per year.

<sup>4</sup> Source: authors' calculations from figure 3 of ONS Wealth in Great Britain Wave 2, 2008-2010 (Part 2) (<http://www.ons.gov.uk/ons/rel/was/wealth-in-great-britain-wave-2/2008-2010--part-2-/report--chapter-2--total-wealth.html>).

on average household wealth is £420,000, among the wealthiest tenth the average wealth holding is 4.4 times higher, at £1,820,000. Figure 9.2 also shows that wealth holdings are dominated by pensions and housing, which together account for four-fifths of household wealth. Across the whole population, pension wealth is 46% of the total and net housing wealth a further 33%: the middle 40% of households (the 4<sup>th</sup> to 7<sup>th</sup> decile groups) have more net housing wealth than pension wealth, on average, but the richest decile group's pension rights are more than twice as valuable as their housing.

**Figure 9.2. The distribution and composition of net household wealth, 2008–10**



Note: Deciles are derived by dividing all households into 10 equal-sized groups according to their wealth.

Source: Figure 3 of ONS Wealth in Great Britain Wave 2, 2008-2010 (Part 2)

(<http://www.ons.gov.uk/ons/rel/was/wealth-in-great-britain-wave-2/2008-2010--part-2-/report--chapter-2--total-wealth.html>), divided by number of households from volume 1, page 4 of the Wealth and Assets Survey User Guide (<http://www.ons.gov.uk/ons/guide-method/method-quality/specific/economy/wealth-and-assets-survey/wealth-and-assets-survey---user-guidance/index.html>).

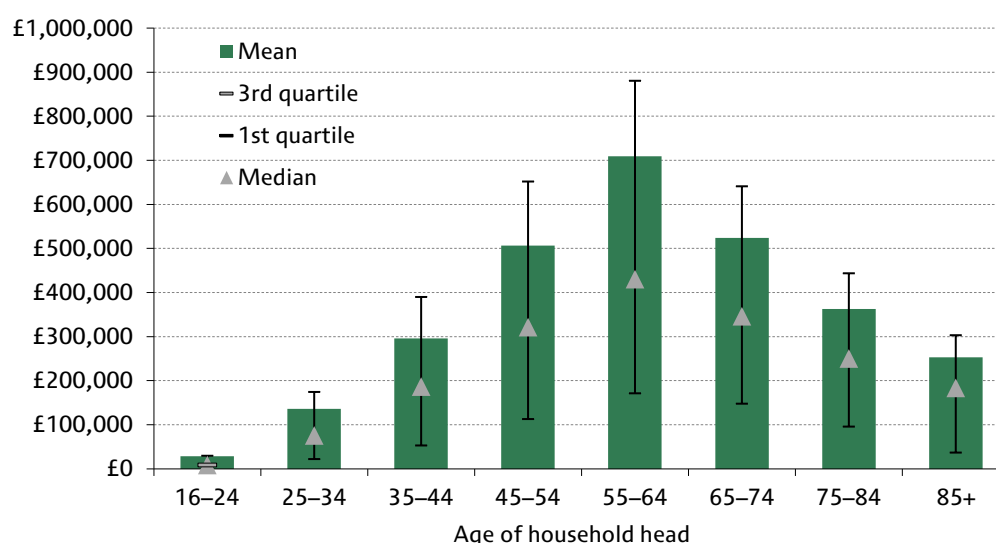
Much of the difference in wealth between households is simply a result of their being at different stages of their lives. People typically save during their working life and then run down their assets in retirement. This would create the appearance of substantial cross-sectional inequality of wealth even if there were no inheritances and everyone followed the same earnings and spending trajectories over their lives. Indeed, of those households in the top decile group of the wealth distribution, nearly two-thirds (64.7%) are headed by an adult aged 45 to 64, while half (51.6%) of households in the bottom half of the wealth distribution are headed by someone aged under 45.<sup>6</sup> Figure 9.3 provides further evidence that households do indeed reach their peak wealth in the run-up to retirement, with households headed by someone aged 55–64 having mean wealth of £709,600 and

<sup>5</sup> The measure of wealth used here includes private pension wealth, housing wealth (net of mortgages), financial wealth (net of debts) and physical wealth (cars, jewellery, household goods, etc.). This excludes some forms of wealth that one might arguably want to include: accrued state pension rights, expected future inheritances, and most importantly ‘human capital’, which will be the most valuable asset of many younger people.

<sup>6</sup> Source: <http://www.ons.gov.uk/ons/rel/was/wealth-in-great-britain-wave-2/wealth-of-the-wealthiest--2008-10/wealth-of-the-wealthiest-households--great-britain--2008-10.html#tab-The-South-East-has-biggest-share-of-the-wealthiest-households>.

median wealth of £430,800.<sup>7</sup> But it also shows substantial wealth inequality even within age groups: among households in the 55–64 age bracket, for example, a quarter have more than £881,000 of net assets while a quarter have less than £172,000.

Figure 9.3. Distribution of net household wealth by age, 2008–10



Note: Includes private pension wealth but excludes state pension rights. The authors would like to thank the ONS for providing these data.

Source: Office for National Statistics, using data from the Wealth and Assets Survey 2008–10 (data request reference 001035, available from <http://www.ons.gov.uk/ons/about-ons/what-we-do/publication-scheme/published-ad-hoc-data/economy/january-2013/index.html>).

## 9.3 How much do the better-off pay in tax?

Underlying any informed discussion of what additional contribution to fiscal consolidation might be made by the better-off in society is some idea of how much they already contribute.

One tax on which detailed statistics are available is income tax. HMRC estimates that, in 2012–13, 55% of all income tax will be paid by the top 10% of income tax payers and 24% will be paid just by the top 1% of taxpayers.<sup>8</sup> Since income tax payers make up less than three-fifths of the UK's adult population,<sup>9</sup> these contributions are actually coming from the top 5.8% and 0.58% of individuals respectively. This extreme concentration of income tax payments among a small number of people is partly a reflection of the progressivity of the income tax system and partly a reflection of the fact that private income is very unequally distributed, as shown in Figure 9.1. The degree to which income tax revenues come from a small percentage of individuals has grown over time: the top 10% of income tax payers have seen their share of total liabilities grow from 35% to 55% between 1978–79 and 2012–13, while the top 1% of taxpayers have seen their share

<sup>7</sup> Variation in the distribution of wealth by age may also reflect differences between cohorts in the distributions of earnings, inheritance and gifts at a given age. Separating these out would require tracking the wealth of the same people over the course of their life cycle.

<sup>8</sup> Source: HMRC Statistics table 2.4 (<http://www.hmrc.gov.uk/statistics/tax-statistics/table2-4.pdf>).

<sup>9</sup> There are forecast to be 29.7 million taxpayers in 2012–13 (HMRC Statistics table 1.4, <http://www.hmrc.gov.uk/statistics/taxpayers/table1-4.pdf>) while the total number of individuals aged 16 or over in 2012 is projected to be 51.4 million (ONS national population projections, [http://www.neighbourhood.statistics.gov.uk/HTMLDocs/2010-based\\_NPP\\_downloadable\\_tables.html](http://www.neighbourhood.statistics.gov.uk/HTMLDocs/2010-based_NPP_downloadable_tables.html)).

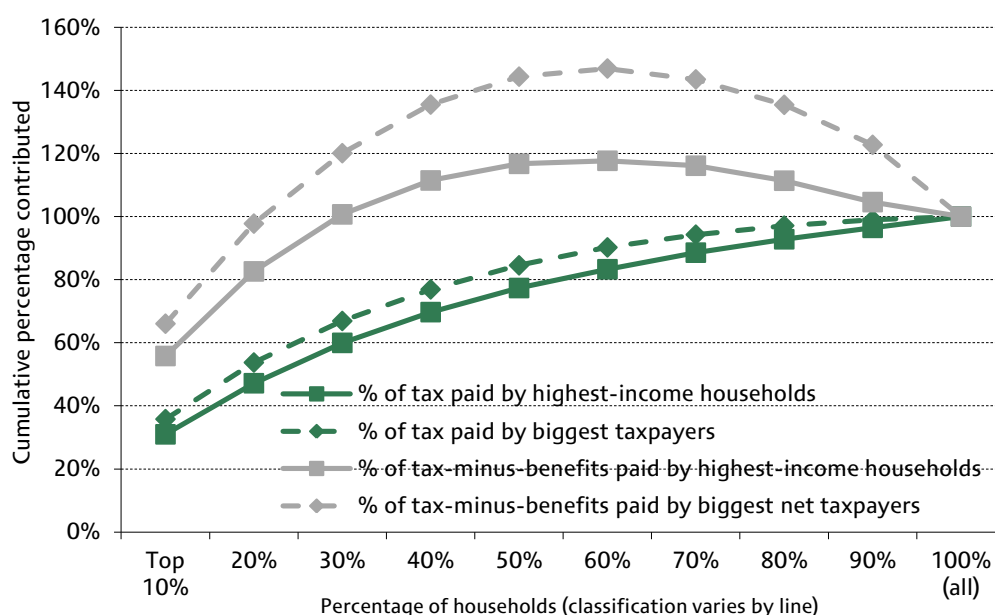
increase from 11% to 24% over the same period.<sup>10</sup> These developments are particularly notable given that top tax rates have fallen substantially since the 1970s, when the top rate stood at 83%.

But while income tax is the government's single biggest revenue raiser, forecast to bring in £154 billion in 2012–13, it still accounts for barely a quarter of total revenues.<sup>11</sup> And since it is much more progressive than the other two big taxes – National Insurance contributions (NICs) and VAT – focusing on income tax alone can give a misleading impression of how much tax revenue is contributed by the richest.

Figure 9.4 shows the shares contributed to a much wider range of taxes, which together make up over three-quarters of total tax revenue.<sup>12</sup> The solid green line shows the cumulative shares of total taxes paid by households ranked from richest to poorest in terms of income. Thus the highest-income 20% of households together pay just under half of these taxes, and the higher-income half of households contribute just over three-quarters.

The dashed green line instead ranks households by the amount of tax they pay. This shows that the top 20% of taxpayers of these taxes contribute 54% of the revenue raised from these taxes and that the top half of taxpayers contribute 85% of the revenue.<sup>13</sup>

**Figure 9.4. Cumulative shares of tax liability with and without deducting benefit entitlements, 2013–14**



Note: As Figure 9.1, with taxes paid also including employer NICs.

Source: As Figure 9.1.

<sup>10</sup> 1978–79 figures from Inland Revenue Statistics 1994.

<sup>11</sup> Source: table 4.6 of Office for Budget Responsibility, *Economic and Fiscal Outlook*, December 2012 (<http://cdn.budgetresponsibility.independent.gov.uk/December-2012-Economic-and-fiscal-outlook23423423.pdf>).

<sup>12</sup> These taxes are income tax, employer and employee NICs, VAT, excise duties and council tax. By far the biggest taxes omitted are corporation tax and business rates, which are difficult to allocate to particular households, while most capital taxes (capital gains tax, inheritance tax and stamp duties) are also excluded.

<sup>13</sup> Note that the dashed green line can never be below the solid line – by definition, the 30% (say) biggest taxpaying households must be paying at least as much as the 30% highest-income households (or any other 30% of households) – but the fact that the two lines are so close together indicates that the highest-income households in fact correspond quite closely to the highest-taxpaying households.



The solid and dashed grey lines look at taxes net of benefit entitlements. They show that, for example, the highest-income 20% of households contribute over 80% of these tax revenues net of benefits, while the 20% of households that pay most tax (net of benefits) contribute 98% of these tax revenues net of benefit receipt.<sup>14</sup> In total, at any one time, two-thirds of households pay more in these taxes than they receive in benefits with one-third receiving more in benefits than they pay in these taxes (many of whom will be pensioners receiving the state pension and not paying any NICs).

Figure 9.4 tells us about the share of tax revenue that comes from high-income households. Unfortunately, data limitations mean that little is known about the share that comes from high-wealth households. We must also be careful in how we interpret a snapshot of how taxes paid at a particular point in time relates to income at that point in time. Ideally, we would like to know how lifetime taxes relate to lifetime incomes, but those are not directly observable. A snapshot measure of taxes by income is a particularly poor guide to lifetime distributional effects in the case of indirect taxes: some people with low current incomes will nevertheless have high lifetime incomes and might therefore feel they can afford to spend a lot (paying a lot in VAT and other indirect taxes) at the same time that their income is low.

The analysis above does not include all taxes. Some of the smaller taxes omitted are very much concentrated on the better-off. In 2009–10 (the latest year for which detailed data are available), more than two-thirds of inheritance tax was paid by the 3,500 estates (equivalent to 0.6% of deaths) valued at more than £1 million; in 2010–11, more than half of all individuals' capital gains tax liabilities came from just 3,000 people who realised gains of more than £1 million.<sup>15</sup> There is also a bigger set of taxes for which the burden is very hard to assign to particular households at all, such as corporation tax, business rates and stamp duty on shares. In addition, a comprehensive assessment of the distributional impact of government policy would need to consider who benefits from spending on public services and by how much.

## 9.4 How much have the better-off contributed to the fiscal consolidation to date?

Chapter 7 gives a detailed assessment of the distributional impact of the tax and benefit reforms introduced since the start of 2010 as part of the ongoing fiscal consolidation. As the authors show, those in the highest-income tenth of the population have, on average, been hardest hit by consolidation measures as a percentage of income. This is due to measures such as increases to NIC rates, real-terms cuts to the higher-rate income tax threshold and the withdrawal of Child Benefit from families with a higher-income individual. In addition, some of those on the highest incomes will have lost considerably from the introduction of the 45% top income tax rate (via 50%) on incomes above

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<sup>14</sup> Note that, since benefit entitlements can exceed tax payments, these measures can go above 100%: thus the highest-paying 60% of households contribute 147% of net revenues (and the highest-income 60% contribute 118%) in order to pay for the other four decile groups being net recipients from the state on average.

<sup>15</sup> Sources: HMRC Statistics tables 12.3 (inheritance tax; <http://www.hmrc.gov.uk/statistics/inheritance/table12-3.pdf>) and 14.2 (capital gains tax; <http://www.hmrc.gov.uk/statistics/capital-gains-tax/table14-2.pdf>); number of deaths from ONS Vital Statistics: population and health reference tables, winter 2012 update (<http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcn%3A77-283563>).

£150,000, the withdrawal of the personal allowance for those with an income in excess of £100,000 and reductions in the amount that can be contributed tax-free to a pension.

Once we look beyond the highest income decile, however, it does not appear that those with the broadest shoulders have borne the greatest burden. The remainder of the top half of the income distribution (the 6<sup>th</sup> to 9<sup>th</sup> decile groups) have lost much less as a percentage of income than the bottom half. These upper-middle income groups have been less affected by benefit cuts than those in the bottom half of the income distribution. They have also been the primary beneficiaries from successive increases in the income tax personal allowance. As noted by Browne (2012) at the time that one of these increases was announced, ‘the common assertion that increasing the personal allowance is progressive is true if one considers the gains across individual income tax payers. It is not true if one considers the gains across all families as relatively few of the poorest families contain a taxpayer and two-earner couples gain twice as much in cash terms as one-earner families’.<sup>16</sup>

## 9.5 Options: broad-based tax increases on income and spending

If the government wanted to increase the amount of revenue raised from relatively well-off households, one straightforward approach would be to increase the rates of the main, broad-based taxes. This could raise significant sums. HMRC estimates that a 1 percentage point rise in all income tax rates would raise £5.7 billion, a 1 percentage point rise in all rates of employee and self-employed NICs would raise £4.7 billion and a 1 percentage point rise in the main rate of VAT would raise £5.3 billion.<sup>17</sup> Figure 9.5 illustrates the distributional impact of each of these as a percentage of household income. While such changes may not be among those normally considered when thinking about taxing ‘the rich’, it is clear from the figure that, for income tax and NICs at least, simple changes such as these take much more, even as a percentage of income, from those in the upper parts of the income distribution than from others. While the biggest losses would be among the top decile, such changes would also affect many of those in the upper-middle of the income distribution, who have so far been spared much of the pain of tax and benefit reforms introduced as part of the fiscal consolidation.

Increasing income tax rates is clearly the most progressive of the three. Because the first £9,440 of income will be tax-free in 2013–14, around a quarter of households will not contain anyone with income high enough to pay income tax, and so would not lose at all from an income tax rise.<sup>18</sup> And of those households that do contain an income tax payer, those with higher incomes would lose a larger percentage of their income because a larger share of their income would fall above the personal allowance and so be taxable.

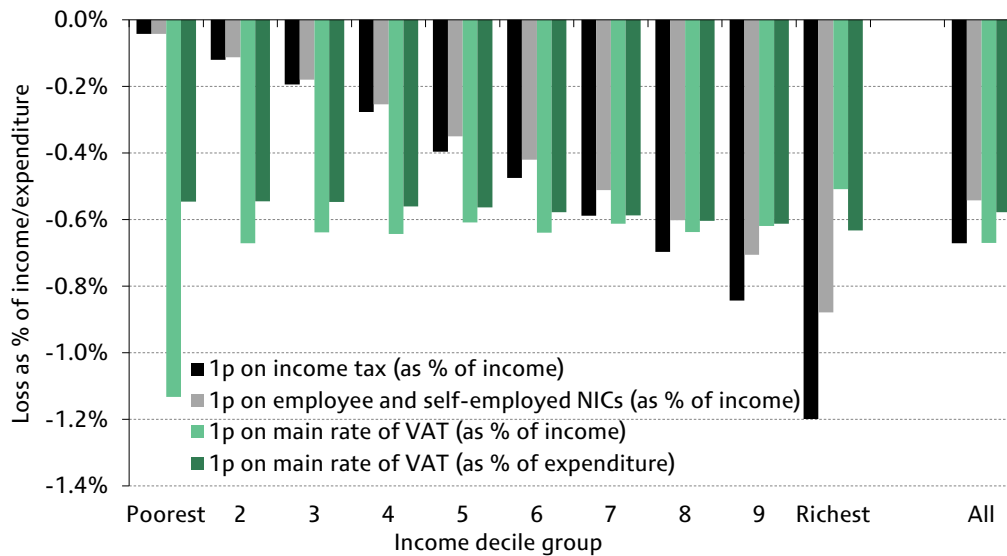
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<sup>16</sup> J. Browne, ‘A £10,000 personal allowance: who would benefit, and would it boost the economy?’, IFS Observation March 2012 (<http://www.ifs.org.uk/publications/6045>).

<sup>17</sup> Source: HMRC Statistics table 1.6 (<http://www.hmrc.gov.uk/statistics/expenditures/table1-6.pdf>).

<sup>18</sup> The reason that the poorest two decile groups in Figure 9.5 contain some losers (despite a quarter of households not losing from the reform) is that the figure ranks households by their overall net income and adjusted for household size. A household containing a taxpayer may be considered poorer than a household containing no taxpayers if, say, the taxpaying household receives less (or nothing) in benefits and tax credits or if their income must stretch to cover more household members.

Figure 9.5. Distributional impact of a 1 percentage point increase in all rates of income tax, all rates of employee and self-employed NICs and the main rate of VAT, 2013–14



Note: Income decile groups are derived by dividing all households into 10 equal-sized groups according to disposable income adjusted for family size using the McClements equivalence scale.

Source: Authors' calculations using the IFS tax and benefit microsimulation model, TAXBEN, to apply the 2013–14 tax and benefit system to uprated data from the 2010–11 Family Resources Survey and the 2010 Living Costs and Food Survey.

Increasing NICs rates has similar distributional effects, but is slightly less progressive, for two reasons. First, only the first £149 per week of earnings will be free of NICs: the coalition's ambition to raise the income tax allowance towards £10,000 (£192 per week) apparently does not extend to NICs. And second, NICs apply only to earned income: income tax is levied on other forms of income as well, notably savings income, which is found disproportionately in the top half of the income distribution. A further difference is that increases in the rates of income tax and VAT would both affect working-age and pensioner households, whereas those aged over the State Pension Age would be unaffected by an increase in the rate of NICs as they do not pay employee or self-employed NICs.

VAT rises look regressive as a percentage of income: the lowest income decile in particular would lose 1.1% of its income from a VAT increase, compared with 0.7% for the population as a whole. This impression is misleading, however. It arises mainly because, at any given point in time, low-income households typically spend a lot (and therefore pay a lot of VAT) relative to their incomes. But households cannot spend more than their income indefinitely. Over a lifetime, income and expenditure must be equal (except for bequests given and received and the possibility of dying in debt); households spending a lot relative to their income at any given point in time are often those experiencing only temporarily low incomes and either borrowing or running down their savings in order to maintain their expenditure smoothly at a level more befitting their lifetime resources.<sup>19</sup>

<sup>19</sup> Such temporarily low incomes can arise for a variety of reasons – people who are temporarily unemployed, people with volatile income from self-employment, students, those taking time out of the labour market to raise children, retirees drawing on past savings, and so on.

We can get a clearer picture of the distributional impact of VAT over a lifetime – abstracting from how much people are borrowing or saving at any point in time – by looking at whether VAT is a bigger percentage of expenditure, rather than income, for better-off households. Figure 9.5 therefore shows the impact of a VAT rise as a percentage of expenditure as well as the impact as a percentage of income. On that measure, VAT looks slightly progressive, rising from 0.55% of expenditure for the lowest income decile group to 0.63% of income for the highest income decile group. That arises because the items that are zero- or reduced-rated for VAT, and therefore not affected by a rise in the main rate – food being by far the biggest – take up a larger share of the budgets of poorer households. Over a lifetime, we would expect richer households to devote a larger share of their resources to goods subject to VAT at the main rate and therefore to lose more from such a VAT increase than poorer households: that is what the dark green bars in Figure 9.5 reflect.<sup>20</sup> Nevertheless, while a rise in the main rate of VAT is best thought of as being slightly progressive, it is nowhere near as progressive as an income tax or NICs rise, because there is no VAT-free allowance on the first tranche of household expenditure analogous to the allowances in income tax and NICs.

Distributional effects are not the only criterion for evaluating reforms, however. All three of these reforms would weaken work incentives, reducing the reward for working in terms of the amount of goods and services that additional earnings can buy after tax. Of these three taxes, increases to NICs would typically be the most damaging to work incentives (per pound raised), then increases in income tax, with increases in VAT the least damaging. Increasing NICs weakens work incentives most because all of the revenue comes from taxing future earnings, whereas part of the revenue from increasing VAT or (to a lesser extent) income tax derives from wealth that has already been accumulated and will be payable regardless of future work behaviour. This is because income tax will be levied on the income derived from existing wealth, while VAT will be levied when the wealth comes to be spent. Furthermore, a VAT rise, unlike the others, would reduce the value of out-of-work incomes as well as in-work incomes, so the relative attractiveness of working would not be reduced as much.<sup>21</sup>

Each of the three tax rises would exacerbate other existing tax-induced economic distortions, in different ways:

- Increasing the marginal rate of income tax would discourage saving and would increase the bias towards putting savings in relatively tax-favoured forms such as pensions, ISAs and owner-occupied housing.
- Increasing NICs would not have these effects since NICs are not levied on savings income, but for the same reason it would increase the existing incentive to shift the form in which income is taken away from earnings and towards capital income (for example, through setting up a company and taking income as dividends rather than earnings).

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<sup>20</sup> For more analysis of VAT by income and expenditure and their relationship to lifetime resources, see S. Adam, D. Phillips and S. Smith (in consortium), *A Retrospective Evaluation of Elements of the EU VAT System*, European Commission, 2011 (<http://www.ifs.org.uk/publications/5947>).

<sup>21</sup> Offsetting this reduction in the *reward* to work (the ‘substitution effect’) is an increase in the *need* to work (the ‘income effect’): people may decide to work harder in order to make up for the income they have lost through the tax rise. Theoretically, therefore, these tax rises could either increase or reduce the amount people work. However, empirically, income effects tend to be small; they will often be offset (at least roughly) by income effects going in the opposite direction when the revenue is used to make someone better off; and, strictly speaking, the economic inefficiency (or ‘deadweight loss’) caused by a tax depends only on substitution effects, not on income effects. We therefore ignore income effects in the remainder of this chapter.

- Increasing the main rate of VAT would increase the scale of the distortion towards buying zero- and reduced-rated goods and services instead of standard-rated ones.

Broad-based tax rises could be used to increase the contribution of households in the top half of the income distribution. In the remainder of this chapter, we focus on measures targeted on narrower groups of richer households.

## 9.6 Options: increasing income tax and NIC rates for higher earners

If the government wants to focus tax rises on those with the highest incomes, it may want to restrict attention to the higher and additional rates of income tax and NICs. Since the government decided to reduce the additional rate of income tax from 50% to 45% from April 2013, it is unlikely to increase that. In any case, there are good reasons to be cautious about the potential for increases in the additional rate to raise additional revenue. The ability to respond to a change in taxes by, for example, shifting income to another form or time period is likely to be greater for those on high incomes than for those on lower incomes.<sup>22</sup> For this reason, the official costing – signed off by the Office for Budget Responsibility as reasonable – is that the cut in the additional rate from 50% to 45% will cost just £100 million annually.<sup>23</sup> The revenue potential of increasing the top rate from 45% is doubtful (though still hugely uncertain) even if there were any chance the government might contemplate it.

Little is known about the responsiveness of higher-rate taxpayers, but it is unlikely to be as high as that of additional-rate taxpayers. HMRC estimates (which do make an allowance for some behavioural response) suggest that each percentage point on the higher rate of income tax would raise £1.1 billion, while each percentage point on the employee NICs rate above the upper earnings limit (UEL, which in 2013–14 is aligned with the higher rate threshold at £41,450) – and on the self-employed NICs rate above the upper profits limit – would raise £0.8 billion.<sup>24</sup> Figure 9.6 illustrates the distributional impact of raising the higher rate of income tax and the rate of NICs above the UEL by 1 percentage point, ignoring behavioural responses entirely. The distributional effects of these two changes are very similar, restricted to the top half of the income distribution and very much concentrated in the top decile group. An individual earning £50,000 (with no other taxable income) would pay an extra £85.50 a year in income tax or NICs under either reform, while an individual earning £100,000 a year would pay an extra £585.50 a year.

The distortionary effects of the measures are similar to those discussed above: a weakening of work incentives, distortions to saving decisions (in the case of an income tax increase) and incentives to convert labour earnings into capital income (in the case of

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<sup>22</sup> For a fuller discussion of the difficulties involved in determining optimal top tax rates, see M. Brewer and J. Browne, *Can More Revenue Be Raised by Increasing Income Tax Rates for the Very Rich?*, IFS Briefing Note 84, 2009 (<http://www.ifs.org.uk/bns/bn84.pdf>).

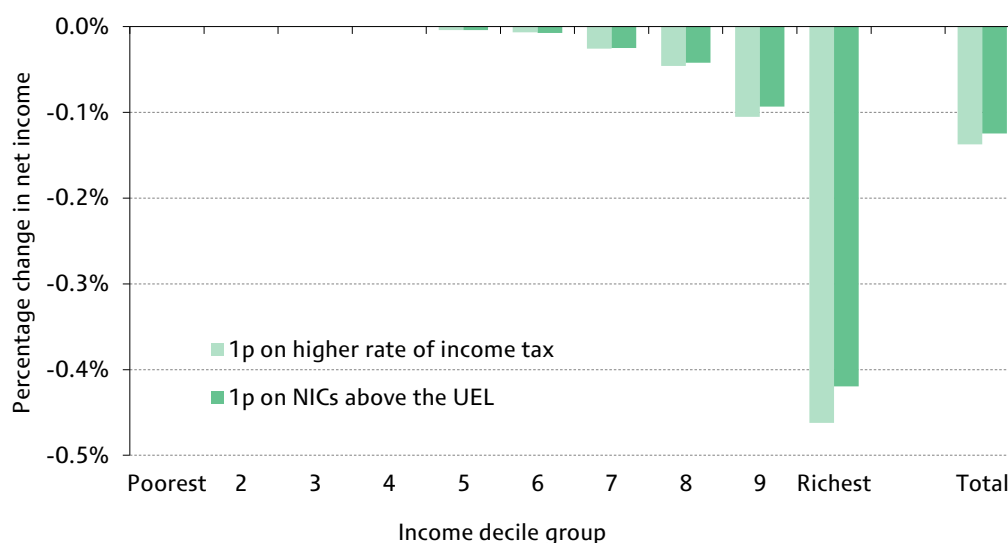
<sup>23</sup> See HMRC, 'The exchequer effect of the 50 per cent income tax rate of income tax', 2012 (<http://www.hmrc.gov.uk/budget2012/excheq-income-tax-2042.htm>). For further discussion, see also M. Brewer, J. Browne and P. Johnson 'The 50p income tax rate: what is known and what will be known?', in C. Emmerson, P. Johnson and H. Miller (eds), *The IFS Green Budget: February 2012*, IFS Commentary 122, 2012 (<http://www.ifs.org.uk/budgets/gb2012/12chap9.pdf>).

<sup>24</sup> Source: HMRC Statistics table 1.6 (<http://www.hmrc.gov.uk/statistics/expenditures/table1-6.pdf>).

a NICs increase). When focusing specifically on higher earners, one other effect is worthy of attention.

Since 2010–11, the income tax personal allowance has been withdrawn above incomes of £100,000. The allowance is reduced by 50p for every pound of income above £100,000, gradually reducing it to zero for those with incomes above £118,880 in 2013–14. Losing 50p of personal allowance means that 50p becomes taxable at the individual's marginal income tax rate of 40%, and therefore 20p more income tax to pay alongside the 40p that would ordinarily be payable on an extra pound of income. Thus between £100,000 and £118,880, people face paying 60p more in income tax for each extra £1 of income: in effect, the marginal income tax rate in that range is 60%. Figure 9.7 shows the resulting marginal rate schedule for income tax and employee NICs combined.

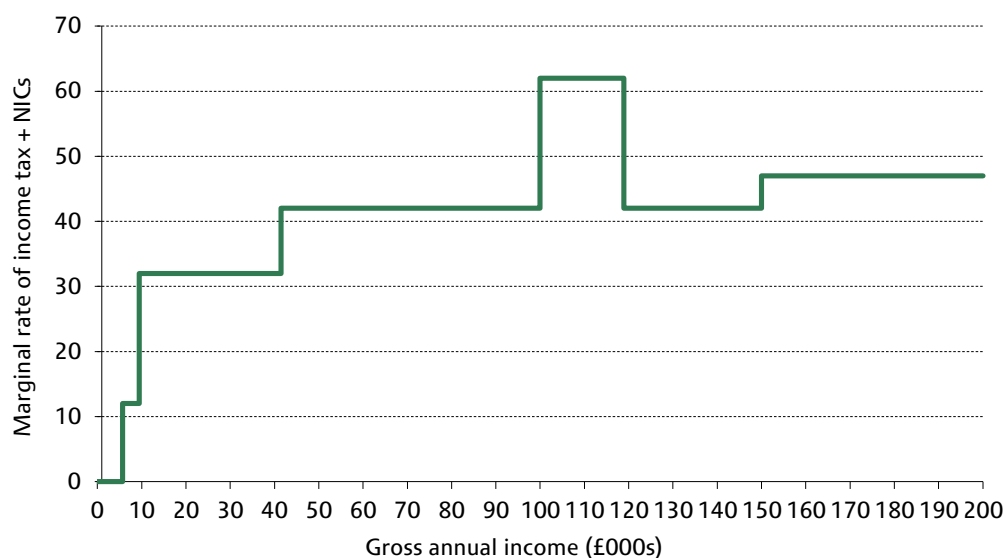
**Figure 9.6. Distributional impact of a 1 percentage point increase in the higher rate of income tax and the additional rate of NICs, 2013–14**



Notes: As Figure 9.5.

Source: Authors' calculations using the IFS tax and benefit microsimulation model, TAXBEN, to apply the 2013–14 tax and benefit system to uprated data from the 2010–11 Family Resources Survey.

**Figure 9.7. Combined income tax and employee NICs schedule, 2013–14**



Increasing the higher rate of income tax would make losing 50p of personal allowance even more costly: with a higher rate of 41%, 50p of personal allowance would be worth 20.5p instead of 20p. A 1 percentage point increase in the higher rate of income tax would thus increase the effective 60% income tax rate – already rather high – by *more* than 1 percentage point, to 61.5%. Similarly, an increase in the higher rate from 40% to 50% would mean a rise from 60% to 75% in the £100,000 to £118,880 band. The same would not be true of an increase in NICs.

While the presence of the effective 60% income tax rate has implications for the choice between raising income tax and NICs rates, it raises more fundamental issues in its own right. The most basic is that of transparency. Few people understand how the withdrawal of the personal allowance works. If the rate schedule in Figure 9.7 is really what the government wants to achieve, then it should describe it openly as a 60% income tax rate: as the Mirrlees Review of the tax system put it, ‘this peculiar mechanism serves no purpose except to obscure what the tax system is actually doing’.<sup>25</sup>

If the rate schedule in Figure 9.7 were less opaque, however, its absurdity – rising and falling seemingly at random – would be likely to attract more attention. While making the 60% rate more transparent would be an improvement, the government should consider removing it entirely and making up the revenue – or, indeed, raising more revenue – from elsewhere, most obviously through a modest increase in the higher rate of income tax.

## 9.7 Options: capital gains tax

Capital gains tax (CGT) is expected to raise £3.7 billion in 2012–13.<sup>26</sup> It is a tax on the increase in the value of an asset between its acquisition and disposal. Broadly speaking, this means its sale price minus its purchase price, though assets that are acquired or disposed of in other ways (for example, gifts) are assigned a market value. Capital gains made on people’s main homes, and on any assets held in pension funds or ISAs, are tax-exempt. CGT revenue therefore comes mostly from shares held outside pensions and ISAs (including owner-managed businesses) and from housing that is not the owner’s main residence.

