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Institute for Fiscal Studies

IFS Report R234

**Elaine Drayton
Christine Farquharson
Kate Ogden
Luke Sibieta
Imran Tahir
Ben Waltmann**

Annual report on education spending in England: 2022



**Economic
and Social
Research Council**



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Foreword

This is the fifth IFS annual report on education spending, as usual covering all phases of the system. The Nuffield Foundation has funded the series from the start, and it is one of our most important and influential initiatives.

Whilst many of the issues and insights are long-standing, the context for this year's report is very different from previous ones. At the start of the year the UK was already bracing for the most significant increase in the cost of living in recent memory, but the invasion and war in Ukraine since February amplified this in ways that were not anticipated. Inflation is affecting everyone, particularly at a time when it is predicted that we will be entering a prolonged recession. As with the COVID-19 pandemic, it will be the most disadvantaged members of society who will be worst affected. Meanwhile pay awards in the public sector mean that those working in services such as education are experiencing significant reductions in their standards of living.

Beyond the impact on front-line workers themselves, the 'cost-of-living crisis' has already been extremely challenging for organisations and services. Every sector of our education system has been badly hit, but there have been significant differences between them.

The 2022 Autumn Statement announced increases in school spending, ostensibly restoring some of the huge losses in recent years which this series has identified and drawn attention to. Whilst this additional funding is welcome, schools are still confronting significant uncertainty, with their costs growing faster than overall inflation. Schools face soaring energy bills, teacher recruitment and retention challenges and, related to this, increased demands for and costs of supply cover. They are further hit by higher costs in other areas such as catering, buildings and repairs. They are also dealing with the ongoing challenges of supporting cohorts of children and young people in catching up on learning loss and dealing with mental health and well-being challenges from COVID. All of this is inhibiting schools' ability to deliver a broad and balanced curriculum, extracurricular activities and effective pastoral support for pupils.

In early years education and childcare, funding settlements have long lagged behind increases in free entitlements and, exacerbated by the effects of the pandemic, many providers have shut. Facing similar challenges to those described for schools but without an equivalent boost from the Autumn Statement, the sector is likely to be increasingly squeezed. Similarly, for post-16 education and training, the combination of increased student numbers and the absence of extra funding is likely to have a negative impact on both quality of provision and the wider educational experience of young people.

So, the context for this year's report is extremely tough. As ever, it provides an authoritative account of the latest data, trends and challenges for both policymakers and providers in the coming years. If not already aware, readers should also turn to the range of additional short and more focused reports from this programme of work that have been released between annual reports. All of these are available at <https://ifs.org.uk/education-spending>, a site fast becoming a treasure trove for policymakers, educators and the wider public, helping everyone to be fully informed on the funding issues and challenges across our education system.

Josh Hillman

Director of Education, Nuffield Foundation

Preface

This report is the fifth in a series of annual reports on education spending in England. The authors gratefully acknowledge the support of the Nuffield Foundation, which has funded this series of annual reports (grant number EDO/FR-000022637). The Nuffield Foundation is an independent charitable trust with a mission to advance social well-being. It funds research that informs social policy, primarily in Education, Welfare and Justice. It also funds student programmes that provide opportunities for young people to develop skills in quantitative and scientific methods. The Nuffield Foundation is the founder and co-funder of the Nuffield Council on Bioethics, the Ada Lovelace Institute and the Nuffield Family Justice Observatory. The Foundation has funded this project, but the views expressed are those of the authors and not necessarily of the Foundation. Visit www.nuffieldfoundation.org.

The authors also thank the Economic and Social Research Council for support via the ESRC Centre for the Microeconomic Analysis of Public Policy (grant number ES/T014334/1), which underpins much of IFS's research.

The authors would like to thank the members of the advisory group, officials from the Department for Education and HM Treasury, and colleagues at IFS, who have commented on and greatly informed the analysis in this report.

This report uses a range of data releases from the Department for Education, its predecessors, related agencies and non-departmental bodies. These are all listed in the sources below individual figures and/or in the methods section of our new microsite housing all our analysis of education spending (<https://ifs.org.uk/education-spending>). Modelling in the early years sections uses the Family Resources Survey in years 2016–17 to 2019–20, made available by the Department for Work and Pensions, which bears no responsibility for the interpretation of the data in this report. The IFS graduate earnings model draws on National Pupil Database data linked to data from the Higher Education Statistics Agency (HESA). It also uses data from the Family Resources Survey and the University of Essex's British Household Panel Survey. Several chapters use data from the Office for National Statistics (ONS) Quarterly Labour Force Survey. The National Pupil Database is Crown Copyright and made available by the Department for Education. HESA data are Copyright Higher Education Statistics Agency Limited. Neither the Department for Education nor Higher Education Statistics Agency Limited nor HESA Services Limited can accept responsibility for any inferences or conclusions derived by third parties from the data.

The views and analysis presented in this report are those of the authors alone. Any errors or omissions are also their responsibility.

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Executive summary

This is our fifth annual report on education spending funded by the Nuffield Foundation. It seeks to provide a clear and consistent comparison of the level and changes in spending per student across different stages of education. Our dedicated website (<https://ifs.org.uk/education-spending>) further provides easy access to our latest analysis, figures and the underlying methodology.

Following on from cuts to most areas of education spending during the 2010s, the government has provided additional funding at successive spending reviews between 2019 and 2021. However, rising levels of inflation and cost pressures have dampened the effects of extra funding, putting severe strain on providers' budgets right across the public sector. High ambitions for the education sector will also be harder to achieve in an era of further constraints on public spending.

Total spending

1. In 2021–22, total spending on education in the UK stood at £116 billion or 4.6% of national income (including the cost of issuing student loans). This is about the same share of national income as in the early 2000s, mid 1980s and late 1960s, but lower than the mid 1970s and late 2000s, when it was well over 5% of national income.
2. Between 2010–11 and 2019–20, there was a real-terms cut of 8% or £10 billion in total education spending. A £7 billion increase over the next two years reversed much of this cut, such that education spending was only 2% lower by 2021–22 than in 2010–11. About two-thirds of the rise since 2019–20 (or £4.5 billion) reflects standard increases in education spending, whilst about £2.5 billion reflects a higher and more volatile cost of issuing student loans.
3. In the late 1970s, education spending represented 12% of total government spending, making it the equal largest area of government spending. This has since fallen to 10% of total government spending in 2021–22, which equals a historical low point. At the same time, we estimate that 20% of the UK population was in full-time education in 2021–22, equal to the highest it has been in at least 60 years. In sharp contrast, as the share of the population over 65 has risen, the share of total spending on healthcare has more than doubled from just over 9% in the late 1970s to over 20% today.

Early years

1. Spending on the early years continued to grow after 2010, even as other areas of education spending saw cuts. Spending on the free entitlement to a funded childcare place was around £4 billion last year, about double the level in 2010–11.
2. While spending per hour increased by 28% in real terms between 2009–10 and 2021–22, the bulk of the increase in free entitlement spending has been driven by the addition of new entitlements, for disadvantaged 2-year-olds and for 3- and 4-year-olds in working families.
3. Childcare providers are currently experiencing faster rises in costs than overall levels of inflation. With many workers earning at or near the minimum wage – and a high share of costs going towards staffing – recent rises in the National Living Wage have pushed up costs. We estimate that the prices facing childcare providers will have grown by 32% between 2017–18 and 2024–25. This is above the 21% growth in the GDP deflator – the standard measure of inflation for assessing real-terms changes in public spending.
4. Higher-than-expected inflation has eroded the value of planned increases in spending on the free entitlement. Considering rises in costs specific to childcare providers, we estimate that total spending on the free entitlement will buy 9% less in 2024–25 compared with 2021–22. Virtually all of this squeeze is yet to be felt.
5. This overall squeeze will be mitigated somewhat when looking at hourly funding because of an expected drop in the number of 3- and 4-year-olds. The real-terms value of core funding per hour – currently at £5.06 per hour – will drop by 3%.
6. While free entitlement spending has risen, spending on childcare subsidies through the working-age benefit system fell from £1.8 billion in 2009–10 to £660 million in 2021–22. Whilst some of this decline relates to the effects of the pandemic, it mainly reflects less generous payments, a squeeze on caseloads and, more recently, the transition to universal credit.

Schools

1. School spending per pupil in England fell by 9% in real terms between 2009–10 and 2019–20. This represents the largest cut in over 40 years, but it came on the back of a significant increase in spending per pupil of over 60% during the 2000s.
2. As a result of recent increases in school funding, we estimate that school spending per pupil will grow in real terms through to 2024 and will return to at least 2010 levels, even after accounting for the specific costs faced by schools. The additional £2.3 billion in the 2022 Autumn Statement puts schools in a better position to meet the cost of increases in teacher salaries (over 5% this year), support staff salaries (8–9%), and rapid rises in energy and food costs. However, no net growth in school spending per pupil over a 14-year period still represents a significant squeeze on school resources.
3. Secondary school spending per pupil in England in 2022–23 is due to be about £6,900, which is 14% higher than in primary schools (£6,100). This is down from a secondary/primary funding difference of about 30% in the 2000s and over 50% during the early 1990s.
4. The pupil population is expected to decline by 700,000 or 9% between 2024–25 and 2030–31. This would reverse all of the increase in the pupil population since 2010–11 and create less demand for school places. However, declining pupil numbers will only reduce spending needs if schools are able to shrink their costs and staff numbers in equal measure.

Further education and skills

1. Between 2010–11 and 2019–20, spending per student aged 16–18 fell by 14% in real terms in colleges and by 28% in school sixth forms. For colleges, this left spending per student at around the level it was in 2004–05, while spending per student in sixth forms was lower than at any point since at least 2002.
2. In the 2019 and 2021 spending reviews, the government announced extra funding for colleges and sixth forms. As a result, overall per-student spending in 16–18 education is set to rise by 9% in real terms between 2021–22 and 2024–25. Yet even with the

additional funding, college spending per pupil in 2024–25 will still be around 5% below 2010–11 levels, while school sixth-form spending per sixth-form pupil will be 22% below 2010–11 levels.

3. Colleges and sixth forms have seen a long-term decline in spending per student relative to schools. Further education spending per student aged 16–18 in 2022–23 was £6,800, which is lower than spending per pupil in secondary schools and only 11–12% greater than in primary schools having been more than two times greater in the early 1990s.
4. Further education colleges and sixth forms are in a particularly difficult position at present. They saw larger cuts than other areas of education after 2010 and there was no extra funding announced in the 2022 Autumn Statement to help colleges and sixth forms cope with larger-than-expected cost increases. Based on existing budgets, college staff have only been offered a pay rise of 2.5% for this year, well below the 5% offered to teachers; this could exacerbate recruitment and retention difficulties in colleges. The number of 16- to 18-year-olds is projected to rise by 18% between 2021 and 2030, which would make for 200,000 extra students by 2030. This comes at a time when the government has scaled back departmental spending plans after 2024.
5. In the 2021 Spending Review, the government chose to allocate an extra £900 million in funding for adult education and apprenticeships in 2024–25 compared with 2019–20. As a result, total spending on adult skills is set to increase by 22% between 2019–20 and 2024–25. However, as with spending on 16–18 education, this only reverses a fraction of past cuts: total adult skills spending in 2024–25 will still be 22% below 2009–10 levels. Spending on classroom-based adult education has fallen especially sharply, and will still be 40% below 2009–10 levels even with the additional funding.
6. While there has been a sharp decline in public spending on classroom-based adult education, funding for apprenticeships has remained fairly constant at around £2 billion in real terms since the late 2000s. In 2016–17, the level of public spending on apprenticeships overtook public spending on classroom-based adult education. Between 2019–20 and 2021–22, apprenticeship spending rose by 10%; part of this increase is likely due to apprenticeship activity recovering post-pandemic.
7. Following on from big increases between 2010 and 2015, the total number of adult apprentices has declined by 27% since 2016–17 and the introduction of the apprenticeship levy. However, the number of higher apprentices, which include degree apprentices, has more than trebled in the same period.