The first £10,600 of capital gains realised each year are tax-free. Above that, gains that fall into the basic-rate income tax bracket (counting capital gains as the top slice of income) are taxed at 18% while gains above the higher-rate threshold are taxed at 28%. Gains on certain kinds of business assets, though, are eligible for entrepreneurs’ relief, which reduces the tax rate to 10%.

The £10,600 annual exempt amount and the complete exemption of ISAs, pensions and main homes together mean that CGT is highly progressive. People realising gains of more than £10,600 in a single year are generally – though not invariably – very well off.

The simplest ways to raise more revenue from CGT would be to reduce the annual exempt amount from its current level of £10,600 or to increase the headline rates.

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<sup>25</sup> Page 106 of J. Mirrlees et al., *Tax by Design*, OUP for IFS, Oxford, 2011 (<http://www.ifs.org.uk/mirrleesreview/design/ch4.pdf>).

<sup>26</sup> Source: table 4.6 of Office for Budget Responsibility, *Economic and Fiscal Outlook*, December 2012 (<http://cdn.budgetresponsibility.independent.gov.uk/December-2012-Economic-and-fiscal-outlook23423423.pdf>).



HMRC estimates that reducing the exempt amount by £500 would raise about £20 million per year;<sup>27</sup> but larger reductions would raise revenue more than in proportion to this, since small gains are more common than larger gains.<sup>28</sup> The losers from such a reform would be all those realising gains above the (reduced) exempt amount on assets other than their main home, pension or ISA. Provided the exempt amount remains significantly above zero, this would still be a relatively well-off group. But the reform is clearly less progressive than increasing the headline rates of CGT. The people newly brought into CGT would, on average, be less well off than those who pay it at the moment; and among existing CGT payers, all would lose the same cash amount (18% of the amount by which the exempt amount is reduced) rather than in proportion to the size of their taxable gain.

Beyond the narrow question of whether the CGT annual exempt amount should be reduced, a more fundamental question is why CGT and income tax have separate allowances at all. Capital gains are a return to saving just like capital income is, and it would make sense to tax them together. Yet, at present, the CGT allowance cannot be set against income and the income tax allowance cannot be set against capital gains. This separation rewards people who, in a given year, have some income and some capital gain, rather than exclusively one or the other. There seems to be little rationale for having large separate allowances. Beyond a *de minimis* allowance specifically for capital gains (much lower than the current one) to avoid the burden of CGT compliance for those realising trivial gains, it would make much more sense to have a single allowance to set against both income and capital gains.

Instead of (or as well as) changing the annual exempt amount, the government could simply increase the headline rates of CGT. On its own, increasing the lower rate from its current level of 18% would raise very little: the government estimates that each percentage point on the rate would yield only £5 million.<sup>29</sup> In contrast, each percentage point added to the higher (28%) rate would yield £80 million. The vast majority of taxable capital gains are subject to the higher rate.<sup>30</sup>

In setting CGT rates, policymakers face a dilemma. On the one hand, they would like to avoid discouraging saving and investment, which would suggest keeping CGT rates low or even zero. On the other hand, they would like to capture a share of large capital gains and to minimise the scope for avoiding tax by converting income into capital gains, which would point towards higher CGT rates (at least aligned with income tax rates). Historically, policymakers have tended to compromise with an in-between rate that fulfils neither objective very well.

The Mirrlees Review proposed a better solution to this dilemma: to introduce a Rate of Return Allowance (RRA) for assets held outside pensions and ISAs. An RRA is an amount equal to a 'normal' (risk-free) return on the purchase cost of the asset, which could be

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<sup>27</sup> Source: HMRC Statistics table 1.6 (<http://www.hmrc.gov.uk/statistics/expenditures/table1-6.pdf>).

<sup>28</sup> As an extreme illustration, note that simply multiplying up the £20 million number would imply that removing the exempt amount altogether would raise around £420 million, whereas HMRC estimates that the actual cost of having a £10,600 exemption is £2.6 billion (source: HMRC Statistics table 1.5, <http://www.hmrc.gov.uk/statistics/expenditures/table1-5.pdf>).

<sup>29</sup> Figures in this paragraph are from HMRC Statistics table 1.6 (<http://www.hmrc.gov.uk/statistics/expenditures/table1-6.pdf>).

<sup>30</sup> Although most people paying CGT have income below the higher-rate threshold, the gains they are realising are typically much smaller than those of higher-income people, especially after deducting the £10,600 tax-free allowance. More importantly, even if someone's income is below the higher-rate threshold, part of the gain may still fall into the higher-rate band, especially if the gains are large. As noted in Section 9.3, people realising capital gains of more than £1 million accounted for over half of CGT revenue in 2010–11.

deducted from actual returns on the asset – either capital gains or investment income – with any remaining ‘excess’ returns then subject to taxation at full labour income tax rates. Properly designed, the RRA has a number of desirable properties. It would reduce or eliminate disincentives to save and distortions to the choice between different assets, while at the same time capturing a share of any unusually high returns earned and minimising incentives to convert income into capital gains. Importantly, for complicated reasons, it would also reduce or eliminate problems caused by the failure to index CGT for inflation and the ‘lock-in effect’ whereby the levying of CGT when assets are sold, rather than when the rise in value occurs, gives an incentive to hold on to assets for as long as possible before selling them.<sup>31</sup>

Introducing an RRA would cost money (because it effectively reduces the tax base), though on the other hand increasing the statutory rate applied to ‘excess’ returns would raise money: it is not clear what the net revenue effect would be. The Mirrlees Review argued that it would be worth finding money from elsewhere to pay for this if need be. Short of introducing an RRA, reintroducing indexation of CGT for inflation (as existed before 1998), so that only real gains were taxed, would be an improvement on the current position.

However, in the absence of an RRA (or even indexation for inflation), the pros and cons in terms of economic efficiency of increasing CGT rates towards income tax rates look more finely balanced. It would discourage saving in taxed assets such as investment property and ordinary shares; on the other hand, it would reduce the bias towards taking capital gains rather than income.<sup>32</sup> Yet perhaps the biggest opportunity for converting income into lightly-taxed capital gains in the current system is not the low headline rates of CGT but entrepreneurs’ relief, which applies an even lower rate to a group that has relatively good opportunities to exploit the discrepancy.

## Reduce or abolish entrepreneurs’ relief

Entrepreneurs’ relief applies a reduced CGT rate of 10% to capital gains (up to a lifetime limit of £10 million) on certain eligible assets:

- shares in a trading company (or holding company of a trading group) of which the shareholder has been a full-time employee or director, owned at least 5% of the shares and had at least 5% of the voting rights, all for at least a year;
- an unincorporated business (or distinct part of a business), or business assets sold after the individual stops carrying on the business.

HMRC estimates that entrepreneurs’ relief reduced total tax liabilities by £1.7 billion in 2012–13, though it argues that abolishing it would yield substantially less than this as people would change their behaviour in response.<sup>33</sup> Notwithstanding this caveat, the

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<sup>31</sup> These properties are demonstrated in P. Sørensen, ‘Neutral taxation of shareholder income’, *International Tax and Public Finance*, 2005, 12, 777–801. For a discussion, see chapters 13 and 14 of J. Mirrlees et al., *Tax by Design*, OUP for IFS, Oxford, 2011 (<http://www.ifs.org.uk/mirrleesreview/design/ch13.pdf>, <http://www.ifs.org.uk/mirrleesreview/design/ch14.pdf>).

<sup>32</sup> While it is generally true that increasing CGT rates would reduce distortions, that is not always the case. In particular, for basic-rate taxpayers, capital gains on shares are already taxed more heavily than dividends. Dividends are in effect subject to a zero basic rate of income tax, reflecting the fact that they are paid out of corporate profits that have already been subject to corporation tax. The Mirrlees Review pointed out that it would be logical for CGT too to be levied at a lower rate on shares than on other assets, reflecting corporation tax already paid, as dividend taxation does. One possibility for raising revenue might therefore be to increase CGT rates other than on shares.

<sup>33</sup> Source: HMRC Statistics table 1.5 (<http://www.hmrc.gov.uk/statistics/expenditures/table1-5.pdf>).

figure is strikingly large relative to the £200 million estimated cost of entrepreneurs' relief when it was first introduced in 2008<sup>34</sup> – partly because the lifetime limit has been gradually increased to £10 million from its initial level of £1 million.

Entrepreneurs' relief adds complexity to the tax system and creates a range of distortions.<sup>35</sup> It is also arguably unfair.<sup>36</sup> More generally, the justification for applying lower tax rates to people who own their own business than to the rest of the population seems far from clear.<sup>37</sup>

In isolation, abolishing entrepreneurs' relief would weaken the incentive for people to start a business and invest in it. However, it is far from clear that entrepreneurs' relief is the best way to pursue these goals in any case. The Mirrlees Review argues that investment can be best encouraged by providing relief for amounts invested, rather than reduced tax rates on actual investment returns: this could be achieved by the introduction of an RRA as described above, and is also the approach embodied in the annual investment allowance in the current tax system. In the absence of these kinds of wider reforms to the tax base, abolishing entrepreneurs' relief would undoubtedly have downsides as well as upsides. But the complexity, inefficiency and unfairness of the current system make maintaining the status quo an unattractive option. On balance, entrepreneurs' relief should probably be abolished.

## End 'forgiveness' of CGT on death

At present, CGT is 'forgiven' at death.<sup>38</sup> The deceased's estate is not liable for CGT on any increase in the value of assets prior to death, and those inheriting the assets are deemed to acquire them at their market value at the date of death, so any rise in value that occurs before death escapes tax completely. This costs the exchequer an estimated £490 million in 2012–13.<sup>39</sup>

Forgiveness of CGT at death reflects the presence of inheritance tax (IHT): politicians understandably baulk at the idea of imposing (say) 28% CGT on top of 40% inheritance tax. But that is a weak argument. CGT exemption does not, and should not, offset the impact of inheritance tax.

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<sup>34</sup> [http://webarchive.nationalarchives.gov.uk/+/http://www.hm-treasury.gov.uk/newsroom\\_and\\_speeches/press/2008/press\\_05\\_08.cfm](http://webarchive.nationalarchives.gov.uk/+/http://www.hm-treasury.gov.uk/newsroom_and_speeches/press/2008/press_05_08.cfm).

<sup>35</sup> First, it encourages owner-managers of companies to retain profits in the company rather than take them out as dividends or salary, regardless of whether (in the absence of tax considerations) they would rather spend the money or could invest it more profitably elsewhere. Second, it provides a strong incentive to set up a business in which to retain profits, putting pressure on anti-avoidance rules, which attempt to define when companies are 'artificial' avoidance devices. Third, it gives companies an artificial incentive to ensure that any individual employee shareholdings are above 5%, rather than below that threshold. And fourth, it gives self-employed individuals and partnerships a large incentive not to sell assets of the business until they are ready to stop doing business altogether, regardless of whether the assets could be more profitably used by others and whether the proceeds of a sale could be more profitably used in other ways.

<sup>36</sup> The distortions in the footnote above mean that entrepreneurs' relief discriminates against owner-managers who cannot afford to retain profits in their business, against self-employed people who choose (or need) to sell business assets before giving up the business altogether and against employees who have shareholdings of less than 5% in the company for which they work.

<sup>37</sup> For a fuller development of this argument in a related context, see S. Adam, 'Taxing employees, the self-employed and small companies', in *New Forms of Work*, Fabian Policy Report ([http://www.fabians.org.uk/wp-content/uploads/2012/10/New-Forms-of-Work\\_WEB1.pdf](http://www.fabians.org.uk/wp-content/uploads/2012/10/New-Forms-of-Work_WEB1.pdf)).

<sup>38</sup> This subsection draws heavily on pages 364–5 of J. Mirrlees et al., *Tax by Design*, OUP for IFS, Oxford, 2011 (<http://www.ifs.org.uk/mirrleesreview/design/ch15.pdf>).

<sup>39</sup> Source: HMRC Statistics table 1.5 (<http://www.hmrc.gov.uk/statistics/expenditures/table1-5.pdf>).

In purely practical terms, the current system does not eliminate double taxation or zero taxation.<sup>40</sup> More fundamentally, IHT and CGT serve different purposes. CGT is a tax on returns to savings, inheritance tax a tax on transfers of wealth. 'Double taxation' of wealth that was already taxed as income (or will be taxed as expenditure) is inherent to wealth transfer taxation. Coexistence of CGT with wealth transfer taxation would merely make this double taxation more explicit.<sup>41</sup> If policymakers do not accept the argument for taxing transfers, then they should not tax them: simply abolish inheritance tax. But if there is an argument for taxing transfers, that must be on top of the regime for taxing returns to capital.

The regime for taxing returns to savings and the regime for taxing gifts and bequests should each be designed appropriately on its own merits. Forgiveness of CGT at death looks like a half-hearted reluctance to adopt a principled position. But it is highly distortionary. It encourages people to hold on to assets that have risen in value, even if in the absence of tax considerations it would be preferable to sell them and use the proceeds in some other way before death (at which point other assets, including the proceeds from selling the original assets, could be passed on instead) and even if it would be preferable to pass on the assets (or the proceeds from selling them) immediately. If people expect to be able to bequeath assets on death, it also encourages them to buy assets that yield returns in the form of capital gains and to convert income into capital gains where possible.

Whatever kind of tax on gifts and bequests one does (or does not) want, there is no case for forgiveness of CGT on death.

## **End the exemption of principal private residences**

Rises in the value of principal private residences – people's main homes – are exempt from CGT. This is by far the biggest relief in CGT: the government estimates that it will reduce CGT liabilities by £9.9 billion in 2012–13 – more than two-and-a-half times total expected CGT revenue – although it argues that abolishing it would yield substantially less than this as people changed their behaviour in response.<sup>42</sup>

Property is an asset as well as a consumption good, and it should be thought of within the framework of savings taxation.

As with CGT in general, CGT on principal private residences involves a trade-off. On the one hand, imposing CGT would discourage people from saving – in this case, buying a (bigger) house. On the other hand, it would enable the government to capture a share of any large capital gains and it would reduce distortions between similar assets.<sup>43</sup>

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<sup>40</sup> Assets transferred in the seven years before death can still attract both inheritance tax and CGT. Conversely, CGT is forgiven even when estates are below the inheritance tax threshold and so no inheritance tax would be paid anyway. And the two taxes exempt different asset classes: people's main homes are exempt from CGT, while agricultural property and unquoted businesses are not (though entrepreneurs' relief does provide a reduced rate for owner-managed businesses).

<sup>41</sup> Note also that ending forgiveness of CGT at death need not necessarily mean that CGT would be payable at the same time as IHT. If an asset were retained by the recipient, the system could be designed so that CGT liability was triggered only on sale of the asset, with the base price deemed to be the original purchase price rather than the market value when the asset changed hands. That is how *inter vivos* transfers between spouses and civil partners are already treated for CGT purposes.

<sup>42</sup> Source: HMRC Statistics table 1.5 (<http://www.hmrc.gov.uk/statistics/expenditures/table1-5.pdf>).

<sup>43</sup> Most importantly, in this case, imposing CGT on main homes would reduce – though not eliminate – the current tax bias in favour of owner-occupation versus rental property, since landlords are subject to both CGT on their properties and income tax on the rent (net of costs) they receive. It is hard to find a coherent rationale

Like CGT in general, imposing CGT on main homes would generate a 'lock-in' effect: people would be artificially discouraged from selling a home that had risen in value, since only when it was sold would a CGT liability be triggered. Discouraging property transactions that would otherwise be mutually beneficial is undesirable, as we discuss in Section 9.9 in the context of stamp duty land tax. This lock-in effect would be exacerbated by the massive political backlash that would almost certainly follow the introduction of CGT on people's main homes, since if people believed that the policy would be reversed (perhaps by a future government) then they would have an enormous incentive to hold on to the property until this happened. As well as being a distortion in its own right, this could seriously undermine the revenue yield of the reform – further adding to the pressure to reverse the policy.

There is a case for reforming the taxation of housing, and the Mirrlees Review argued that the ideal solution in principle would be to introduce an RRA for all housing. But for owner-occupied housing, even that would be difficult in the short run.<sup>44</sup> For now, the income tax and CGT treatment of owner-occupied housing is probably better left unchanged.

## 9.8 Options: taxation of private pensions

At present, private pension contributions up to an annual limit of £50,000 (due to fall to £40,000 from 2014–15) are subject to income tax relief at the taxpayer's marginal rate, and relief from both employee and employer NICs as well in the case of employer pension contributions. The total amount that can be accumulated in a private pension is capped at £1.5 million (due to fall to £1.25 million from 2014–15). Investment returns are tax-free while money remains in the pension fund (although share purchases are subject to stamp duty and there is corporation tax on the profits that give rise to equity returns). Pension income withdrawn from the fund is then subject to income tax (but not NICs) at the taxpayer's marginal rate, except that up to 25% of the fund can be withdrawn as a tax-free lump sum.

For people facing the same marginal tax rate when contributing as when they retire, giving relief for contributions and then taxing pension income would be broadly equivalent (in present-value terms) to not relieving contributions and not taxing pension income: both would give the same effective tax rate of zero on the normal return to saving. The tax-free lump sum and (in the case of employer contributions) NICs relief provide a significant subsidy. People whose marginal tax rate is lower in retirement than when contributing will find pension saving even more attractive.

The fact that pension saving inherently involves long-term planning means that this is an area where policy stability is at a particular premium. Sadly, such stability has been lacking: the 2012 Autumn Statement announcement that the annual and lifetime limits were to be reduced represented the third new announcement on pension taxation in four years, and the previous history is no more glorious. There is therefore a strong case for eschewing any further reform, flawed though the current system is. However, if the

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for levying CGT on main homes without also levying income tax on the imputed rental income from owner-occupation, the other component of the return to buying a house. Only if this imputed rental income were also taxed – as it was under Schedule A income tax until 1963 – would the tax treatment of owner-occupation be brought into line with that of the rental sector.

<sup>44</sup> See section 16.2.2 of J. Mirrlees et al., *Tax by Design*, OUP for IFS, Oxford, 2011 (<http://www.ifs.org.uk/mirrleesreview/design/ch16.pdf>).

Chancellor does wish to raise more revenue in this area, there are several possibilities available – some of which would improve the system, some of which would make it worse – and in some cases the improvements might be big enough to make it worth accepting further upheaval.

## **Reduce the annual or lifetime allowance**

The simplest way to raise more money would be to reduce the annual and/or lifetime limits on what can be contributed to a pension tax-free. This would be very much in keeping with recent reforms, repeating what was done in the June 2010 Budget and the 2012 Autumn Statement. We are not aware of any estimates of the yield from further reductions; the government estimates that the reduction of the annual limit from £50,000 to £40,000 and the reduction of the lifetime limit from £1.5 million to £1.25 million will together raise £1.1 billion in 2017–18<sup>45</sup> and rise thereafter, but further reductions of the same size would raise significantly more than that because far more people would be affected.

To get a feel for how big a £1.25 million pension pot is, note that a single man with a pension pot that size could, at current annuity rates, take a tax-free lump sum of £312,500 and receive an RPI-linked annual pension of about £30,000 (or an annual pension fixed in cash terms of about £50,000).<sup>46</sup> For someone in a defined benefit pension arrangement, a £312,500 lump sum and an annual RPI-linked pension of £46,875 is deemed to be equivalent to a pension pot of £1.25 million (since defined benefit pension schemes are deemed to have a pot size twenty times the annual pension).

Tightening limits on what can be saved in tax-privileged forms over a lifetime is not the most unreasonable way to raise revenue. But there are better options available, which we discuss below. In particular, rather than preventing people with very large pension pots from saving any more in a registered pension scheme at all, it would be better to let them save in a pension but without the large subsidies they currently receive through the tax-free lump sum and the NICs exemption of employer contributions.

Reducing the annual allowance makes less sense than reducing the lifetime allowance. For a given level of desired lifetime contributions, it is not clear why we would want to penalise making occasional large contributions rather than frequent smaller contributions. In practical terms, too, reducing the annual allowance is more problematic, as valuing annual contributions to defined benefit pension schemes is difficult; the lower the annual limit, the more of these difficult valuations must be done. The way that defined benefit pension rights accrue also means that high-sounding annual allowances can affect people who are well off but perhaps not quite as rich as one might imagine: for example, an employee earning £38,000 a year with 30 years' membership of a final salary pension scheme who saw their pay rise to £55,000 in four years' time could be affected by the £40,000 limit due to be introduced in 2014–15.

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<sup>45</sup> Source: table 2.1 of HM Treasury, *Autumn Statement 2012* ([http://cdn.hm-treasury.gov.uk/autumn\\_statement\\_2012\\_complete.pdf](http://cdn.hm-treasury.gov.uk/autumn_statement_2012_complete.pdf)).

<sup>46</sup> Source: <http://pluto.moneyadviceservice.org.uk/annuities> calculation based on a non-smoking single man born in 1948 living in Ipswich.



## Restrict income tax relief to the basic rate

It is frequently proposed (including in the Liberal Democrats' 2010 general election manifesto) to restrict income tax relief on pension contributions to the basic rate.

The government says that this would reduce the cost of tax relief on pension contributions by around one-third. HMRC estimates that the total cost of tax relief on pension contributions was £26.0 billion in 2010–11, which would therefore imply a yield of about £8.6 billion. However, the £26.0 billion total cost of relief is likely to change, owing to a combination of changes to pension contributions and the reduction in the top rate of income tax from 50% to 45%; and the government notes that this saving of one-third ignores the substantial change in behaviour that this reform would be likely to engender.<sup>47</sup> In fact, if people's main response were to reduce their pension contributions, this would tend to increase the yield in the short run by saving the cost of basic-rate relief as well as higher-rate relief (though in the long run this would be offset by reduced revenue from taxing pension income).

It is often argued that it is 'unfair' that despite only one-in-seven income tax payers paying income tax at the higher or additional rate, between them they receive over half of the total cost of pension tax relief. It perhaps looks less unfair when put in the context that, despite this tax relief, they still pay over half of all income tax.<sup>48</sup>

More fundamentally the idea that income tax relief should be restricted to the basic rate is misguided. The error stems from looking at the tax treatment of pension contributions in isolation from the tax treatment of the pension income they finance. Pension contributions are excluded from taxable income precisely because pension income is taxed when it is received: in effect, the tax due on earnings paid into a pension is deferred until the money (plus any returns earned in the interim) is withdrawn from the fund. It is hard to see how it can be unfair for higher-rate taxpayers to receive 40% relief when basic-rate taxpayers receive 20% relief, yet at the same time *not* be unfair for higher-rate taxpayers to pay 40% tax on their pension income when basic-rate taxpayers pay only 20%. If somebody is a higher-rate taxpayer throughout their adult life, it seems unfair for the tax relief on their pension contributions to be restricted to 20% and for them then to pay 40% tax on their pension income.

Proponents of the restriction point out that many of those receiving relief at the higher rate will only pay basic-rate tax in retirement.<sup>49</sup> It is arguable whether that is really unfair: in effect, such individuals are simply smoothing their taxable income between high-income and low-income periods, undoing the 'unfairness' that an annually-assessed progressive tax schedule creates by taking more tax from people whose incomes are volatile than from people whose incomes are stable. But even if receiving higher-rate relief and then paying basic-rate tax is seen as unfair, that does not diminish the case for

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<sup>47</sup> Sources: total cost of pension tax relief from HMRC Statistics table PEN6 (<http://www.hmrc.gov.uk/statistics/pension-stats/pen6.pdf>); yield from restricting relief from Written Answer by David Gauke MP to a Parliamentary Question, 6 July 2011 – 'If relief on pension contributions were limited to the basic rate of tax, the amount of this relief would fall by approximately one third. This estimate does not take account of behavioural effects, which are likely to be large' (*Hansard*, column 1249W, <http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm110706/text/110706w0002.htm>).

<sup>48</sup> Sources: HMRC Statistics tables 2.1 and 2.5 (<http://www.hmrc.gov.uk/statistics/tax-statistics/table2-1.pdf>, <http://www.hmrc.gov.uk/statistics/tax-statistics/table2-5.pdf>) and paragraph 1.179 of HM Treasury, Autumn Statement 2012, Cm 8480 ([http://cdn.hm-treasury.gov.uk/as2012\\_chapter\\_1c.pdf](http://cdn.hm-treasury.gov.uk/as2012_chapter_1c.pdf)).

<sup>49</sup> Though the snapshot statistics of the income tax rates facing current pension savers and current retirees often used to illustrate the point are somewhat misleading – those currently contributing may not necessarily face the same tax rates in retirement as current retirees, not least because of ongoing fiscal drag.



accompanying the restriction of tax relief on contributions with a restriction of the tax on pension income (perhaps with transitional arrangements so that those who have received higher-rate relief in the past do not pay only basic-rate tax in retirement). If relatively few individuals pay higher-rate tax on their pension income, that merely suggests that such a policy would be cheap. The tax system should treat pension contributions and pension income in a symmetric way.

Restricting tax relief on pension contributions would obviously reduce incentives for higher-rate taxpayers to save in a pension. It would also be complicated, for the same reason as reducing the annual allowance would be. It would require the valuation of pension promises made by employers through defined benefit schemes. And this requirement would be much more widespread if it applied to all higher-rate taxpayers rather than just people making exceptionally large pension contributions. The compliance costs alone of this measure would likely be so high as to make it a highly inefficient way to raise revenue from higher-rate taxpayers.

The Labour Party has recently revived a proposal originally made in the then Labour government's 2009 Budget, but never implemented because it was dropped by the incoming coalition government in favour of a reduction to annual and lifetime allowances designed to raise the same amount of money. The proposal is to restrict tax relief on pension contributions to the basic rate, but only for those with incomes (before deducting pension contributions) above £150,000. While this has the merit of limiting a bad policy to a smaller group of people, it has even less of a coherent rationale. It is hard to see why it should be unfair for those above £150,000 to get tax relief at their marginal rate, but not for other higher-rate taxpayers to do so. Indeed, these very highest earners are less likely to be only basic-rate taxpayers in retirement, removing one of the principal arguments for restricting relief. The proposal also involves much additional complexity in defining a new income threshold and gradually restricting relief as income rises, and a 'cliff-edge' in tax liability at income (excluding pension contributions) of £130,000.<sup>50</sup>

In summary, then, restricting the rate of income tax relief on pension contributions would be expensive to administer, be unfair and inappropriately distort behaviour. There are far better ways to raise money from well-off people, or to reduce the generosity of pensions taxation, or even to do both at once.

## **Cap the tax-free lump sum**

Under current rules, part of a pension can be taken as a tax-free lump sum – a quarter of the accumulated balance in a defined contribution scheme. (A roughly equivalent rule applies for defined benefit schemes.) This is money that escapes income tax altogether: it is taxed neither when it is earned nor when it is withdrawn from the pension.

The existence of such a 'bonus' is usually defended as being compensation for the fact that pensions are constructed to be a highly inflexible form of savings, available only after a certain age. If, for reasons of public policy, we want people to lock money away for long periods, we are likely to have to provide them with a good reason for doing so.

That is a strong argument, but it has its limits. At the moment, the size of the lump sum that can be taken tax-free is limited only by the lifetime limit on the size of a pension pot: with a £1.25 million lifetime allowance, this means that £312,500 can be taken tax-free.

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<sup>50</sup> See C. Emmerson 'A response to the Treasury consultation on restricting pensions tax relief', IFS Press Release, March 2010 (<http://www.ifs.org.uk/publications/4773>).

While there are good reasons that we might actively encourage people to save a certain amount for their retirement, it is less clear that people who already have, say, a £1 million pension fund ought to be subsidised for saving yet more, at the expense of other taxpayers. There is therefore a powerful case for introducing a cash limit on the amount that can be taken as a tax-free lump sum, at a level considerably below £312,500.<sup>51</sup> Unfortunately, no reliable current estimate exists of the revenue that this would raise.<sup>52</sup>

More fundamentally, while the case for providing a 'bonus' for saving in a pension is strong, a tax-free lump sum seems like a singularly ill-designed form for such an inducement to take. Encouraging withdrawal of a tax-free lump sum seems a perverse way of encouraging people to build up a pension if one of its main purposes is to provide a regular retirement income (and keep people off means-tested benefits). The current system also provides a significantly bigger bonus for higher-rate taxpayers than for basic-rate taxpayers. As the Mirrlees Review notes, there are many alternative ways of incentivising pension saving that do not have these features.<sup>53</sup> For example, the government could simply top up pension funds at the point of annuitisation, again subject to a cap: a 5% top-up would be broadly equivalent in value to the tax-free lump sum for a basic-rate taxpayer (20% of 25%).

## Levy NICs on employer contributions

The NICs regime for pensions is quite different from the income tax regime. The treatment of employee pension contributions is broadly sensible: there is no NICs relief on contributions, and no NICs are payable on pension income either. However, *employer* pension contributions are treated extremely generously: they are excluded from earnings for both employer and employee NICs – total NICs relief of 22.7% for those earning below the UEL<sup>54</sup> – while the pension income they generate is not subject to NICs either. Employer pension contributions are the only major form of employee remuneration that escapes NICs entirely. The government estimates that the NICs exemption of employer pension contributions cost it £13.0 billion in 2010–11.<sup>55</sup>

Some might argue that encouraging saving through workplace pensions is a particularly effective way of raising personal saving. But it is not clear that this warrants net saving incentives of the magnitude currently in the tax code, or such a large bias towards contributions coming (formally) from employers rather than employees: a pension

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<sup>51</sup> To prevent charges of retrospective taxation, the government could consider exempting pension savings already in place that would exceed the cap.

<sup>52</sup> The government previously estimated the total cost of the tax-free lump sum at around £2.5 billion (it was formerly in HMRC Statistics table 7.9, as cited in, for example, footnote 20 of M. Lloyd and C. Nicholson, 'A relief for some: how to stop lump sum tax relief favouring the wealthy', Centre Forum Report, 2011, <http://www.centreforum.org/assets/pubs/a-relief-for-some.pdf>) but no longer produces an estimate. Note that this £2.5 billion figure assumed that no-one would change their behaviour in response to the reform and that the tax-free lump sums would otherwise be taxed at 20%. Based on this £2.5 billion figure, Lloyd and Nicholson (op. cit.) estimated that restricting the tax-free lump sum to the then higher-rate threshold of £42,475 would raise £0.5 billion per year.

<sup>53</sup> Pages 340–1 of J. Mirrlees et al., *Tax by Design*, OUP for IFS, Oxford, 2011 (<http://www.ifs.org.uk/mirrleesreview/design/ch14.pdf>).

<sup>54</sup> If an employer pays out £100 in pension contributions, that is the amount that goes into the employee's pension. A salary payment that costs the employer the same amount would leave the employee with only £77.32, 22.7% less: paying a nominal wage of £87.87 would cost the employer £100 because of 13.8% employer NICs on top of the £87.87, while the employee would lose 12% of the £87.87 in employee NICs, leaving only £77.32. [22.7% is employee NICs of 12% plus employer NICs of 13.8% divided by total employer cost of (100% + 13.8%).]

<sup>55</sup> Source: HMRC Statistics table PEN6 (<http://www.hmrc.gov.uk/statistics/pension-stats/pen6.pdf>).

contribution that costs an employer £100 to make would cost him nearly £130 if it comes instead from an employee earning below the UEL,<sup>56</sup> which helps to explain why HMRC records (income tax relief on) employer contributions as more than three times as great as employee contributions.<sup>57</sup>

The obvious solution would be to start charging NICs on employer pension contributions, so that they are treated like any other form of remuneration. Employer NICs are already virtually flat rate (other than the earnings threshold) and could readily be charged at a flat rate on any contributions made by the employer. This solution would, however, be harder to implement with respect to charging *employee* NICs on *employer* pension contributions. The non-flat-rate structure of employee NICs would require employer contributions to be allocated to individuals; as mentioned above, that is difficult for defined benefit pension schemes.

While charging NICs on employer contributions would be a major improvement on the current system, the Mirrlees Review argued that, in principle, it would be even better to move towards providing NICs relief on all pension contributions and levying NICs on all pension income, so that NICs treated pensions in the same way as income tax does (with the added advantage of moving further towards the integration of income tax and NICs).<sup>58</sup> But to avoid retrospective double taxation – levying NICs on pension income despite having already levied NICs on employee contributions to that pension, undermining the legitimate expectations of those who have saved up to now – careful transition arrangements would be needed. However, such a transition could take decades, opening up the political risk that future governments might not follow through with the plan. And the transitional arrangements would mean that, while the reform generated significant revenue in the long run, it would actually cost money up front.

So a government concerned with short-term costs and wary of a difficult transition might find the less radical option of introducing up-front NICs on employer pension contributions more palatable. This would be an improvement on the current situation and would raise an estimated £9.2 billion in 2012–13 even if only charged at the employer flat rate.<sup>59</sup> But it would be a move away from the ideal long-term solution of providing relief from income tax and NICs on all pension contributions and levying both these taxes on pension income.

## 9.9 Options: taxes on wealth and housing

The options considered so far in this chapter relate to taxing flows of income and expenditure, contributions to savings and the return to savings. We now turn to look at taxes that are (broadly speaking) more related to measures of wealth. We first examine the idea of a tax on wealth per se and then consider inheritance tax, which aims to capture wealth as it is transferred between people. Finally, we look at the taxation of

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<sup>56</sup> For an employee to contribute £100 to a pension requires earnings of £113.64 (since 12% employee NICs is taken out of the £113.64), which costs the employer £129.32 (since 13.8% employer NICs is levied on the £113.64).

<sup>57</sup> Ibid.

<sup>58</sup> Pages 339–40 of J. Mirrlees et al., *Tax by Design*, OUP for IFS, Oxford, 2011 (<http://www.ifs.org.uk/mirrleesreview/design/ch14.pdf>).

<sup>59</sup> Source: HMRC Statistics table 1.5 (<http://www.hmrc.gov.uk/statistics/expenditures/table1-5.pdf>).

housing, focusing on stamp duty land tax – which is a tax on the transfer of property – and council tax, which is a tax on domestic property.

## **A wealth tax**

If the government wants to raise more tax from the wealthy, the most obvious and direct route would be to introduce a wealth tax. A tax based on people's total assessed wealth could be applied to a sizeable fraction of the population or could be restricted to a very small number of the super-rich, depending on the size of tax-free allowance that were chosen. The implications of this choice range from the revenue potential of the tax to its distributional effects, the nature of the wealth holdings to be taxed (principally ordinary life-cycle savings or principally amounts that may have been inherited and are unlikely to be spent in a single lifetime?), the practicalities (is the challenge to value everybody's home or to track complex cross-border asset portfolios?) and the politics. Many of the economic and practical considerations, however, would be similar.

Beyond any superficial attraction, levying a recurrent (for example, annual) tax on stocks of wealth is not appealing. To limit avoidance and distortions to the way that wealth is held, as well as for reasons of fairness, the base for such a tax would have to be as comprehensive a measure of wealth as possible. But many forms of wealth are difficult or impractical to value, from personal effects and durable goods to future pension rights and overseas assets – not to mention 'human capital'. These are very serious practical difficulties.

Even in principle, however, the case for an annual wealth tax is weak. If all savings earned the same rate of return, a tax on the stock of savings would in fact be exactly equivalent to a tax (at a higher rate) on the return to savings. If the rate of return is 5%, then either a 1% tax on wealth or a 20% tax on the return to saving will raise £1 for each £100 of savings (1% of the £100 wealth or 20% of the £5 return, respectively). The difference in principle between a tax on assets and a tax on asset returns therefore lies entirely in how they treat assets that yield unusual returns. To continue the above example, if I am lucky enough that my £100 earns a 10% return, then a 20% tax on that return will raise £2 from me, whereas a 1% wealth tax will still raise £1 regardless of the return I earn. It is hard to think of any reason that we would not want to levy more tax on assets that yield higher returns: such high-return assets are precisely the ones that people will buy even if they are more heavily taxed, so focusing the tax on those assets would be less distortionary. A wealth tax discourages me from saving, but it taxes me no more if I manage to earn extremely high returns on my savings. It is therefore inferior to a tax on asset returns. Indeed, as noted above, the Mirrlees Review goes further: it argues in favour of exempting a 'normal' return to savings but taxing 'excess' returns (for example, through the Rate of Return Allowance proposal mentioned above). A wealth tax would therefore be a move in exactly the wrong direction.

A one-off wealth tax would raise somewhat different issues. If it were credibly one-off and based on a measure of wealth that was fixed before the policy was announced (or before people began to believe it might happen), then – like any other retrospective windfall tax – it should have no effect on people's behaviour and cause no economic inefficiency.<sup>60</sup> This would be true even if the tax were based on a partial and incomplete

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<sup>60</sup> People's behaviour could change because of an 'income effect': simply being worse off might make people decide they want (or need) to take action to restore some of their lost wealth. As noted in footnote 21, however, this kind of response is not associated with any economic inefficiency.

measure of wealth, provided there was nothing people could do to change their assessed wealth once they realised the tax was coming. There would be obvious attractions to raising revenue from the very richest if it could be done without creating economic distortions – especially if it were felt that much of their wealth had been inappropriately under-taxed when it was earned and/or inherited. However, a one-off wealth tax of this kind would still have several disadvantages:

- A tax based on a partial measure of wealth might still be viewed as unfair and discriminatory, penalising people who hold their assets in taxable forms relative to equally wealthy people whose wealth is in untaxed forms. The difficulty of devising a practical, comprehensive measure of wealth is therefore still pertinent.
- It might also be questioned whether a one-off tax on a snapshot of people's wealth at a particular point in time is fair at all. It penalises people who happen to have a great deal of wealth at that time. There is an arbitrariness inherent in a one-off tax: why should wealth this year be a better target for taxation than wealth next year, or indeed wealth last year? As we noted in Section 9.2, people's wealth holdings at any given time depend a great deal on what stage of their life cycle they are at, not just on their lifetime resources. Insofar as it falls on life-cycle savings (rather than wealth being passed down through successive generations), therefore, a one-off wealth tax would be very harsh on the cohort that is approaching retirement age when it is levied.
- As with other windfall taxes, it is questionable whether its one-off nature would really be credible. Once such a tax had been levied, it would be very tempting for future governments to repeat the exercise: why would the attractions seem less compelling to a government 10 years later? If people believed – rightly or wrongly – that this was a possibility, it would discourage them from saving, and encourage them to take steps to avoid future taxes, in much the same way as a recurrent wealth tax (to a degree that would depend on how likely and how frequent people perceived such recurrences to be). Individuals might also expect alternative windfall taxes to be more likely, which could distort behaviour in other harmful ways. Increasing uncertainty over the future tax system is highly undesirable.

Whether one-off or annual, therefore, introducing a wealth tax would be fraught with considerable difficulties.

## **Inheritance tax**

Inheritance tax is probably the UK's clearest example of a tax aimed squarely at the well-off. It is charged at 40% on transfers of wealth on (or shortly before) death in excess of £325,000 – some 19,000 estates in 2011–12, representing only a little over 3% of all deaths.<sup>61</sup> Transfers between spouses or civil partners are exempt, and the inheritance tax threshold is increased by any unused proportion of a deceased spouse's or civil partner's nil-rate band so that married couples and civil partners can collectively bequeath double the inheritance tax threshold (i.e. £650,000) tax-free even if the first to die leaves their entire estate to the surviving partner.

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<sup>61</sup> Source: Number of taxpaying death estates from HMRC Statistics table 1.4 (<http://www.hmrc.gov.uk/statistics/taxpayers/table1-4.pdf>); number of deaths from ONS Vital Statistics: population and health reference tables, winter 2012 update (<http://www.ons.gov.uk/ons/publications/reference-tables.html?edition=tcn%3A77-283563>).

Inheritance tax is hugely – perhaps surprisingly – unpopular: despite the fact that so few estates are actually liable to pay it, a 2001 study found that around half the population believed the tax should be abolished altogether.<sup>62</sup> This is partly a matter of principle: the merits, and even the legitimacy, of taxing bequests is a matter on which views tend to be polarised and often vehemently held. Viewed from the perspective of the donor, it seems hard to justify: why should I be encouraged to spend my money before I die rather than providing for my children? Yet viewed from the perspective of the recipient, it can seem anomalous to tax people on money they have earned while exempting from taxation money that comes to them through no effort of their own (except perhaps the effort expended in being kind to elderly loved ones). This perspective emphasises equality of opportunity: taxing inherited wealth serves (alongside many other policies such as public expenditure on schooling) to temper differences in life chances that arise purely from fortunate or unfortunate circumstances of birth, i.e. how wealthy one's family happens to be.

But the unpopularity of inheritance tax also reflects perceived inequities in how it operates in practice. The tax is riddled with loopholes which, as Kay and King (1990) put it, favour 'the healthy, wealthy, and well-advised'.<sup>63</sup> It tends to fall on the moderately wealthy, often with their wealth tied up in a house and no idea how to circumvent the tax, as often as the very richest. Even when the intention is applauded, therefore, the outcome is frequently condemned.

#### *Raise rate or reduce nil-rate band*

The most straightforward ways to increase revenue from inheritance tax would be to increase the rate (currently 40%) or to reduce the nil-rate band (currently £325,000). HMRC estimates that each percentage point added to the rate would raise £80 million, so that (say) a rise from 40% to 50% would raise £0.8 billion. Reducing the nil-rate band by £5,000 would raise £50 million, but the yield from larger reductions would be more than proportional to that as inheritance tax started to affect more densely populated ranges of estate size.<sup>64</sup> Reducing the nil-rate band probably has greater revenue-raising potential than increasing the rate. But it would be less progressive, since it would take the same cash amount (40% of the amount by which the nil-rate band was reduced) from all estates liable to tax, rather than taking an amount proportional to the part of estates that fell above the threshold.

Even for those who support the idea of taxing inheritance, there are better options than simply increasing the rate or reducing the nil-rate band of an unreformed tax. Increasing an unreformed inheritance tax would increase the incentive for people to avoid the tax, whether by transferring assets several years before death, ensuring that wealth is held in tax-exempt forms before being passed on or some more complicated method; the plentiful opportunities to do so undermine the revenue yield from the reform as well as the perceived (in)justice of the outcome. A better approach would be to raise revenue by addressing some of the loopholes that make inheritance tax so easy to avoid.

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<sup>62</sup> A. Hedges and C. Bromley, *Public Attitudes towards Taxation: The Report of Research Conducted for the Fabian Commission on Taxation and Citizenship*, Fabian Society, London, 2001.

<sup>63</sup> J.A. Kay and M.A. King, *The British Tax System*, OUP, Oxford, 1990.

<sup>64</sup> As an extreme illustration, note that simply multiplying up the £50 million number would imply that abolishing the nil-rate band completely would raise £3.25 billion, whereas HMRC estimates that the total cost of the nil-rate band in 2012–13 was £12.8 billion. Source: HMRC Statistics tables 1.5 and 1.6 (<http://www.hmrc.gov.uk/statistics/expenditures/table1-5.pdf>, <http://www.hmrc.gov.uk/statistics/expenditures/table1-6.pdf>).



### ***Remove exemption of business assets and agricultural land***

At present, agricultural land and unquoted business assets are exempt from inheritance tax, at a cost to the exchequer of £340 million and £365 million per year respectively.<sup>65</sup> While there might conceivably be a case for allowing tax payments to be spread over time where assets received are illiquid and are to be retained by the recipient, it is hard to see any justification for the wholesale exemption of these assets. These reliefs create just the sort of non-neutrality the tax system ought to try to avoid, pushing up the price of agricultural land and of certain offerings on the AIM market, and providing a large incentive to keep businesses going and in the family even if there are good financial reasons for disposing of them sooner – as well as providing an open invitation for people to buy what might otherwise be wholly inappropriate assets purely as a way to avoid inheritance tax (albeit with a minimum holding period of the assets to qualify for relief).

### ***Extend taxation to more lifetime transfers***

The principal reason why inheritance tax is forecast to raise only £3.3 billion in 2013–14<sup>66</sup> is that it can be circumvented by the simple expedient of passing on wealth during one's lifetime. Transfers in the seven years before death are taxed on a sliding scale (from zero for transfers more than seven years before death to the full 40% rate for transfers less than three years before death), but gifts made before that are not taxed at all.<sup>67</sup> Those who are able – often the wealthiest – are encouraged to pass on their wealth at a time dictated by the tax system.

A simple option would be to lengthen the seven-year window before death during which lifetime transfers are taxable. For example, in 2007, the Liberal Democrats proposed that only transfers made more than 15 years before death should be exempt, though this was not ultimately adopted for their 2010 general election manifesto.<sup>68</sup> Since there are no data on wealth transfers occurring more than seven years before death, we cannot know how much this would raise.

More radically, this could be taken further and inheritance tax reformed to apply at the same rate to all lifetime transfers and for the tax to be levied on individuals' lifetime receipts, rather than on the amount an individual gives or bequeaths. For the most part, arguments in favour of taxing wealth transferred at death – most notably the 'equality of opportunity' argument for tempering differences in life chances that arise purely from fortunate or unfortunate circumstances of birth, i.e. how wealthy one's family happens to be – apply equally to lifetime transfers. Again, there is no way of knowing how much this reform would raise, since there are no data on lifetime transfers. This points to a practical difficulty: it would be hard to monitor lifetime wealth acquisition, so the tax would have to rely on self-reporting. International mobility would also present practical challenges. And since there are bound to be ways of providing for children in particular that cannot easily be taxed – such as the provision of housing, material goods and private education – one consequence could be to distort decisions in favour of greater provision of untaxed support rather than taxed wealth transfers. Finally, without a solid political consensus

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<sup>65</sup> Source: HMRC Statistics table 1.5 (<http://www.hmrc.gov.uk/statistics/expenditures/table1-5.pdf>). Some types of business and agricultural property are taxed half the normal rate rather than exempt entirely.

<sup>66</sup> Source: table 4.6 of Office for Budget Responsibility, *Economic and Fiscal Outlook*, December 2012 (<http://cdn.budgetresponsibility.independent.gov.uk/December-2012-Economic-and-fiscal-outlook23423423.pdf>).

<sup>67</sup> Certain lifetime transfers into trusts are taxed.

<sup>68</sup> Liberal Democrats, *Reducing the Burden*, Policy Paper 81, 2007.



behind such a reform, people might decide to await the next change of government in anticipation of a more favourable regime. Such formidable practical difficulties mean that such a reform should not be undertaken lightly, and perhaps not at all. But it is worth bearing in mind just how unsatisfactory the current halfway house is, and that justifies paying attention to this more radical option and how far the challenges can be overcome. It is a very long time since a thorough review of the system of wealth transfer taxation was carried out. It is surely time to devote some serious resources to determining the feasibility of taxing lifetime transfers.

## Taxing housing

We noted in Section 9.2 that pensions and housing are by far the biggest components of household wealth. We have already discussed the taxation of pensions in Section 9.8; the taxation of housing might be another logical place to seek more revenue from those with the broadest shoulders. In the absence of income tax or CGT on owner-occupied housing (as discussed in Section 9.7), the UK levies two main taxes on residential property – stamp duty land tax and council tax. We look at each of these below and then turn briefly to consider the possibility of adding a new property tax – a ‘mansion tax’ – to the existing set.

### *Stamp duty land tax*

Both the current coalition government and its Labour predecessor have repeatedly turned to increasing stamp duty land tax (SDLT) as a revenue raiser. Charged at a flat rate of 1% on property sales above £60,000 (half of all sales) when Labour came to power in 1997, it is now charged on sales above £125,000 (just over half of sales) at rates rising from 1% on sales up to £250,000 to 7% on sales above £2 million.<sup>69</sup> This transformation of stamp duty is illustrated in Figure 9.8. While still providing only a small share of revenues, that share has grown dramatically, pushed by rapid property price rises up to 2007 as well as rate increases. Stamp duty revenue from residential property alone rose from £0.8 billion (0.26% of total government revenue) in 1997–98 to a peak of £6.7 billion (1.22% of revenue) in 2007–08, and in 2011–12 stood at £4.2 billion (0.74% of revenue).<sup>70</sup> Might this be a place to turn yet again in search of more revenue from the well-off?

Table 9.2 shows HMRC’s estimates (which do make an allowance for some behavioural response) of how much could be raised by increasing the existing SDLT rates on residential and non-residential property transactions. Increasing all SDLT rates by 1 percentage point would raise £2.3 billion while still leaving the lower-value half of property transactions free of tax. Each percentage point added to the SDLT rate just for residential property transactions above £1 million would raise nearly £300 million.

Appealing though it might sound to raise significant sums from those owning high-value properties (the burden of the tax increase would be felt primarily by the existing owners, since the need to pay the tax would reduce the amount that potential future buyers would

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<sup>69</sup> Proportion of sales liable to stamp duty from HMRC Statistics table 16.5 (<http://www.hmrc.gov.uk/statistics/transactions/table16-5.pdf>; 1997–98 figure from archived version at [http://webarchive.nationalarchives.gov.uk/20070108133141/http://www.hmrc.gov.uk/stats/survey\\_of\\_prop/table16-5.pdf](http://webarchive.nationalarchives.gov.uk/20070108133141/http://www.hmrc.gov.uk/stats/survey_of_prop/table16-5.pdf)).

<sup>70</sup> Source: Residential stamp duty revenues from HMRC Statistics table 15.2 (<http://www.hmrc.gov.uk/statistics/stamp-duty/table15-2.pdf>); total public sector receipts from HM Treasury, *Public finances databank* December 2012 ([http://www.hm-treasury.gov.uk/psf\\_statistics.htm](http://www.hm-treasury.gov.uk/psf_statistics.htm)).

Figure 9.8. Stamp duty land tax rates

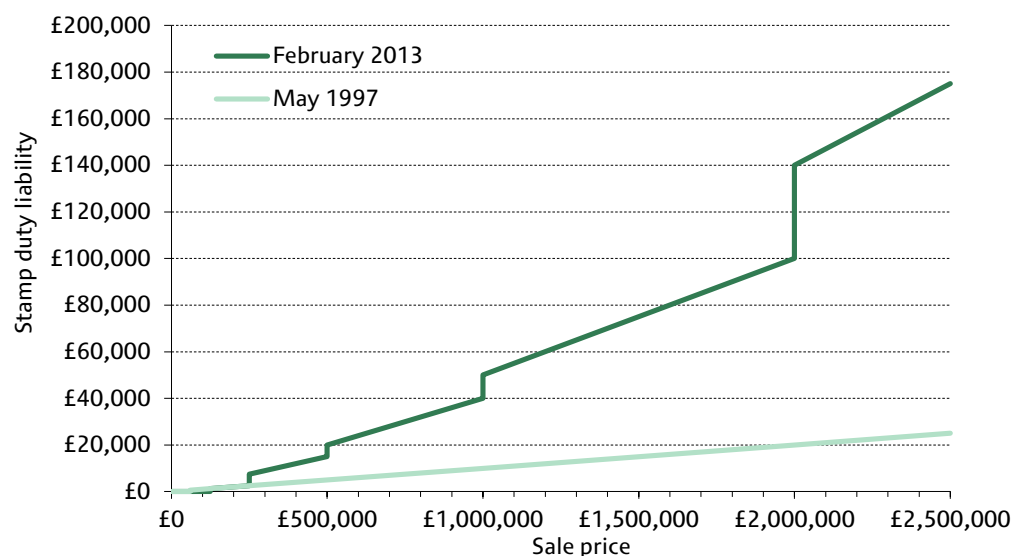


Table 9.2. Revenue yield from stamp duty land tax increases

One percentage point increase in:	Revenue (in 2014–15)
1% rate (£125,001 <sup>a</sup> –£250,000 sales)	£670 million
3% rate (£250,001–£500,000 sales)	£700 million
4% rate (£500,001–£1,000,000 sales)	£620 million
5% rate (£1,000,001–£2,000,000 sales) <sup>b</sup>	£130 million
7% rate (sales above £2,000,000) <sup>b</sup>	£160 million
All rates	£2,280 million

<sup>a</sup> The threshold is £150,000 for residential properties in certain designated disadvantaged areas and varies for non-residential properties depending on leasing arrangements.

<sup>b</sup> Applies to residential property transactions in these ranges. Non-residential transactions above £1,000,000 are subject to the 4% rate and are included within that figure.

Source: HMRC Statistics table 1.6 (<http://www.hmrc.gov.uk/statistics/expenditures/table1-6.pdf>).

be willing to pay), such a course of action would be a mistake. SDLT is a strong contender for the UK's worst-designed tax.

One of the most basic tenets of the economics of taxation is that transactions taxes should be avoided. Assets should be held by the people who value them most: the effect of a transactions tax such as SDLT is to discourage mutually beneficial transactions, so that properties are not held by the people who value them most. If a family in a small house want to move to a larger one (because they are having children, for example) while a neighbouring family in a large house want to move to a smaller one (perhaps because their children have grown up and left home), SDLT might discourage them from buying each other's houses, leaving both families worse off. At a macroeconomic level, one manifestation of this is to reduce labour mobility, as people are discouraged from moving to where suitable jobs are available. The introduction of a 7% SDLT rate on transactions above £2 million has taken the discouragement of mutually beneficial transactions to new heights of absurdity: the average SDLT bill for sales subject to this rate was expected to be around £270,000<sup>71</sup> – more than the UK average house price. In other words, if the two

<sup>71</sup> Budget 2012 estimated that the introduction of the 7% rate would raise £235 million in the absence of behavioural response (page 23 of [http://cdn.hm-treasury.gov.uk/budget2012\\_policy\\_costings.pdf](http://cdn.hm-treasury.gov.uk/budget2012_policy_costings.pdf)) and that 'there are currently around 3,000 residential property transactions per annum at over £2 million'

parties to the transaction decided not to go ahead, the tax they saved would be enough to buy an entirely new house and still have money left over.

The structure of SDLT is especially perverse because (unlike, say, income tax) the relevant rate applies to the full sale price, not just the part above the relevant threshold. So a house selling for £2,000,000 would attract tax of £100,000 (5% of £2,000,000), whilst a house selling for £2,000,001 would attract tax of £140,000 (7% of £2,000,001) – a £1 increase in price triggering a £40,000 increase in tax liability. Transactions of very similar value are thus discouraged to completely different degrees and there are enormous incentives to keep prices just below the relevant thresholds. This is, of course, an absurd structure for any tax. At a bare minimum, the government should move away from this ‘slab’ structure for SDLT, as the Scottish government is proposing to do with its newly acquired autonomy over the SDLT system for Scotland.

Far from looking to raise more money from SDLT, the government should be looking to reduce SDLT or preferably abolish it altogether and make up the revenue elsewhere – perhaps from a reformed council tax in order to avoid giving out windfall gains to owners of high-value properties.

### *Increase council tax on high-band properties*

Each residential property in Britain is allocated to a council tax band, based (in England and Scotland) on the assessed 1991 value of the property.<sup>72</sup> Individual local authorities determine the overall level of council tax, while the ratio between rates for different bands is set by central government (and has not changed since council tax was introduced in 1993).

**Table 9.3. Council tax bands in England, September 2012**

Band	Tax rate relative to band D	Property valuation as of 1 April 1991	% of dwellings
A	$\frac{6}{9}$	Up to £40,000	24.8%
B	$\frac{7}{9}$	£40,001 to £52,000	19.6%
C	$\frac{8}{9}$	£52,001 to £68,000	21.8%
D	1	£68,001 to £88,000	15.3%
E	$\frac{11}{9}$	£88,001 to £120,000	9.4%
F	$\frac{13}{9}$	£120,001 to £160,000	5.0%
G	$\frac{15}{9}$	£160,001 to £320,000	3.5%
H	2	Above £320,000	0.6%

Source: Valuation Office Agency, ‘Council tax valuation list summary 18 October 2012’ (<http://www.voa.gov.uk/corporate/publications/statisticsCouncilTax.html>).

Table 9.3 shows the council tax bands in England and the relative rates charged on properties in the different bands. The tax rates applied to each band are far from proportional to property value: those occupying more valuable properties pay a smaller percentage of the value of their property than those in less valuable properties. For example, in a local authority setting the 2012–13 average band D rate in England of

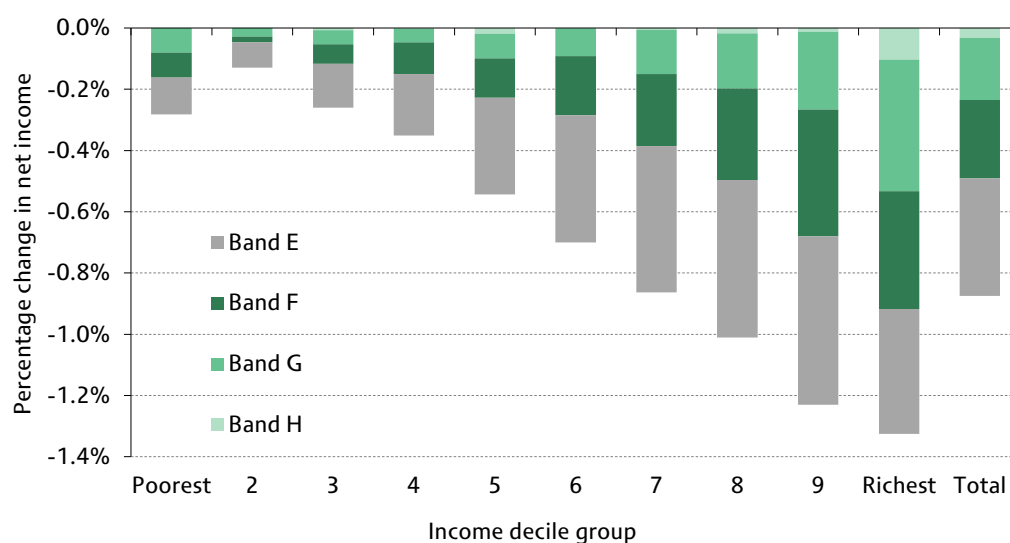
(<http://www.hmrc.gov.uk/budget2012/tiin-2138.pdf>). That would imply an average tax increase of around £78,000 per property. If a tax rise of 2 percentage points (from 5% to 7%) corresponds to an average tax rise of £78,000, that implies that the full 7% tax bill would be  $(7/2) \times £78,000 = £274,000$  – though the degree of rounding involved (particularly in the 3,000 figure) means that this figure should only be considered approximate.

<sup>72</sup> Since 2005, council tax bandings in Wales are based on assessed 2003 values. Northern Ireland operates a different system, based on point values (subject to a cap) rather than bands.

£1,444,<sup>73</sup> someone with a property at the midpoint of band D (£78,000) will pay 1.85% of its 1991 valuation, while someone with a property at the midpoint of band G (£240,000) will pay £2,406, or 1.00% of its 1991 valuation. This unfairly and inefficiently favours more valuable properties, and in particular the most valuable properties.

A simple reform that would raise revenue from households that are relatively well-off on average while making council tax more proportional to property value would be to increase the tax rates applied to high-value properties. Figure 9.9 shows the distributional impact of doubling council tax rates for just band H (which would affect the top 0.6% of properties and raise £0.3 billion), for bands G and H (raising £2.0 billion from the top 4.1% of properties), for bands F, G and H (raising £4.1 billion from the top 9.1% of properties) and for bands E, F, G and H (raising £7.3 billion from the top 18.5% of properties).<sup>74</sup>

Figure 9.9. Distributional impact of doubling council tax rates in certain bands



Notes: As Figure 9.5.

Source: As Figure 9.6.

Increasing council tax on high-value properties would certainly hit wealthy households hardest. It would also be progressive across the income distribution. But there are some people living in big houses but with low current incomes. Households of this kind would be protected from council tax rises if they were receiving Council Tax Benefit; but those who do not take up their entitlements (which we do not model in the figure) and those who are not entitled to Council Tax Benefit despite their low current income because they have substantial financial assets (which we do model) would lose out from the reform. Of course, only a small fraction of the losers from these reforms would fall into that category. And how offensive one finds the idea that such people should lose out depends in part on whether one views people with high wealth but low income as rich or poor.

<sup>73</sup> Source: <https://www.gov.uk/government/publications/council-tax-levels-set-by-local-authorities-in-england-2012-to-2013-revised>.

<sup>74</sup> Source: authors' calculations using the IFS tax and benefit microsimulation model, TAXBEN, to apply the 2013–14 tax and benefit system to uprated data from the 2010–11 Family Resources Survey. Assumed that council tax rates are frozen in nominal terms in 2013–14.

A practical advantage of adjusting the band ratios of the existing council tax is that, unlike the reforms considered below, it would not require any new property valuations. However, before putting too much weight on that consideration, it is worth remembering quite how out-of-date valuations now are. It is absurd that we tax people on what their properties were worth (or would have been worth) 22 years ago; it is surely unthinkable that this should be allowed to continue so that we are still using 1991 values in another 22 years' time. Any property tax requires regular revaluations. One is long overdue in England and Scotland, and the process should begin as soon as possible even if no other reforms were to happen. However, a revaluation would also provide a welcome opportunity to move towards a tax that is fully proportional to property values more accurately than can be done by adjusting the band ratios in an otherwise unreformed council tax.

### *Adding new council tax bands*

Instead of (or as well as) increasing council tax on existing bands, the government could add one or more new bands at the top, to focus tax increases even more tightly on just the very highest-value properties – as the Welsh government did when it added a band I (paying  $2\frac{1}{3}$  times the band D rate) to its council tax in 2005.

Subdividing band H in this way would require a revaluation, but that could be a much smaller exercise than a full revaluation as only those 0.6% of properties that are currently in band H would need to be valued.

However, with so few properties in band H, the revenue yield from applying higher rates to only a subset of those would be very small unless the tax increase for each affected household were astronomical. There are currently 133,000 properties in England in band H;<sup>75</sup> if, say, half of them were put into a new band H+, those 66,500 properties would have to see their council tax bills increase by over £15,000 per year on average (over and above what they are paying already) in order to raise £1 billion from this policy.

### *A 'mansion tax'*

The 2010 Liberal Democrat general election manifesto proposed a new 'mansion tax' at a rate of 1% per year on properties worth over £2 million, paid on the value of the property above that level. No firm costings are available for such a tax, but the Liberal Democrat manifesto estimated that that particular variant would raise £1.7 billion per year, with a tax bill averaging £24,000 on 70,000 affected properties.<sup>76</sup>

Introducing a 'mansion tax' would entail some additional administrative cost in estimating the value of those properties that it is thought might be worth more than £2 million. (The Liberal Democrats proposed to value only properties in the top council tax band, which would miss only a few properties that have grown enormously in value since 1991 to reach £2 million.)

The 'mansion tax' has a sensible logic underpinning it: if property is to be taxed, it makes sense to levy such a tax in proportion to property value and to base it on up-to-date valuations, as we argued above. However, this raises the question, 'why not follow the logic of the mansion tax through to its conclusion?': rather than add a mansion tax on top of an unreformed and deficient council tax, it would be better to reform council tax itself

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<sup>75</sup> Source: Valuation Office Agency, 'Council tax valuation list summary 18 October 2012' (<http://www.voa.gov.uk/corporate/publications/statisticsCouncilTax.html>).

<sup>76</sup> For more analysis, see S. Adam, M. Brewer, J. Browne and D. Phillips, *Taxes and Benefits: The Parties' Plans*, IFS Election Briefing Note 13, 2010 (<http://www.ifs.org.uk/bns/bn100.pdf>).

to be (like the proposed mansion tax) proportional to up-to-date property values. A sensibly reformed council tax, increased to make up the revenue from abolishing SDLT, would make for a much more coherent system for taxing property.

## 9.10 Conclusions

The extent of redistribution embodied in the tax and benefit system is a political choice for governments and electorates, and we take no stance on it. But the government's own statements suggest that it wants the largest burden of fiscal consolidation to fall on the best-off in society. If the government decides that it wants to raise more tax revenue from those with the broadest shoulders, it should be clear first of all what it means by that. Does it mean those with high incomes or those with a lot of wealth? Those are two different groups. It also matters a great deal whether they want to target those in the top half of the income/wealth distribution, or focus more narrowly on the top 10% or even 1%. It is important for the public debate to recognise first that to be in the top 10% of the income distribution, a single person needs an after-tax income of under £600 a week and a couple a combined income of less than £1,000 a week. These people may or may not be considered 'rich' but they are certainly not 'super-rich'. It is also important to understand that those on higher incomes already pay a large proportion of total tax. And the very richest have borne a bigger share of the burden of fiscal consolidation than have other income groups, although the remainder of the top half of the income distribution have not.

The policies that would target each of these groups – top half, top 10% or top 1%, by income or by wealth – are somewhat different. But whichever is the target group, it is vital that any additional revenue be raised from them as efficiently as possible, minimising administrative costs and economic distortions and moving the tax system towards, rather than away from, being a rational and coherent system as a whole.

Table 9.4 summarises the estimated revenue yield of various reforms discussed in this chapter for which the likely yield is estimated with some confidence, while Table 9.5 shows those for which revenue yields are unknown or highly uncertain.

If the goal is to raise revenue primarily from the better-off half of households, with the better-off paying more, then the government could simply increase the rates of one of the main broad-based taxes – income tax, NICs or VAT. Small increases in the main rates of these taxes could raise relatively large sums, because they are spread across a lot of people. Of these, increasing VAT would be the least progressive (while still somewhat progressive, contrary to popular perception), but also the least damaging to work incentives. Each of these would also involve exacerbating another existing distortion in the tax system – to savings decisions, to the troublesome labour/capital distinction or to consumption patterns.

The government could target the highest-income 10% of the population more closely by restricting increases to the higher rate of income tax or the additional rate of NICs. But the fact that these affect so many fewer people means that raising a given amount of revenue would entail much bigger increases in tax rates – and much more damage to work incentives – among those affected than using all rates of these taxes.

If the government wants to target savings and wealth rather than earnings, it should start with a clear view as to how it wants savings to be taxed. It is hard to identify any set of objectives that could justify the current system.

Table 9.4. Summary of possible reforms for which revenue yield estimated with relative confidence

Reform	Revenue yield (2014–15 unless otherwise stated)
<b><i>Broad-based taxes on income and spending</i></b>	
Increase all rates of income tax by 1p	£5.7 billion
Increase all rates of NICs by 1p	£4.7 billion
Increase main rate of VAT by 1p	£5.3 billion
<b><i>Income tax and NICs rates for higher earners</i></b>	
Increase higher rate of income tax by 1p	£1.1 billion
Increase additional rate of NICs by 1p	£0.8 billion
<b><i>Capital gains tax</i></b>	
Increase lower rate of CGT by 1p	Negligible
Increase higher rate of CGT by 1p	£0.1 billion
<b><i>Taxes on wealth and housing</i></b>	
Increase inheritance tax rate by 1p	£0.1 billion
Increase all SDLT rates by 1p	£2.3 billion
Increase SDLT rates above £1 million by 1p	£0.3 billion
Double council tax for bands G and H	£2.0 billion <sup>a</sup>
Double council tax for bands E to H	£7.3 billion <sup>a</sup>

<sup>a</sup> 2013–14 estimate.