Higher education

1. Up-front spending on teaching resources per higher education student has continued to decline steadily, standing at £9,300 per year for the 2022–23 university entry cohort. That is around £1,700 less per year in real terms than for 2012–13 entrants, largely because the cap on tuition fees is now 18% lower in real terms than it was in 2012–13.
2. The nominal freeze in fees is set to continue for another two years, adding to other financial pressures on universities. The most important pressure in the near term is likely to be the cost of any settlement with staff over pay and pensions.
3. A major package of student loans reforms was announced in February and has substantially reduced the expected long-run cost of higher education, shifting a larger share of the cost onto graduates themselves. Changes to future repayment thresholds mean most students from the 2012 to 2022 university entry cohorts can expect to repay substantially more, with middle-earning graduates hit hardest.
4. From the 2023 entry cohort onwards, a lower repayment threshold, a longer repayment period and a lower interest rate mean most students can expect to repay their loans in full and to repay roughly the same amount as they borrowed in real terms. High earners will no longer pay off more than they borrowed, and only low-earning graduates' loans will be subsidised by the taxpayer.
5. For current students, higher-than-expected inflation has eroded the real value of maintenance loans. Students in 2022–23 will be entitled to borrow 10% less towards their living costs than they were in 2020–21, a cut equivalent to £90 a month for the poorest students. Without a change in policy, living cost support for future students will be permanently lower, causing hardship for some.

1. Introduction

Education spending is the second-largest element of public service spending in the UK behind health, representing £116 billion in 2021–22 in today's prices or about 4.6% of national income. To make efficient and equitable policy choices, it is crucial to have a clear, consistent picture of how the level of spending at each phase of education has changed over time, expected future changes and the factors driving these changes. Such issues are a vital component of policy debate, given evidence showing how education investments at different ages combine to drive long-run outcomes (Cunha, Heckman and Schennach, 2010; Johnson and Jackson, 2019).

In a series of annual reports on education spending funded by the Nuffield Foundation, we have sought to cast light on this subject by illustrating how spending per pupil across different stages of education has changed over time. We also publish a range of smaller outputs throughout the year to provide more timely and rapid analysis of the resource challenges facing different phases of education. This analysis is housed on a dedicated website (<https://ifs.org.uk/education-spending>), providing easy access to the latest figures and the underlying methodology.

Following on from cuts to most areas of education spending during the 2010s, the government has provided additional funding at successive spending reviews between 2019 and 2021. However, rising levels of inflation and cost pressures have dampened the effects of extra funding, putting severe strain on providers' budgets right across the public sector.

At the recent Autumn Statement, the government chose to provide an additional £2.3 billion to schools in England to help compensate them for higher costs. However, it chose not to provide any top-ups to the early years, further education or higher education budgets. The government has also reduced the planned growth in public service spending after 2024–25 as part of efforts to prevent debt from rising in the medium term.

Across some areas of education spending, the early years and schools in particular, it may well be possible to reduce spending whilst keeping spending per pupil constant in real terms. This is because a previous mini baby boom is going into reverse, with significant falls in the pupil population expected through to 2030. However, such savings can only be realised if the government is able to cut the number of schools and nurseries, as well as overall staff numbers. Furthermore, the baby boom is still working its way through the system, with growth in the number of students in further and higher education expected over the next five years.

The new Prime Minister has signalled a desire to create a world-class technical education system. A further big policy theme is the aim to ‘level up’ poorer regions of the country, with a heavy emphasis on the role schools and colleges can play in narrowing inequalities. Such ambitions will clearly be harder to achieve in an era of further constraints on public spending.

The rest of this report proceeds as follows. In Chapter 2, we present overall levels of education spending across the UK. The report then focuses on day-to-day or current spending on education in England. This is primarily for data availability reasons, though we also provide annual updates for how school spending levels differ across the UK (for example, Sibieta (2021b)).

For the most part, we focus on public spending on education. This is due to a lack of reliable data on total private spending on each stage of education over time. For schools, we have produced additional analysis comparing state school spending per pupil and private school fees over time (Sibieta, 2021a), which we will continue to update. For higher education, we also analyse the level of expected graduate contributions to higher education spending through student loan contributions later in working life. Indeed, we show that the most recent set of reforms are likely to increase graduate contributions to higher education, and reduce the expected government subsidy.

In Chapter 3, we show trends in pupil numbers across different phases of education in England. This illustrates the significant ups and downs in the pupil and student populations over time.

In Chapters 4–7, we examine trends in spending on the early years, schools, further education and skills, and higher education. In Chapter 8, we conclude by comparing trends in spending per pupil across different stages of education over time. In each case, our methodology for calculating spending per student is detailed in full on the dedicated website (<https://ifs.org.uk/education-spending/methods-and-data>). In most cases, figures relate to core education spending and exclude temporary support during the pandemic, though it is not always possible to separate this out.

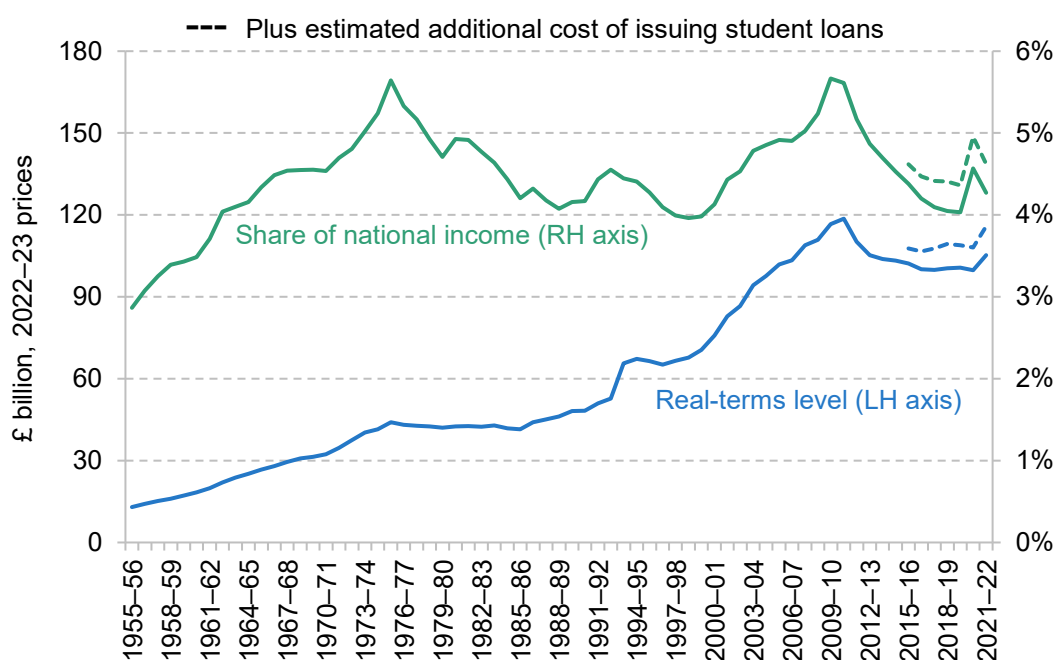
In most cases, we calculate real-terms changes by adjusting for economy-wide inflation as captured by the GDP deflator. This is the standard practice used for analysing public spending in the UK. However, during the pandemic and associated decline in economic activity, the GDP deflator was highly volatile, with a more than 6% rise in 2020–21 and implied deflation in 2021–22. This is probably a poor measure of the real value of *inputs* going into education over this period. We therefore do not place a high emphasis on any changes involving 2020–21. In some cases, we also construct our own measures of expected increases in provider costs.

2. Total spending

The total level of UK education spending has risen significantly in real terms over time. As shown in Figure 2.1, growth was particularly fast from the late 1990s through to the late 2000s, with real-terms growth averaging about 5% per year between 1998–99 and 2010–11. Education spending then fell as public spending cuts began to take effect from 2010 onwards. Between 2010–11 and 2019–20, recorded education spending fell by over 15% in real terms, taking it back to a similar level to that in 2005–06 and to a similar historically low share of national income to that last seen in the late 1990s.

Some of the decline in education spending during the 2010s reflects initially large declines in capital spending just after 2010 (Britton et al., 2020). The declines also reflect a deliberate increase in effective private funding for higher education through graduate contributions later in life via the student loan system.

Figure 2.1. UK education spending (2022–23 prices and as a share of national income)



Source: HM Treasury, *Public Expenditure Statistical Analyses 2022*; previous PESAs; HM Treasury, GDP deflators, November 2022 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-november-2022-autumn-statement>); Office for Budget Responsibility, *Economic and Fiscal Outlook*, various editions (<https://obr.uk/efo/>); Office for National Statistics, 'Student loans in the public sector finances: a methodological guide', January 2020 (<https://www.ons.gov.uk/economy/governmentpublicsectorandtaxes/publicsectorfinance/methodologies/studentloansinthepublicsectorfinancesamethodologicalguide>).

In 2020–21, education spending rose to 4.6% of national income during the height of the COVID-19 pandemic. This mostly reflects the large drop in national income over that period. Whilst there were extra levels of support during lockdowns and to help pupils catch up on lost learning, the measured real-terms level of education spending fell as the relevant level of economy-wide inflation increased significantly.

These trends were reversed in 2021–22, with education spending increasing to £105 billion (in 2022–23 prices) and back down to 4.3% of national income. This represents a 4.5% increase on pre-pandemic spending in 2019–20 and a similar level of spending as a share of national income to what it was around 2015/2016. This leaves recorded education spending about 11% lower in real terms than its peak in 2010–11.

Importantly, these official figures do not fully account for the cost to the taxpayer of issuing student loans from 2011–12 onwards. As a result, the series overstates cuts to education spending since 2010–11. Recent changes to national accounting rules mean that the expected cost of issuing student loans is included in overall measures of government spending and the public finances, such as the deficit. We estimate that if official measures of education spending had followed the new national accounting rules for student loans, education spending would have been around £6 billion higher in 2015–16 and £11 billion higher in 2021–22.¹

If we add these numbers to the official measure of education spending, the real-terms cut in education spending between 2010–11 and 2021–22 falls from 11% to 2%. Education spending as a share of national income rises to 4.6% in 2021–22. This is about the same level as in the early 2000s, mid 1980s and early 1970s.

This is clearly a dramatic difference and reflects the near doubling in the cost of issuing student loans between 2015–16 and 2021–22. Indeed, total UK education spending rose by about £8 billion in today's prices between 2015–16 and 2021–22, about £5 billion of which can be attributed to the higher cost of issuing student loans. The £5 billion figure for 2021–22 is also unusually high and about £2 billion higher than the year before, which reflects a downgrade in expected earnings growth and higher student numbers. Clearly, the figures are more complete

¹ We proxy the additional cost of student loans not accounted for in official education spending measures by the National Accounts measure of net spending on student loans. This is calculated as capital spending on newly issued student loans, representing the part of each loan not expected to be repaid, minus 'modified interest' on the part of any existing loan that is expected to be repaid, plus the net impact of any student loan sales (the impact of loan sales is zero since 2019–20, as the last sale concluded in December 2018; the student loan sale programme was cancelled in March 2020). All numbers are taken from the Office for Budget Responsibility's *Economic and Fiscal Outlook* (various editions; available at <https://obr.uk/efo/>). For the 2015–16 to 2017–18 academic years, when the National Accounts treatment of student loans was different, we reconstruct what net spending would have been under the current treatment by subtracting nominal interest under the treatment at the time from the additional cost of student loans arising from the accounting treatment change according to the Office for National Statistics (see sources for Figure 2.1).

when including the cost of issuing student loans, but they also appear more volatile. This is another important reason to look at spending per student by individual phase of education.

The £11 billion estimated taxpayer cost of higher education in 2021–22 accounts for expected future loan repayments, so is less than the total amount lent by the government in 2021–22. The government issued £10.3 billion of tuition fee loans for England-domiciled undergraduates in 2021–22 (Student Loans Company, 2022). On top of this, there was £8.2 billion of lending in the form of maintenance loans, which support students with their living costs while studying. A further £0.9 billion of loans were issued for postgraduate study (most of which is expected to be repaid) and £0.5 billion was lent to EU-domiciled students. This means the total amount of new lending during the financial year 2021–22 was £19.8 billion. Interest added to loans during the year amounted to £4.7 billion, some of which will be repaid.

Looking over the longer term, it is clear that education spending as a share of national income has not seen a sustained rise since the early 1970s, when it stood at 4.5–5% of national income. It has instead oscillated between about 4% and 5.5% of national income. This is despite the fact that there have been large rises in participation in post-compulsory education over time, both in schools and higher education, as well as the creation of an early years sector.

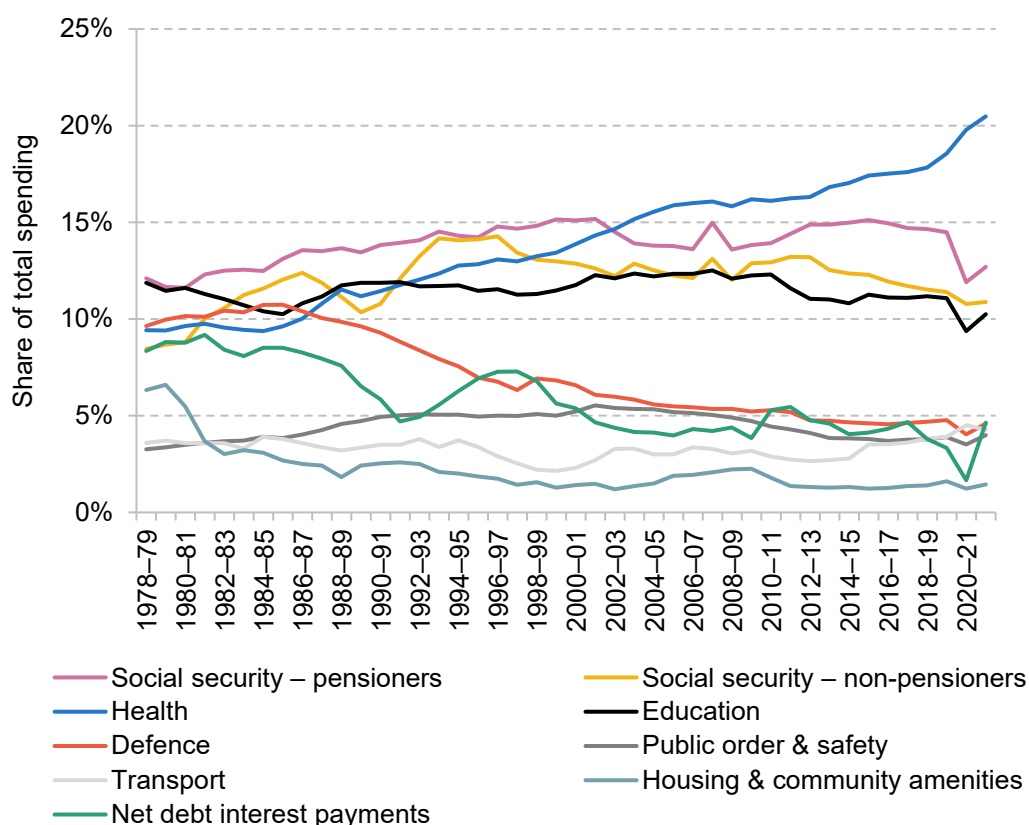
Figure 2.2 shows how education spending as a share of total public spending has changed over time compared with other areas of public spending. In the late 1970s, education spending represented 12% of total public spending, making it the equal largest area of public spending alongside social security payments to pensioners. In the early 1980s, education spending declined to about 10% of total spending. From the late 1980s onwards, it then increased back up to about 12% of total spending through the 2000s. Since 2010, it has declined to reach 10.3% of public spending in 2021–22 and it is now the fourth-largest area of public spending. This is similar to the low point seen in the mid 1980s and to that seen over most of the 1960s.²

In sharp contrast to education, health spending has more than doubled as a share of total spending, from just under 10% of total public spending at the end of the 1970s to over 20% by 2021–22, making it the largest area of public spending by some margin.

Spending on social security payments to pensioners also rose from 12% of public spending at the end of the 1970s to reach 15% just before the pandemic. This is now back to 13% of public spending. This recent decline reflects the fact that a large part of recent increases in public spending have been focused on health and debt interest payments.

² Longer time series available from IFS Taxlab (<https://ifs.org.uk/taxlab/taxlab-data-item/ifs-spending-composition-sheet>).

Figure 2.2. Public spending across different areas as shares of total public spending



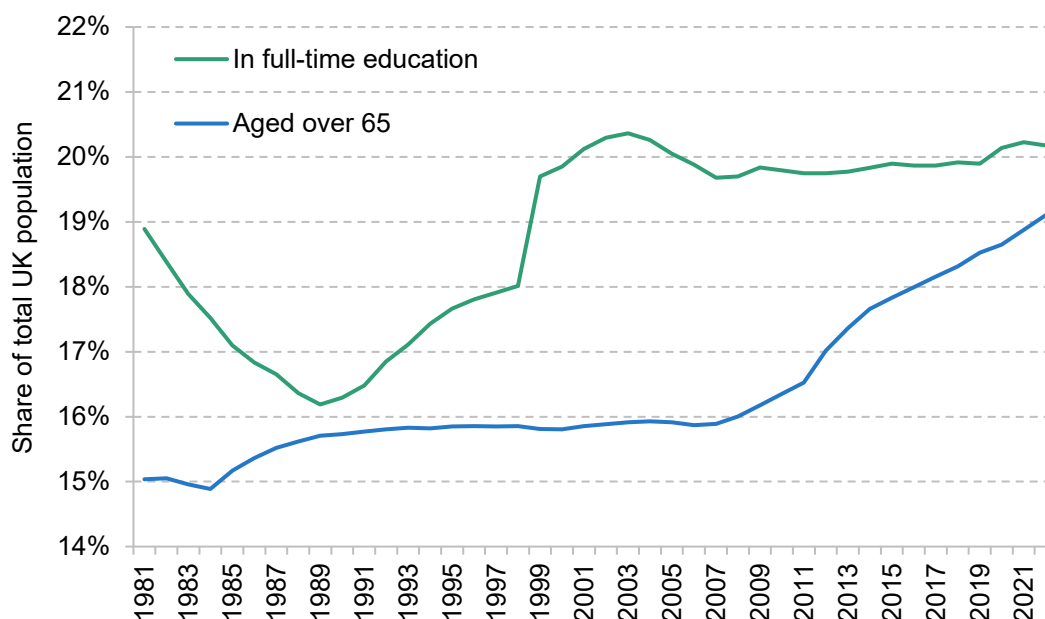
Source: HM Treasury, *Public Expenditure Statistical Analyses 2022*; previous PESAs; IFS Taxlab (<https://ifs.org.uk/taxlab/taxlab-data-item/ifs-spending-composition-sheet>).

Defence spending has fallen from 10% of public spending in the late 1970s to just under 5% of public spending in 2021–22. This would now be expected to increase given plans to increase defence spending to at least 2.5% of national income.

To a large extent, these changes in spending reflect changes in needs and priorities over time. For example, the decline in defence spending during the 1990s reflected the end of the Cold War, and the expected future increase reflects the present uncertain geopolitical climate.

Also, as Figure 2.3 makes clear, the share of the UK population aged over 65 has been rising over time, from about 15% of the UK population at the start of the 1980s to 19% of the UK population at last count in 2021. This will have increased state spending on pensions and demand for health services. There are many analyses showing how demographic change will continue to place pressure on health and pension spending over the coming decades (e.g. Office for Budget Responsibility, 2022b).

Figure 2.3. Shares of UK population in full-time education and aged over 65



Source: Population levels by age at the UK level are taken from Office for National Statistics, population estimates by single year of age, 2020-based and previous versions

(<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland>); 3- and 4-year-olds in full-time education are calculated based on the share of 3- and 4-year-olds in England accessing the free entitlement (<https://explore-education-statistics.service.gov.uk/find-statistics/education-provision-children-under-5>); all 5- to 15-year-olds are presumed to be in full-time education. We use the Labour Force Survey to estimate the participation rate of 16- to 24-year-olds (annual 1981–91, quarterly 1992–2021).

Figure 2.3 complements this picture by showing the estimated share of the UK population in full-time education over time. This share declined over the 1980s, from a high of 19% in 1981 down to 16% by the end of the decade. Large increases in post-compulsory education were more than outweighed by declining cohort sizes. This partially explains why education spending fell as a share of total spending during the 1980s.

During the 1990s, the share in full-time education expanded as the school-age population began to grow again and participation in post-16 and higher education also continued to rise. Despite these pressures, the shares of total spending and national income devoted to education fell over the first part of the 1990s. Spending levels on further and higher education did not increase in line with student numbers and, as we shall see in later chapters, spending per student declined in the further and higher education sectors.

The creation of the early years entitlement further increased the share in full-time education to about 20% by the start of the 2000s. We assume that 3- and 4-year-olds accessing the free entitlement are in full-time education. Whilst the universal free entitlement is currently only 15

hours, many children receive state support to cover more hours (either through the tax and benefit system or through the extended entitlement).

The share of the UK population in full-time education then remained at 20% throughout the 2000s and the 2010s. In 2021, it stood at 20.2%, much higher than levels seen over the 1980s and 1990s, and probably a lot earlier too. Whilst we can only construct this series back to 1981, it is extremely unlikely that the share of the UK population in full-time education would have been any higher than 20% before the 1980s.³ Indeed, the 1960s and 1970s were a time of large rises in post-16 education participation, partly due to increases in the school-leaving age (Bolton, 2012).

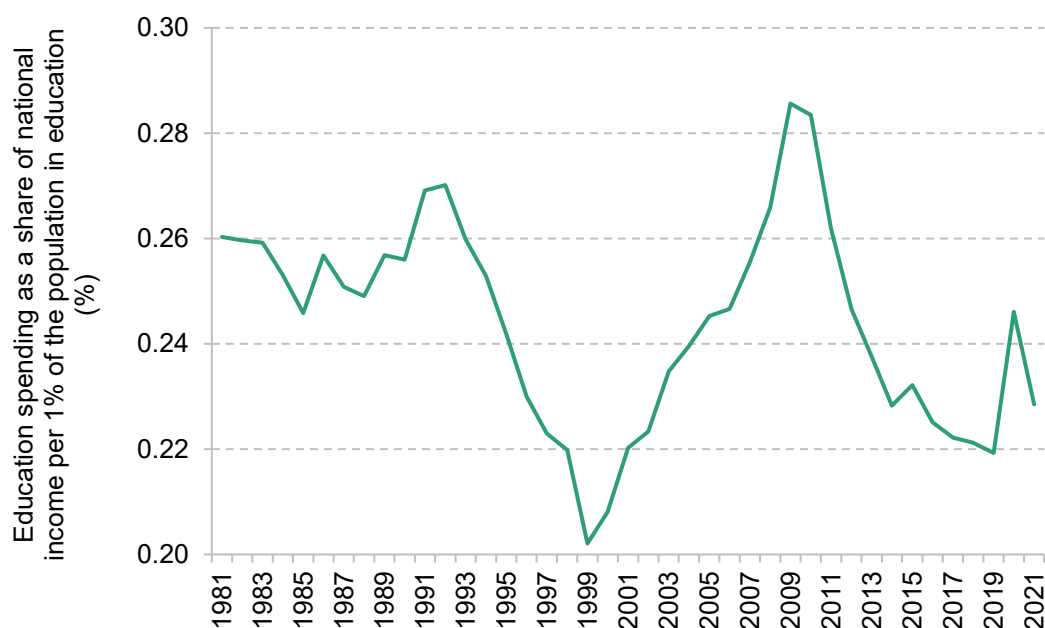
It is in spite of these trends that we see declines in education spending, and as a share of both total spending and national income, during the 2010s. Indeed, in 2021, despite the share of the UK population in full-time education remaining at its all-time high, education spending as a share of total spending is close to historical low points seen in the early 1980s and much of the 1960s. Education spending (including the expected cost of student loans) as a share of national income in 2021 was 4.6%, above its low points during the late 1980s and late 1990s. However, these were times when the share of the UK population in full-time education was 16–18% rather than 20% now.

Figure 2.4 looks directly at the share of national income spent on education in the UK relative to the share of the population in full-time education. In 2021–22, the UK spent about 0.23% of national income on education for each 1% of the population in education. This is clearly low by historical standards. It is above the low point of the late 1990s and early 2000s when the UK spent about 0.20–0.21% of national income on education for each 1% in education, but it is well below levels seen over most of the 1980s, 1990s and 2000s and below the average of 0.24% over the period as a whole.