Notes: These revenue estimates can be scaled (within reason) to estimate the yield of larger or smaller changes. See text for further details and sources.

There may be good reasons to encourage people to save a certain amount in a pension, but it is hard to justify the extraordinarily generous NICs treatment of employer pension contributions and hard to see why people with very large pension pots should be able to draw a lump sum of as much as £312,500 tax-free. Reforming either of these reliefs could make the taxation of pensions more coherent. In contrast, restricting the rate of tax relief on pension contributions undermines the entire logic of pension taxation and would be complex, unfair and inefficient.

The Mirrlees Review argued that the introduction of a Rate of Return Allowance for savings outside pensions and ISAs would enable the system to fit together as a whole and dissipate many of the problems that plague capital gains tax in its current form. But even without an RRA, it is difficult to justify the generosity of entrepreneurs' relief and impossible to justify the forgiveness of CGT on death.

If the government believes that bequests ought not to be taxed, then inheritance tax should be abolished. Otherwise, it should consider whether there is any reason not to tax *inter vivos* gifts in the same way. Less radically, the government should look at the reliefs for business and agricultural property, which create harmful distortions and provide an open door to tax avoidance.

The taxation of housing is a mess. There is no good argument for taxing housing transactions, as stamp duty land tax does. There are good arguments for levying a tax on property values – but not for charging a lower percentage tax rate on high-value properties and basing it on valuations that are 22 years out of date, as council tax does. Increasing council tax rates for high-band properties would go some way towards making council tax more proportional to property values, but it would be better to conduct a full



revaluation and make a reformed tax fully proportional to those up-to-date valuations, preferably replacing the revenue from an abolished SDLT in the process.

Finally, the government could consider introducing an entirely new tax, such as a wealth tax or a ‘mansion tax’. But many of the existing taxes examined in this chapter – CGT, IHT, SDLT and council tax – could be improved in a way that both makes them more efficient and, if so desired, raises more revenue from the rich. It would be sensible to look at reforming these taxes before considering the introduction of new ones.

**Table 9.5. Summary of possible reforms for which revenue yield unknown or highly uncertain, with no allowance for behavioural response**

Reform	Approximate revenue yield (year varies)
<b>Capital gains tax</b>	
Reduce/abolish CGT annual exempt amount	Up to £2.6 billion. <sup>a</sup> A £500 reduction would raise £20 million (allowing for some behavioural response) but that figure cannot be scaled up.
Merge income tax and CGT allowances	Unknown
Abolish CGT entrepreneur’s relief	Up to £1.7 billion <sup>a</sup>
Abolish forgiveness of CGT at death	£0.5 billion
Abolish CGT exemption of main homes	Up to £9.9 billion <sup>a</sup>
<b>Taxation of private pensions</b>	
Reduce annual or lifetime pension contribution cap	Unknown
Restrict pension tax relief to the basic rate	£8.6 billion
Cap the tax-free lump sum in pensions	Unknown, but previous HMRC estimate suggested up to £2.5 billion
Introduce employer NICs on employer pension contributions	£9.2 billion
Introduce employer and employee NICs on employer pension contributions	£13.0 billion
<b>Taxes on wealth and housing</b>	
Introduce a wealth tax	Unknown
Reduce/abolish inheritance tax nil-rate band	Up to £12.8 billion <sup>a</sup> . A £5,000 reduction would raise £50 million (allowing for some behavioural response) but that figure cannot be scaled up.
Abolish inheritance tax exemption of business assets	£0.4 billion
Abolish inheritance tax exemption of agricultural land	£0.3 billion
Extend 7-year rule in inheritance tax	Unknown
Extend inheritance tax to all lifetime transfers	Unknown
Add new, higher council tax band(s)	Unknown
Introduce a ‘mansion tax’	Unknown

<sup>a</sup> Figure shown is the estimated amount by which the total relief reduces tax liabilities.

Note: See text for further details and sources.

# 10. Corporate tax, revenues and avoidance

Helen Miller (IFS)

## Summary

- Corporate tax revenues fell sharply in the recession. Receipts were lower in 2011–12 than previously expected and they are not forecast to rise again until 2016–17. This is the result of a combination of discretionary cuts to the main tax rate and weak expected growth in taxable profits. By 2017–18, revenues are forecast to be at their lowest level as a share of national income and total receipts since 1984–85.
- The large fall in corporate revenues across the recession was caused mainly by a sharp fall in financial sector receipts and there remains uncertainty about how strongly they will recover.
- There has been renewed attention on corporate tax avoidance. The UK attempts to tax profits that are *created* in the UK. These can be hard to measure and firms have an incentive to manipulate ‘UK profit’ to avoid tax. How much is lost to corporate tax avoidance is not known.
- Some of the difficulties in defining and tackling tax avoidance, which are both conceptual and practical, are inherent to the current tax system and arise from the way it attempts to measure profits created in the UK. A more radical change in the corporate tax system – for example, moving to a common European tax base – therefore merits consideration.
- Taxation of North Sea oil and gas has been an important source of revenue for successive UK governments. Revenues were relatively high following the recession (due to a spike in the oil price and an increase in the tax rate) but are forecast to decline as production falls.
- North Sea companies are subject to tax at over double the main statutory corporate tax rate. This is implemented in a way that distorts investment decisions. The tax regime is unnecessarily complex and creates additional uncertainty by changing too frequently.

## 10.1 Introduction

There has been a growing public debate around corporate tax issues and specifically around concerns that tax avoidance, especially by multinational companies shifting profits out of the UK, is reducing corporate tax revenues. However, there are disagreements over what constitutes avoidance. These arise partly from a lack of understanding about what the UK is trying to tax and partly because it can be conceptually hard to define tax avoidance. It is also unclear how much revenue is lost as a result of UK firms shifting profits offshore, not least because there are no good measures of this. This chapter seeks to provide the context for the debate – including how much is

currently raised from corporation tax and how this has evolved – and to set out some of the complexities that arise in identifying and dealing with some forms of tax avoidance.

The UK government currently raises around 7% of its total revenue from corporation tax. Notwithstanding significant volatility, this share showed no obvious downward trend in the period from the 1980s to the start of the 2008–09 recession despite the fact that the main rate of corporation tax has been reduced substantially (from over 50% to 28%) over that period. The trend stands in contrast to long-running concerns that corporate tax revenues will decline as governments compete for investments by offering lower tax burdens and as the income from corporate activities becomes more mobile. There is some evidence that part of the robustness of UK corporate revenues over this period has resulted from an increased share of corporate profits in national income, and particularly from growth in the size of the financial sector.

Corporate tax receipts fell sharply following the recession and are expected to continue falling until 2016–17, when they are still forecast to be below their 2011–12 level. Revenues from the financial sector fell particularly sharply between 2008 and 2010 and there is uncertainty over how quickly the sector will recover. Current forecasts suggest that financial sector revenues will remain at only half of their previous 2006–07 high in 2017–18. This history and forecasts of corporate tax revenues are discussed in Section 10.2.

Section 10.3 discusses the taxation of multinationals and issues around profit shifting to avoid tax. There are a number of ways in which firms may seek to reduce their UK tax liability that are legal but might be deemed to fall outside the spirit of the law. However, tax avoidance can be difficult both to define conceptually and to identify in practice. This is not a new problem. Governments and international organisations – notably the OECD – have long discussed and tried to design policy solutions to prevent ‘aggressive’ tax planning. The government has said that more resources at HM Revenue and Customs (HMRC) are being committed to tackling tax avoidance. The effectiveness of this remains to be seen.

The government has made creating ‘the most competitive corporate tax regime in the G20’ a central tenet of its corporate tax strategy and has lowered tax rates substantially to this end. This works to reduce the incentives for firms to move either real activities or paper profits out of the UK. However, tax competitiveness is a moving target, the benefits of which could be offset if other countries were to enact similar policies.

Many of the opportunities for tax avoidance stem from the system used to allocate profits to countries. Firms produce separate accounts for each country they operate in and set the prices associated with any transactions that happen within the company but across a tax border. Multinational companies face opportunities to manipulate the apparent location of profits and costs and the intra-group prices in order to reduce tax payments. A more radical approach to this type of avoidance may therefore be appropriate. For example, the European Commission has proposed a common consolidated corporate tax base that would require firms to calculate their Europe-wide profits and allocate taxing rights to countries using a formula based on the location of real activities.

North Sea companies face high tax burdens; for some investments the marginal tax rate is 81% and in all cases firms face a rate double that of the main statutory corporate tax rate. North Sea oil and gas production has been an important source of revenue for the UK, although the amount raised in the last two decades is substantially below the peak in the

mid-1980s. During the recession, revenues were buoyed by a high oil price, but looking further forward they are forecast to decline as a result of declining production and a falling global oil price.

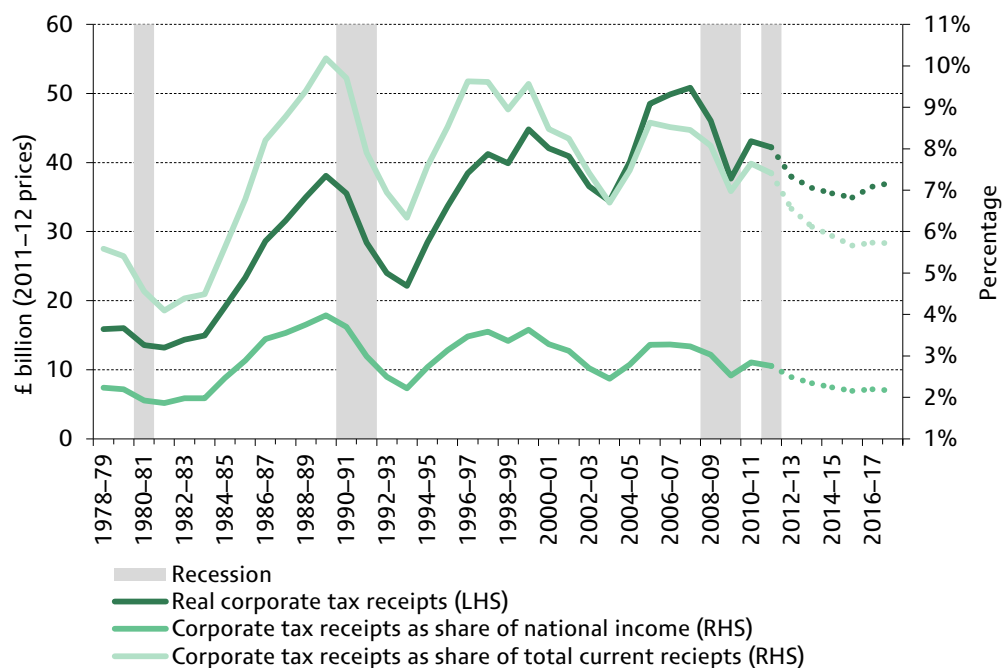
High tax rates need not be distortionary but this relies on the appropriate design and administration of the tax system. As the tax system stands, North Sea companies are subject to a complex regime that has changed many times and can distort investment decisions. Section 10.4 considers the taxation of North Sea companies, while Section 10.5 concludes.

## 10.2 Corporate tax revenues

In 2011–12, corporation tax net receipts were £42.2 billion. This represented a fall from the pre-crisis high of £46.3 billion in 2007–08 but an increase compared with the low of £35.8 billion in 2009–10.

Figure 10.1 shows real corporate tax receipts (in 2011–12 prices) as well as the share of corporate tax receipts in total receipts and in national income over the past three decades. Real corporate tax receipts were higher in 2011–12 than in all years before 1999.<sup>1</sup> Over the past three decades, corporate tax revenues have represented between 2% and 4% of national income and between 4% and 10% of total tax receipts.

Figure 10.1. Corporate tax receipts



Sources: IFS Fiscal Facts data (<http://www.ifs.org.uk/fiscalFacts/fiscalAggregates>). Figures for 2012–13 onwards from table 4.6 of Office for Budget Responsibility, *Economic and Fiscal Outlook*, December 2012 (<http://cdn.budgetresponsibility.independent.gov.uk/December-2012-Economic-and-fiscal-outlook23423423.pdf>). Real corporate tax receipts deflated using 2011–12 GDP deflator. National income (GDP) and GDP deflator from [http://www.hm-treasury.gov.uk/data\\_gdp\\_fig.htm](http://www.hm-treasury.gov.uk/data_gdp_fig.htm).

<sup>1</sup> Note that onshore corporate tax revenues were particularly low in the early 1980s. In 1981–82 corporate tax receipts (in 2011–12 prices) were £13.2 billion but excluding North Sea revenues were just £2.2 billion. Note that trends shown in Figure 10.1 look comparable if North Sea revenues are excluded.

Corporate tax receipts are one of the most volatile forms of government revenues; over time, they vary substantially more than total receipts or national income. Corporate tax revenues are affected by changes in total output of the economy, and particularly by the size and profitability of the financial sector and North Sea companies.

### **Forecast receipts are weak**

The Office for Budget Responsibility (OBR) forecasts that total net receipts from corporation tax will fall (in both nominal and real terms) in each of the next three years. They are not forecast to increase again until 2016–17. In 2017–18, they are forecast to be £42.0 billion – slightly less than in 2011–12 and at their lowest level as a share of national income and total receipts since 1984–85.<sup>2</sup>

A significant part of weak growth in nominal receipts is explained by lower offshore receipts, which are forecast to fall by two-thirds from £9.2 billion in 2011–12 to £3.1 billion in 2017–18 (£2.7 billion in today's terms) – see Section 10.4. But there is also relatively weak growth forecast in onshore receipts, which are projected to increase from £33.8 billion in 2011–12 to £39.7 billion in 2017–18 (£35.1 billion in today's terms).<sup>3</sup> The growth in nominal onshore receipts (17%) over the next six years is low relative to forecast growth in nominal total current tax receipts (29%) and nominal national income (27%) over the same period.

#### ***Resulting from weak profits and taxable income growth ...***

Figure 10.2 shows the forecasts for growth in corporate tax receipts, profits and taxable income and for both onshore private non-financial companies (PNFC) and companies in the financial sector. The difference between growth in profits and growth in taxable income will represent the effect of accumulated losses, as well as any changes to the tax base or the composition of taxpayers (for example, whether more profit comes from companies associated with higher capital allowances). The difference between growth in taxable income and growth in receipts will be largely affected by policy change.<sup>4</sup>

From 2013–14, growth in receipts is driven largely by growth in onshore, non-financial profits. Growth in profits in the onshore, non-financial sectors is expected to be 2% this year (2012–13), but to accelerate to almost 8% in 2014–15 and 2015–16 and almost 9% in 2016–17. Financial sector profits are also forecast to grow by 2% this year, but in contrast to grow by only 2.5% in each of the three years to 2015–16 and by only 4.1% in 2016–17.

Corporate tax revenues tend to fall relatively quickly in a recession and recover with a delay. The delay is caused partly by the build-up of losses during a recession that can be carried forward and offset against profits that arise when growth resumes. Losses have contributed, and are expected to contribute, to lower taxable income (and therefore lower receipts) in coming years. This has been particularly important for the financial sector this year and for industrial and commercial companies going forward.

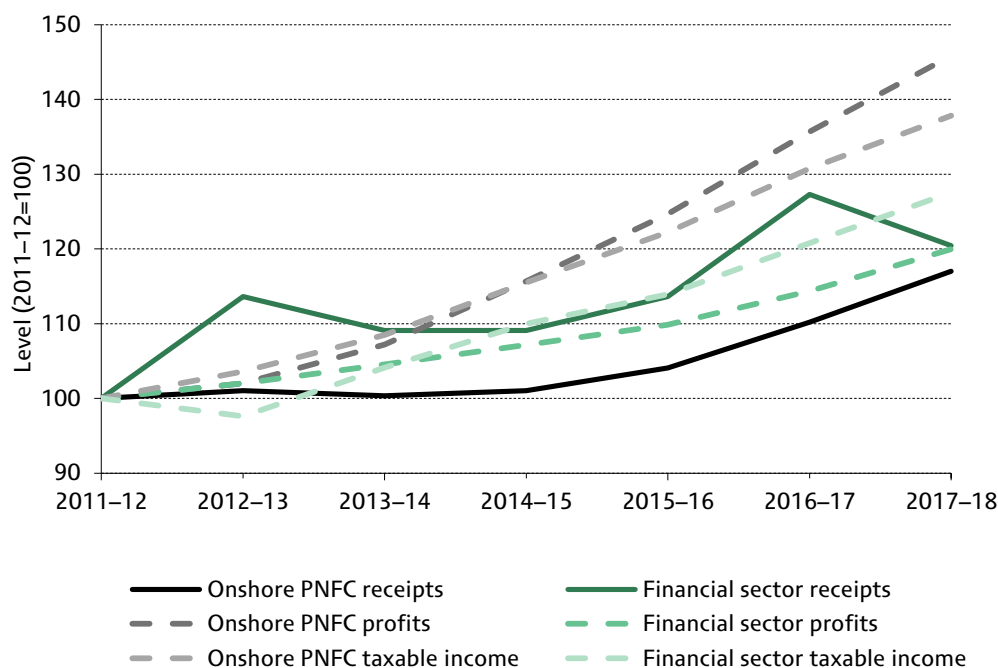
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<sup>2</sup> For corporate tax receipts forecasts, see table 4.6 of OBR, *Economic and Fiscal Outlook*, December 2012 (<http://cdn.budgetresponsibility.independent.gov.uk/December-2012-Economic-and-fiscal-outlook23423423.pdf>).

<sup>3</sup> These figures do not include the negative effect of corporate tax credits.

<sup>4</sup> This difference will also be affected by, for example, corporate tax repayments and by the composition of growth in the tax base (e.g. whether from companies subject to the main corporate tax rate).

Figure 10.2. Growth in profits, taxable income and receipts



Source: OBR, *Economic and Fiscal Outlook*, December 2012

(<http://cdn.budgetresponsibility.independent.gov.uk/December-2012-Economic-and-fiscal-outlook23423423.pdf>) – table 4.1 for profits and taxable income and table 4.6 for receipts. OBR, *Economic and Fiscal Outlook: Fiscal Supplementary Tables*, December 2012 (available at <http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>), table 2.5 for financial sector receipts. Author's calculations.

### ... and policy change

The growth in receipts is also affected by policy change. The main rate of corporation tax is 24% in 2012–13 and will, under current policy, be reduced to 23% in 2013–14 and 21% in 2014–15. In addition, the annual investment allowance is being increased temporarily (from £25,000 to £250,000 for two years starting 1 January 2013) and the Patent Box is being introduced from April 2013. Changes to the tax rate contribute to weak growth in receipts relative to taxable income in 2013–14 and 2014–15.

### Receipt forecasts revised down

The 2011–12 receipts were slightly lower (by £0.3 billion) than expected in March 2012 partly as a result of lower receipts from industrial and commercial companies.

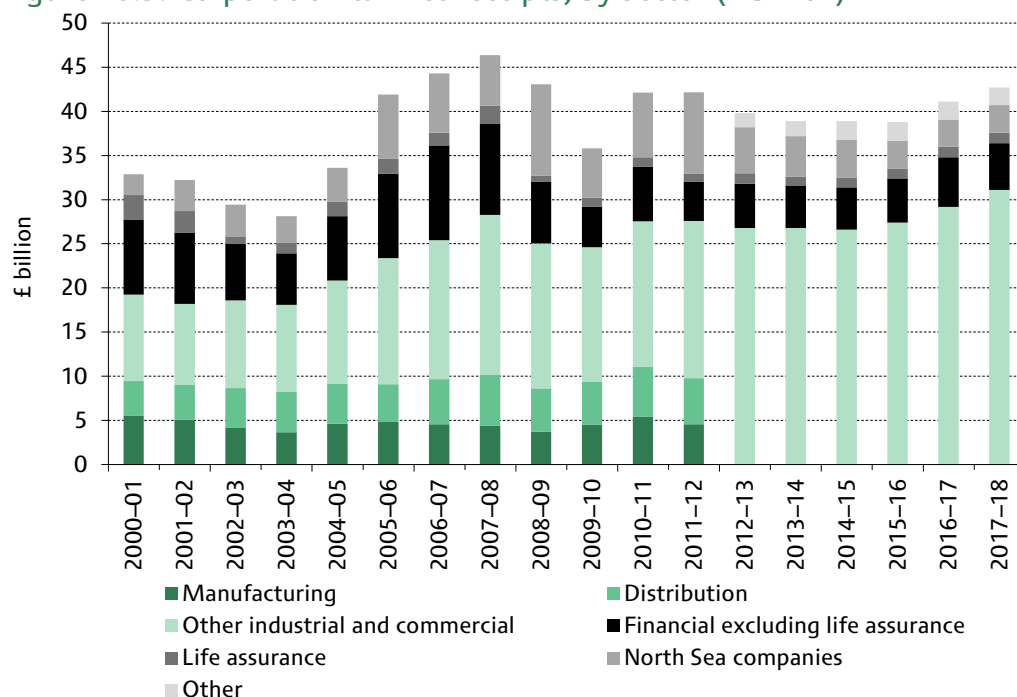
The latest OBR forecast (December 2012) has revised down forecasts for receipts going forward. Notably, the 2012–13 receipts were revised down by £4.9 billion compared with the previous March forecast. About half of the downgrade is attributable to North Sea companies, and the other half primarily to lower expected receipts from industrial and commercial companies. After 2012–13, there is now lower expected profit growth and higher losses for financial sector and industrial and commercial companies. In 2016–17, forecasts have been revised down by £6.8 billion, a small part of which (£0.9 billion) is

attributable to the additional 1% cut to corporation tax, announced in the December 2012 Autumn Statement and to be introduced in April 2014.<sup>5</sup>

## Corporate tax by sector

Figure 10.3 shows nominal net corporate tax receipts by sector. The industrial and commercial sector (which includes manufacturing and distribution) provides the largest corporation tax revenues – 65% of receipts in 2011–12 – and is forecast to account for much of the growth in corporate tax receipts going forward.

Figure 10.3. Corporation tax net receipts, by sector (£ billion)



Notes: Corporation tax net receipts are the amount collected in a financial year, net of tax credits. Receipts can relate to liabilities in earlier financial years. In the forecast years (2012–13 to 2017–18), the light green bars refer to all industrial and commercial (i.e. including manufacturing and distribution) companies. ‘Other’ is mainly unallocated receipts.

Source: HMRC, table 11.1A (available at <http://www.hmrc.gov.uk/statistics/ct-receipts.htm>).

## Financial sector revenues: previously strong but weak going forward

The financial sector grew strongly in the decade up to 2008–09 and contributed over 20% of corporate tax revenues.<sup>6</sup> This is double the size of the financial sector in national output: in 2009, the financial sector represented 10% of gross value added.<sup>7</sup>

Corporate tax receipts from the financial sector have fallen sharply following the recession. They came in at £4.4 billion in 2011–12, down from a high of £10.7 billion in 2006–07. By 2011–12, the share of the financial sector in corporate tax receipts had fallen from 26% in 2001–02 to 11%. The substantial fall in receipts from financial sector

<sup>5</sup> For discussion, see paragraphs 4.75–4.78 of OBR, *Economic and Fiscal Outlook*, December 2012 (<http://cdn.budgetresponsibility.independent.gov.uk/December-2012-Economic-and-fiscal-outlook23423423.pdf>).

<sup>6</sup> For a discussion of growth in the financial sector, see S. Burgess, ‘Measuring financial sector output and its contribution to UK GDP’, *Bank of England Quarterly Bulletin*, 2011 Q3 (<http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/qb110304.pdf>).

<sup>7</sup> Author’s calculation using ONS, *Blue Book 2012*, series KLV9 (finance and insurance) and ABML.



companies was largely offset by the relative strength of receipts from North Sea companies in 2010–11 and 2011–12. (North Sea taxation and revenues are discussed in Section 10.4.)

The OBR forecasts that financial sector receipts in 2017–18 will be £5.3 billion – that is, only half of their previous peak. However, there is considerable uncertainty over the rate of recovery of financial sector profits.

### The bank levy

The government has taken steps to raise more revenue from part of the financial sector. In the June 2010 Budget, the Chancellor announced the introduction of the bank levy<sup>8</sup> – a tax on certain equity and liabilities of banks and building societies.<sup>9</sup> One of the stated aims is to ‘ensure that the banking sector makes a fair contribution ... reflecting the risks it poses to the financial system and the wider economy’.<sup>10</sup>

The 2011–12 receipts from the bank levy – the first the government has received – were £1.8 billion. The government has announced that it plans to raise at least £2.5 billion each year. The OBR forecasts that revenue raised by the levy will also be £1.8 billion in 2012–13 and will increase to £2.8 billion in 2013–14.<sup>11</sup> Taken together with corporation tax receipts, the OBR forecasts that, in 2017–18, £8.1 billion will be raised from the financial sector. However, this is still £2.6 billion less than the previous peak of financial sector corporate tax receipts alone.

### Historically, revenues have been higher than expected

It has long been predicted that corporate tax receipts will fall as firms exploit opportunities to shift taxable profit offshore (which may be increasing if income is becoming more mobile) and as governments take policy measures to reduce the corporate tax burden with a view to maintaining tax competitiveness vis-à-vis other countries.

The main rate of corporate tax in the UK has more than halved from over 50% at the start of the 1980s to 24% in 2012–13. Similarly, the small companies’ rate (currently applicable to firms with profits under £300,000) has fallen from 40% in 1980 to 20% today.<sup>12</sup> Despite this, corporate tax revenues have remained relatively high. As shown in Figure 10.1, notwithstanding the volatility, real corporate tax receipts increased over the period from the 1980s until the start of the crisis. The share of those revenues in either national income or total tax revenues showed no obvious downward trend before the crisis.

<sup>8</sup> Note that the bank levy is not included in the corporate tax receipts discussed above.

<sup>9</sup> The bank levy applies to UK banks and building society groups, foreign banks and banking groups operating in the UK and UK banks in non-banking groups for periods of account ending on or after 1 January 2011. For full details, see <http://www.hmrc.gov.uk/budget-updates/autumn-tax/bank-levy-manual.pdf>.

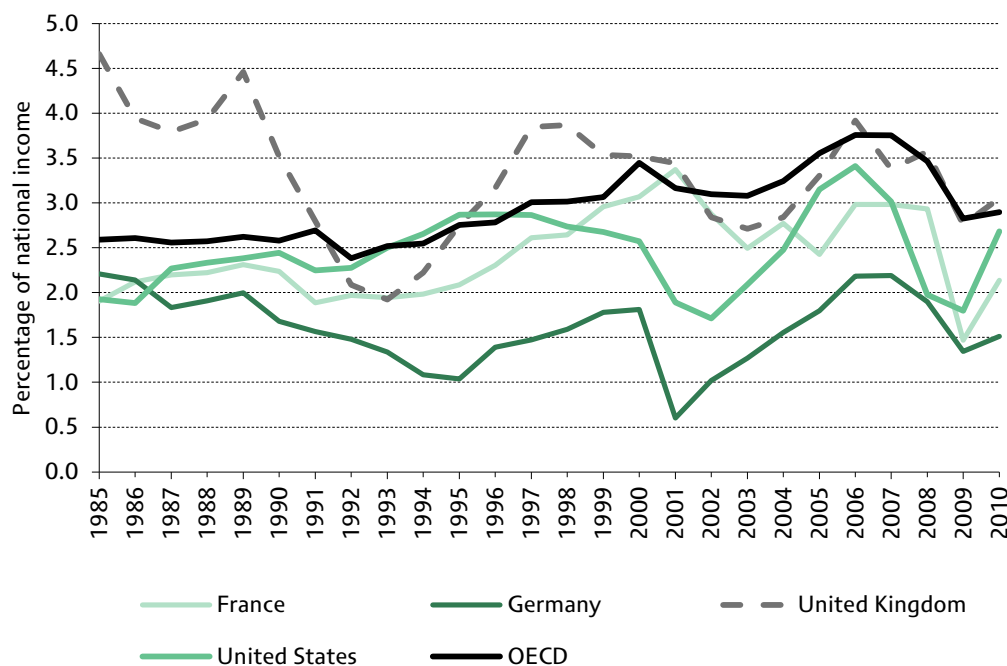
<sup>10</sup> See <http://www.hmrc.gov.uk/budget2012/tiin-0899.pdf>. This document also describes the series of rate changes and sets out the government’s intention to raise £2.5 billion.

<sup>11</sup> See table 4.6 of OBR, *Economic and Fiscal Outlook*, December 2012 (<http://cdn.budgetresponsibility.independent.gov.uk/December-2012-Economic-and-fiscal-outlook23423423.pdf>).

<sup>12</sup> The main corporate tax rate was 52% in 1980. The main reductions were to 45% in 1984, 40% in 1985, 35% in 1986 and 30% in 1999. There have been gradual reductions to 24% in 2012. See HMRC, table A.6 (<http://www.hmrc.gov.uk/statistics/ct-receipts/table-a6.pdf>).

Other countries have had similar experiences. Figure 10.4 shows that OECD countries have also seen volatile corporate tax receipts, but no downward trends in the share of those receipts in national income. In fact, corporate tax revenues have tended to be higher as a share of national income in the UK than in France, Germany and the US, which have higher headline corporate tax rates. For example, over the five years up to 2010, the UK raised an average of 3.3% of national income in corporation tax. In contrast, France and the US raised around 2.5% of national income and Germany 1.8%.

Figure 10.4. Corporate tax revenue as a share of national income



Note: The OECD series is an unweighted average of OECD countries.

Source: OECD revenue statistics (measure 'Tax revenue as percentage of GDP' for '1200 Corporate', available at <http://stats.oecd.org>).

Previous analysis by IFS researchers examined the possible causes of relatively high corporate tax revenues in the UK over the period from 1980 to the early 2000s. They presented evidence suggesting that the primary explanation was an increase in the share of corporate profits in national income and particularly the growth in the size, and likely profitability, of the financial sector.<sup>13</sup> It is worth noting that once the current forecasts out to 2017–18 are included, it starts to look as if there is possibly a downward trend in corporate tax receipts as a share of national income and of current receipts since the mid-1990s. This holds for onshore and offshore revenues.

## 10.3 Taxation of multinationals and avoidance

Corporate tax payments are highly skewed. In 2010–11, the largest 0.7% of companies (by tax payable) accounted for around 70% of corporate tax receipts. The largest 0.1% of

<sup>13</sup> M. Devereux, R. Griffith and A. Klemm, 'Why has the UK corporation tax raised so much revenue?', *Fiscal Studies*, 2004, 25, 367–88. The authors find little role for tax base broadening in maintaining corporate tax revenues.

taxpayers accounted for over half of corporate tax receipts.<sup>14</sup> This is not that surprising: the large companies that earn the majority of profit also pay the largest amount of tax.

However, in recent months, much attention has been given to the possibility that some large multinational companies are avoiding tax by manipulating down how much taxable profit is recorded in the UK. This is part of a longer-running concern that, as firms' real activities and the associated income become more mobile, governments might have to expect to raise less from corporate tax, both because of increased opportunities for avoidance and as a result of countries competing to attract real activities with lower taxes.

This section discusses what the UK corporate tax system aims to tax and the particular difficulties that arise in measuring multinational firms' profits and allocating them to tax jurisdictions. Firms' activities are often highly integrated across countries – this is a key commercial advantage to operating as a multinational company – and in such cases it is difficult to determine how much of the resulting profit can be attributed to any one country. We go on to consider the ways in which firms may be able to avoid tax and discuss the rules that aim to prevent this. We focus on the types of avoidance associated with multinational companies shifting profits (as opposed to, say, exploiting loopholes in the rules around allowances available in the UK).

### *What is avoidance?*

Tax avoidance commonly involves exploiting 'loopholes' – boundaries between activities that are and are not taxed (or are taxed at different rates) or favourable interpretations of uncertainty in tax legislation. Opportunities for avoidance also arise because it can be difficult (both conceptually and practically) to define 'UK profits'. Broadly, firms can reduce UK taxable profits by increasing the deductions allowable from taxable income and/or by shifting income to a lower-tax jurisdiction.

HM Revenue and Customs (HMRC) defines tax avoidance as 'bending the rules of the tax system to gain a tax advantage that Parliament never intended. ... It involves operating within the letter but not the spirit of the law'.<sup>15</sup> One of the reasons why avoidance is hard to characterise precisely and is subject to much debate is that not everyone agrees on, nor feels compelled to adhere to, the 'spirit' of the law.

The term tax avoidance is used to encompass a wide spectrum of activities. At one end, firms may reorganise or relocate their real activities in response to the incentives in the tax system. Such behavioural responses may be larger than the government expected but arguably are not avoidance. Towards the other end of the spectrum, firms may manipulate intra-group prices, undertake wholly artificial transactions or establish tax haven companies. It is these strategies that are frequently characterised as 'aggressive' or 'abuse' forms of tax avoidance that attract the most opprobrium.

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<sup>14</sup> Author's calculations using HMRC, table 11.6 (available at <http://www.hmrc.gov.uk/statistics/ct-receipts.htm#4>). The largest 0.7% (0.1%) of firms represent 6,293 (869) firms with a tax liability greater than £500,000 (£5,000,000). Many small and medium companies pay no tax at all, either because they make no profit or because they have sufficient allowances or previous losses to offset their tax liability.

<sup>15</sup> See <http://www.hmrc.gov.uk/statistics/tax-gaps/mtg-2012.pdf>. Similarly, the OECD definition of tax avoidance is 'the arrangement of a taxpayer's affairs that is intended to reduce his tax liability and ... is usually in contradiction with the intent of the law it purports to follow'; see OECD, *Glossary of Tax Terms* ([http://www.oecd.org/document/29/0,3343,en\\_2649\\_34897\\_33933853\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/29/0,3343,en_2649_34897_33933853_1_1_1_1,00.html), accessed January 2012).