These figures only measure total public spending on education, and exclude private spending on education. Importantly, this means we are excluding expected graduate contributions through the student loan system, which have certainly increased over time. Furthermore, we do not adjust for the share of pupils outside the state sector over time. However, this share has remained relatively constant at 6–7% of pupils in England over time, and has even declined very slightly since the early 2000s (Sibieta, 2021a).

³ Under the assumption of a constant rate of 16–24 education participation from 1961 to 1980, the share of the UK population in full-time education is at 20% during the early to mid 1970s. However, this is an unlikely upper bound, given that participation in post-16 education was rising rapidly over this time. This confirms the conclusion that the share of the UK population in full-time education in 2021 is equal to its highest level since at least the early 1960s.

Figure 2.4. UK education spending as a share of national income relative to share of the population in full-time education



Source: Figures 2.1 and 2.3.

Whilst these figures are therefore only an approximation, and clearly miss various aspects of educational need, they do give a fair overview of the fact that the share of the UK population in full-time education is high by historical standards and the share of public spending or national income devoted to education is low by historical standards.

3. Student numbers

Total spending figures can obscure the impact of changes in the number of pupils, which are one of the most important factors driving changes in the total and per-pupil level of spending over time. There have also been some fairly substantial changes in recent times, which are due to continue over the next decade.

3.1 Schools

Figure 3.1a shows the number of pupils in state-funded primary and secondary schools over time. Numbers in primary schools grew by 17% between 2009–10 and 2019–20, the equivalent of an extra 700,000 pupils – or effectively a full cohort of children. They are now, however, starting to fall again, with a 6% or 300,000 drop expected between 2019–20 and 2024–25.

Pupil numbers in secondary schools fell from the early 2000s through to about 2014–15. Between 2014–15 and 2019–20, they then grew by nearly 10% or 300,000, and are forecast to grow by a further 7% or 200,000 between 2019–20 and 2024–25.

Looking beyond 2024–25, the total pupil population is expected to fall by 700,000 or 9% between 2024–25 and 2030–31. This would reverse all of the increase in the pupil population since 2010–11. Rising pupil numbers create resource challenges, mainly in terms of need for extra schools and extra staff. Falling pupil numbers create the reverse problem, in that some schools and staff may no longer be needed. Indeed, some schools might not be financially viable.

These changes in pupil numbers are also large in historical terms. Whilst ebbs and flows in the pupil population do occur over time, the rise in the school population between 2009 and 2021 was 870,000, which is about 35% greater than the 640,000 rise seen between 1990 and 2000.

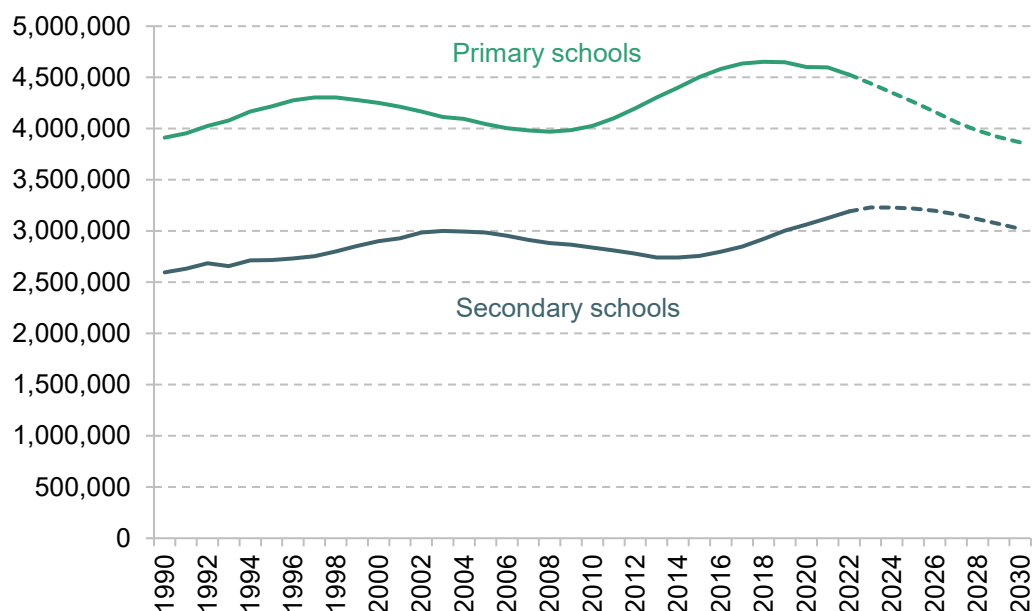
While pupil numbers in primary and secondary schools are driven mainly by population size, pupil numbers in other stages of education – early years, further education and higher education – are also affected by changing patterns of participation.⁴ Figure 3.1b shows that there have been big increases in pupil numbers at all three stages. While population growth plays a role,

⁴ In 2013, the education participation age in England was increased from 16 to 18. As a result, young people must remain in some form of education or training (either full-time or part-time) up to age 18. However, there is no meaningful legal penalty for failing to do so.

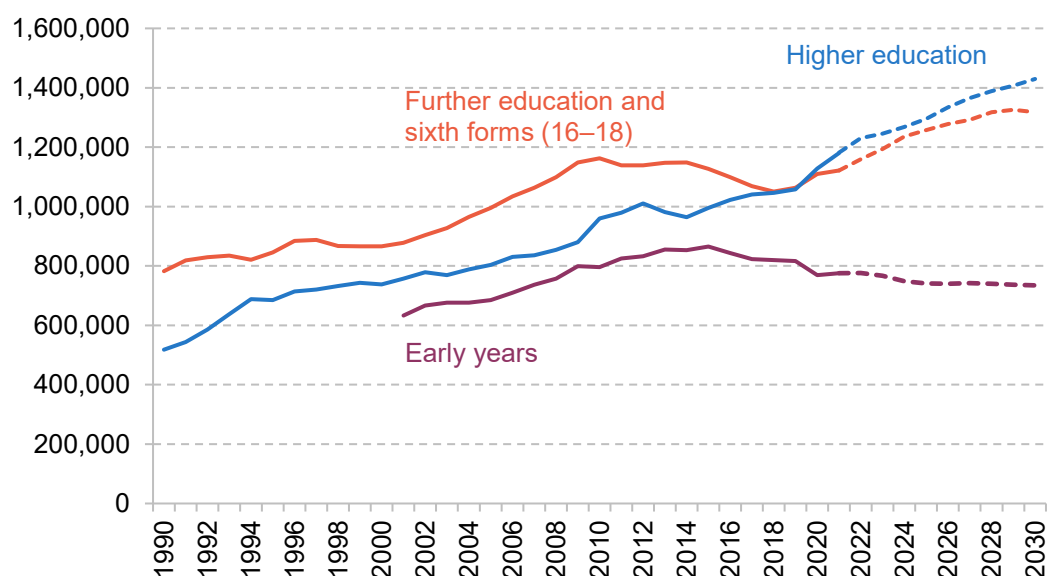
extensions to the free childcare entitlement (in the early years) and higher levels of participation (at later stages) are the main factors driving these changes.

Figure 3.1. Pupil numbers in education in England

a) Schools



b) Other stages of education



Note: For source, see next page.

Source to Figure 3.1

Years refer to academic years. Early years numbers represent part-time-equivalent places of 3- and 4-year-olds taking up the universal early years entitlement (excluding 4-year-olds in infant classes) and are taken from Department for Education, 'Education provision: children under 5 years of age', January 2022 (<https://explore-education-statistics.service.gov.uk/find-statistics/education-provision-children-under-5>), January 2010 (<https://www.gov.uk/government/statistics/provision-for-children-under-5-years-of-age-in-england-january-2010>), January 2006 (<http://webarchive.nationalarchives.gov.uk/20130329235614/http://www.education.gov.uk/researchandstatistics/statistics/statistics-by-topic/earlyyearsandchildcare/nurseries/a00195255/provision-for-children-under-five-years-of-age-in->) and January 2002 (<http://webarchive.nationalarchives.gov.uk/20130323070608/http://www.education.gov.uk/researchandstatistics/statistics/statistics-by-topic/earlyyearsandchildcare/a00193904/provision-for-children-under-five-years-of-age-in->). Primary and secondary school numbers are taken from Department for Education, 'Schools, pupils and their characteristics', January 2022 and earlier years (<https://www.gov.uk/government/statistics/schools-pupils-and-their-characteristics-january-2022>) and 'National pupil projections: July 2022' (<https://www.gov.uk/government/statistics/national-pupil-projections-july-2022>). Further education and sixth forms figures refer to 16- to 18-year-olds in state-funded schools or colleges as measured at the end of each calendar year in Department for Education, 'Participation in education, training and employment: 2021' (<https://www.gov.uk/government/statistics/participation-in-education-training-and-employment-2021>). Higher education figures relate to full-time students on first undergraduate degrees and other undergraduate courses from HESA, 'Who's studying in HE?' (<https://www.hesa.ac.uk/data-and-analysis/students/whos-in-he>) and also use 'Historical statistics on the funding and development of the UK university system, 1920–2002' (<https://discover.ukdataservice.ac.uk/catalogue/?sn=4971&type=Data%20catalogue>). Forecasts for the early years and 16–18 education are based on ONS 2020-based forecasts for the population of 3- to 4- and 16- to 18-year-olds (<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/datasets/2014basednationalpopulationprojectionstableofcontents>). Forecasts for higher education are based on Department for Education methods for forecasting the cost of student loans up to 2026 (<https://explore-education-statistics.service.gov.uk/methodology/student-loan-forecasts-for-england-methodology>) and ONS forecasts for the number of 18- to 21-year-olds from 2026 to 2030.

3.2 Early years

Unlike schooling, further education and higher education, support for learning during the early years does not always fit neatly into a single box. The system includes subsidies targeted at low-income working families (distributed through the benefits system) and for working families more generally (through tax-free childcare and employer-sponsored childcare vouchers).

But the largest group of programmes – and the one most recognisably aimed at early education – is the trio of 'free entitlements' to funded early education and childcare places, paid for by the Department for Education:

- The **universal** entitlement offers all 3- and 4-year-olds a part-time (15-hour) place for 38 weeks of the year.
- The **extended** entitlement, introduced in 2017, offers an additional 15 hours a week of childcare to 3- and 4-year-olds in working families.

- The **2-year-old offer**, introduced in its current form in 2014, provides the roughly 40% most disadvantaged children with a part-time early education place, again for 38 weeks a year.

Between 2001–02 and 2015–16, the total number of part-time-equivalent places for the universal free entitlement in the early years rose by 37%, reflecting greater numbers of children in the population and expansions to free entitlement eligibility. Since then, numbers have fallen by 6% between 2015–16 and 2019–20. The population of 3- and 4-year-olds fell by around 3% over this period, explaining around half of the drop.

There has also been a gradual but longstanding fall in the take-up of the free entitlement, as reported in the Department for Education’s statistical returns (e.g. Department for Education, 2022c). Take-up of the universal entitlement had reached a high of 98% by 2004–05, but fell to 93% by 2019–20. It was then further down to 92% in 2021–22, potentially reflecting some persistent effect of drop-offs during the pandemic.

Among 2-year-olds, the take-up rate increased from 58% in 2014–15 (the year the entitlement was first introduced for the 40% most disadvantaged children) to reach 69% in 2019–20, just before the pandemic. It has since risen to 72% in 2021–22, its highest level since the introduction of the 2-year-old entitlement.

Looking to the future, the number of children eligible for places is expected to fall by over 3% between 2021–22 and 2024–25. After this, the number of children aged 3–4 is expected to fall by a further 2% by 2030, with the number taking up the free entitlement down to about 730,000. This is about the same as numbers in the mid 2000s.

3.3 Further education (16–18)

The number of students in 16–18 education grew by almost 50% between 1990–91 and 2010–11, from about 800,000 to 1.2 million full-time-equivalent (FTE) students. After 2010–11, numbers fell by about 10% up to 2018–19, reflecting reduced cohort sizes rather than falls in participation.

Since then, numbers have started to rise again and the number of students is 7% higher in the latest year of data (2021–22) than in 2018–19. This reflects growth in cohort sizes again, but also increased levels of participation in education during the pandemic.

Further rises are expected over the next few years due to population growth, with numbers currently projected to rise by 10% between 2021 and 2024, and a total of 18% between 2021 and 2030. This would make for 100,000 extra students by 2024, or 200,000 extra by 2030. This will clearly place upwards pressure on college and sixth-form spending.

3.4 Higher education

The number of full-time undergraduate students in higher education in England has more than doubled since 1990, with an increase of 10% or nearly 100,000 between 2014 and 2019 alone. There was then a further increase of 12% or over 120,000 between 2019 and 2021, reflecting increased participation in higher education during the pandemic and increases in cohort sizes.

Looking forwards, government forecasts for the cost of student loans imply a further increase in higher education numbers of 13% or 150,000 between 2021 and 2026. ONS population forecasts would then imply a total increase of 21% or nearly 250,000 by 2030 compared with 2021. These would be substantial increases and reflect the mini baby boom working its way through the system.

Such large rises in higher education student numbers will clearly place upward pressure on spending. In the past, such as during the 1990s, spending has not always increased in line with rising student numbers, thereby reducing spending per student. At other times, large increases in higher education student numbers have led successive governments to make substantial changes to the higher education finance system in order to ensure sufficient levels of resources.

This time, perhaps in anticipation of rising student numbers, the government has already made large changes to the student finance system, as we discuss in Chapter 7. These changes mean that the taxpayer will be picking up a substantially lower share of the long-run cost of higher education than in the past. One-off effects of student loans reform and temporarily high student loan interest rates will further flatter the cost of higher education on paper over the next few years, more than outweighing increases in student numbers.

4. Early years

The government provides support for early years education and childcare through a range of different programmes. The main form of support is the entitlement to 15 hours of free early education and childcare for 3- and 4-year-olds, which has been expanded to 30 hours for children of working parents and to disadvantaged 2-year-olds. In addition, the government provides demand-side subsidies through the tax and benefit system. In this chapter, we start by discussing the free entitlement, before going on to discuss wider support through the tax and benefit system.

4.1 Free entitlement spending

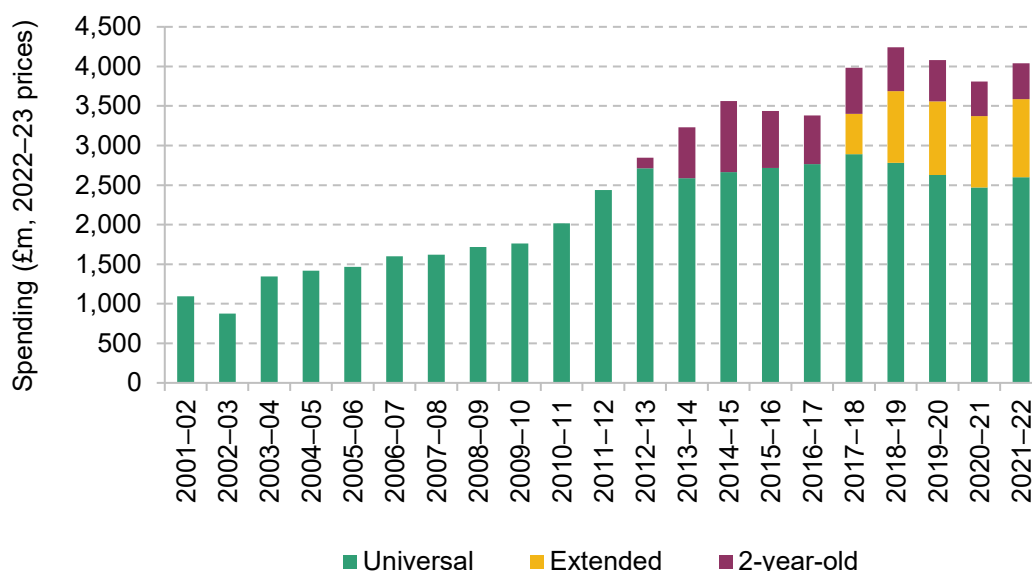
Over the last two decades, funding for the ‘free entitlement’ to funded childcare hours has grown much more than funding for other stages of education, or for public services more broadly. As Figure 4.1 shows, spending on the free entitlement budget more than doubled in real terms during the decade from 2009–10. This growth has largely been driven by significant expansions in the number of hours of free childcare children can receive, with the introduction of a part-time offer for disadvantaged 2-year-olds and the 30-hour offer for 3- and 4-year-olds in working families. Spending per hour has also increased, rising by 28% in real terms between 2009–10 and 2021–22 (Drayton and Farquharson, 2022). By contrast, school spending per pupil fell by 9% in real terms in the decade up to 2020 and this fall was even bigger in further education colleges.

Despite the significant overall growth in funding, the last few years have been turbulent for the early years sector. The arrival of the COVID-19 pandemic brought significant challenges: in Spring 2020, early years settings were closed to all but the children of key workers and children deemed vulnerable. Over subsequent lockdowns, settings stayed open but attendance remained significantly affected. Despite these upheavals, free entitlement funding was largely protected during the pandemic period (as funding continued to flow based on registered childcare places), and by 2021–22 both attendance and total spending had returned to pre-pandemic levels.

Most recently, during the 2021 Spending Review, the free entitlement received a substantial boost to funding of about £170 million per year (or about £510 million over three years). In the current year (2022–23), the Department for Education chose to use this funding uplift to increase core funding per hour from £4.91 to £5.06 in cash terms for 3- and 4-year-olds (£5.56 to £5.77 for 2-year-olds). The DfE also increased the value of some of the additional uplifts in the Early

Years National Funding Formula, with a cash-terms rise to the value of the Early Years Pupil Premium (for disadvantaged children) as well as the Disability Access Fund (for children with a disability).

Figure 4.1. Total real-terms spending on free entitlement hours in England



Note: 'Universal' entitlement refers to the entitlement to 15 weekly hours of funded care for 3- and 4-year-olds during term time. The 'extended' entitlement captures the additional 15 hours a week that 3- and 4-year-olds in working families can access. The 2-year-old offer provides 15 hours of funded childcare to 2-year-olds in disadvantaged families. It was initially piloted in a small number of areas in 2012, before being rolled out nationally in 2013. Since our data on total spending do not split out the universal and extended entitlements, we allocate total spending proportional to their budgets from the Dedicated Schools Grant.

Source: See <https://ifs.org.uk/education-spending/methods-and-data>.

Provider cost pressures

At the time of the Spending Review, this overall settlement implied modest real-terms growth in the hourly funding rate over the coming years. But higher-than-expected inflation is now set to undo recent gains. Rising costs are a challenge currently facing the entire economy, but early years providers' costs are different from those faced by other sectors or the government as a whole – and there are particular pressures on some of providers' main budget lines.

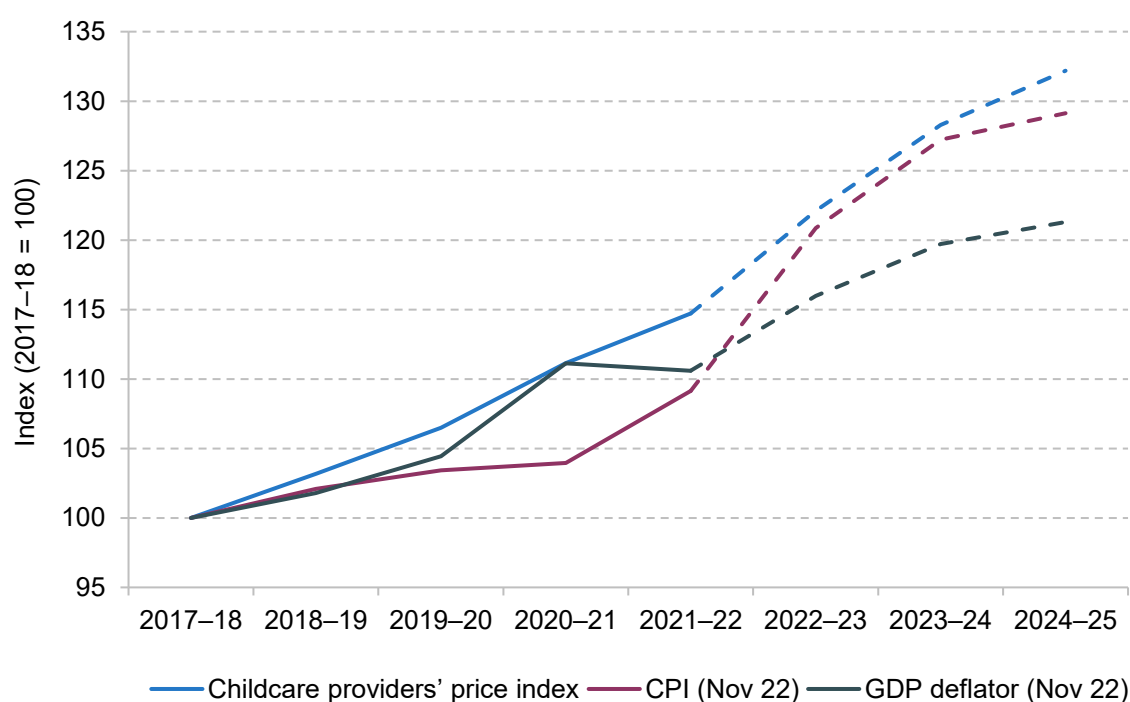
According to the Survey of Childcare and Early Years Providers from the Department for Education (2019), around three-quarters of costs for early years providers go on staffing. Many of these workers are paid at or around the minimum wage; while there is disagreement over the precise number, estimates put the share of minimum-wage workers at between one-fifth and two-fifths of the workforce (Social Mobility Commission, 2020; Department for Education, 2021a). This means rises in the minimum wage have been a significant driver of rising costs in the early years sector over recent years. Between April 2017 and April 2022, the headline

minimum wage (for those aged 25 and over) rose by 27% in cash terms, and younger age groups have seen even larger rises. Most recently, the 2022 Autumn Statement confirmed an additional 9.7% rise will take place in April 2023.

Other important components of provider costs include rent (7% of average costs), utilities (3%) and food (3%). While these costs have not grown as much as the minimum wage in recent years, they are now rising quickly (Bank of England, 2022).

To understand how providers' costs are changing, we construct an index of the prices facing childcare providers. This index summarises how the prices facing childcare providers (excluding childminders) have, on average, changed since 2017–18 – the financial year in which hourly spending on the 3- and 4-year-old entitlement peaked (Drayton and Farquharson, 2022). The index is a weighted average of the prices of the main components of provider expenditure (namely, staff costs, food, rent and utilities), with weights reflecting each component's share of providers' overall costs. A summary of the methodology can be found in table 2 of Drayton and Farquharson (2022).

Figure 4.2. Comparing the prices facing childcare providers and other measures of inflation



Note: Index of childcare providers' prices is a weighted average of staff costs, materials, rent and utilities (with weights determined by the share of total costs in each category in 2019). CPI forecast comes from the Bank of England's forecasts of 3 November 2022. GDP deflator forecasts are from 17 November 2022.

Source: Low Pay Commission, 2022; Bank of England, 2022; HM Treasury, 2022.

The path of future inflation is still highly uncertain, but our index provides an illustration of how the prices faced by childcare providers might change over the coming years. Figure 4.2 shows how it compares with two more general measures of price growth: the Consumer Prices Index (CPI) and the GDP deflator. The CPI captures how the prices facing households have changed over time, while the GDP deflator measures economy-wide inflation, including goods and services purchased by the government (and is the main measure of inflation used in this report).

Given current high levels of economic uncertainty as well as a frequently changing policy environment, inflation forecasts quickly become outdated. We rely on the most recent forecasts for the CPI (the Bank of England's forecast of 3 November) and for the GDP deflator (the Office for Budget Responsibility's update, issued alongside the Autumn Statement on 17 November).⁵

As Figure 4.2 shows, the prices faced by childcare providers (shown in blue) have grown more quickly than the prices facing households or the economy as a whole. Last year, in 2021–22, prices facing childcare providers were 15% higher than they had been four years earlier, before the pandemic. By comparison, over the same period, consumer prices had risen by 9%, while prices in the economy as a whole had risen 11%. This quicker rise in costs is largely down to wage growth over the period (particularly growth in the minimum wage), as staff costs make up the lion's share of early years providers' costs.