Avoidance can result in less tax revenue being collected than was planned. It can also create distortions between different companies or different investments if some have greater ability to avoid taxes.

### **Two notes on corporate tax**

There are two broad issues to bear in mind when considering corporate taxation.

First, corporation tax is a particularly distortionary form of taxation that can work to reduce investment. This is especially the case for internationally mobile investments because firms will consider tax when choosing where to locate real activities. The Mirrlees Review noted that, in principle, it would be efficient to tax relatively mobile activities at a lower rate in order to avoid deterring mobile activities while allowing a higher rate to be supported on less mobile activities.<sup>16</sup> Avoidance behaviours are one way that de facto lower rates on more mobile income are achieved. (The Patent Box to be introduced in April – see below – is one way to try to achieve this directly.) In this case, there may even be benefits to the UK from avoidance opportunities if the lower tax rates achieved on mobile activities – for example, through profit shifting – mean that more real activity is in the UK than would otherwise be the case. But, of course, there are many costs too, including the inefficiencies that arise from tax planning, the distortions between activities and the potential revenue loss.<sup>17</sup>

Second, the ultimate incidence of corporate tax always lies with households and is borne either by the owners of capital (in the form of lower dividends), by workers (in the form of lower wages) or by consumers (in the form of higher prices). We do not know with any precision who is made worse off as the result of the corporation tax. However, estimates suggest that, because capital tends to be much more mobile than workers or consumers, a significant share of the burden of corporate tax tends to be shifted to domestic factors – and specifically labour.<sup>18</sup> In other words, there is reason to believe that at least a part, and in some cases a large part, of the corporation tax that companies are subject to is ultimately passed on to workers in the form of lower wages.

### **UK corporate tax base: what are we trying to tax?**

The UK operates a source-based corporation tax that broadly aims to tax profits that are created in the UK.<sup>19</sup> This can be distinct from, although is often related to, profits that arise from the sale of products in the UK, some of which will be attributable to activities that take place outside the UK.

UK resident companies (those that are incorporated in the UK or are managed and controlled from the UK)<sup>20</sup> are subject to corporation tax on their profits from UK trading

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<sup>16</sup> See page 12 of J. Mirrlees et al., *Tax by Design: The Mirrlees Review*, Oxford University Press for IFS, 2011 (<http://www.ifs.org.uk/mirrleesReview/design>).

<sup>17</sup> There is an academic literature on the costs and possible benefits of tax planning. See, for example, D. Dharmapala, 'What problems and opportunities are created by tax havens?', *Oxford Review of Economic Policy*, 2008, 24, 661–79, which considers the role of tax havens, and references therein.

<sup>18</sup> Workers may receive lower wages as a result of the corporation tax because (i) a lower level of capital investment results and this reduces labour productivity and therefore wages and/or (ii) the effect of lower after-tax profits feeds directly into lower wages. See, for example, W. Arulampalam, M. Devereux and G. Maffini, 'The direct incidence of corporate income tax on wages', Oxford University Centre for Business Taxation, Working Paper 07/07, 2007, and references therein.

<sup>19</sup> All industrial countries operate source based corporation taxes (i.e. those based on identifying the source of profits, rather than the residence of shareholders or the location of customer). However, there are important differences in the precise tax base, including whether countries seek to tax foreign-source income.

<sup>20</sup> UK resident is defined at <http://www.hmrc.gov.uk/manuals/intmanual/intm120200.htm>.

and investment activities and capital gains. Some profits or capital gains may result from offshore sales, and in these cases a credit is given for any foreign tax paid. Foreign dividends (arising, for example, from the activities of an offshore subsidiary) have been exempt from UK corporation tax since 2009.<sup>21</sup> Resident companies may also now irrevocably elect to exempt their foreign branch profits. Companies not resident in the UK but operating here pay corporation tax on their UK profits.

### *There are allowances that reduce taxable income*

All companies can make use of a number of allowances and deductions that reduce taxable income; these do not constitute tax avoidance (unless manipulated purely with a view to reducing tax liability). Notably, in calculating taxable profits (the tax base), companies immediately deduct current expenditure (such as wages, raw materials and interest payments). They do not deduct the cost of investment expenditure, but instead make deductions in accordance with capital allowances (for example, there are allowances for expenditure on plant and equipment).<sup>22</sup> Some companies will also be eligible for additional allowances such as research and development (R&D) tax credits. Companies that make a trading loss may offset that loss against total current profits (which may include chargeable gains as well as a trading loss), profits earned in the previous year or profits in any of the following years in which they continue to trade. Under group relief, certain losses may be transferred between related companies.<sup>23</sup>

A low corporate tax bill is not in itself therefore evidence of tax avoidance. Even if income appears high, there may be genuinely low UK taxable profits if a firm has relatively high current expenditures or can offset the effects of large investment expenditures or losses. The UK tax bill can also be appropriately relatively low compared with declared income if that income is the result of genuinely non-UK activities.

### *Measuring 'UK profit'*

One of the challenges of a source-based corporation tax is to ascertain where profits are created; that is, to calculate the share of a multinational firm's profits that are created in the UK and that should therefore be taxed here. This can be difficult both conceptually, because it can be hard to assign profits that are contingent on activities in multiple countries, and practically, because firms face incentives to arrange and report their activities in such a way as to minimise their tax liabilities.

### *There is often no clear, principled definition of UK profit*

Consider the following example. Imagine that a company located in the Netherlands creates and owns the intellectual property for a new technology (or a service, or a brand). A related UK company (i.e. both companies are part of the same group) markets and sells a product that embodies the technology in the UK. Royalties are paid from the UK company to the Dutch company. The royalty should reflect the value of the technology

<sup>21</sup> The exemption of foreign dividends was introduced in June 2009. See R. Griffith, H. Miller and M. O'Connell, 'Business taxation', in R. Chote, C. Emmerson, D. Miles and J. Shaw (eds), *The IFS Green Budget: January 2009*, IFS Commentary 107, 2009 (<http://www.ifs.org.uk/budgets/gb2009/09chap12.pdf>) for a discussion.

<sup>22</sup> The rate and type of capital allowance vary according to the types of capital expenditure. Capital allowances may be claimed in the year that they accrue, carried forward to set against future profits or carried back for up to three years. See section 3.6 of J. Browne and B. Roantree, *A Survey of the UK Tax System*, IFS Briefing Note 9, 2012 (<http://www.ifs.org.uk/bns/bn09.pdf>).

<sup>23</sup> UK companies are not required to file consolidated accounts; all file separate tax returns. However, there are certain cases where losses may be offset against the profits of other companies in the same group.

(i.e. how important the technology is in the creation of the UK profits). If the technology is very important (implying that the source of the profit is largely the activities in the Netherlands), then the royalty payments will be high and the UK taxable profits relatively low. This would be the correct outcome under the UK tax system and would not constitute avoidance (arguably, this would also not be avoidance even if the real activity were initially located in the Netherlands as a result of a more favourable tax regime).

Difficulties arise because it is not necessarily clear what value the royalty should take, and therefore where profits are created and should be taxed. If the product were contingent on the technology (such that there would be no sales without the technology), then arguably all profits arising from UK sales could be attributed to the technology (and therefore to the Dutch company). However, the activities of the UK firm were important in making the sales, so it seems reasonable that at least some part of the profit should accrue to the UK. In cases where activities (in this example, the technology and the services of the UK firm) are complementary, it is difficult to ascertain the value of one independently of the other. This creates uncertainty over how much income should be allocated to different countries for tax purposes.

Similar issues arise for all transactions – for example, loans, charges for the use of headquarter services, the purchase of intermediate goods – that take place within a company but across the borders of tax jurisdictions. All require a price (which is often not observed in the market) to be placed on the transaction.

### *The tax system allocates profits through the arm's length principle*

The corporate tax system seeks to have the transfer price of intra-group transactions set on an arm's length principle; that is, set as if the transaction were taking place between two unrelated parties. This is enforced through transfer pricing rules, discussed below. The arm's length principle is effectively the mechanism through which the tax system allocates profits to countries.

The key difficulty with the arm's length principle is that the transactions it pertains to are taking place between related companies, not between third parties, such that there is no observable market price. As the above example illustrates, in some cases it is not even clear conceptually what an arm's length price is. This can be a common problem when firms' activities are highly integrated across countries. And in practice, firms – which usually have more information and resources than tax administrations – have scope to take advantage of uncertainty around the correct transfer price in order to gain a tax advantage.

## **Avoidance**

### *Firms may manipulate 'UK profit' to avoid tax*

In the above example, where a firm is making a royalty payment for the use of a technology, there is an incentive to locate the intellectual property in a low-tax jurisdiction such that the related profits are taxed at a lower rate. If all of the activities related to the creation of intellectual property are located in the lower-taxed country, this is unlikely to be viewed as tax avoidance. However, firms may arrange their activities in such a way that profits are arguably shifted from a higher-taxed location to a lower-taxed one. For example, a firm may invent a new technology in a relatively high-tax country but finance and manage that activity from a lower-tax country with a view to having any



resulting income taxed at the lower rate.<sup>24</sup> Similarly, a firm may sell intellectual property to a subsidiary in a low-taxed country – typically before the related technology has been commercialised and while the value is still hard to measure and arguably low – with a view to reducing the tax payable on profits that subsequently accrue. Firms may also be more aggressive in manipulating their tax liabilities. For example, there is an incentive to manipulate royalty payments such that more profit accrues in the more favourable tax regime and less profit accrues in the less favourable regime.

These issues are particularly acute with respect to intellectual property because there is often not a clear geographical location associated with the creation of new ideas and it is difficult to assign arm's length prices to new technologies that are not traded on the market. As a result, the income from intellectual property is particularly mobile. However, similar issues arise with respect to any intra-group payment.

More generally, because countries operate separate tax bases, there are various other ways in which firms can reduce their tax bills in a (relatively) high-tax country by increasing the deductions used in that country and increasing the profits declared in a (relatively) lower-tax jurisdiction. For example, a firm may make an intra-group loan from a subsidiary in a low-tax country to a subsidiary in a high-tax country. The interest payments will be deductible from taxable profit in the high-tax country and taxable in the low-tax country. The loan may be for the genuine commercial purpose of undertaking new investment or purely with an end to reducing tax liability. The tax savings will be increasing in the rate of interest charged (which will be set according to the arm's length principle and subject to the same difficulties outlined above). Another possible strategy would be for a firm to organise its affairs so as to allocate shared expenses (such as headquarter services, or marketing) to a relatively high-tax country while allocating sales to a relatively low-tax country.

Typically, as tax avoidance behaviours get more aggressive, the location of income becomes more divorced from genuine commercial activities. The Anti-Avoidance Group at HMRC lists a number of factors ('signposts') that are commonly associated with tax avoidance. They include arrangements that have tax implications but not economic consequences or commercial motivations, those that rely on a tax reduction to produce a significant post-tax profit, and those that involve contrived or artificial activities. Effectively, the signposts are a restatement that the income, expenditures and losses that form the UK tax base should be proportionate to the economic activity and value creation that occurs in the UK.<sup>25</sup>

### *Rules to prevent avoidance*

There are a number of rules in place that explicitly attempt to prevent tax avoidance through what is considered inappropriate profit shifting. The main examples are summarised in Box 10.1. The most important are the transfer pricing rules, which enforce the arm's length principle and aim to prevent firms from avoiding tax by manipulating the prices of intra-group transactions.

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<sup>24</sup> There are rules that aim to prevent firms from holding intellectual property in locations where there is no real activity. However, the location of intellectual property (which will be related to where it is managed and financed as well as to where a new idea is created) is hard to ascertain.

<sup>25</sup> See <http://www.hmrc.gov.uk/avoidance/aag-risk-assessing.htm>.



### Box 10.1. Main anti-avoidance rules

#### **Transfer pricing rules**

The price of a transaction (e.g. the sale of an input or the licence for the use of a technology, brand or service) between two related companies is called a transfer price. According to the internationally recognised ‘arm’s length principle’, the transfer price should be set as if the transaction were occurring between two unrelated parties. Transfer pricing legislation aims to ensure that this is the case (i.e. that firms do not manipulate transfer prices to gain a tax advantage). Firms are required to provide documentation demonstrating that they are operating in line with the arm’s length principle.

#### **Thin capitalisation**

Thin capitalisation rules are effectively the branch of transfer pricing that deals with financial transactions. They seek to apply the arm’s length principle to company funding decisions. A UK company is ‘thinly capitalised’ if it has more debt than it would have been able to borrow had it been acting independently of connected parties. Excessive debt opens the possibility of a tax advantage as a result of the deductions available for related interest payments.

#### **The worldwide debt cap**

For large groups in which UK companies hold a significant amount of debt, there is a worldwide debt cap that limits the tax deductions available for intra-group financing expenses. The aim is to ensure that UK companies are not holding excessive debt and claiming higher financing expenses than those that apply to the overall group.

#### **Controlled foreign companies (CFC) rules**

CFC rules define the set of subsidiaries of UK firms that are located offshore but deemed to be subject to tax in the UK. They aim to prevent firms artificially shifting income to lower-taxed jurisdictions. The UK regime focuses on identifying passive income – income resulting from non-commercial activities, that can be divorced from real activity and easily moved for tax purposes – that is located in a country where the tax liability is less than three-quarters what it would have been had the activity taken place in the UK.

The CFC rules were completely rewritten in 2012 following extensive consultation and the move, in 2009, to an exemption system for the taxation of foreign-source income (the UK no longer attempts to tax foreign dividends; this is what is meant by a move towards a territorial tax system).

#### **Specific anti-avoidance rules**

There are also many rules that apply to specific avoidance schemes and that are added to as the government uncovers new schemes. Specific tax avoidance schemes and arrangements are required to be disclosed to HMRC, which may then take action to reduce loopholes or ambiguity. The government is taking further measures to extend the disclosure schemes to improve the details that HMRC receives<sup>a</sup> and is introducing a general anti-abuse rule (see Box 10.2).

<sup>a</sup> For information on revisions to the Disclosure of Tax Avoidance Schemes regime, see [http://www.hm-treasury.gov.uk/d/disclosure\\_of\\_tax\\_avoidance\\_schemes.pdf](http://www.hm-treasury.gov.uk/d/disclosure_of_tax_avoidance_schemes.pdf). This was included in the HMRC consultation document, *Lifting the Lid on Tax Avoidance*, 2012 (<http://www.hmrc.gov.uk/avoidance/tax-avoidance-schemes.pdf>).

In seeking to determine transfer prices, many governments follow the international standards set out by the OECD,<sup>26</sup> although they differ in the precise methods used to set arm's length prices, what documentation they require from firms and how they penalise non-compliance.<sup>27</sup>

That a firm follows the transfer pricing rules, and that an arm's length price is agreed with a tax administration, does not of course mean that the correct allocation of profits has been achieved. This is because, for the reasons discussed above, it can be hard both conceptually and in practice to determine accurately what the arm's length price is (and therefore where profits should be taxed).

In cases where HMRC (or any other European tax administration) disagrees with the transfer price that a firm has declared, it can seek to settle this through negotiation, arbitration or possibly litigation. There are also legal procedures in place to settle transfer pricing disputes that arise from a disagreement between European governments (because a change in a transfer price that increases tax in one country may reduce it in another or lead to the double taxation of some income). In practice, the absolute number of disputes is small compared with the number of related party transactions and legal disputes between countries have been taken to court in only a handful of cases. Firms are required to prepare documentation that would allow them to establish a transfer price if challenged. In practice, the tax administration often lacks the information necessary to identify when a transfer price is being manipulated. And, in almost all cases, it will have less information than the company declaring the prices, and fewer financial resources in the case of a legal dispute.

The OECD remains at the forefront of international efforts to reduce tax avoidance, both by calling for increased cooperation and information exchange between countries and by working to improve further the effective administration of transfer prices.<sup>28</sup> The UK participates in such activities. During the 2012 G20 meeting, the Chancellor George Osborne made a joint statement with the German finance minister Wolfgang Schäuble calling for increased international cooperation to close loopholes in international tax standards.<sup>29</sup>

However, there is a limit to how much more can be achieved through the arm's length system. Due to its nature, there will always be the difficulty that prices are not observed and may not even exist conceptually, such that they are open to manipulation.

One policy option is country-by-country reporting. This would require companies to declare openly what they earned and spent in each country they operated in.<sup>30</sup> This would not help to determine the allocation of profits, but, by increasing transparency, could help reduce avoidance by putting more pressure on companies to defend where their profits are created. This would require international support to operate effectively.

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<sup>26</sup> The OECD has set out guidelines on the use of the arm's length principle to achieve a fair division of taxing profits – OECD, *Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations*, 2010 (<http://www.oecd.org/ctp/tp/guidelines>).

<sup>27</sup> The characteristics of transfer pricing rules and how the application differs across countries are discussed in T. Lohse, N. Riedel and C. Spengel, 'The increasing importance of transfer pricing regulations – a worldwide overview', Oxford University Centre for Business Taxation, Working Paper 12/27, 2012.

<sup>28</sup> See, for example, <http://www.oecd.org/ctp/aggressivetaxplanning/>.

<sup>29</sup> See [http://www.hm-treasury.gov.uk/chx\\_statement\\_051112.htm](http://www.hm-treasury.gov.uk/chx_statement_051112.htm).

<sup>30</sup> Country-by-country reporting is already in place for the extractive industries. For a summary, see pages 26–33 of [http://www.pwc.com/en\\_GX/gx/tax/publications/assets/pwc-tax-transparency.pdf](http://www.pwc.com/en_GX/gx/tax/publications/assets/pwc-tax-transparency.pdf).

## How much is lost to avoidance?

Measuring avoidance is a difficult exercise because it requires an estimate of how much tax 'should' have been paid. In relation to profit shifting, measuring the correct amount of tax is subject to the same definitional problems described above: it can be hard to define conceptually what UK profit is, and parties differ in their interpretation of the law. There is no agreed and comprehensive list of actions that constitute tax avoidance. In addition, we do not directly observe firms' actions or how their real activities are split across countries. Using the available information, it can be hard to distinguish between genuine commercial activities and those undertaken to avoid tax.

### *There are educated guesses but no one knows*

HMRC has produced analysis of the UK tax gap – the difference between the amount of tax that should have been paid and the amount that was actually paid. The total tax gap measure covers all HMRC-administered taxes and distinguishes between the various reasons that tax is not collected – avoidance, legal interpretation (where HMRC and a business disagree on how tax law applies in a specific case), evasion, customer error, the hidden economy and criminal attacks.<sup>31</sup> HMRC recognise that this is a difficult exercise and will be subject to error.

The HMRC analysis estimates a £4.1 billion corporate tax gap in 2010–11. This compares with total net corporate tax receipts of £42.1 billion (and therefore implies that £46.2 billion should have been collected). In calculating the corporate tax gap for large companies, HMRC essentially uses internal knowledge on where there are risks that tax is not being paid and on the estimated size of those risks. The measure is geared towards cases involving disclosed avoidance schemes or genuine uncertainty over the correct tax treatment. Importantly, the method will not capture most of the tax that is lost when firms shift profits offshore. For example, agreed-upon transfer prices may represent a certain degree of avoidance but will likely not be identified as a risk by HMRC, such that the tax consequence is not captured in the measured tax gap. This is a key criticism of the HMRC measure and means that it almost certainly underestimates how much tax would have been paid in the UK if there were no avoidance. However, it should be noted that it is hard to imagine how some avoidance behaviours discussed above could be accurately measured.

Attempts have been made to quantify the effect of profit shifting by considering the difference between the amount of tax paid as declared on firms' accounts and an estimate of the tax due.<sup>32</sup> Such measures tend to make assumptions about how much taxable profit was made in the UK and how much tax 'should' have been paid, and do not directly account for the deliberate elements in the structure of the tax system that mean that tax liabilities can be reduced (such as capital allowances, the R&D tax credit and loss carry-forwards) or the genuine commercial reasons why tax may be paid in other jurisdictions. As such, while estimates have suggested much larger tax gaps for the UK's largest companies than those implied by the HMRC analysis, they are likely overstated (possibly by a wide margin).

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<sup>31</sup> HMRC, *Measuring Tax Gaps 2012* (<http://www.hmrc.gov.uk/statistics/tax-gaps/mtg-2012.pdf>). The document discusses how the measured tax gap has changed in recent years. See table 1.4 for a definition of behaviours and table 1.1 for figures following in the text.

<sup>32</sup> See *The Guardian's* (2009) analysis of the UK's largest companies (<http://www.guardian.co.uk/business/series/tax-gap>) and TUC, *The Missing Billions*, 2008 (<http://www.tuc.org.uk/touchstone/missingbillions/1missingbillions.pdf>).

In summary, we don't know how much corporate tax is lost to the UK as a result of tax avoidance. This is partly because there is no accepted definition of exactly what constitutes 'avoidance' and partly because we lack full information about the activities of firms. Importantly, even if we knew that information and could calculate the tax lost to avoidance, it would not be right to assume that, were all avoidance opportunities to be completely removed, the UK would be able to collect that full amount. We would expect higher taxes to feed through, at least to some degree, to lower investment and changes in prices such that genuine UK profits may be lower. To the extent that the corporate tax affects prices or wages, or the location of firms' activities (and therefore jobs), there may also be lower receipts from income taxes or VAT.

## Actions in this parliament

In 2011, the government published a document setting out its strategy on tax avoidance and highlighting a desire to remove avoidance opportunities.<sup>33</sup> The main new rule due to be introduced in Finance Bill 2013 is the General Anti-Abuse Rule (GAAR).<sup>34</sup> This is a broad principle-based rule designed to help prevent the use of 'abusive' tax avoidance schemes (it does not speak specifically to issues around profit shifting). See Box 10.2.

Reducing tax avoidance requires that the rules in place are effectively enforced. This in turn requires an adequately resourced tax administration. In the context of overall cuts to HMRC's budget, the government has said that additional resources are being devoted to reducing tax avoidance, and specifically to increasing HMRC's transfer pricing capabilities.<sup>35</sup> How effective this will be remains to be seen. The government should consider attempting to evaluate the benefits of increasing the resources devoted to reducing tax avoidance.

## A more competitive tax regime

In the year it took office, the government announced a package of corporate tax reforms aimed at creating 'the most competitive corporate tax regime in the G20' – i.e. at reducing UK tax rates below those of other countries with a view to attracting more activity.<sup>36</sup> This is related to tackling tax avoidance to the extent that a lower UK tax burden reduces firms' incentives to shift profits to lower-tax jurisdictions.

A key part of the package is a large reduction in the main corporate tax rate, from 28% when the government took office in 2010 to 24% today and further to 23% in 2013–14 and 21% in 2014–15. The UK now has the lowest rate in the G7. At the start of 2012, the

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<sup>33</sup> HM Treasury and HMRC, *Tackling Tax Avoidance*, March 2011 ([http://cdn.hm-treasury.gov.uk/2011budget\\_taxavoidance.pdf](http://cdn.hm-treasury.gov.uk/2011budget_taxavoidance.pdf)).

<sup>34</sup> For a discussion of the process underlying the introduction of a GAAR, see [http://www.hm-treasury.gov.uk/tax\\_avoidance\\_gaar.htm](http://www.hm-treasury.gov.uk/tax_avoidance_gaar.htm). Note that 'GAAR' commonly refers to a general anti-avoidance rule. The UK rule refers to 'abuse' because of its focus on identifying artificial and abusive tax arrangements.

<sup>35</sup> For information on cuts to the HMRC budget, see table 1 of HMRC, *Annual Report and Accounts 2011–12*, June 2012 (<http://www.hmrc.gov.uk/about/annual-report-accounts-1112.pdf>). The 2010 HMRC spending settlement included '£900 million of investment to address the tax gap and tackle tax avoidance and evasion' – see paragraph 2.133 of HM Treasury, *Spending Review 2010*, October 2010 ([http://cdn.hm-treasury.gov.uk/sr2010\\_completereport.pdf](http://cdn.hm-treasury.gov.uk/sr2010_completereport.pdf)). The 2012 Autumn Statement earmarked £77 million for HMRC 'to enhance its risk assessment capability for large multinational companies and increase HMRC's transfer pricing specialist resources' – see paragraphs 1.139 and 1.176 of HM Treasury, *Autumn Statement*, December 2012 ([http://cdn.hm-treasury.gov.uk/autumn\\_statement\\_2012\\_complete.pdf](http://cdn.hm-treasury.gov.uk/autumn_statement_2012_complete.pdf)).

<sup>36</sup> See HM Treasury, *Corporate Tax Reform: Delivering a More Competitive System*, 2010 ([http://www.hm-treasury.gov.uk/corporate\\_tax\\_reform.htm](http://www.hm-treasury.gov.uk/corporate_tax_reform.htm)). The measures, most of which have now been enacted, included a series of cuts to the main statutory tax rate, a cut to the small profits rate, the introduction of a Patent Box and modifications to the CFC rules.

main rate (26%) was the 7<sup>th</sup> lowest in the G20 but only the 18<sup>th</sup> lowest in the OECD, such that there are more OECD countries with a lower rate than a higher one.<sup>37</sup> By 2014, and assuming that other countries do not cut rates by as much as the UK, the UK can expect to have moved up the rankings of the G20 and OECD countries. Of course, the statutory rate is only one measure of the competitiveness of the corporate tax regime; some of the benefits of the lower rate have been offset by a broader tax base.

#### Box 10.2. General Anti-Abuse Rule

The basic idea of a GAAR is to provide a generic and ‘overarching’ defence against tax avoidance that does not require constant legislation to tackle specific loopholes individually and as they arise. It will apply to other taxes as well as corporation tax, including income tax, National Insurance contributions and capital gains tax. In essence, a GAAR recognises that tax legislation is not comprehensive in setting out Parliament’s intent of what should be taxed – some of the complexities may not even have been considered when the legislation was written – and, as a result, opportunities for avoidance can still arise notwithstanding the multiplicity of specific anti-avoidance rules.

The introduction of the GAAR follows the recommendations of a recent report, commissioned by the government, that concluded that ‘a moderate rule which does not apply to responsible tax planning, and is instead targeted at abusive arrangements, *would* be beneficial for the UK tax system’.<sup>a</sup> Effectively, the aim of the GAAR is to prevent the tax consequences (as prescribed by existing legislation) of an action that can be identified as abusive. One of the key difficulties in practice is the characterisation of the distinction between ‘reasonable tax planning’ and ‘abusive’ activities. There is likely to be uncertainty over how this will affect firms’ ability to tax plan, at least until the GAAR has been observed in operation.

By extending the boundary defining which activities are covered by anti-avoidance legislation, the GAAR should assist HMRC in preventing certain kinds of avoidance behaviours without having to write new legislation each time a new scheme is uncovered. However, this will only be the case for a narrow range of activities. As noted in a report by the IFS Tax Law Review Committee, ‘A GAAR may have a role to play as a line in the sand and as an aid to construction by the courts, but overseas experience and the review in this paper ... suggest that a GAAR is no more the solution than any of the other approaches’.<sup>b</sup>

<sup>a</sup> Paragraph 1.7 of G. Aaronson, *GAAR Study*, November 2011 ([http://www.hm-treasury.gov.uk/d/gaar\\_final\\_report\\_111111.pdf](http://www.hm-treasury.gov.uk/d/gaar_final_report_111111.pdf)).

<sup>b</sup> Paragraph 3.4 of T. Bowler, ‘Countering tax avoidance in the UK: which way forward?’, Tax Law Review Committee, Discussion Paper 7, 2009 (<http://www.ifs.org.uk/comms/dp7.pdf>).

<sup>37</sup> For details of rankings and discussion of effective tax rates, see K. Bilicka and M. Devereux, *CBT Corporate Tax Ranking 2012*, Oxford University Centre for Business Taxation, June 2012 (<http://www.sbs.ox.ac.uk/centres/tax/Documents/reports/CBT%20Tax%20Ranking%202012.pdf>).

In April 2013, the government will introduce a much lower, 10%, rate of corporate tax for the income derived from patents. The so-called Patent Box, which may be viewed as a way to tax a more mobile form of income more lightly, works to make the UK a more attractive location for an important and mobile form of intellectual property income.<sup>38</sup>

The UK is not the first country to introduce a special regime for intellectual property income. Policies similar to the Patent Box are already in place in Belgium, Luxembourg, the Netherlands and the Swiss canton Nidwalden. This adds pressure on the UK to stay competitive and prevent firms shifting profits, and possibly real activities, to these locations. However, if more governments follow this path, there could effectively be a 'race to the bottom' in which no government gains.

### Reduced incentives for avoidance but lower revenue

A lower tax burden on income earned and declared in the UK reduces incentives to shift such income offshore. The size of this effect, though, is unknown and may be limited if firms are already achieving much lower tax rates by shifting profits out of the UK. Even under estimates that attempt to account for a reduction in profit shifting, the Treasury forecasts that revenue will be lower as a result of the tax rate cuts. For example, the additional 1 percentage point cut to the main statutory rate in 2014–15, that was announced in the December 2012 Autumn Statement, is forecast to reduce revenues by £785 million in 2015–16, rising to £875 million in each of 2016–17 and 2017–18.<sup>39</sup> The Patent Box is estimated to cost £720 million in 2014–15, rising to £910 million in 2016–17, and probably higher once the full effect of the policy is realised.<sup>40</sup> The Patent Box also creates an additional boundary between income that is, and is not, eligible for the lower tax rate, which provides opportunities for avoidance and will need to be policed.

Of course, the government does not care only about the revenue it raises; it also values the real activities that may be attracted as a result of lower taxes. A lower headline rate of corporation tax will likely make the UK a more attractive place for real investments. The effect of the Patent Box is less clear because it targets income, which firms can separate from real activities, and provides only weak incentives to undertake additional innovation.<sup>41</sup>

To the extent that other countries respond to the UK's policy moves by also seeking to increase tax competitiveness – and many countries are reforming their corporate tax systems with this goal – any positive impact from increased activity in the UK could be reduced. Tax competitiveness is a moving target, and tax competition between countries is one of the key factors behind long-running predictions that corporate tax revenues will decline.

<sup>38</sup> For a discussion of the Patent Box, see R. Griffith and H. Miller, 'Corporate taxes and intellectual property', in M. Brewer, C. Emmerson and H. Miller (eds), *The IFS Green Budget: February 2011*, IFS Commentary 117, 2011 (<http://www.ifs.org.uk/budgets/gb2011/11chap10.pdf>).

<sup>39</sup> See page 13 of [http://cdn.hm-treasury.gov.uk/as2012\\_policy\\_costings.pdf](http://cdn.hm-treasury.gov.uk/as2012_policy_costings.pdf).

<sup>40</sup> For most recent policy costing, see <http://www.hmrc.gov.uk/budget2012/tiin-0726.pdf>. The policy is being phased in over five years; the 10% rate will be applied to 60% of qualifying patent income in 2013, rising to 100% from April 2017. The initial estimate of the long-run revenue cost was £1.1 billion (see <http://www.hmrc.gov.uk/tiin/tiin726.pdf>).

<sup>41</sup> For a discussion of the Patent Box proposal, see section 10.4 of R. Griffith and H. Miller, 'Corporate taxes and intellectual property', in M. Brewer, C. Emmerson and H. Miller (eds), *The IFS Green Budget: February 2011*, IFS Commentary 117, 2011 (<http://www.ifs.org.uk/budgets/gb2011/11chap10.pdf>).



## **A different method of calculating UK profits**

Many of the difficulties in tackling tax avoidance stem from the type of corporate tax system currently in operation and the methods for allocating profits to countries. Firms are required to produce separate tax accounts for each country they operate in (declaring where costs are incurred and profits earned) and to set transfer prices on transactions that happen within companies. Multinational companies face opportunities to manipulate (at least the paper) location of activities and the intra-group prices in order to reduce tax payments.

A more radical solution, then, is to adopt a different corporate tax system.<sup>42</sup> One possibility is to move to a system that is able to consider the whole of a multinational company's activities (rather than look at its activities in each country separately). The basic idea is to require firms to produce an account of their total activities (profits and costs) in all (or a subset of) countries they operate in and to use information on the location of real activities (sales, assets and employment, for example) to allocate taxing rights to individual jurisdictions. This is often called a unitary approach. It is akin to the approach taken within the US at the state level: total US tax liability is allocated to individual states according to a formula based on sales, assets and payroll.

### ***A European common consolidated corporate tax base***

The European Commission, having long supported more harmonised corporate taxation in Europe, has suggested a common consolidated corporate tax base (CCCTB). This would require companies to calculate their total EU profits (net of losses) based on a single set of rules that defined the tax base. There would need to be common rules for taxing foreign income and for dealing with profit shifting to countries outside the EU. One important implication of a CCCTB is that losses made in one country could be offset against profits made in others.

Once total profits had been calculated, a formula would be used to allocate profits to individual countries.<sup>43</sup> The formula would be based on the geographical distribution of the company's economic activity – likely on the distribution of employees, assets and sales across countries.<sup>44</sup> Countries would be free to choose the rate at which they taxed their share of profits.

The key advantage from a single (common consolidated) tax base is that income and deductions would be declared together and there would be no need to price transactions that happened within a company but across European countries. This would remove the opportunities for firms to separate costs and profits, or to manipulate transfer prices or financing structures to shift profits within the EU. The distribution of profits (and

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<sup>42</sup> For a discussion of other alternative tax systems, see A. J. Auerbach, M. P. Devereux and H. Simpson, 'Taxing corporate income', in J. Mirrlees et al. (eds), *Dimensions of Tax Design: The Mirrlees Review*, Oxford University Press for IFS, 2010 (<http://www.ifs.org.uk/mirrleesreview/dimensions/ch9.pdf>).