Looking forward, we expect providers' costs to grow at a similar rate to overall inflation as growth in prices catches up to wage growth. Over the period 2022–23 to 2024–25, we estimate that providers' costs will grow by 8%. Over the same period, the most recent forecast has consumer prices growing by 7% and economy-wide prices by 5%.

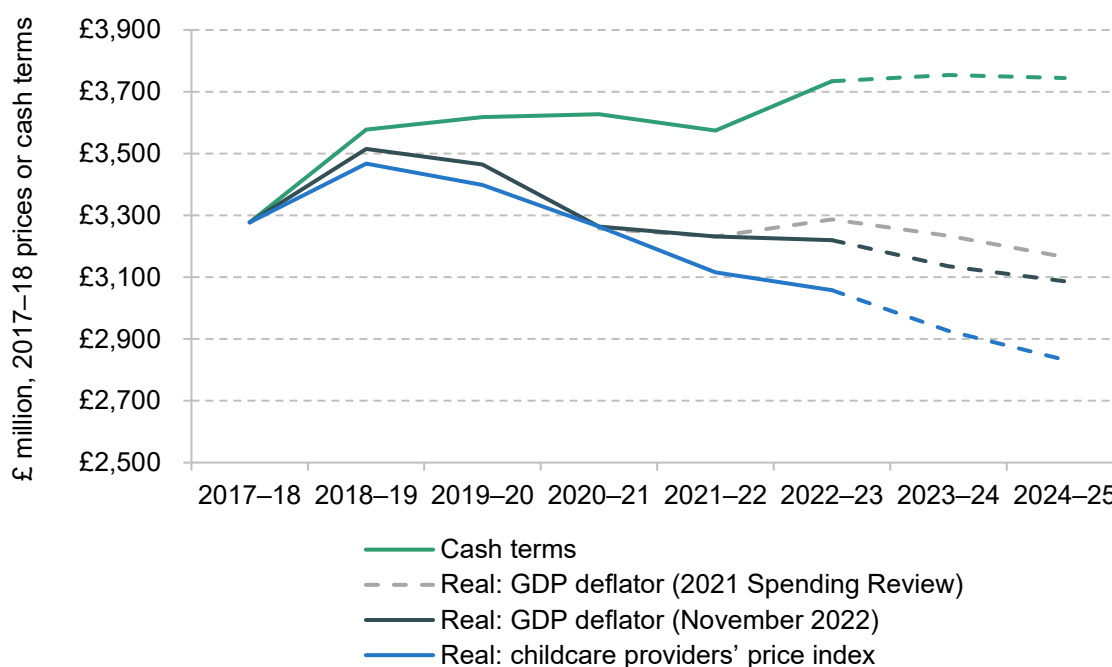
Taken together, since resources for the free entitlement peaked in 2017–18, early years providers have seen faster growth in their costs than the economy as a whole. Over the seven-year period between 2017–18 and 2024–25, we estimate that the prices facing childcare providers will have grown by 32%. The GDP deflator will have grown by 21%, meaning that analysis of the 'real-terms' change in providers' resources based on the GDP deflator – the standard approach when analysing public spending – will understate the squeeze on resources that providers are likely to face.

⁵ The figures in this section update those in Drayton and Farquharson (2022). That report was released ahead of the Autumn Statement and so did not use the 17 November forecasts for GDP deflators. As a result, some figures in this update differ significantly from the numbers in our earlier report, reflecting significant differences between the Autumn Statement forecasts (used here) and Citi's October 2022 Green Budget forecasts (used previously). Estimates of prices facing childcare providers, however, are unaffected as there have been no updates to forecasts of CPI or wages.

How does inflation affect providers' resources?

With the prices facing providers rising quickly, the funding available for the free entitlement will not keep up over the coming years. Figure 4.3 plots the cash-terms progression of free entitlement funding (as allocated through the Dedicated Schools Grant) between 2017–18 and 2022–23. Beyond 2022–23, we show the path for future spending based on allocations made in the 2021 Spending Review. We also look at how funding has changed in real terms (as measured by both the economy-wide GDP deflator and our index of prices facing childcare providers). In addition, we include the forecast of economy-wide inflation at the time of the last spending review in 2021. This is to give a sense of how much higher-than-expected inflation has impacted the funding settlements announced at the time.

Figure 4.3. Total free entitlement funding adjusting for different measures of inflation



Note: Real-terms series are in 2017–18 prices. GDP deflator forecasts are based on the Office for Budget Responsibility's 17 November 2022 forecast, shown in dark grey, and projections as they stood at the 2021 Spending Review, shown in light grey. Forecasts for the childcare providers' price index are as set out in table 2 of Drayton and Farquharson (2022). Cash-terms funding is for the total early years block in the Dedicated Schools Grant, and for 2022–23 onwards is based on the profile of uplifts set out in the 2021 Spending Review. This excludes additional funding for the teachers' pay and pensions grants, which the Department for Education is considering rolling into the early years block from 2023–24, as well as additional funding of about £10 million for maintained nurseries which is currently under consultation.

As Figure 4.3 shows, after receiving an uplift in 2018–19, free entitlement funding in cash terms (the green series) remained relatively stable until 2021–22. Cash-terms funding then jumped in 2022–23 and is set to remain at this higher level over the coming years, reflecting the budget uplift agreed in the 2021 Spending Review. Based on inflation forecasts in place at the time of

the settlement, this implied total resources for the free entitlement would fall by around 2% in real terms by 2024–25 compared with 2021–22 (shown in light grey in Figure 4.3).

However, higher-than-expected inflation is expected to fully undo the impact of the recent uplift. Under the most recent forecast for the GDP deflator, we now expect total funding to come out 4% lower in 2024–25 than it was in 2021–22. Although this drop is lower than previously estimated in Drayton and Farquharson (2022) – due to changes in forecasts of the GDP deflator – it is double the expected drop at the time of the last Spending Review.

Considering rises in costs specific to childcare providers suggests an even tighter squeeze: as the blue series shows in Figure 4.3, under the childcare providers' cost index we expect a 9% real-terms cut to total budget between 2021–22 and 2024–25. Virtually all of this squeeze is yet to be felt: compared with this year, total resources in two years' time will be 7% lower once providers' rising costs are taken into account.

The population of young children is set to fall over the next few years, with around 85,000 fewer 3- and 4-year-olds in 2024–25 compared with this year. For the early years sector, this presents some opportunities: a smaller population of children will mean that a fixed free entitlement budget will stretch further than it otherwise might. But managing such a quick drop in the population will also bring challenges, especially in balancing numbers of children against numbers of staff. And even a smaller cohort of children will not be enough to offset the real-terms decline in free entitlement funding. We estimate that core hourly funding (a measure that is less affected by population changes) for 3- and 4-year-olds – currently at £5.06 per hour – will be 14p lower in real terms by 2024–25. By contrast, forecasts at the time of the 2021 Spending Review implied a modest real-terms growth in hourly funding.

4.2 Wider spending on childcare

So far, we have focused on funding for the free entitlement. Indeed, this is the largest component of spending in the early years, accounting for three-quarters of spending on early childhood education and care in 2021–22.

The free entitlements are complemented by subsidies through the tax system (including tax-free childcare and the legacy employer childcare vouchers, now being phased out) and through working-age benefits (with parents on universal credit eligible to get 85% of their childcare expenses reimbursed, up to a cap). These forms of childcare support are crucial for families whose children are not covered by the free entitlement. Table 4.1 documents the different programmes on offer, which families are eligible, and whether the programmes are open to new joiners or are being phased out.

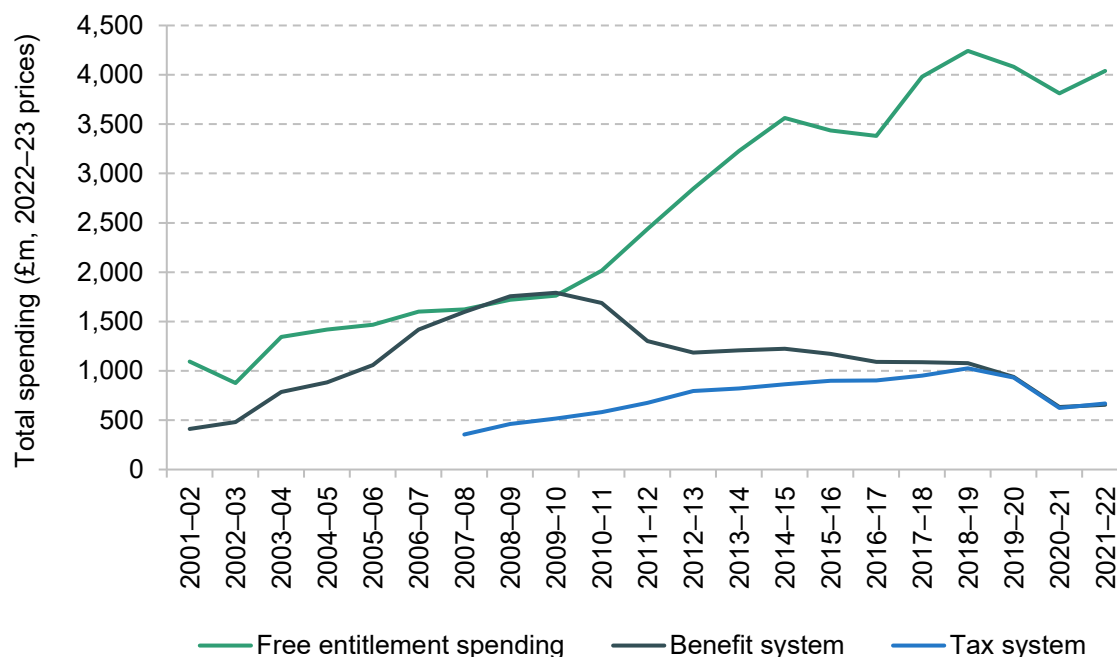
Table 4.1. Current and legacy schemes supporting early education and childcare in England

Type of policy	Legacy scheme	Current scheme	Target group
Subsidy through benefit system	Working tax credit (WTC) Reimbursement of up to 70% of childcare expenses, up to a cap	Universal credit (UC) Reimbursement of up to 85% of childcare expenses, up to a cap	Low-income working families
Tax reliefs and related subsidies	Employer-supported childcare (including childcare vouchers) Salary sacrifice scheme: 32% subsidy for basic-rate taxpayers	Tax-free childcare £2 government top-up per £8 in a designated account	Working parents
Free entitlement	Universal offer 15 hours/week, 38 weeks/year Extended offer Additional 15 hours/week 2-year-old offer 15 hours/week, 38 weeks/year		Universal offer All 3- and 4-year-olds Extended offer 3- and 4-year-olds in working families 2-year-old offer 2-year-olds in roughly the 40% most disadvantaged families

Note: Adapted from table 1 in Drayton and Farquharson (2022). See therein for sources.

As Figure 4.4 shows, the distribution of early years spending across these programmes has changed enormously over the last decade. In 2009–10, subsidies through the working-age benefit system stood at around £1.8 billion (all figures in today's prices) and made up the majority of spending on early years education and childcare. Since then, spending on childcare subsidies through the benefit system has fallen by nearly two-thirds, to £660 million in 2021–22. Most of the decline predates the pandemic: by 2019–20, spending was only half what it had been 10 years earlier.

Part of the fall in spending via the benefit system is driven by less generous payments, reflecting changes to the reimbursement rate available for those on legacy benefits (cut from 80% to 70% in 2011–12) and long-lasting, cash-terms freezes in how much support families can access. More recently, falling caseloads have driven drops in benefit spending, including lower take-up with the transition to universal credit.

Figure 4.4. Total real-terms spending on different types of early education and childcare support in England

Note: Free entitlement spending includes spending on the universal entitlement for 3- and 4-year-olds, the extended entitlement for 3- and 4-year-olds in working families, and the entitlement for disadvantaged 2-year-olds. Spending through the tax system includes the value of tax reliefs via employer-sponsored childcare vouchers and tax-free childcare, but not the value of VAT exemptions. Spending through the benefits system includes childcare subsidies in universal credit and its predecessors. Spending through universal credit is imputed based on modelling estimates from TAXBEN (the IFS tax and benefit microsimulation model).

Source: Figure 1 in Drayton and Farquharson (2022).

Figure 4.4 also shows the evolution of support through tax reliefs. This type of support is targeted at higher-earning working families who are not eligible for in-work benefits. Spending on tax reliefs had been rising, from £515 million in 2009–10 to just over £1 billion in 2018–19. However, during the pandemic years, spending fell dramatically as families drastically cut back on childcare use. The recovery in spending has been slow: in 2021–22, spending remained at about two-thirds of its pre-pandemic level.

A crucial question for the early years sector will be whether childcare take-up and government financial support rebound in 2022–23 (when most pandemic-related disruption has ended) or whether the shift to a ‘new normal’ of changing employment patterns will have a longer-lasting effect on childcare use.

The effects of the pandemic sit alongside the impact of policy change in this area. In 2018, the government closed the legacy employer-sponsored childcare voucher scheme to new entrants,

instead encouraging families to use the new tax-free childcare scheme to receive a 25% top-up on money in dedicated childcare accounts.

While tax-free childcare is a much better designed programme than the vouchers, it has been plagued by technical challenges and low awareness. In 2019, just 40% of parents with a pre-school-aged child had even heard of the programme (Farquharson and Olorenshaw, 2022). Partly because of these challenges, spending on tax-free childcare has consistently undershot expectations, though there are positive signs that take-up might be rising (Drayton and Farquharson, 2022).

4.3 Summary and future challenges

Significant challenges clearly lie ahead for early years providers. Despite a substantial uplift to the early years budget in 2021, higher-than-expected inflation on top of substantial rises in costs in recent years means that providers' resources will be particularly squeezed going forward. And, while schools received a top-up in the 2022 Autumn Statement, early education received no such additional support. The wider context of squeezed family budgets could also contribute to the financial pressures facing the sector, making it more difficult to sustain the above-inflation increases in prices for parents paying out-of-pocket that the sector has relied on for the last decade (Farquharson and Olorenshaw, 2022).

5. Schools

In the 2022 Autumn Statement, the government allocated an extra £2.3 billion to schools in England. This will help schools meet the challenge of faster rises in costs. Following a decade of cuts, this extra funding will ensure that spending per pupil is able to return to 2010 levels. However, with no net growth in spending per pupil over 14 years, this still represents a historically large squeeze on school resources. Throughout this chapter, we focus on current or day-to-day spending on schools (i.e. excluding capital spending).

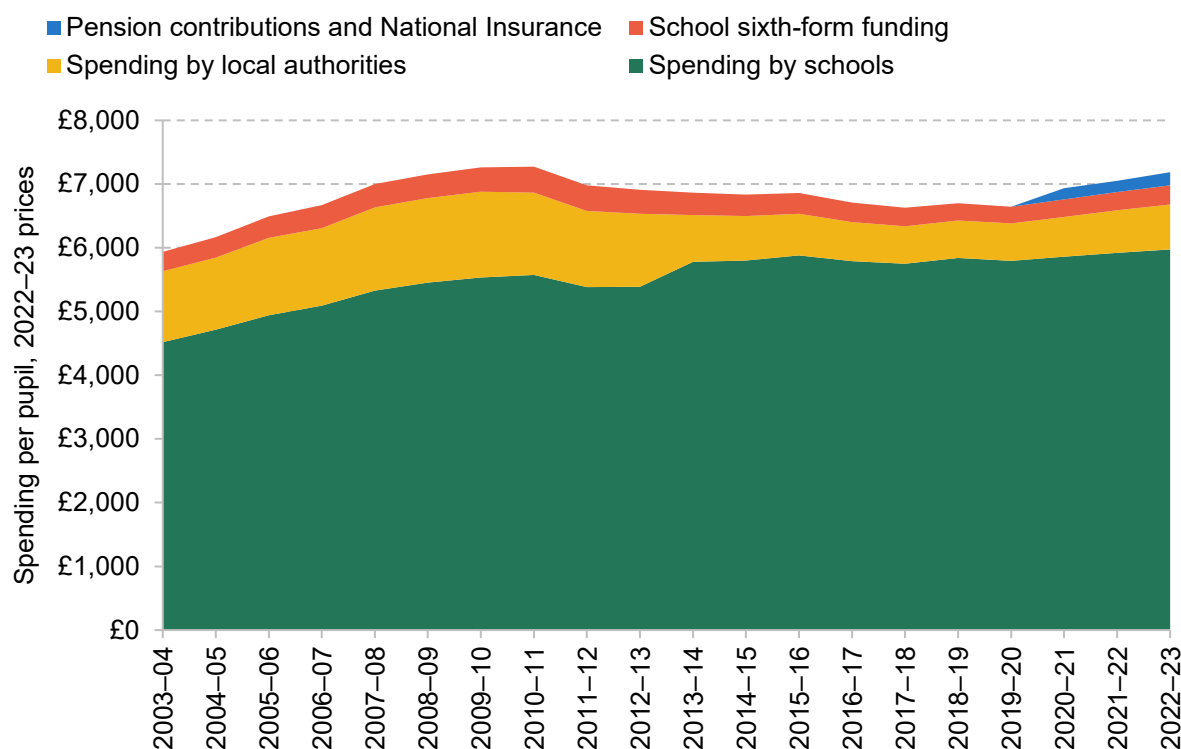
5.1 Total school spending

Figure 5.1 shows total school spending per pupil aged 3–19 between 2003–04 and 2022–23 broken down into four different components:

- **Funding allocated to schools.** This includes funding directly allocated to schools and early years providers. Early years providers are included because primary school budgets include funding for nursery pupils in some years. This also includes funding for special schools.
- **Local authority spending.** This includes central spending on a range of services for pupils with special educational needs, admissions, transport, educational psychology and other services.
- **Sixth-form funding.** This is funding provided to schools for pupils aged 16–19. We include this given that it is often included within total school expenditure figures.
- **Extra funding for employer pension and National Insurance contributions.** From September 2019, schools received extra funding to meet the cost of higher employer pension contributions and, in 2022–23, they received extra funding for higher employer National Insurance contributions in preparation for the now cancelled Health and Social Care Levy. We often exclude these figures from comparisons over time as they are paid to compensate schools for higher costs.

In 2003–04 (the earliest year for which we can produce this consistent set of figures), total school spending stood at about £5,930 per pupil in 2022–23 prices. This rose by 22% in real terms up to 2009–10, reaching a high point of £7,260 per pupil. After 2009–10, spending per pupil fell by 9% in real terms to reach £6,640 in 2019–20, taking spending per pupil back to around the level last seen around 2006.

Figure 5.1. Total school spending per pupil by component (2022–23 prices)



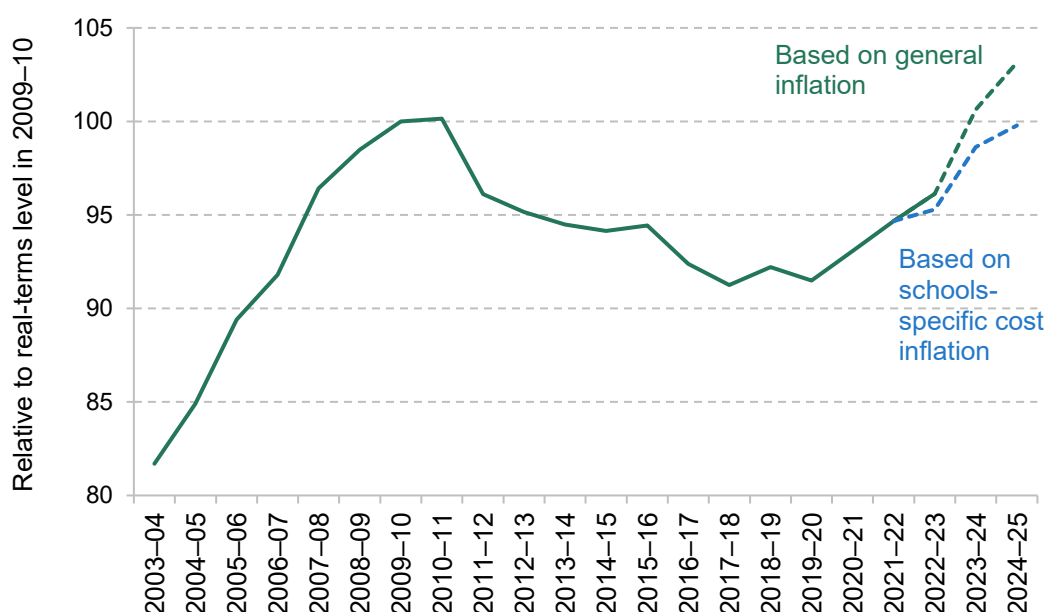
Note and source: See <https://ifs.org.uk/education-spending/methods-and-data>. HM Treasury GDP deflators, November 2022 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-november-2022-autumn-statement>). No data are available for 2020–21, so we impute the level based on a constant real-terms growth rate between 2019–20 and 2021–22.

Up to 2009–10, each of the components rose by similar amounts. After 2009–10, the different components evolved very differently. Per-pupil funding provided to schools rose by around 5% in real terms between 2009–10 and 2019–20. In contrast, local authority spending on services fell by 57% over the same period. A large part of this contrasting pattern is mechanical, reflecting a transfer of funding and responsibilities from local authorities to both academies and maintained schools. There was also a big drop in sixth-form funding. As we show in Chapter 6, school sixth-form funding per student fell 24% over this period.

These figures represent the best measure of the change in total public spending available for school services in England over this period. They include the effect of cuts to local authority services, many of which schools will have had to fund from their existing budgets, and cuts to school sixth-form funding, which will have put pressure on secondary school budgets. If we exclude school sixth-form funding, school spending per pupil aged under 16 fell by 7% in real terms between 2009–10 and 2019–20. However, if we were able to fully exclude early years funding, this cut would become larger again as early years funding was growing in real terms over this period.

Since 2019–20, school spending per pupil has begun to grow again in real terms, reflecting extra funding provided in the 2019 and 2021 spending reviews. Between 2019–20 and 2022–23, total core school spending per pupil grew by 5% in real terms, taking it back to levels last seen around 2011 and 2012, or by 8% if we include funding to compensate schools for extra employer pension and National Insurance contributions. Note that figures were not collected for 2020–21 and we impute data for this year assuming a constant real-terms growth rate between 2019–20 and 2021–22.

Figure 5.2. Total school spending per pupil (actual spending up to 2022–23, projected to 2024–25), 2009–10 = 100



Note and source: School spending per pupil is taken from Figure 5.1 (excluding funding for higher employer pension and National Insurance contributions during 2022–23). HM Treasury, Autumn Statement 2022 (<https://www.gov.uk/government/publications/autumn-statement-2022-documents>). HM Treasury GDP deflators, November 2022 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-november-2022-autumn-statement>). Forecasts all assume that early years and sixth-form funding per pupil aged 3–19 follows the same path as school spending per pupil. Schools-specific cost inflation is as defined in Sibieta (2022).

Figure 5.2 projects total school spending per pupil up to 2024–25 based on the latest government spending plans and forecasts for pupil numbers and inflation. This includes the effects of the decision in the 2022 Autumn Statement to provide an additional £2.3 billion to schools in 2023–24 and 2024–25. For consistency, we focus on total school spending excluding compensation for higher employer pension and National Insurance contributions. We present two scenarios. The first shows expected future real-terms trends after adjusting for economy-wide inflation based on the GDP deflator. The second uses an estimated measure of schools-specific cost inflation, which includes expected increases in staff salaries and non-staff costs. Importantly, overall real-terms trends in spending per pupil look extremely similar whether we use economy-wide

inflation or a separate measure of actual school costs between 2009–10 and 2019–20 (Britton et al., 2020).

As can be seen, spending per pupil is expected to increase in real terms using both measures of inflation. Accounting for economy-wide inflation, school spending per pupil is expected to grow by 7% in real terms between 2022–23 and 2024–25, taking it to 3% more than its most recent high point in 2010. If we account for schools-specific cost inflation, the expected real-terms growth rate is lower, at 5%. This reflects the fact that school costs are growing faster than overall inflation. This includes the over 5% increases in teacher salaries in September 2022, 8–9% growth in support staff salaries, and the growing costs of energy, food and other non-staff costs. However, even after accounting for these cost rises, school spending per pupil is still expected to grow in real terms in each and every year between 2021–22 and 2024–25. On this measure of inflation, school spending per pupil will return to 2010 levels by 2024–25.