<sup>43</sup> The EU Commission's proposal is discussed at [http://ec.europa.eu/taxation\\_customs/taxation/company\\_tax/common\\_tax\\_base/index\\_en.htm](http://ec.europa.eu/taxation_customs/taxation/company_tax/common_tax_base/index_en.htm). The CCCTB is also discussed in section 10.5.5 of R. Griffith, J. Hines and P. B. Sørensen, 'International capital taxation', in J. Mirrlees et al. (eds), *Dimensions of Tax Design: The Mirrlees Review*, Oxford University Press for IFS, 2010 (<http://www.ifs.org.uk/mirrleesreview/dimensions/ch10.pdf>).

<sup>44</sup> See Commission of the European Communities, Common Consolidated Corporate Tax Base Working Group, 'CCCTB: possible elements of the sharing mechanism', Working Document CCCTB/WP060/doc/en, 2007 ([http://ec.europa.eu/taxation\\_customs/resources/documents/taxation/company\\_tax/common\\_tax\\_base/ccctb\\_wp060\\_en.pdf](http://ec.europa.eu/taxation_customs/resources/documents/taxation/company_tax/common_tax_base/ccctb_wp060_en.pdf)).



therefore taxing rights), as dictated by the formula, could be made to relate to measures of real economic activity and could be less open to manipulation.

A CCCTB does not remove all of the problems associated with the current system, however. Countries would set their own tax rates, such that there could still be competition between countries to attract activities. In fact, this could intensify because countries would no longer be able to attract companies using (less visible) differences in the tax base. Tax rate differences would still lead to distortions as to where firms located the elements of real activities that feature in the formula. This would be particularly problematic were the formula to include intangible assets, which are an increasingly important element of firms' activities but can also be hard to attach a geographical location to. There would be some new distortions created by opportunities for firms to take advantage of the consolidated base (for example, firms with profits in high-tax countries may have incentives to acquire loss-making firms in low-tax countries). And, of course, there would still be opportunities to shift profits outside the EU; the CCCTB extends, but does not remove, the boundary across which the tax base is calculated.

The CCCTB is a live proposal but remains divisive. The move would represent a substantial administrative challenge with a number of technical issues to be worked out. It would also face a political challenge. Initially, the EU Commission proposed to make the CCCTB optional such that companies could elect to remain under the current system. Under such a system, only those firms that would expect to face lower taxes under the CCCTB would presumably elect to be taxed in that way. This affects the revenue consequences of the reform. Research has found that total European revenue would fall if firms could elect into the CCCTB but would increase if it applied to all firms.<sup>45</sup> The EU Parliament has since called for the proposed CCCTB to be mandatory (after a transition period). A CCCTB would also affect the distribution of revenues, with some countries gaining and others losing, in part depending on the exact nature of the formula. The research cited above suggests that the UK would likely see an increase in revenue under a variety of formulas and assumptions. The countries that are estimated to lose include the smaller European countries that have a relatively high tax take compared with measures of real activity that feature in the formula.

## 10.4 Taxation of North Sea oil and gas

### Revenues from North Sea companies

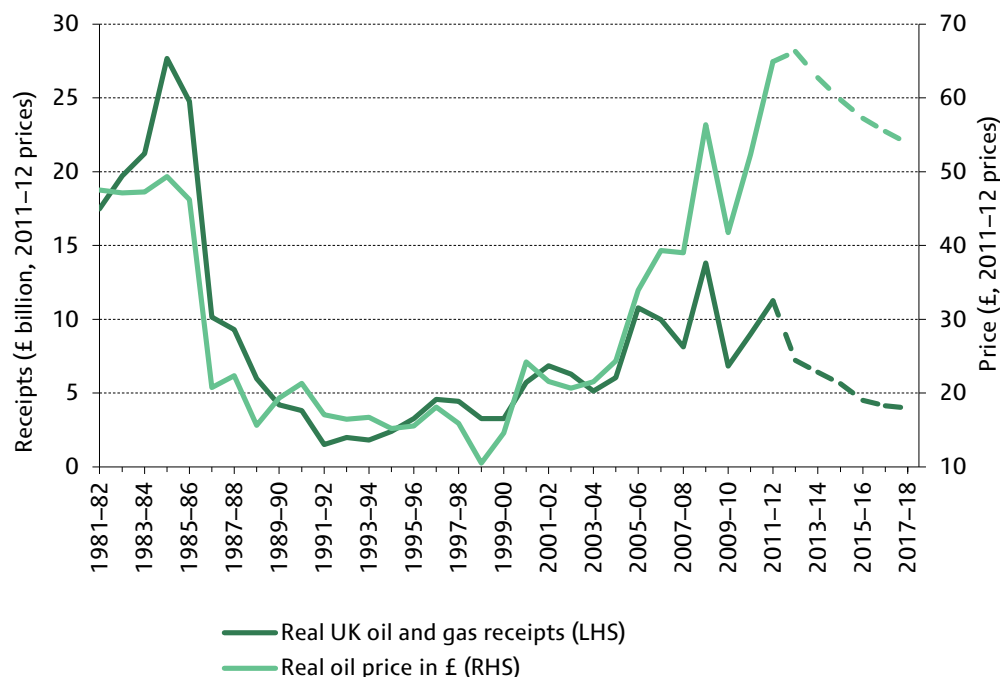
In 2011–12, total revenues from North Sea companies were £11.3 billion. In real terms, revenues peaked in 1984–85 and have declined substantially since – see Figure 10.5.

The oil price has a large influence on revenues raised from North Sea companies and is one of the key contributing factors that make these revenues among the most volatile. The sharp fall in revenues in 1986–87 and the upward trend that started in the early 1990s are both largely attributable to a corresponding fall and then steady increase in the

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<sup>45</sup> For discussion and estimation of the effects of a CCCTB, see M. Devereux and S. Loretz, 'The effects of EU formula apportionment on corporate tax revenues', Oxford University Centre for Business Taxation, Working Paper 07/06, revised version, 2008 ([http://www.sbs.ox.ac.uk/centres/tax/Documents/working\\_papers/WP0706.pdf](http://www.sbs.ox.ac.uk/centres/tax/Documents/working_papers/WP0706.pdf)).

Figure 10.5. Receipts from UK oil and gas production and the oil price



Note: Forecasted oil price assumes same growth in nominal £ per barrel as assumed by OBR, *Economic and Fiscal Outlook*, December 2012 (<http://cdn.budgetresponsibility.independent.gov.uk/December-2012-Economic-and-fiscal-outlook23423423.pdf>).

Source: Oil and gas revenues from HMRC, table 11.11 (available at <http://webarchive.nationalarchives.gov.uk/20121204171544/http://hmrc.gov.uk/statistics/prt.htm>). Receipts figures for 2012-13 onwards from table 4.6 of OBR, *Economic and Fiscal Outlook*, December 2012 (<http://cdn.budgetresponsibility.independent.gov.uk/December-2012-Economic-and-fiscal-outlook23423423.pdf>). Oil price from World Bank Pink Sheet 2012 (series 'Crude oil, average \$ per barrel'); converted to sterling using annual exchange rates (<http://stats.oecd.org>, measure 'National currency per US dollar'). Both deflated using 2011-12 GDP deflator ([http://www.hm-treasury.gov.uk/data\\_gdp\\_fig.htm](http://www.hm-treasury.gov.uk/data_gdp_fig.htm)).

oil price. Similarly, changes in receipts following the recession, and notably the spikes in 2008-09 and around 2011, have closely followed oil prices.<sup>46</sup>

Since the early 2000s, however, the oil price has increased more quickly than revenues. This is largely due to the offsetting effects of declining production since the end of the 1990s. Oil production has fallen by 65% from a high of 150 million tonnes in 1999 to just 52 million tonnes in 2011. Gas production has fallen by 60% from a high of around 40 billion therms in 2000 to 16 billion therms in 2011.<sup>47</sup> Expenditure by North Sea companies reached a high in the early 1990s and has also fallen since then, although with a recent increase in 2006-08.<sup>48</sup>

North Sea revenues also peaked as a share of total current receipts in 1984-85, before falling in line with real revenues. Since the early 1990s, receipts from North Sea oil and gas have represented, on average, 1% of total UK tax receipts (varying between 0.4% and

<sup>46</sup> In contrast, the increase in revenues in 2005-06 and 2006-07 was the result of a change in the instalment regime for North Sea companies, which acted to bring revenue forward, as well as an increase in the supplementary charge.

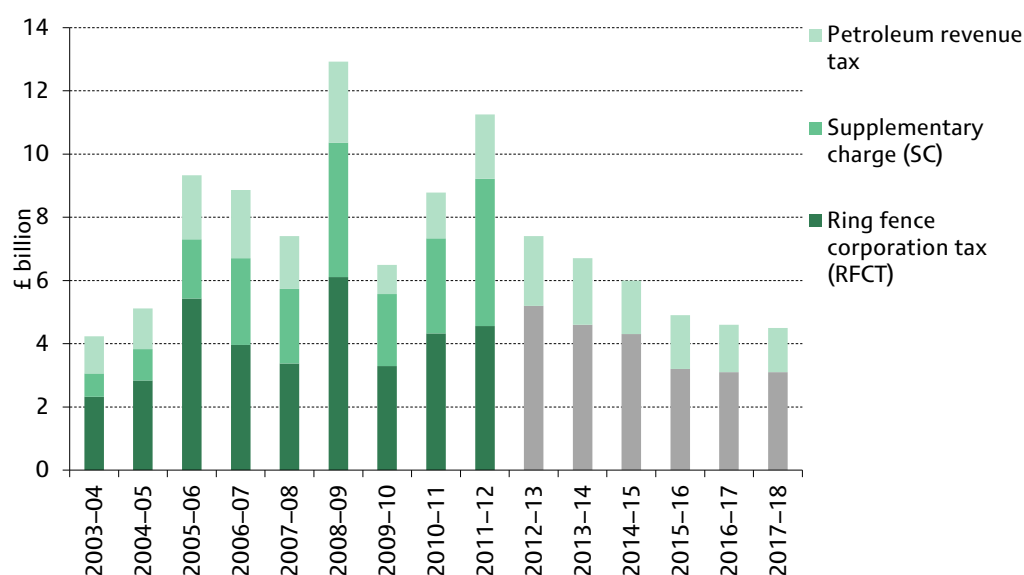
<sup>47</sup> Projections of oil and gas production are made by the Department of Energy and Climate Change. Actual and forecast production is discussed at <http://og.decc.gov.uk/assets/og/data-maps/chapters/production-projections.pdf>. The latest projections can be seen in table 4.1 of OBR, *Economic and Fiscal Outlook*, December 2012 (<http://cdn.budgetresponsibility.independent.gov.uk/December-2012-Economic-and-fiscal-outlook23423423.pdf>).

<sup>48</sup> For figures, see <http://og.decc.gov.uk/assets/og/data-maps/appendices/ukcs-i-and-e-chart.pdf>.

2.4%). It is worth noting that, in the context of the forthcoming referendum on independence, North Sea revenues would have accounted for nearly half of Scottish tax revenues in the mid-1980s, and would still have accounted for 15% of revenues in 2010–11.<sup>49</sup>

Figure 10.6 shows UK revenues for the most recent period according to the taxes they arise from (details on the tax system are given in Box 10.3 below). Of the total revenues raised from North Sea companies in 2011–12 (£11.2 billion), £4.6 billion (41%) came from the ring fence corporation tax, £4.7 billion (41%) from the supplementary charge and £2.0 billion (18%) from the petroleum revenue tax. The supplementary charge has become a more important source of revenue over the last decade as a result of the increases in the rate (from 10% in 2002 to 20% in 2006 to 32% in 2011).<sup>50</sup>

**Figure 10.6. Receipts from UK oil and gas production, by tax (£ billion)**



Source: Data up to and including 2011–12 from HMRC, table 11.11 (available at <http://webarchive.nationalarchives.gov.uk/20121204171544/http://hmrc.gov.uk/statistics/prt.htm>). Forecasts from 2012–13 from table 4.6 of OBR, *Economic and Fiscal Outlook*, December 2012 (<http://cdn.budgetresponsibility.independent.gov.uk/December-2012-Economic-and-fiscal-outlook23423423.pdf>).

North Sea revenues fell sharply in 2009–10, before increasing in each of 2010–11 and 2011–12 as a result of a rising oil price and an increase in the supplementary charge. As noted in Section 10.2, the increase in North Sea corporation tax (ring fence corporation tax and supplementary charge) in these years largely offset the fall in revenues associated with the financial sector.

### Revenue forecast to fall

Oil and gas revenues are forecast to fall to £7.4 billion in 2012–13 (over a third lower than in 2011–12) and to £4.5 billion in 2017–18. A large part of this decrease is the result of a fall in corporation tax revenue from £9.2 billion in 2011–12 to £5.2 billion in 2012–

<sup>49</sup> For a discussion of the share of North Sea revenues in total Scottish revenues and their importance for the public finances of an independent Scotland, see D. Phillips and P. Johnson, *Scottish Independence: The Fiscal Context*, IFS Briefing Note 135, 2012 (<http://www.ifs.org.uk/publications/6444>).

<sup>50</sup> The increase in the supplementary charge was costed to raise £1.8 billion in 2011–12, rising to £2.2 billion in 2012–13. See <http://www.hmrc.gov.uk/budget2011/tiin6133.pdf>.

13 and to £3.1 billion in 2017–18. This will see revenues fall from 2.0% to 0.6% of total tax receipts.

Declining revenues are partly the result of lower production. Both oil and gas production are forecast to continue to fall across the period to 2017–18 (and by more than previously forecast in Budget 2012). Oil and gas production in 2012 is forecast to have fallen substantially (by 12%) as a result of higher maintenance and a gas leak in one of the fields.<sup>51</sup> By 2017, oil production is forecast to have fallen by 16% (to 44 million tonnes) and gas production by 15% (to 13.7 billion therms) compared with 2011.<sup>52</sup>

Revenues are also likely to be depressed as the result of a falling oil price – the OBR forecasts that the oil price will fall by 17% between 2011 and 2017<sup>53</sup> – and a large rise in capital expenditure, the allowances for which work to reduce tax liability. The loss of revenue is of some importance in a UK context. It would, of course, be a much more important issue for an independent Scotland.

## Why and how to tax North Sea oil and gas differently

North Sea companies' activities are subject to a different tax regime from other corporate activities. In particular, they face much higher marginal tax rates (over double the rate of the other corporate activities).

The rationale for relatively high tax rates on oil and gas extraction is that it produces large economic rents – profits that are over and above the normal rate of return that is required to make a project viable (which includes all costs of exploration and production and a risk premium). This is commonly the case with finite natural resources for which demand is high and extraction costs are relatively cheap. The government has an incentive to share in these economic rents not only because it can, but also because the rents arise from a depletable national resource that the government owns (on behalf of current and future citizens) and grants access to.<sup>54</sup> A large-scale review of the Australian tax system concluded that a rent-based tax is the most appropriate for non-renewable resources expected to generate significant economic rents.<sup>55</sup>

However, there are two necessary conditions for tax not to distort investment decisions.

First, the tax must only be levied on economic rents. A rent-based tax, which can be achieved in various ways, requires that, in net present value (NPV) terms, the full cost of an investment is exempt from tax. To the extent that the tax system does not fully exempt the cost of investment (i.e. that it taxes the normal rate of return), there will be

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<sup>51</sup> See paragraph 4.20 of OBR, *Economic and Fiscal Outlook*, December 2012 (<http://cdn.budgetresponsibility.independent.gov.uk/December-2012-Economic-and-fiscal-outlook23423423.pdf>).

<sup>52</sup> These figures do not include any impact from new sources of UK shale gas, the scale of which is unknown.

<sup>53</sup> The OBR forecasts (based on prices implied by futures markets in November 2012) that the price of a barrel of oil will fall from £69.2 (\$111) in 2011 to £57.4 (\$92) in 2017.

<sup>54</sup> The Petroleum (Production) Act 1934 states that all oil and gas in Great Britain and its territorial sea belongs to the Crown.

<sup>55</sup> Rent-based taxes tend to produce a more variable source of revenue, and one that is collected at a later date, than under a corporation tax. Rent-based taxes may also have higher administration and compliance costs because they require a measure of economic rents. An important distinction between types of rents taxes is how they treat losses. The Australian review recommends the use of a cash-flow tax. For a discussion of the taxation of non-renewable resources, see chapter C1 of *Australia's Future Tax System* ([http://www.taxreview.treasury.gov.au/content/FinalReport.aspx?doc=html/Publications/Papers/Final\\_Report\\_Part\\_2/Chapter\\_c1.htm](http://www.taxreview.treasury.gov.au/content/FinalReport.aspx?doc=html/Publications/Papers/Final_Report_Part_2/Chapter_c1.htm)).

distortions, the effect of which is increasing in the tax rate, and some marginal investments will be deterred.

Second, the tax rate must be constant. Investment will be deterred if the rate at which (future) profits are taxed is expected to be greater than the tax rate at which (current) costs are deductible. Specifically, there will be some marginal projects that are not viable if future profits are taxed at a higher rate than that at which costs are currently deductible.<sup>56</sup> In addition, it is important that firms do not face uncertainty about future tax rates. This is particularly important for large long-term investments such as those made to extract oil and gas.

## The current UK system

There have been many changes to the taxation of North Sea companies' profits over time, including changes to the types of tax levied, the rates and allowances, and the timing of payments.<sup>57</sup> Changes have not affected all activities equally: many changes have applied only to fields given consent after a certain date or to certain types of investment.

Companies currently engaged in oil and gas extraction activities in the UK or on the UK Continental Shelf (UKCS) are subject to up to three profit-based taxes. All are subject to ring fence corporation tax (at a rate of 30%) and the supplementary charge (at a rate of 32%). The profits of individual fields given consent before 16 March 1993 are additionally subject to petroleum revenue tax (PRT), which is levied at 50% and is deductible when calculating the ring fence corporation tax and the supplementary charge. This means that some investments face a tax rate of 81%.<sup>58</sup> Box 10.3 describes the tax regime, including the range of investment and decommissioning allowances available.

### Box 10.3. Taxes levied on the profits of UK oil and gas extraction

#### Ring fence corporation tax (RFCT)

The ring fence corporation tax is effectively the standard corporation tax levied on a measure of a company's total 'ring-fenced' profits that excludes certain deductions, notably losses from other activities and excessive interest payments. The ring fence prevents firms using reliefs or allowances from other activities to reduce the taxable profits from oil and gas extraction.

Until Finance Act 2007, RFCT was levied at the same rates as standard corporation tax. North Sea activities have since been exempted from rate changes such that the main rate of RFCT remains at 30%. The small profits rate for North Sea oil companies is 19%. (For non-ring-fenced activities, the rates in 2012–13 are 24% and 20% respectively.)

<sup>56</sup> Consider an example project that costs  $I$  and raises a stream of revenue equal to  $R$  in NPV terms. The project will be undertaken as long as the NPV of the return (i.e.  $R - I$ ) is non-negative. If costs are deductible at rate  $t$  and firms expect profits to be taxed at a higher rate,  $\tau > t$ , then the expected NPV of the project is  $(1 - \tau)R - (1 - t)I = (1 - t)(R - I) - (\tau - t)R$ . For a marginal project where  $R = I$ , the NPV will be negative and, as a result, marginal investments will not be undertaken.

<sup>57</sup> For example, companies operating in the North Sea were originally (when operations began in the 1970s and until 1 January 2003) required to pay a royalty – set as an annual percentage of the value of production – to the government in recognition of its ownership of the resources.

<sup>58</sup> Consider an equity-financed investment in a field that is subject to PRT that yields a £100 profit. The PRT charge will be £50. The ring fence corporation tax and supplementary charge will then be levied on £100 – £50 such that the tax charge is £31 (i.e. 62% of £50). The overall tax bill is £81 (i.e. an 81% tax rate).

### **Supplementary charge (SC)**

The supplementary charge is levied on an almost identical measure of taxable profit as RFCT except that financing costs are not deductible. The SC was introduced at a rate of 10% for profits accruing after 17 April 2002. The supplementary rate was increased to 20% for profits arising on or after 1 January 2006 and to 32% for profits arising after 23 March 2011.

### **Allowances**

There are many allowances, the nature and availability of which depend on the type of activity undertaken (e.g. whether it relates to exploration, development or decommissioning), the date an investment was undertaken and the characteristics of the oil field.<sup>a</sup>

Most (but not all) new capital expenditure on oil and gas extraction, including on plant and machinery, is eligible for a 100% first-year allowance. 100% first-year allowances are also available for most expenditure relating to the appraisal and exploration of fields under either the Research & Development Allowance or the Mineral Extraction Allowance. Investments in plant, machinery and buildings that do not qualify for the first-year allowances are eligible for the types of depreciation allowances provided under the general corporation tax.

For fields developed after April 2009, there are Field Allowances that reduce the taxable profit liable to the supplementary charge. Field Allowances were introduced with a view to reducing the impact of the supplementary charge on new commercially marginal fields and therefore incentivising development. The size of the reduction depends on the characteristics of the field – its size and depth and the pressure and temperature of the oil. For example, small oil or gas fields are eligible for an allowance of up to £75 million that reduces on a straight-line basis as the size of the field increases.<sup>b</sup>

For companies involved in exploration or development that have insufficient taxable income against which to offset all available allowances, there is a Ring Fence Expenditure Allowance that allows an additional 10% per annum to be added to the value of any unused expenditure carried forward (this increased from 6% in January 2012).

There are also a number of reliefs available for the costs of decommissioning a field, which requires removing all structures and ensuring that the seabed is pollution free and safe for shipping and fishing. In the case where there are losses after accounting for the cost of decommissioning a field, the loss can either be carried back or, if this is insufficient, be offset against profits in another field.<sup>c</sup>

### **Petroleum revenue tax (PRT)**

The petroleum revenue tax was introduced in 1975. It is now only oil and gas fields given development consent before 16 March 1993 that are liable for the tax.

PRT is a cash-flow tax (essentially giving full relief for expenditures as they occur) assessed every six months and levied at a rate of 50% on profits at the level of individual oil or gas fields. Allowances for the costs of developing and running a field cannot be used against the profits of other fields. PRT is a deductible expense when calculating the taxable profit liable for RFCT and the SC.

<sup>a</sup> Information on allowances can be found at <http://www.hmrc.gov.uk/manuals/otmanual/OT25999.htm>.

Where it is possible that more than one relief can be claimed, companies are able to elect which relief to use.

<sup>b</sup> For information on Field Allowances, see <http://www.hmrc.gov.uk/manuals/otmanual/ot21415.htm>.

<sup>c</sup> For information on decommissioning, see <http://www.hmrc.gov.uk/manuals/otmanual/OT28000.htm>.

*Distorts some investment decisions*

Petroleum revenue tax was explicitly designed with the goal of being non-distortionary. It exempts the full cost of investment with a view to taxing only the economic rents. As such, its high rate should not deter marginal investments. However, companies are additionally subject to the ring fence corporation tax and the supplementary charge, which, in contrast, do not allow the full deduction of all investment costs. Investment expenditures are subject to a series of capital allowances that dictate how much can be deducted for tax purposes. These depend on the type of investment. Not all investment costs are exempted in all cases. For example, financing costs are not deductible from the supplementary charge, and while many expenditures are eligible for 100% first-year allowances, that is not the case for all. Field Allowances are important in exempting investment costs from the supplementary charge. They vary across types of investment and have been designed mainly to target new marginal investments (for example, small oil fields or those in deep water). To the extent that tax is levied on the normal rate of return, marginal investment projects may not be undertaken.

*Recent policies have reinforced distortions to investment, ...*

In the March 2011 Budget, the supplementary charge was increased to 32%. Part of the rationale for the increase was to transfer to the government some of the benefits that North Sea companies can expect to gain as a result of high oil prices over the next five years.<sup>59</sup> However, using the supplementary charge for this purpose means that at least some North Sea investment decisions were distorted.

Initial analysis by HMRC set out that, while the increased supplementary charge may affect the viability of some marginal investments, it did 'not expect a significant impact on investment or production in the forecast period'.<sup>60</sup> However, the oil and gas industry were vociferous opponents to the move.<sup>61</sup> Research simulating the impact of the Budget 2011 changes also suggested that they could lead to a substantial reduction in oil production, coming largely from reductions in the number of incremental projects undertaken.<sup>62</sup>

Partly in order to offset the impact of the increased rate of supplementary charge, the government has since increased the scope and generosity of Field Allowances, which work to reduce the amount of profit on which firms are liable to pay tax. Notably, they have been extended to encompass brown field sites.<sup>63</sup> Even if the government has reached a set of policies that work to raise revenues while limiting investment distortions, the process of getting there – i.e. of increasing the rate and later trying to offset some of the effect through changes in allowances – could have been better managed.

*... created added uncertainty about the tax rate*

The government announced the increase in the supplementary charge alongside a Fair Fuel Stabiliser (FFS) under which higher taxes on North Sea profits are used to fund cuts

<sup>59</sup> 'Government still expects that average post-tax profits per barrel will be higher over the next five years than the last five' – see <http://www.hmrc.gov.uk/budget2011/tiin6133.pdf>.

<sup>60</sup> See <http://www.hmrc.gov.uk/budget2011/tiin6133.pdf>.

<sup>61</sup> See, for example, <http://www.oilandgasuk.co.uk/adisturbingbudget.cfm>.

<sup>62</sup> A. Kemp and L. Stephen, 'The effects of Budget 2011 on activity in the UK Continental Shelf', University of Aberdeen, North Sea Study Occasional Paper 120, April 2011 ([http://aura.abdn.ac.uk/bitstream/2164/2080/1/nsp\\_120.pdf](http://aura.abdn.ac.uk/bitstream/2164/2080/1/nsp_120.pdf)).

<sup>63</sup> Specifically, a Brown Field Allowance will be available for the development (after 7 September 2012) of previously unaccessed reserves in an existing field. See Finance Act 2012.



to fuel duties at times of high oil prices.<sup>64</sup> Importantly, the government has set out that were the price of oil to move below a £45 per barrel trigger point on a sustained basis, the supplementary charge would be reduced again towards 20% (although there are no details on how the size of the reduction would relate to the oil price).<sup>65</sup>

Linking the tax rate to the price of oil adds uncertainty to the tax system, especially because the government has not set out exactly how they are linked. Were oil prices to fall substantially, a lower tax rate would limit the impact of the price change on firms' net returns. However, if firms expect that the rate of the supplementary charge (which is partly levied on the normal rate of return) may increase as a result of future rises in the oil price (such that it is higher than the rate at which costs are currently deductible), then some investments may be deterred.

However, oil prices are not set to fall even close to the trigger point before 2017–18 (see above), so the increase in the supplementary charge appears to be like a de facto permanent tax increase.

That the supplementary charge was introduced and increased twice in the last decade raises concerns of further surprise tax increases. The lack of stability in the tax burden and the expectation of further rises in future may work to deter investment (although we do not know how important this effect is empirically). In the June 2010 Budget, the government recognised 'the importance of a stable and fair UK oil and gas tax regime that provides certainty for businesses' and set out its intention to 'take forward discussions with the industry to ensure the regime encourages continuing investment and the exploitation of remaining resources'.<sup>66</sup> The increase in the supplementary charge was then announced without warning just nine months later. This is not the first government to have openly acknowledged the importance of a stable tax regime, only to increase taxes later without warning.<sup>67</sup> In fact, the taxation of North Sea companies has been subject to many changes since the regime began in the 1970s. Companies, especially those undertaking large long-term investments, value certainty.

### *... and left decommissioning more certain but at a tax disadvantage*

The rate against which tax relief for decommissioning expenditure is granted has been restricted to 20% (i.e. not increased to 32% in line with the rate of supplementary charge). The rationale given was that allowing relief against the higher rate would incentivise accelerated decommissioning. That is, if relief were granted at the new rate, then – to the extent that firms did not think this new higher rate was permanent – they would face an incentive to bring forward decommissioning costs.<sup>68</sup> However, because the

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<sup>64</sup> A brief discussion of the Fair Fuel Stabiliser can be found at <http://www.ifs.org.uk/publications/5503>.

<sup>65</sup> The £45 a barrel trigger point is set to be equivalent to \$75 a barrel. The point is reviewed every three years and an assessment of whether it is met made on the first working day of every February from 2013. (See Written Ministerial Statement, 21 March 2012, <http://www.publications.parliament.uk/pa/cm201212/cmhansrd/cm120321/wmstext/120321m0001.htm>.)

<sup>66</sup> See paragraph 1.85 of HM Treasury, *Budget 2010*, June 2010 ([http://www.hm-treasury.gov.uk/2010\\_june\\_budget.htm](http://www.hm-treasury.gov.uk/2010_june_budget.htm)).

<sup>67</sup> For example, following a number of changes in 2002, including the introduction of the supplementary charge, the government of the day stated that it felt it had established a system with the right balance between revenues and investment incentives (paragraph 5.82 of HM Treasury, *Budget 2002: Economic and Fiscal Strategy Report*, April 2002, [http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/media/4/1/Budget\\_2002.pdf](http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/media/4/1/Budget_2002.pdf)). However, the same government changed the timings of ring fence corporation tax payments in 2005 and doubled the supplementary charge in 2006.

<sup>68</sup> See paragraph 1.149 of HM Treasury, *Budget 2011*, March 2011 ([http://cdn.hm-treasury.gov.uk/2011budget\\_complete.pdf](http://cdn.hm-treasury.gov.uk/2011budget_complete.pdf)).

increased rate of the supplementary charge looks permanent, this effectively acts to reduce the relief available for decommissioning costs. There is no clear reason why the relief for decommissioning should be given at a lower rate than that at which the related returns are taxed.

In a positive move, legislation will be introduced in 2013 under which the government will be able to sign contracts with companies that provide certainty over the future relief they will receive when decommissioning assets.<sup>69</sup> Providing companies with such certainty is forecast to raise revenue solely by increasing investment in and production of oil and gas (i.e. raising revenue without directly imposing a higher tax burden on firms).<sup>70</sup>

### *Policymaking could be better*

The taxation of North Sea companies has undergone many incremental changes by many governments. The result is a system that incorporates distortions, is unduly complex and lacks a clear design.

A government may find it difficult to redesign the whole system. And to the extent that investment decisions have been based on the current system, this would not necessarily be desirable. However, a government looking to enact changes can, and should, seek to set out a clear strategy for what it is aiming to achieve and how it thinks oil and gas extraction should be taxed. For example, if the government wishes to link the rate of the supplementary charge to the oil price with a view to extracting the rents associated with higher oil prices, it should set out how the two will be linked and whether the benefits are deemed sufficient to outweigh any distortions to investment decisions.

In considering policy change, any benefits (for example, additional revenue) should be weighed against the costs of reducing stability and certainty and possibly additional complexity. The introduction of contracts that specify future decommissioning relief is a good example of how additional certainty can improve investment incentives and, as a result, strengthen the public finances.

## 10.5 Conclusions

There have long been suggestions that governments can expect to see corporate tax revenues fall as income becomes more mobile (and therefore avoidance opportunities are increased) and as governments lower rates in a bid to maintain competitiveness. The surprise over the last three decades has been that corporate tax revenues, while volatile, have remained robust. However, part of this was likely the result of high revenues from North Sea companies in the 1980s (now much less important and declining) and a growing financial sector in the 1990s and 2000s (now subject to uncertainty following the financial crisis). Therefore, the same concerns are likely to remain as governments continue to reduce rates (in the UK's case, from 28% to 21% in this parliament) in a bid to attract mobile activities.

This government, like many others before it, faces the challenge of preventing corporate tax avoidance. The actions of multinational firms to reduce UK taxable profit have

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<sup>69</sup> The government plans to consult on the precise form of such contracts with a view to introducing legislation in Finance Bill 2013. See paragraph 2.125 of HM Treasury, *Budget 2012*, March 2012 (<http://www.hm-treasury.gov.uk/budget2012.htm>).

<sup>70</sup> Revenue is forecast to be £245 million in 2013–14. See page 12 of *Budget 2012 Policy Costings*, March 2012 ([http://cdn.hm-treasury.gov.uk/budget2012\\_policy\\_costings.pdf](http://cdn.hm-treasury.gov.uk/budget2012_policy_costings.pdf)).

attracted public scorn. The government has signalled its willingness to continue to engage with the OECD on improving the transfer pricing rules that dictate how profits are allocated to countries. It has also earmarked some HMRC resources to deal specifically with tax avoidance. However, there is a limit to what can be achieved in the current system. To the extent that many of the opportunities to shift profits arise from the fact that firms are able to declare profits and costs in different countries and must attach prices (that aren't observable in the market) to intra-group transactions, a more radical change in the corporate tax system merits consideration.

The European Commission has suggested moving to a common consolidated corporate tax base. This has the key advantage that income and deductions would be declared together and there would be no need to price transactions that happened within a company but across European countries. Taxing rights could be allocated to countries in a way that was more closely linked to real activities. However, this would not remove all of the problems associated with the current system – for example, there would still be opportunities to shift profits outside the EU. Politically, one of the key difficulties is that some countries would stand to lose substantial revenues as a result of the move.

North Sea companies have proved an important source of revenue for the UK. However, the receipts from oil and gas extraction are forecast to fall in line with declining production. The tax system applied to North Sea companies' activities is complex and changes too often. High tax rates need not be distortionary, but they are if levied on the normal rate of return. This is the case for at least some North Sea investments because the corporate tax does not allow the full deduction of all investment costs. The complexity of the current UK system is the result of incremental developments over decades. Policy going forward should at least aim not to make the system more complex or distortionary and preferably should try to make future changes more predictable in order to reduce uncertainty.

# Appendix A: Forecasting the public finances

Carl Emmerson, Soumaya Keynes and Gemma Tetlow (IFS)

This appendix looks at the techniques used to produce the Green Budget public finance forecasts and describes in more detail the forecasts, which are discussed briefly in Chapter 5. Section A.1 compares the forecasts for borrowing in 2011–12 made in the February 2012 Green Budget and in the Office for Budget Responsibility's (OBR's) November 2011 *Economic and Fiscal Outlook* (EFO) with the eventual out-turn. Section A.2 then discusses the techniques used in making our forecasts. Section A.3 provides details of our baseline forecast for 2012–13, while Section A.4 presents the medium-term forecasts under our baseline scenario, under the Oxford Economics central scenario and under two alternative Oxford Economics scenarios.

## A.1 The accuracy of our previous forecasts

The February 2012 Green Budget forecast was for a slightly lower level of current receipts than was forecast by the OBR in the November 2011 EFO and also for lower current spending, but for the same level of investment spending. Taken together, this meant that the IFS Green Budget forecast was for a smaller current budget deficit and a lower level of overall borrowing than was forecast at the time by the OBR.

The out-turn for current spending was £6.4 billion lower than we had forecast and £9.7 billion lower than the OBR had forecast. Meanwhile – as shown in Table A.1 – receipts came in £6.0 billion lower than the OBR had forecast in its 2011 EFO and £5.6 billion lower than we forecast in the February 2012 Green Budget.

Table A.1. Comparisons of forecasts for government borrowing, 2011–12

£ billion	OBR forecast, November 2011	IFS Green Budget forecast, February 2012	OBR out-turn estimate, December 2012
Current receipts	575.5	575.1	569.5
Current expenditure <sup>a</sup>	673.9	670.6	664.2
Surplus on current budget	–98.5	–95.6	–94.7
Net investment	28.6	28.6	26.7
Total managed expenditure	702.6	699.3	690.9
Public sector net borrowing	127.1	124.2	121.4

<sup>a</sup> In line with the National Accounts, depreciation has been included as current expenditure.

Source: Out-turn figures from Office for Budget Responsibility, *Economic and Fiscal Outlook*, December 2012 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>). Forecasts from Office for Budget Responsibility, *Economic and Fiscal Outlook*, November 2011 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2011/>) and R. Crawford, C. Emmerson and G. Tetlow, 'Green Budget public finance forecasts', in C. Emmerson, H. Miller and P. Johnson (eds), *The IFS Green Budget: February 2012* (<http://www.ifs.org.uk/budgets/gb2012/12chap4.pdf>).

Table A.2 shows the breakdown of the errors in the forecasts for tax receipts contained in the November 2011 EFO and the February 2012 Green Budget. The OBR overestimated National Accounts taxes by £4.8 billion, while the Green Budget (which had the benefit of access to two months' additional out-turn data) overestimated them by £4.4 billion. The forecasting errors in the Green Budget were smaller for income tax and VAT than those made by the OBR, but larger for National Insurance contributions and fuel duties. The largest errors made by both the OBR and last year's Green Budget were for forecast income tax receipts. The OBR overestimated these by £2.7 billion, while the Green Budget overestimated them by a slightly smaller £2.2 billion. Outside of National Accounts taxes, there was a relatively small absolute error in both the OBR and Green Budget forecasts for non-tax receipts (which were overestimated by £1.2 billion in both forecasts).

**Table A.2. IFS Green Budget and OBR errors in forecasting government receipts, 2011–12**

<i>£ billion</i>	<b>OBR forecast, November 2011</b>	<b>IFS Green Budget, February 2012</b>
Income tax (net of tax credits)	+2.7	+2.2
National Insurance contributions	+0.8	+1.3
Value added tax <sup>a</sup>	–1.0	+0.6
Corporation tax (net of tax credits)	+1.0	+1.0
Fuel duties	+0.2	–0.6
Stamp duties	+0.1	–0.4
Other taxes	+1.0	+0.3
<i>National Accounts taxes</i>	<b>+4.8</b>	<b>+4.4</b>
Non-tax receipts <sup>b</sup>	+1.2	+1.2
<b>Total current receipts</b>	<b>+6.0</b>	<b>+5.6</b>

<sup>a</sup> Includes VAT refunds

<sup>b</sup> Includes interest and dividends, gross operating surplus, rent, and transfers to central government from households; net of business rate payments by local authorities, the own resources contribution to the EU budget and public corporations' onshore corporation tax payments.

Notes: Figures shown are the difference between the relevant forecast and the latest estimated out-turn for receipts in 2011–12; figures for tax receipts in this table are on a cash, rather than accruals, basis.

Source: As for Table A.1.

Lower-than-anticipated receipts were more than offset by current spending turning out to be much lower than the OBR had expected. As a result, the current budget deficit was ultimately £3.8 billion smaller than the OBR had forecast. Our forecasts for both receipts and current spending were lower than the OBR's; together, this led to a smaller error in our forecast for the current budget deficit, at just £0.9 billion. Investment spending came in £1.9 billion below both the OBR's and our forecast, and so total borrowing for 2011–12 was £5.7 billion lower than the OBR forecast and £2.8 billion lower than we forecast.

## A.2 Techniques used in our forecasts

To forecast revenues for the current financial year, we examine three different sources of information for each element of government revenue before coming to a judgement. In addition to the latest OBR forecast from the December 2012 EFO, we use information on

the revenues implied by a current receipts method and by the IFS modelled approach.<sup>1</sup> For future years, our judgement is based on the IFS model and the latest OBR forecasts.

Our judgement about spending in the current year is informed by looking at the OBR's latest forecast and by examining how spending has grown over the year to date, using a similar approach to the current receipts method used for revenues. For future years, we make a judgement based on stated government policy as well as taking into account additional pressures on social security and debt interest spending when we use economic scenarios that differ from the OBR's forecasts – these judgements are described in more detail in Sections A.3 and A.4.

## Information from current receipts

The current receipts method uses information on receipts received so far in the current financial year compared with those received up to the same point in the previous financial year. An estimate for the whole of the current year's receipts is then calculated using the following formula:

$$2012-13 \text{ forecast} = \frac{\text{Receipts received so far this year}}{\text{Receipts received to the same point last year}} \times 2011-12 \text{ receipts}$$

While this is useful when forecasting revenues in the current financial year, it obviously cannot provide projections for revenues in future years. Also, particular caution must be used when revenues are cyclical or changes have been made that may affect the timing of payments.

## The IFS modelled receipts approach

The IFS public finance model estimates growth in a range of taxes (shown in Table A.3) using forecasts for the growth in the relevant tax base, combined with an estimate of the elasticity of revenue with respect to the growth in the tax base. Information from previous Budgets, Pre-Budget Reports and Autumn Statements on the revenue effects of pre-announced tax changes is then added in order to reach a forecast. Modelled receipts can be summarised by the following formula:

$$2012-13 \text{ forecast} = (2011-12 \text{ receipts} \times \text{Tax-base change} \times \text{Elasticity}) + \text{Tax changes}$$

This technique also enables forecasts to be made for future years, given the expected structure of the tax system. It should be noted that these forecasts become considerably less accurate for later years, since forecasts for changes in tax bases, estimates of elasticities and the impact of tax changes all become less accurate.

The elasticities for income tax and National Insurance contributions (NICs) are estimated from TAXBEN, the IFS tax and benefit model. Corporation tax is assumed to have an elasticity of 1, as virtually all profits are taxable at the main rate. Fuel duties are forecast using an elasticity calculated from previous IFS research.<sup>2</sup> Beer, spirits, wine and tobacco duties are forecast using the median elasticity found in a range of UK studies.<sup>3</sup> Elasticities

<sup>1</sup> For a more detailed explanation of both these techniques, see C. Giles and J. Hall, 'Forecasting the PSBR outside government: the IFS perspective', *Fiscal Studies*, 1998, 19, 83–100.

<sup>2</sup> L. Blow and I. Crawford, *The Distributional Effects of Taxes on Private Motoring*, IFS Commentary 65, 1997 (<http://www.ifs.org.uk/publications/1887>).

<sup>3</sup> M. Chambers, 'Consumers' demand and excise duty receipts equations for alcohol, tobacco, petrol and DERV', Government Economic Service, Working Paper 138, August 1999.

for air passenger duty and insurance premium tax are estimated from an OBR projection for revenues from these taxes.<sup>4</sup>

This approach is not dissimilar from the broad approach taken by the OBR in its forecasts for revenues from individual taxes.<sup>5</sup> To our knowledge, we are the only institution other than the OBR to produce a detailed bottom-up forecast for the UK's public finances.

## A.3 Forecasts for 2012–13

The Green Budget baseline forecast is a judgement based on the OBR's latest forecast (from the December 2012 EFO), the current receipts method and the IFS modelled approach. Each of these is presented in Table A.3, and we discuss below how we have used these pieces of information to come to our judgement.

Our forecast for total receipts in 2012–13 is £3.3 billion lower than the OBR's forecast from December 2012. This comprises a more pessimistic forecast for revenues from income tax, VAT and corporation tax, somewhat offset by more optimistic forecasts for revenues from NICs, excise duties and stamp duties. We forecast that current departmental spending will be £1.4 billion lower than the budgets set by the Treasury at the start of the year, which is £3.1 billion higher than the figure assumed by the OBR in December 2012. We assume that net investment will be the same as forecast by the OBR.

### Revenues

#### *Receipts from major taxes*

We forecast that **income tax** receipts in 2012–13 will be £146.6 billion, which is the figure implied by the current receipts model. This is £3.5 billion below the OBR's forecast of £150.1 billion and considerably below the IFS model forecast. Income tax receipts in January 2013, which are typically higher than in other months due to self-assessment payments and income tax on bonuses paid in January, are particularly uncertain this year. In particular, the reduction in the top rate of income tax rate from 50p to 45p in April 2013 might lead some people to defer their income from 2012–13 to 2013–14, which could depress PAYE income tax revenues in the first three months of 2013 relative to 2012. On the other hand, self-assessment income tax receipts during the last three months of the 2011–12 tax year (which related to income received during the 2010–11 tax year) were depressed by individuals having brought forward their income to avoid the introduction of the 50p tax rate in April 2010. These one-off factors make forecasting revenues over the remaining months of this year difficult, but the trends over the year to date lead us to judge that revenues for the year as a whole will undershoot the OBR's latest forecast.

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<sup>4</sup> We take the nominal growth in receipts projected between 2011–12 and 2016–17 by the OBR in its November 2011 Autumn Statement for these taxes and relate this to the nominal growth in consumer spending, after adjusting for the estimated impact of any policy changes.

<sup>5</sup> Full details of the OBR's approach can be found in OBR, *Forecasting the Public Finances*, Briefing Paper 1, January 2011 ([http://budgetresponsibility.independent.gov.uk/wordpress/docs/obr\\_briefing1.pdf](http://budgetresponsibility.independent.gov.uk/wordpress/docs/obr_briefing1.pdf)).



Table A.3. Forecasts for government borrowing in 2012–13: OBR macro scenario

<i>£ billion</i>	<b>OBR, December 2012</b>	<b>Current receipts method<sup>a</sup></b>	<b>IFS forecasting model</b>	<b>IFS forecast judgement</b>
Income tax (net of tax credits)	150.1	150.3 <sup>b</sup>	155.0	146.6
National Insurance contributions (NICs)	104.1	104.8	106.4	104.5
Value added tax (VAT) <sup>c</sup>	115.1	114.3	116.6	114.3
Corporation tax (net of tax credits)	38.9	38.9	41.7	38.2
Petroleum revenue tax	2.2	n/a	1.8	2.2
Fuel duties	26.2	n/a	26.3	26.3
Business rates	25.7	n/a	24.4	25.7
Council tax	26.3	n/a	26.0	26.3
Capital gains tax	3.7	–	4.3	3.7
Inheritance tax	3.1	n/a	3.1	3.1
Stamp duties	8.9	n/a	10.0	9.3
Tobacco duties	9.8	n/a	10.2	10.2
Spirits duties	2.8	n/a	3.0	3.0
Wine duties	3.5	n/a	3.5	3.5
Beer and cider duties	3.8	n/a	3.9	3.9
Air passenger duty	2.9	n/a	2.9	2.9
Insurance premium tax	3.1	n/a	3.0	3.0
Customs duties	2.9	n/a	3.0	3.0
Betting and gaming taxes	1.7	n/a	1.7	1.7
Landfill tax	1.1	n/a	1.1	1.1
Climate change levy	0.7	n/a	0.7	0.7
Aggregates levy	0.3	n/a	0.3	0.3
Vehicle excise duties	5.9	n/a	5.9	5.9
Bank levy	1.8	n/a	2.9	1.8
Swiss capital tax	0.3	n/a	0.3	0.3
Other taxes <sup>d</sup>	12.2	n/a	12.2	12.2
<b>National Accounts taxes</b>	<b>557.2</b>	<b>553.6</b>	<b>570.3</b>	<b>553.8</b>
Less Own resources contribution to EU budget	–5.3	n/a	–5.3	–5.3
Interest and dividends	17.6	n/a	17.6	17.6
Other receipts <sup>e</sup>	24.4	n/a	24.4	24.4
<b>Current receipts</b>	<b>593.8</b>	<b>590.2</b>	<b>607.0</b>	<b>590.5</b>
<b>Current spending</b>	<b>682.9</b>	<b>687.3</b>	<b>684.5</b>	<b>684.5</b>
<b>Current balance</b>	<b>–89.1</b>	<b>–97.1</b>	<b>–77.5</b>	<b>–94.0</b>
Net investment	–8.5	–8.5	–8.5	–8.5
<b>Public sector net borrowing</b>	<b>80.6</b>	<b>88.6</b>	<b>69.0</b>	<b>85.5</b>

a. Current receipts figures for income tax, NICs and VAT are on an accruals basis. Other current receipts figures are on a cash basis.

b. Current receipts figures for income tax include receipts of capital gains tax.

c. Includes VAT refunds.

d. Includes licence fees and environmental levies.

e. Includes gross operating surplus of public corporations.

Notes: With the exception of the 'current receipts method' (see note a), all figures are on an accruals basis. Current receipts figures for total receipts assume the OBR is correct in its forecasts for the taxes where the current receipts data are not available; 'current receipts' forecasts for current spending assume that the OBR's forecasts for current spending by local government and public corporations and for central government debt interest spending are correct.

Source: Authors' calculations. Office for Budget Responsibility, *Economic and Fiscal Outlook*, December 2012 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>). Office for National Statistics, *Public Sector Finances*, December 2012 (<http://www.ons.gov.uk/ons/rel/psa/public-sector-finances/december-2012/index.html>).

Our judgement, based on assessing the OBR's forecast and the information available from current receipts so far this year, is that **NICs** will raise £104.5 billion. This is £0.4 billion higher than the OBR's December 2012 forecast of £104.1 billion, it is slightly below the figure implied by the current receipts method (of £104.8 billion) and is £1.9 billion lower than the IFS model forecast of £106.4 billion.

For **VAT** receipts, we judge that receipts will be equal to the figure implied by the current receipts method (£114.3 billion). This is lower than the OBR's forecast for total VAT receipts (£115.1 billion); new data available since the OBR published its latest forecast show that VAT revenues grew less quickly in November and December 2012 than the OBR's forecast implied for the final five months of this year, leading us to judge that revenues will undershoot the OBR's forecast this year.

We forecast that **corporation tax** receipts will be £38.2 billion. This judgement is arrived at by taking the IFS model forecast for onshore corporation tax receipts (£33.9 billion) and the OBR's forecast for offshore corporation tax receipts (£5.2 billion) and tax credits (–£0.9 billion). This combined forecast is slightly below both the OBR's forecast for total corporation tax receipts and the figure implied by the current receipts method.

We forecast that revenues from **fuel duties** will be £26.3 billion, as forecast by the IFS model, which is only slightly above the £26.2 billion forecast by the OBR.

### **Other government receipts**

Our forecast for **stamp duties** (of £9.3 billion) is higher than the OBR's forecast (£8.9 billion) but below the IFS model forecast (£10.0 billion). This judgement is based on the current receipts figures for stamp duty land tax, which imply that cash revenues this year will be £6.9 billion (or £0.4 billion higher than forecast by the OBR), while we assume that stamp duty on shares will come in as forecast by the OBR (at £2.4 billion).

For **petroleum revenue tax**, we take the OBR's forecast of £2.2 billion, which is slightly above the £1.8 billion forecast by the IFS model and exactly the same as implied by the current receipts method. We also take the OBR's forecasts for revenue from **business rates** (£25.7 billion) and **council tax** (£26.3 billion), which are slightly above our model forecasts (£24.4 billion and £26.0 billion respectively).

We assume that the OBR's forecast for the revenue that will be raised from the **bank levy**, the **Swiss capital tax** and the EU Emissions Trading Scheme in 2012–13 is correct. For all other tax receipts, we take the forecast from our model.

## **Government expenditure**

We forecast that **current spending** in 2012–13 will be £684.5 billion. This is £2.3 billion lower than was forecast by the OBR in March 2012 and £1.6 billion higher than it forecast in December 2012 (as shown in Table A.4).

Between March and October 2012, central government spending grew less quickly than the OBR had forecast for the year as a whole at the time of the March Budget. In particular, this was driven by low growth in spending on the delivery and administration of public services, somewhat offset by higher growth in spending on net social benefits. In light of these trends, the OBR revised down its forecast for current spending in 2012–13 by £3.9 billion. This included a judgement that government departments would underspend their allocated resource budgets by £4.5 billion this year.

Since the OBR's last forecast was published, new figures show that growth in current spending on the delivery and administration of public services has picked up. This component of central government spending was 5.4% higher in November and December 2012 than in the same months in 2011; this compares with the OBR's December 2012 forecast that this component of spending would grow by just 1.1% over the last five months of the 2012–13 financial year. These trends lead us to judge that current spending will be £1.6 billion higher this year than the OBR forecast in December, at £684.5 billion. This implies an underspend by Whitehall departments of £2.9 billion (compared with the OBR's assumption of £4.5 billion) along with us assuming that the OBR is correct in its forecast for all other spending.

**Table A.4. Comparisons of forecasts for government borrowing, 2012–13**

<i>£ billion</i>	<b>OBR March 2012</b>	<b>OBR December 2012</b>	<b>Green Budget February 2013</b>	<b>Difference between Green Budget forecast and:</b>	
				<b>March</b>	<b>December</b>
Current receipts	591.5	593.8	590.5	–1.0	–3.3
Current expenditure <sup>a</sup>	686.8	682.9	684.5	–2.3	1.6
Surplus on current budget	–95.3	–89.1	–94.0	1.3	–4.9
Net investment	–3.4	–8.5	–8.5	–5.1	0.0
Total managed expenditure	683.4	674.3	676.0	–7.4	1.6
Public sector net borrowing	91.9	80.5	85.5	–6.4	4.9

a. In line with the National Accounts, depreciation has been included as current expenditure.

Note: Figures shown in this table exclude the temporary effects of financial interventions.

Source: Authors' calculations. Office for Budget Responsibility, *Economic and Fiscal Outlook*, March 2012 and *Economic and Fiscal Outlook*, December 2012 (both available

<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>).

We assume that the OBR's forecast for **public sector net investment** (PSNI) spending of –£8.5 billion in 2012–13 (or +£18.9 billion after stripping out the impact of the transfer of Royal Mail Pension Plan, Bradford & Bingley and Northern Rock Asset Management on the public sector balance sheet) is accurate. Over the period from April 2012 to December 2012, public sector net investment spending (excluding the transfer of Royal Mail Pension Plan assets) was 18% lower than it was over the same period in 2011, compared with a 37% fall implied by the OBR's December 2012 forecast for the year as a whole. Nonetheless, our judgement is that PSNI this year will be in line with the OBR's forecast. This judgement is based on two factors: first, investment spending is inherently lumpy and therefore is less likely to evolve smoothly over the financial year than other components of spending. This will be particularly true this year, as the OBR's forecast for net investment includes an estimate that the sale of 4G mobile phone licences will raise £3.5 billion between now and April 2013; this figure will be scored in the National Accounts as negative investment spending. Second, PSNI last year came in below the OBR's November 2011 forecast (as shown in Table A.1),<sup>6</sup> despite the fact that by this

<sup>6</sup> The latest out-turn data for PSNI suggest that PSNI in 2011–12 was actually £28.0 billion – somewhat higher than the figure published by the OBR in December (and shown in Table A.1). However, this out-turn is still below the OBR's forecast from November 2011.

point last year investment spending had fallen by less relative to the previous year than had been forecast for the year as a whole in November 2011.

## Government borrowing

Taken together, the IFS baseline forecast is therefore for the **current budget deficit** (that is, the difference between receipts and non-investment spending) to be £94.0 billion in 2012–13, which is £4.9 billion higher than the OBR's forecast of £89.1 billion. Because the IFS baseline forecast is for the same level of public sector net investment spending as the OBR forecasts, **public sector net borrowing** (that is, the gap between revenues and total spending, including investment) is also projected to be £4.9 billion higher than the OBR's forecast, at £85.5 billion.

## A.4 Medium-term forecasts

The major risk factor for the UK's public finances over the medium term is how the economy evolves – although obviously this is a symbiotic relationship. To show some of the risks around the OBR's projection for the public finances over the next five years, we have produced four sets of public finance forecasts based on four different sets of economic forecasts.

### Alternative macroeconomic scenarios: summary details

Table A.5 presents summary details of the macroeconomic forecasts and Figure A.1 summarises the forecast paths for real growth in actual and potential gross domestic product (GDP) in each case.

The Green Budget baseline scenario uses the OBR's latest macroeconomic assumptions. As detailed in its December 2012 forecast, the OBR estimates that the UK economy is operating 3.2% below its trend level in 2012–13 (that is, there is an output gap of –3.2%). The OBR expects actual GDP to grow by just 0.1% in real terms in 2012–13. After that, it projects growth of 1.5% in 2013–14, rising to between 2.1% and 2.8% per year thereafter. This path for growth leads to the estimated output gap widening between 2012–13 and 2013–14 and not being closed until after 2017–18.

Under the Oxford Economics central forecast, real GDP growth is almost exactly the same over the next five years as forecast by the OBR in December 2012 (as shown in Figure A.1). Within this, nominal growth in earnings, consumer spending and employment are very similar in the two forecasts, while price inflation is expected to be somewhat lower in the Oxford Economics central case and equity price growth is expected to be considerably higher. Since the two sets of economic forecasts are so similar, our overall forecast for growth in tax receipts and spending under the Oxford Economics central case is very similar to our baseline forecast. However, Oxford Economics judges that there is a significantly larger output gap in 2012–13 than the OBR does, at 5.2% of potential output rather than 3.2%. This implies that there is greater scope for the economy to bounce back in the Oxford Economics central case than under the OBR's forecast and thus a greater part of borrowing will reflect a temporary, rather than a structural, problem.

Table A.5. Alternative macroeconomic assumptions underlying medium-term public finances forecasts

<i>Annual % change unless otherwise stated</i>	<b>2012– 13</b>	<b>2013– 14</b>	<b>2014– 15</b>	<b>2015– 16</b>	<b>2016– 17</b>	<b>2017– 18</b>
<b>Green Budget baseline: OBR</b>						
Gross domestic product (GDP)	0.1	1.5	2.1	2.4	2.7	2.8
Real consumers' expenditure	1.1	0.7	1.0	0.8	1.1	1.2
Employment	1.4	0.0	0.7	0.7	0.7	1.0
Real wages	0.0	–0.9	0.3	0.8	0.6	0.3
GDP deflator	2.5	2.0	2.0	2.0	2.0	2.0
Output gap (% of potential GDP)	–3.2	–3.5	–3.3	–2.9	–2.4	–1.7
<b>Oxford Economics, central</b>						
Gross domestic product (GDP)	0.1	1.2	2.3	2.5	2.9	2.9
Real consumers' expenditure	1.1	0.1	1.3	1.8	2.1	1.3
Employment	1.2	0.1	0.6	0.7	0.8	0.9
Real wages	–0.8	–0.6	0.0	0.9	1.5	0.8
GDP deflator	1.8	1.7	1.7	1.8	1.8	1.9
Output gap (% of potential GDP)	–5.2	–5.5	–5.1	–4.6	–3.8	–3.2
<b>Oxford Economics, 'corporate reawakening'</b>						
Gross domestic product (GDP)	0.1	2.4	3.3	2.8	2.5	2.5
Real consumers' expenditure	1.1	1.1	1.8	1.9	2.1	1.6
Employment	1.2	0.5	1.4	0.9	0.6	0.7
Real wages	–0.8	0.0	0.4	0.8	1.2	0.6
GDP deflator	1.8	1.6	1.7	1.4	1.4	1.4
Output gap (% of potential GDP)	–5.2	–4.9	–4.1	–3.5	–3.2	–2.9
<b>Oxford Economics, 'eurozone break-up'</b>						
Gross domestic product (GDP)	0.1	1.1	–2.0	–1.4	1.0	3.3
Real consumers' expenditure	1.1	0.2	–3.3	–0.8	1.0	3.5
Employment	1.2	0.2	–0.8	–2.0	–0.2	1.2
Real wages	–0.8	–0.6	–1.3	0.7	2.1	2.0
GDP deflator	1.8	1.7	1.2	0.5	0.6	1.2
Output gap (% of potential GDP)	–5.2	–5.6	–6.8	–7.9	–8.0	–7.4

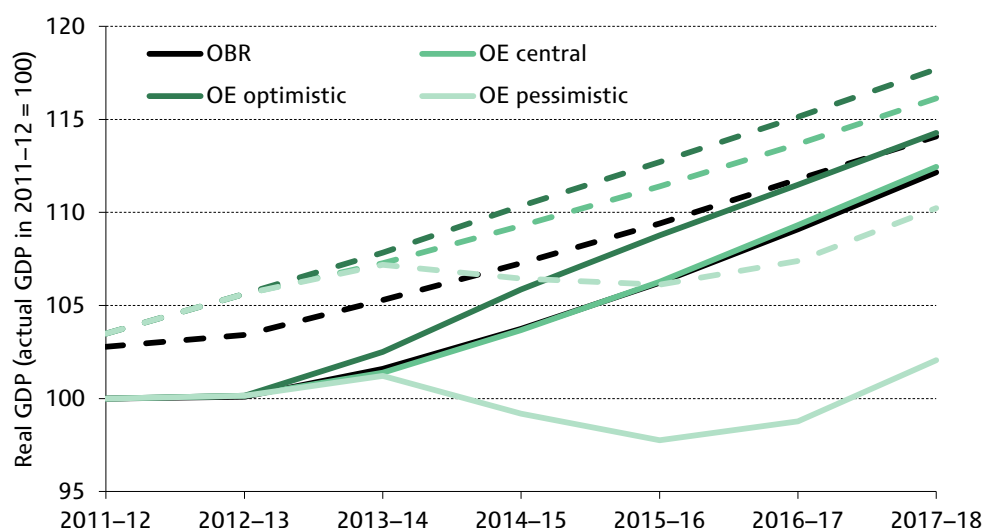
Source: Oxford Economics. Office for Budget Responsibility, *Economic and Fiscal Outlook*, December 2012 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>).

The Oxford Economics 'corporate reawakening' forecast is more optimistic about growth in GDP in 2013–14, 2014–15 and 2015–16 than the Oxford Economics central forecast – with, in particular, higher forecast growth in real earnings and employment and somewhat lower inflation. As a result, our public finances forecast under OE's more optimistic macro scenario suggests that receipts will grow more strongly than under the central case – in particular, receipts from income tax, VAT, stamp duties and capital gains tax. The Oxford Economics 'corporate reawakening' scenario is also more optimistic than the central case about growth in the potential level of GDP. As a result, the forecast output gap in 2017–18 is similar under the 'corporate reawakening' scenario (at –2.9%) to that

under the Oxford Economics central scenario, despite higher real growth in the meantime.

A far less comfortable outlook for the UK economy for the next four years is presented under the Oxford Economics 'eurozone break-up' scenario. In particular, both actual and potential GDP are forecast to fall in 2014–15 and 2015–16. In 2017–18, the economy is projected to bounce back strongly, with growth of 3.3%, but this would still leave the output gap at –7.4% by the end of the forecast period.

Figure A.1. Forecasts for actual and potential GDP



Note: Solid lines show the evolution of actual GDP under each scenario; dotted lines show the corresponding evolution of potential GDP.

Source: Authors' calculations. Oxford Economics. Office for Budget Responsibility, *Economic and Fiscal Outlook*, December 2012 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>).

## Public finance forecasts under alternative scenarios

### IFS baseline

#### Borrowing in 2013–14 and 2014–15

As mentioned above, our baseline forecast is that borrowing in 2012–13 will be £4.9 billion higher than the OBR's forecast, at £85.5 billion. In 2013–14 and 2014–15, as shown in Table A.6, the gap between borrowing under the IFS baseline and the OBR remains roughly constant, with the IFS baseline forecast for £4.1 billion more borrowing in 2013–14 and for £4.7 billion more borrowing in 2014–15.

Our baseline forecast suggests slightly higher growth in receipts over these two years than projected by the OBR, in particular coming from faster growth in VAT and corporation tax, offset somewhat by slower growth in income tax, capital gains tax and stamp duties. The shortfall between our forecast and the OBR's declines from £3.3 billion in 2012–13 to £1.5 billion in 2014–15. Further details of the differences in growth of individual tax revenues between the IFS baseline forecast and the OBR's forecast can be found in Figure A.2.

Table A.6. Medium-term public finance forecasts – £ billion

<i>£ billion</i>	2012– 13	2013– 14	2014– 15	2015– 16	2016– 17	2017– 18
<b><i>IFS: baseline</i></b>						
<i>Current budget</i>						
Current receipts	590.5	620.1	641.5	671.9	707.4	735.8
Current expenditure <sup>a</sup>	684.5	697.1	707.1	722.3	732.5	742.9
<b>Surplus on current budget</b>	<b>–94.0</b>	<b>–77.0</b>	<b>–65.6</b>	<b>–50.4</b>	<b>–25.2</b>	<b>–7.2</b>
<i>Capital budget</i>						
Net investment	–8.5	26.4	27.1	22.6	22.8	22.8
<b>Public sector net borrowing</b>	<b>85.5</b>	<b>103.4</b>	<b>92.7</b>	<b>73.0</b>	<b>48.0</b>	<b>30.0</b>
<b><i>IFS: Oxford Economics central</i></b>						
<i>Current budget</i>						
Current receipts	590.1	617.2	638.8	668.9	706.6	737.3
Current expenditure <sup>a</sup>	685.3	698.6	709.0	722.9	731.8	741.6
<b>Surplus on current budget</b>	<b>–95.2</b>	<b>–81.4</b>	<b>–70.2</b>	<b>–54.0</b>	<b>–25.2</b>	<b>–4.4</b>
<i>Capital budget</i>						
Net investment	–8.5	26.4	27.1	22.5	22.6	22.6
<b>Public sector net borrowing</b>	<b>86.7</b>	<b>107.8</b>	<b>97.3</b>	<b>76.5</b>	<b>47.8</b>	<b>27.0</b>
<b><i>OBR forecasts</i></b>						
<i>Current budget</i>						
Current receipts	593.8	620.6	643.0	671.4	706.1	734.2
Current expenditure <sup>a</sup>	682.9	695.0	705.4	722.1	732.4	742.6
<b>Surplus on current budget</b>	<b>–89.1</b>	<b>–74.4</b>	<b>–62.4</b>	<b>–50.7</b>	<b>–26.3</b>	<b>–8.4</b>
<i>Capital budget</i>						
Net investment	–8.5	24.9	25.6	22.6	22.7	22.9
<b>Public sector net borrowing</b>	<b>80.5</b>	<b>99.3</b>	<b>88.0</b>	<b>73.3</b>	<b>49.0</b>	<b>31.3</b>
<b><i>Difference in borrowing forecasts (IFS:B – OBR)</i></b>	<b>4.9</b>	<b>4.1</b>	<b>4.7</b>	<b>–0.3</b>	<b>–1.0</b>	<b>–1.3</b>
<b><i>Difference in borrowing forecasts (IFS:OE – OBR)</i></b>	<b>6.1</b>	<b>8.5</b>	<b>9.3</b>	<b>3.2</b>	<b>–1.2</b>	<b>–4.4</b>

<sup>a</sup> In line with the National Accounts, depreciation has been included as current expenditure.

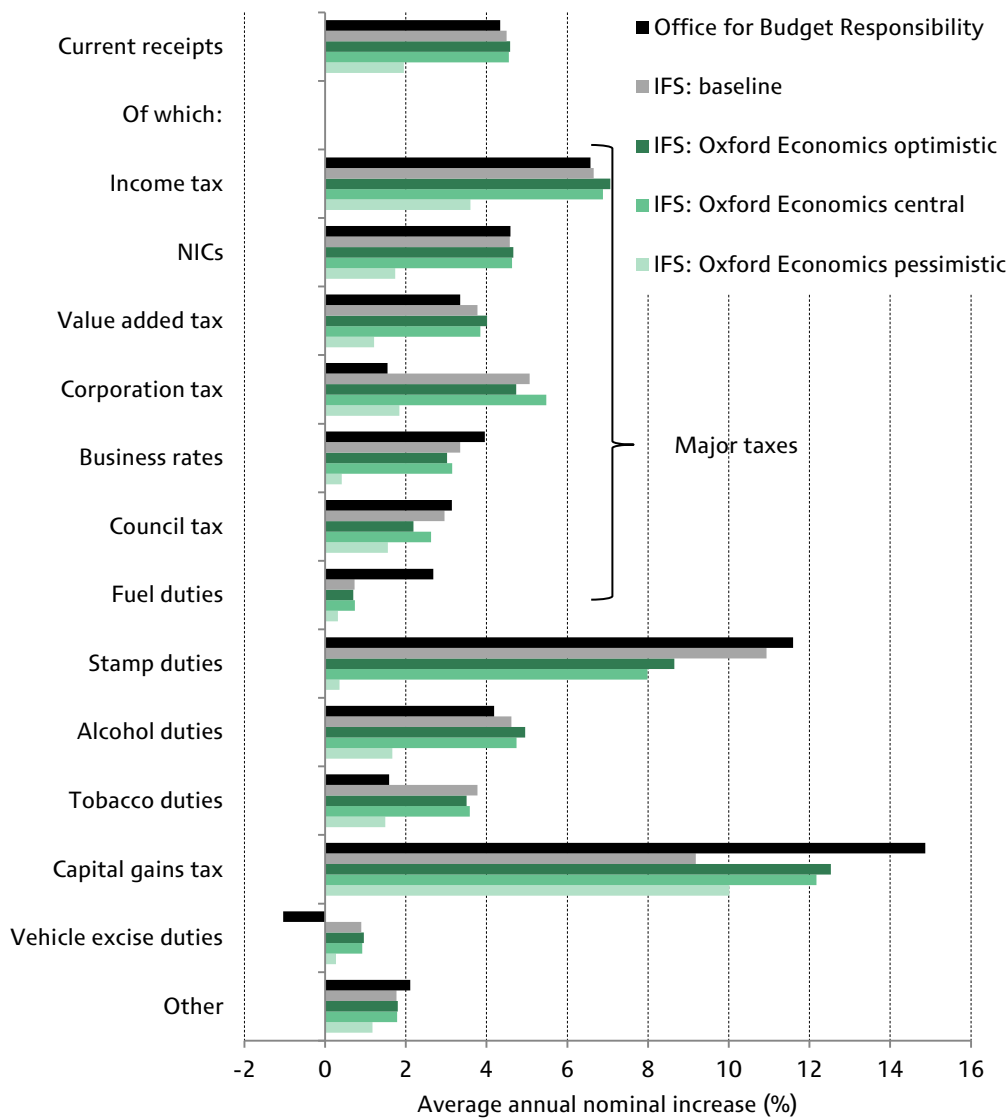
Source: Authors' calculations. OBR forecasts from the Office for Budget Responsibility, *Economic and Fiscal Outlook*, December 2012 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>).

We expect spending to diverge further from the OBR's forecast over the next two years. This is largely driven by a different assumption about spending by central government departments: whereas the OBR assumed in its December 2012 forecast that Whitehall departments will underspend their budget allocations by £3.5 billion in 2013–14 and £3.0 billion in 2014–15, we assume that departments will spend all of their allocations. This is in line with the assumption we have made in previous IFS Green Budgets – and, indeed, in line with the assumption underpinning the official public finance forecasts made for years beyond the current financial year by the OBR (and, under the previous Labour government, by the Treasury) prior to Autumn Statement 2012. While there have often been underspends in recent years, these could become less common as the



spending cuts become much deeper. The remainder of the difference in projections for spending under the IFS baseline forecast in 2013–14 and 2014–15 is due to slightly higher borrowing in previous years feeding into slightly higher spending on debt interest payments.

Figure A.2. OBR and IFS forecasts for revenue growth, 2012–13 to 2017–18



Notes: Income tax net of tax credits; corporation tax net of company tax credits. VAT includes VAT refunds. Taxes ranked in descending order of the December 2012 Economic and Fiscal Outlook forecasts of what they will raise in 2017–18, with all taxes that are forecast to raise less than vehicle excise duties (£5.6 billion in 2017–18) grouped together in 'other'.

### Borrowing in 2015–16 and beyond

Beyond 2014–15, the gap in borrowing between the IFS baseline forecast and the OBR's forecast reverses. Part of this change reflects higher expected growth in corporation tax receipts and excise duties. The remainder is due to the fact that both we and the OBR assume that public spending beyond 2014–15 follows the profile stated in official government policy. Government policy is that, after economy-wide inflation, total public spending should be cut at the same rate in real terms between 2014–15 and 2017–18 as

over the period from 2010–11 to 2014–15, ignoring the impact of any assumed underspend in 2014–15. Since our forecast is for a slightly higher level of debt interest spending in 2014–15 than the OBR expects, our forecast for total public spending remains slightly above the OBR's through to 2017–18, but the gap (at just £0.2 billion) is much smaller than in 2014–15.

Taking these projections for receipts and spending together, the IFS baseline forecast is for total borrowing to fall from £92.7 billion in 2014–15 (or 5.5% of GDP) to £30.0 billion in 2017–18 (or 1.5% of national income), which is £1.3 billion lower than the OBR forecast for 2017–18. This fall in borrowing (of 4.0% of national income) is projected to come from a cut to current spending of 3.6% of national income (from 41.9% to 38.3%) and a cut to public sector net investment of 0.4% of national income (from 1.6% to 1.2%), with total receipts broadly stable (and equal to 37.9% of national income in 2017–18).

Our baseline forecast for the current budget deficit (that is, borrowing that is not used to finance investment spending) in 2017–18 is £7.2 billion, compared with the OBR forecast of a deficit of £8.4 billion. As shown in Table A.7, the Chancellor's fiscal mandate (which requires that the cyclically-adjusted current budget must be forecast to be in balance or surplus at the end of the rolling five-year forecast horizon) would be met with a slightly smaller margin than suggested by the OBR's forecast.

## **Debt**

Because our baseline forecast is for borrowing to be slightly higher until 2014–15 than forecast by the OBR, public sector net debt is forecast to peak at 80.6% of national income in 2015–16 (0.7 percentage points above the peak forecast by the OBR) before falling to 77.9% of national income in 2017–18. This means that, just as under the OBR's forecast, the Chancellor would be on course to miss his supplementary target.

## ***Oxford Economics central case***

### **Borrowing in 2013–14 and 2014–15**

As shown above, the Oxford Economics central scenario has slightly weaker economic growth in 2013–14 than forecast by the OBR (1.2% compared with 1.5%), which feeds into slightly lower tax receipts and slightly higher spending on social security benefits. The Oxford Economics central forecast is, in particular, for lower property price growth and lower growth in property transactions, which results in significantly lower forecast revenues from stamp duty land tax than under our baseline forecast.

Combined with our assumption (as in our baseline forecast) that Whitehall departments do not, on average, underspend their budget allocations in 2013–14 and 2014–15, this leads to borrowing being projected to be £9.3 billion higher in 2014–15 under this scenario than under the OBR's forecast. This is due to receipts under the Oxford Economics central scenario being forecast to be £4.2 billion lower and total managed expenditure forecast to be £5.1 billion higher than the OBR forecast (or £2.7 billion lower and £1.9 billion higher, respectively, than our baseline forecast).

### **Borrowing in 2015–16 and beyond**

Beyond 2013–14, the Oxford Economics central scenario is for slightly stronger economic growth, with particularly strong growth in nominal consumer spending. This boosts growth in forecast tax revenues and reduces growth in forecast social security benefits relative to the OBR's forecast. As was the case with the IFS baseline forecast, different assumptions made by us and the OBR about the size of any underspend by Whitehall departments in 2013–14 and 2014–15 do not feed through into differences in spending

beyond 2014–15. As a result, the gap between borrowing as forecast under the Oxford Economics central scenario and that forecast by the OBR narrows and then reverses in 2016–17. In 2017–18, the forecast under the Oxford Economics scenario is for borrowing to be 1.4% of national income in 2017–18, which is £4.4 billion lower in nominal terms than forecast by the OBR.

As shown in Table A.7, the fall in borrowing between 2014–15 and 2017–18 under the Oxford Economics central scenario (from 5.8% of national income in 2014–15 to 1.4% of national income in 2017–18) comes from a cut to current spending of 3.7% of national income (from 42.6% to 38.9%), a cut to public sector net investment of 0.4% of national income (from 1.6% to 1.2%) and an increase in total receipts of 0.3% of national income (from 38.4% to 38.7%).

Even though, by 2017–18, there is little difference between the headline fiscal aggregates forecast under the Oxford Economics central scenario and the OBR's latest forecast, under the Oxford Economics central scenario trend output is higher than the OBR estimates and therefore there is more spare capacity in the UK economy throughout the forecast horizon. This means that, whereas under the OBR's forecast the headline current budget deficit of 0.4% of national income in 2017–18 translates into a cyclically-adjusted surplus of 0.9%, the deficit headline of 0.2% of national income under the Oxford Economics central scenario translates into a much larger cyclically-adjusted surplus of 2.1% of national income. Therefore, the underlying health of the public finances would be significantly better under the Oxford Economics central scenario than under the OBR's scenario. If the economy and public finances were to follow the path suggested by the Oxford Economics central scenario (and our forecasts for the public finances on that basis), Mr Osborne could reduce the total planned fiscal consolidation from 9.2% of national income to 8.0% of national income by 2017–18 and still leave cyclically-adjusted borrowing the same as projected by the OBR in the December 2012 Autumn Statement – and, therefore, still comply with his fiscal mandate with the same margin as suggested by the OBR's latest forecast.

## **Debt**

Even though the underlying health of the public finances is significantly better under the Oxford Economics central case than under the OBR's forecast, the higher level of total borrowing over the next few years means that we forecast that public sector net debt would peak at 82.7% of national income in 2015–16 (2.8 percentage points above the peak level forecast by the OBR) before falling to 79.7% of national income in 2017–18. Therefore, under this scenario, as under the OBR's forecast and our baseline one, the Chancellor would be on course to miss his supplementary fiscal target.

Table A.7. Medium-term public finance forecasts – % of national income

% of national income	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18
<b>IFS: baseline</b>						
Current receipts	37.8	38.3	38.0	38.1	38.3	37.9
Current expenditure <sup>a</sup>	43.8	43.0	41.9	41.0	39.6	38.3
Surplus on current budget	–6.0	–4.8	–3.9	–2.9	–1.4	–0.4
<b>Cyclically-adjusted surplus on current budget</b>	<b>–3.9</b>	<b>–2.4</b>	<b>–1.5</b>	<b>–0.7</b>	<b>0.4</b>	<b>1.0</b>
Net investment	–0.5	1.6	1.6	1.3	1.2	1.2
Public sector net borrowing	5.5	6.4	5.5	4.1	2.6	1.5
Cyclically-adjusted public sector net borrowing	3.3	4.0	3.1	2.0	0.8	0.2
<b>Public sector net debt</b>	<b>75.0</b>	<b>77.3</b>	<b>79.8</b>	<b>80.6</b>	<b>79.9</b>	<b>77.9</b>
<b>IFS: Oxford Economics central</b>						
Current receipts	38.0	38.6	38.4	38.5	38.9	38.7
Current expenditure <sup>a</sup>	44.1	43.7	42.6	41.6	40.3	38.9
Surplus on current budget	–6.1	–5.1	–4.2	–3.1	–1.4	–0.2
<b>Cyclically-adjusted surplus on current budget</b>	<b>–2.9</b>	<b>–1.3</b>	<b>–0.6</b>	<b>0.2</b>	<b>1.4</b>	<b>2.1</b>
Net investment	–0.5	1.7	1.6	1.3	1.2	1.2
Public sector net borrowing	5.6	6.7	5.8	4.4	2.6	1.4
Cyclically-adjusted public sector net borrowing	2.3	3.0	2.2	1.1	–0.2	–0.9
<b>Public sector net debt</b>	<b>75.6</b>	<b>78.7</b>	<b>81.6</b>	<b>82.7</b>	<b>81.9</b>	<b>79.7</b>
<b>OBR forecasts</b>						
Current receipts	38.0	38.3	38.1	38.1	38.2	37.9
Current expenditure <sup>a</sup>	43.7	42.9	41.8	41.0	39.6	38.3
Surplus on current budget	–5.7	–4.6	–3.7	–2.9	–1.4	–0.4
<b>Cyclically-adjusted surplus on current budget</b>	<b>–3.6</b>	<b>–2.2</b>	<b>–1.4</b>	<b>–0.8</b>	<b>0.4</b>	<b>0.9</b>
Net investment	–0.5	1.5	1.5	1.3	1.2	1.2
Public sector net borrowing	5.2	6.1	5.2	4.2	2.7	1.6
Cyclically-adjusted public sector net borrowing	3.0	3.8	2.9	2.0	0.9	0.3
<b>Public sector net debt</b>	<b>74.7</b>	<b>76.8</b>	<b>79.0</b>	<b>79.9</b>	<b>79.2</b>	<b>77.3</b>
<b>Difference in cyclically-adjusted current budget forecasts (IFS:B – OBR)</b>	<b>–0.3</b>	<b>–0.2</b>	<b>–0.1</b>	<b>0.1</b>	<b>0.0</b>	<b>0.1</b>
<b>Difference in cyclically-adjusted current budget forecasts (IFS:OE – OBR)</b>	<b>0.7</b>	<b>0.9</b>	<b>0.8</b>	<b>1.0</b>	<b>1.0</b>	<b>1.2</b>

<sup>a</sup> In line with the National Accounts, depreciation has been included as current expenditure.

Source: Authors' calculations. OBR forecasts from the Office for Budget Responsibility, *Economic and Fiscal Outlook*, December 2012 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>).

### ***Oxford Economics optimistic case***

Under the ‘corporate reawakening’ scenario, stronger economic growth – in particular in employment, consumer spending and real earnings – means that the public finances recover more quickly. As shown in Table A.8, under this macroeconomic scenario we forecast that public sector net borrowing would fall to just 0.7% of national income in 2017–18 (compared with the OBR’s forecast of 1.6% and our baseline forecast of 1.5%). The current budget (that is, borrowing excluding investment spending) is forecast to be in surplus by 0.4% of national income – this would be the first surplus on the current budget since 2001–02. Part of the faster growth in this scenario represents a more rapid recovery from recession and is therefore only a cyclical improvement. But part represents stronger growth in trend output. As a result, the cyclically-adjusted position is also stronger than under any of the IFS baseline forecast, the Oxford Economics central scenario or the OBR’s own forecast: the cyclically-adjusted current budget is forecast to be in surplus by 2.5% of national income in 2017–18.

Under this scenario, the Chancellor would still be on course to miss his supplementary fiscal target, as net debt is forecast to rise between 2014–15 and 2015–16. However, he could reduce his planned fiscal consolidation by 1.6% of national income (or £25 billion in today’s terms) and still meet his fiscal mandate with the same margin as forecast by the OBR in December 2012. Oxford Economics places a 15% chance on a scenario similar to this occurring.

### ***Oxford Economics pessimistic case***

Under the ‘eurozone break-up’ scenario, the health of the UK public finances through to 2017–18 is much worse. Another deep recession in 2014–15 and 2015–16, with a decline in employment and much lower growth in corporate profits than forecast under the other scenarios, is projected to lead to public sector net borrowing rising to 9.1% of national income in 2015–16. In this scenario, we assume that – although non-debt-interest, non-social-security spending will be cut in real terms at the same rate as currently implied by official government policy – higher social security spending and higher debt interest spending will lead to higher spending overall than in our baseline case. Public sector net debt is forecast to rise throughout the forecast horizon, including a sharp rise between 2014–15 and 2015–16 – implying that the Chancellor would be on course to breach his supplementary target by some considerable margin. Oxford Economics places a 15% chance on a scenario similar to this occurring.

Table A.8. Public finance forecasts under various scenarios

<i>% of national income, unless otherwise stated</i>	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18
<b>IFS: baseline</b>						
Real GDP growth (%)	0.1	1.5	2.1	2.4	2.7	2.8
Output gap (% of potential)	–3.2	–3.5	–3.3	–2.9	–2.4	–1.7
Current budget surplus	–6.0	–4.8	–3.9	–2.9	–1.4	–0.4
Cyclically-adjusted current budget surplus	–3.9	–2.4	–1.5	–0.7	0.4	1.0
Net borrowing	5.5	6.4	5.5	4.1	2.6	1.5
Net debt	75.0	77.3	79.8	80.6	79.9	77.9
<b>IFS: Oxford Economics central</b>						
Real GDP growth (%)	0.1	1.2	2.3	2.5	2.9	2.9
Output gap (% of potential)	–5.2	–5.5	–5.1	–4.6	–3.8	–3.2
Current budget surplus	–6.1	–5.1	–4.2	–3.1	–1.4	–0.2
Cyclically-adjusted current budget surplus	–2.9	–1.3	–0.6	0.2	1.4	2.1
Net borrowing	5.6	6.7	5.8	4.4	2.6	1.4
Net debt	75.6	78.7	81.6	82.7	81.9	79.7
<b>IFS: Oxford Economics ‘corporate reawakening’</b>						
Real GDP growth (%)	0.1	2.4	3.3	2.8	2.5	2.5
Output gap (% of potential)	–5.2	–4.9	–4.1	–3.5	–3.2	–2.9
Current budget surplus	–6.1	–4.7	–3.4	–2.1	–0.5	0.4
Cyclically-adjusted current budget surplus	–2.9	–1.2	–0.4	0.4	1.8	2.5
Net borrowing	5.6	6.4	5.0	3.4	1.7	0.7
Net debt	75.6	77.6	79.1	79.4	78.5	76.5
<b>IFS: Oxford Economics ‘eurozone break-up’</b>						
Real GDP growth (%)	0.1	1.1	–2.0	–1.4	1.0	3.3
Output gap (% of potential)	–5.2	–5.6	–6.8	–7.9	–8.0	–7.4
Current budget surplus	–6.1	–5.1	–6.4	–7.7	–7.2	–6.1
Cyclically-adjusted current budget surplus	–2.9	–1.3	–1.8	–2.4	–1.6	–0.8
Net borrowing	5.6	6.8	8.1	9.1	8.5	7.4
Net debt	75.6	78.9	87.7	97.5	104.7	107.7
<b>OBR, December 2012</b>						
Real GDP growth (%)	0.1	1.5	2.1	2.4	2.7	2.8
Output gap (% of potential)	–3.2	–3.5	–3.3	–2.9	–2.4	–1.7
Current budget surplus	–5.7	–4.6	–3.7	–2.9	–1.4	–0.4
Cyclically-adjusted current budget surplus	–3.6	–2.2	–1.4	–0.8	0.4	0.9
Net borrowing	5.2	6.1	5.2	4.2	2.7	1.6
Net debt	74.7	76.8	79.0	79.9	79.2	77.3

Sources: Authors’ calculations. Oxford Economics. OBR forecasts from the Office for Budget Responsibility, *Economic and Fiscal Outlook*, December 2012 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-december-2012/>).

## Appendix B: Headline tax and benefit rates and thresholds

	2012–13	2013–14 <sup>a</sup>
<b>Income tax</b>		
Personal allowance: <sup>b</sup> under age 65	£8,105 p.a.	
aged 65–74	£10,500 p.a.	
aged 75 and over	£10,660 p.a.	
born after 5/4/48		£9,440 p.a.
born between 6/4/38 and 5/4/48		£10,500 p.a.
born before 6/4/38		£10,660 p.a.
Married couple's allowance, restricted to 10%: at least one spouse or civil partner born before 6/4/35	£7,705 p.a.	£7,915 p.a.
Basic rate	20%	20%
Higher rate	40%	40%
Additional rate	50%	45%
Tax rates on interest income	10%, 20%, 40%, 50%	10%, 20%, 40%, 45%
Tax rates on dividend income	10%, 32.5%, 42.5% <sup>c</sup>	10%, 32.5%, 37.5% <sup>c</sup>
Starting-rate limit	£2,710 p.a.	£2,790 p.a.
Basic-rate limit	£34,370 p.a.	£32,010 p.a.
Higher-rate limit	£150,000 p.a.	£150,000 p.a.
Income limit for personal allowance	£100,000 p.a.	£100,000 p.a.
<b>National Insurance</b>		
Lower earnings limit (LEL)	£107 p.w.	£109 p.w.
Upper earnings limit (UEL)	£817 p.w.	£797 p.w.
Upper accrual point (UAP)	£770 p.w.	£770 p.w.
Primary earnings threshold (employee)	£146 p.w.	£149 p.w.
Secondary earnings threshold (employer)	£144 p.w.	£148 p.w.
Class 1 contracted-in rate: employee – below UEL	12%	12%
– above UEL	2%	2%
employer – below UEL	13.8%	13.8%
– above UEL	13.8%	13.8%
Class 1 contracted-out rate: employee – below UAP	10.6%	10.6%
(salary-related schemes) – UAP to UEL	12%	12%
– above UEL	2%	2%
employer – below UAP	10.4%	10.4%
– above UAP	13.8%	13.8%
<b>Corporation tax</b>		
Rates: small profits rate	20%	20%
standard rate	24%	23%
<b>Capital gains tax</b>		
Annual exemption limit: individuals	£10,600 p.a.	£10,900 p.a.
trusts	£5,300 p.a.	£5,450 p.a.
Standard rate	18%	18%
Higher rate	28%	28%
<b>Inheritance tax</b>		
Threshold	£325,000	£325,000
Rate for transfer at or near death	40%	40%
<b>Value added tax</b>		
Registration threshold	£77,000 p.a.	£79,000 p.a.
Standard rate	20%	20%
Reduced rate	5%	5%

*Continues*



Continued

	2012–13	2013–14 <sup>a</sup>
<b>Excise duties</b>		
Beer (pint at 3.9% abv)	43p	45p <sup>d</sup>
Wine (75cl bottle at 12% abv)	190p	200p <sup>d</sup>
Spirits (70cl bottle at 40% abv)	751p	789p <sup>d</sup>
20 cigarettes <sup>e</sup> : specific duty	335p	353p <sup>d</sup>
<i>ad valorem</i> (16.5% of retail price)	122p	126p <sup>d</sup>
Ultra-low-sulphur petrol (litre)	58p	58p/60p <sup>d, f</sup>
Ultra-low-sulphur diesel (litre)	58p	58p/60p <sup>d, f</sup>
<b>Air passenger duty</b>		
Band A (up to 2,000 miles): economy	£13	£13
club/first class	£26	£26
Band B (2,001–4,000 miles): economy	£65	£67
club/first class	£130	£134
Band C (4,001–6,000 miles): economy	£81	£83
club/first class	£162	£166
Band D (6,001 or more miles): economy	£92	£94
club/first class	£184	£188
<b>Betting and gaming duty</b>		
Gross profits tax	15–50%	15–50%
Spread betting rate: financial bets	3%	3%
other bets	10%	10%
<b>Insurance premium tax</b>		
Standard rate	6%	6%
Higher rate (for insurance sold accompanying certain goods and services)	20%	20%
<b>Stamp duty</b>		
Land and buildings:		
residential threshold	£125,000	£125,000
non-residential threshold	£150,000	£150,000
rate: up to threshold	0%	0%
threshold–£250,000	1%	1%
£250,000–£500,000	3%	3%
£500,000–£1,000,000	4%	4%
£1,000,000–£2,000,000	5%	5%
above £2,000,000	7%	7%
Stocks and shares: rate	0.5%	0.5%
<b>Vehicle excise duty</b>		
Graduated system (for new cars from 1 March 2001)	£0–£475 p.a.	£0–£490 p.a. <sup>d</sup>
Graduated system (first-year rate from April 2010)	£0–£1,030 p.a.	£0–£1,060 p.a. <sup>d</sup>
Standard rate (for cars registered before March 2001)	£220 p.a.	£225 p.a. <sup>d</sup>
Small-car rate (engines up to 1,549cc)	£135 p.a.	£140 p.a. <sup>d</sup>
Heavy goods vehicles (varies according to vehicle type and weight)	£165–£1,905 p.a.	£170–£1,965 p.a. <sup>d</sup>
<b>Landfill tax</b>		
Standard rate	£64 per tonne	£72 per tonne
Lower rate (inactive waste only)	£2.50 per tonne	£2.50 per tonne
<b>Climate change levy</b>		
Electricity	0.509p/kWh	0.524p/kWh
Natural gas	0.177p/kWh	0.182p/kWh
Coal	1.387p/kg	1.429p/kg
Liquefied petroleum gas	1.137p/kg	1.172p/kg
<b>Business rates</b>		
Rate applicable for low-value properties <sup>g</sup> in: England	45.0%	46.2%
Scotland	45.0%	46.2%
Wales	45.2%	46.4%
<b>Council tax</b>		
Average rate Band D council tax in England and Wales	£1,429 p.a.	Councils to set

Continues

Continued

	2012–13	2013–14 <sup>a</sup>
<b>Income Support / income-based Jobseeker's Allowance</b>		
Single (aged 25 or over)	£71.00 p.w.	£71.70 p.w.
Couple (both aged 18 or over)	£111.45 p.w.	£112.55 p.w.
<b>Basic State Pension</b>		
Single	£107.45 p.w.	£110.15 p.w.
Couple	£171.85 p.w.	£176.15 p.w.
Winter Fuel Payment: for those aged 60–79	£200 p.a.	£200 p.a.
for those aged 80 or over	£300 p.a.	£300 p.a.
<b>Pension Credit</b>		
Guarantee credit for those over female state pension age:		
single	£142.70 p.w.	£145.40 p.w.
couple	£217.90 p.w.	£222.05 p.w.
Savings credit for those aged 65 or over:		
threshold – single	£111.80 p.w.	£115.30 p.w.
threshold – couple	£178.35 p.w.	£183.90 p.w.
maximum – single	£18.54 p.w.	£18.06 p.w.
maximum – couple	£23.73 p.w.	£22.89 p.w.
withdrawal rate	40%	40%
<b>Child Benefit</b>		
First child	£20.30 p.w.	£20.30 p.w.
Other children	£13.40 p.w.	£13.40 p.w.
Threshold <sup>h</sup>	£50,000 p.a. <sup>i</sup>	£50,000 p.a.
Withdrawal rate	1% per £100 <sup>j</sup>	1% per £100
<b>Child Tax Credit</b>		
Family element	£545 p.a.	£545 p.a.
Child element	£2,690 p.a.	£2,720 p.a.
Disabled child element	£2,950 p.a.	£3,015 p.a.
<b>Working Tax Credit</b>		
Basic element	£1,920 p.a.	£1,920 p.a.
Couples and lone-parent element	£1,950 p.a.	£1,970 p.a.
30-hour element	£790 p.a.	£790 p.a.
Disabled worker element	£2,790 p.a.	£2,855 p.a.
Childcare element:		
maximum eligible cost for one child	£175.00 p.w.	£175.00 p.w.
maximum eligible cost for two or more children	£300.00 p.w.	£300.00 p.w.
proportion of eligible costs covered	70%	70%
<b>Features common to Child and Working Tax Credits</b>		
Threshold	£6,420 p.a.	£6,420 p.a.
Threshold if entitled to Child Tax Credit only	£15,860 p.a.	£15,910 p.a.
Withdrawal rate	41%	41%
<b>Maternity benefits</b>		
Sure Start Maternity Grant	£500	£500
Statutory Maternity Pay: weeks 1–6	90% of earnings	90% of earnings
weeks 7–33	£135.45 p.w., or 90% of earnings if lower	£136.78 p.w., or 90% of earnings if lower
Maternity Allowance	£135.45 p.w.	£136.78 p.w.

a. 2013–14 figures take pre-announced values where available and estimated results of standard indexation otherwise.

b. From 2013–14 the personal allowance depends on taxable income and date of birth, rather than taxable income and age. This is the result of the phasing out of the age-related allowances.

c. Offsetting tax credits available, which reduce marginal effective tax rates to 0%, 25% and 36.1% in 2012–13, and 0%, 25% and 30.6% in 2013–14.

d. Assumes RPI inflation of 3.1% in the third quarter of 2013 as per the Office for Budget Responsibility, *Economic and Fiscal Outlook*, December 2012.

e. Assumes the December 2012 pre-tax price of cigarettes.

f. Higher rate due to be in place from September 2013.

- g. Applies to all businesses in Wales, and where rateable values are less than £25,500 in Greater London, £18,000 in the rest of England and £35,000 in Scotland. A supplement is payable on higher-value properties in England and Scotland (rising from 0.8% in 2012–13 to 0.9% in 2013–14), and an additional 0.4% is payable on all properties in the City of London.
- h. The High Income Child Benefit charge applies to all families containing at least one individual with a taxable income in excess of £50,000.
- i. In place from January 2013.

## Sources:

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<http://www.scotland.gov.uk/Topics/Government/local-government/17999/11199>.

For descriptions of the tax and benefit systems, see J. Browne and B. Roantree, 'A survey of the UK tax system', IFS Briefing Note 9, 2012 (<http://www.ifs.org.uk/bns/bn09.pdf>) and J. Browne and A. Hood, 'A survey of the UK benefit system', IFS Briefing Note 13, 2012 (<http://www.ifs.org.uk/bns/bn13.pdf>) respectively.

For a summary of the main tax measures introduced in each Budget, Pre-Budget Report and Autumn Statement since 1979, see [http://www.ifs.org.uk/ff/budget\\_measures.xls](http://www.ifs.org.uk/ff/budget_measures.xls).

For estimates of the effects of various illustrative tax changes on government revenues, see table 1.6 of HM Revenue & Customs, *Tax Expenditures and Ready Reckoners* ([http://www.hmrc.gov.uk/stats/tax\\_expenditures/menu.htm](http://www.hmrc.gov.uk/stats/tax_expenditures/menu.htm)).

## Appendix C: Abbreviations

AA	Attendance Allowance
AIM	Alternative Investment Market
AME	Annually Managed Expenditure
APF	Asset Purchase Facility
AS	Autumn Statement
B&B	Bradford and Bingley
BBC	British Broadcasting Corporation
BIS	Department for Business, Innovation and Skills
BRIC	Brazil, Russia, India and China
BRMA	Broad Rental Market Areas
CA	Carer's Allowance
CAPSNB	Cyclically-adjusted public sector net borrowing
CBI	Confederation of British Industry
CCCTB	Common Consolidated Corporate Tax Base
CCS	carbon capture and storage
CDEL	Capital Departmental Expenditure Limit
CFC	controlled foreign company
CGT	capital gains tax
CLG	communities and local government
CPI	consumer price index
CTB	Council Tax Benefit
DCLG	Department for Communities and Local Government
DECC	Department of Energy and Climate Change
DEL	Departmental Expenditure Limit
DfID	Department for International Development
DLA	Disability Living Allowance
DWP	Department for Work and Pensions
EC	European Commission
ECB	European Central Bank
EDP	excessive deficit procedures
EFO	Economic and Fiscal Outlook
ESA	Employment and Support Allowance
EU	European Union
FDI	foreign direct investment
FFS	fair fuel stabiliser
FLS	Funding for Lending Scheme
GAAR	General Anti-Abuse Rule
GB	Great Britain
GCSE	General Certificate of Secondary Education
GDP	gross domestic product
GFCF	gross fixed capital formation
GGE	general government employment
GVA	gross value added

HB	Housing Benefit
HMRC	Her Majesty's Revenue and Customs
HMSO	Her Majesty's Stationery Office
HMT	Her Majesty's Treasury
IB	Incapacity Benefit
IFS	Institute for Fiscal Studies
IHT	inheritance tax
ILO	International Labour Organisation
IMF	International Monetary Fund
IS	Income Support
ISA	Individual Savings Account
ISER	Institute for Social and Economic Research
ITEM	Independent Treasury Economic Model
JSA	Job Seekers Allowance
LEL	lower earnings limit
LFS	Labour Force Survey
LHA	Local Housing Allowance
MOD	Ministry of Defence
MP	Member of Parliament
MPC	Monetary Policy Committee
NAIRU	non-accelerating inflation rate of unemployment
NBER	National Bureau of Economic Research
NBS	National Bureau of Statistics
NHS	National Health Service
NICE	non-inflationary continuous expansion
NICs	National Insurance contributions
NIESR	National Institute of Economic and Social Research
NPV	net present value
NRAM	Northern Rock Asset Management
OBR	Office for Budget Responsibility
ODA	Official Development Assistance
OE	Oxford Economics
OECD	Organisation for Economic Cooperation and Development
OLS	ordinary least squares
ONS	Office for National Statistics
OUP	Oxford University Press
PAYE	Pay-As-You-Earn
PESA	Public Expenditure Statistical Analyses
PFI	Private Finance Initiative
PIP	Personal Independence Payment
PMI	Purchasing Managers' Index
PNFC	Private non-financial companies
PRT	Petroleum Revenue Tax
PSBR	public sector borrowing requirement
PSNB	public sector net borrowing
PSNI	public sector net investment

PSS	personal social services
QE	quantitative easing
RAC	Royal Automobile Club
RBS	Royal Bank of Scotland
RDEL	Resource Departmental Expenditure Limits
RFCT	ring fence corporation tax
RPI	retail price index
RRA	Rate of Return Allowance
SC	supplementary charge
SCS	Senior Civil Service
SDA	Severe Disablement Allowance
SDLT	stamp duty land tax
SERPS	State Earnings-Related Pension Scheme
SGP	Stability Growth Pact
SIC	Standard Industrial Classification
SMEs	small and medium-sized enterprises
SPA	state pension age
TAXBEN	IFS tax and benefit model
TFP	total factor productivity
TME	Total Managed Expenditure
TUC	Trades Union Congress
UAP	upper accrual point
UEL	upper earnings limit
UK	United Kingdom
UKCS	UK Continental Shelf
US	United States
VAT	value added tax
VED	vehicle excise duty