That being said, no real-terms growth in school spending per pupil over a 14-year period still represents a significant squeeze on school resources. The only near precedent is the lack of real-terms growth in secondary school spending per pupil over the 1990s (see Figure 5.3).

5.2 Spending by primary and secondary schools

Figure 5.3 shows our estimates for the level of primary and secondary school spending per pupil in England over time (in 2022–23 prices), together with projections up to 2024–25 based on current policy and economy-wide inflation. The data we use to calculate these figures allow us to track spending per pupil by phase and further back in time to the late 1970s. To do this, we must focus on spending by individual schools, which excludes spending undertaken by local authorities and on special schools. The figures are therefore lower than those seen by Figure 5.1.

Spending per pupil has evolved in a number of distinct phases:

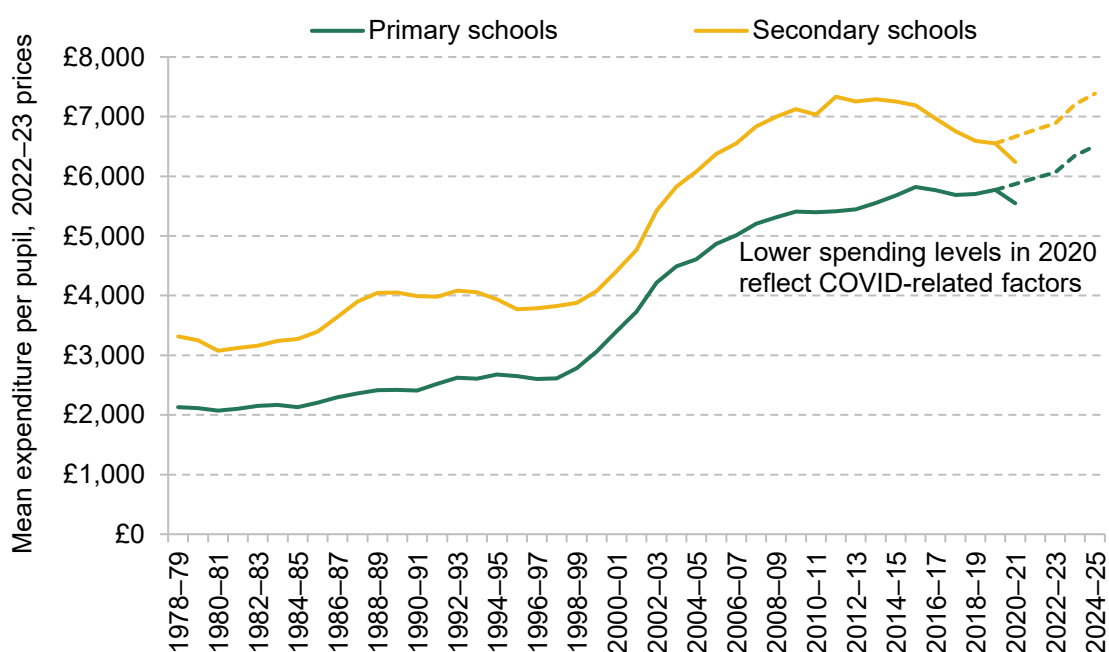
- **Modest growth over the 1980s and 1990s.** During the 1980s and 1990s, primary school spending per pupil grew by 2% per year, on average, in real terms and secondary school spending per pupil grew by slightly less (around 1% per year, on average). Over the 1990s, there was no overall real-terms growth in secondary school spending per pupil.⁶
- **Rapid growth over the 2000s.** From 1999–2000 onwards, spending per pupil grew rapidly, with growth of nearly 6% per year in real terms for primary and secondary

⁶ These figures are lower than those quoted in previous analysis. This is due to historical revisions to the GDP deflator.

schools over the 2000s. This led primary school spending per pupil to rise from £3,060 per pupil in 1999–2000 to reach £5,410 by 2009–10, whilst secondary school spending per pupil grew from £4,080 to £7,130.

- Funding squeeze since 2010 and increased role of individual schools.** Following the large increase in spending over the 2000s, there has been a squeeze on funding since 2010. This has not, however, always been visible in the spending levels of individual schools. This is because school budgets received an artificial boost as maintained schools and academies both received extra funding to take on responsibility for services previously provided by local authorities (i.e. this was a transfer of funding, rather than an increase in funding for existing activities). As a result, over the decade between 2009–10 and 2019–20, primary school spending per pupil grew by 7% in real terms, whilst secondary school spending per pupil fell by 8% in real terms. This averages out to an effective real-terms freeze on spending per pupil by individual schools. Secondary schools saw a worse picture than primary schools mainly due to big reductions in school sixth-form funding. The Pupil Premium was also set at a higher rate in primary than in secondary schools. The 8% cut to secondary school spending is similar in scale to the 7% real-terms cut to secondary school spending over the first half of the 1990s.

Figure 5.3. Spending per pupil in primary and secondary schools (2022–23 prices)



Note and source: See <https://ifs.org.uk/education-spending/methods-and-data>. HM Treasury GDP deflators, November 2022 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-november-2022-autumn-statement>). Forecasts from 2019–20 onwards are based on real-terms growth rates in Figure 5.2 using general inflation.

- **One-off effects of the pandemic.** Based on school financial returns and official levels of economy-wide inflation, primary and secondary school spending per pupil fell by 4–5% in real terms in 2020–21. However, there are various pandemic-related factors working in either direction that mean 2020–21 is unlikely to reflect core trends in spending. First, these figures include additional COVID-related grants and funding (about £80–90 per pupil in primary schools and £110–120 in secondary schools), which include support for additional costs and catch-up funding. Further catch-up spending is likely to be captured in future years too. Second, these figures will include compensation for the additional cost of employer pension contributions. These factors are probably pushing up spending levels. Working in the other direction, economy-wide inflation was over 6%, well above the likely growth in school inputs. The closure of schools to most pupils over much of the period will also have reduced spending on some items, such as food and energy. Indeed, there is also evidence to suggest that school reserves increased significantly in 2020–21 across both maintained schools and academies.⁷ Either way, spending levels in 2020–21 should not be used as a guide to underlying pressures on resources.
- **Return of growth up to 2024.** As a result of additional funding announced in recent spending reviews, core school spending per pupil is expected to grow in real terms through to 2024. If we assume that primary and secondary school spending per pupil grows in line with the total schools budget from 2019–20 (as per Figure 5.2), then spending per pupil would rise by 13% in real terms. This would take secondary school spending per pupil back to levels recorded in 2010 and primary school spending per pupil significantly above recent levels, though in both cases schools are also now undertaking more services previously provided by local authorities. These figures are based on inflation as captured by the GDP deflator. The expected growth rate is closer to 9% when we use our estimated measure of schools-specific inflation.

5.3 Summary and future challenges

In summary, school spending per pupil declined by about 9% in real terms in the decade up to 2020. This is now being reversed as a result of decisions at recent spending reviews to increase school funding in England. Like everyone, schools are facing significant cost rises as a result of rising levels of inflation. Partly in response to this concern, the government provided £2.3 billion in additional school funding in the 2022 Autumn Statement. This will ensure that school spending per pupil grows in real terms through to 2024 and will return to at least 2010 levels, even after accounting for the specific costs faced by schools. However, no net growth in school

⁷ <https://explore-education-statistics.service.gov.uk/find-statistics/la-and-school-expenditure/2020-21>;
<https://www.gov.uk/government/publications/academy-trust-revenue-reserves-2020-to-2021>.

spending per pupil over a 14-year period still represents a significant squeeze on school resources.

The government has pencilled in tight plans for departmental spending beyond 2024. This could create significant resource pressures across all public services. When it comes to schools, the pressures might be lessened by the fact that the pupil population is expected to decline through to 2030, creating less demand for school places. However, it is important to remember that declining pupil numbers will only reduce pressures if schools are able to shrink their costs and staff numbers in an equal measure. This can create a whole set of new challenges.

6. Further education and skills

In contrast to schools, there was no additional money allocated for further education (including sixth-form colleges) and skills in the 2022 Autumn Statement. While the government did provide additional funding in the 2019 and 2021 spending reviews, this was not enough to reverse the real-terms cuts experienced by providers over the last decade. Providers also now face rising cost pressures, which means that previous spending commitments will equate to even smaller real-terms increases. This chapter begins by discussing spending on 16–18 education, which covers 16- to 18-year-olds studying academic and technical qualifications in school sixth forms, sixth-form colleges and further education colleges. We then move on to discuss adult education and apprenticeships

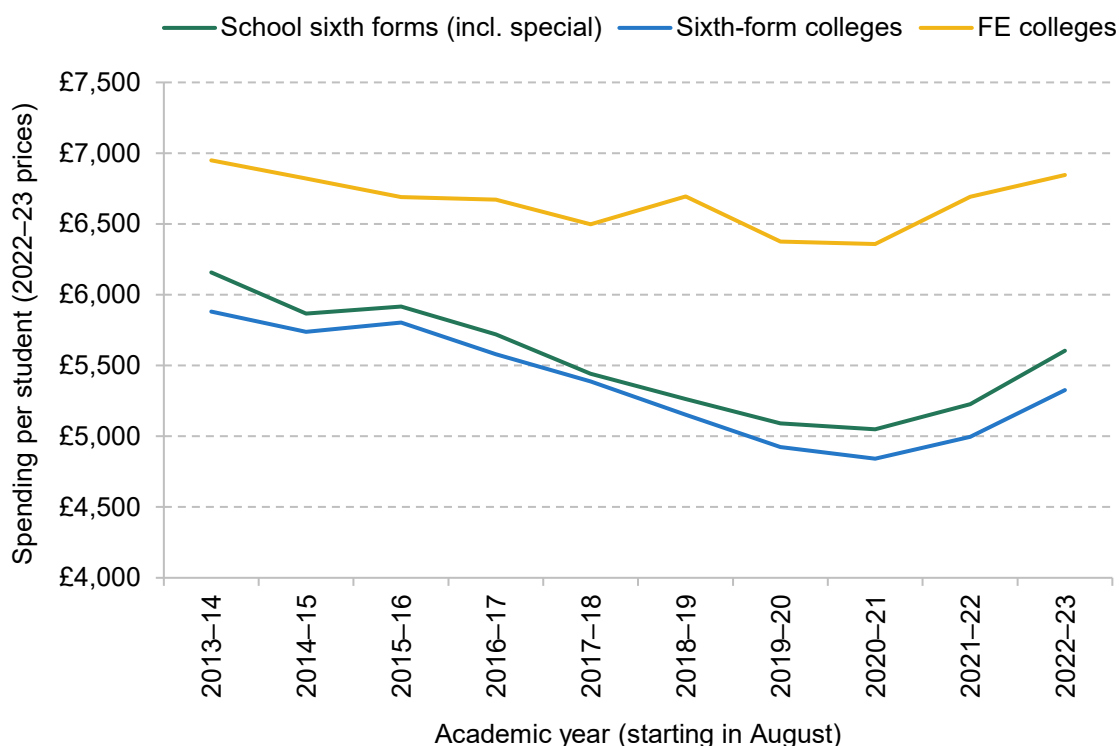
6.1 16–18 education

Aside from inflationary pressures, colleges and sixth forms are facing three other challenges. First, the number of 16- and 17-year-olds is rising rapidly as a result of a population boom moving through the education system. Second, the impact of the pandemic remains significant, with changes in young people’s education decisions and the effects of lost learning. Third, the government is overhauling the post-16 qualification landscape, which means that many providers are having to change the courses they offer students.

Spending per student over time

Figure 6.1 shows spending per student aged 16–18 in school sixth forms, further education (FE) colleges and sixth-form colleges in each academic year from 2013–14 onwards. In this graph and the remaining analysis in this section, we consider funding allocated per student aged 16–18, as opposed to actual amounts of spending on students, which could be higher or lower depending on how schools and colleges allocate funding for different stages of education.

In each year, spending per student aged 16–18 is noticeably higher in FE colleges. In the academic year 2022–23, FE colleges spent roughly £6,800 per pupil, compared with £5,600 in school sixth forms and £5,300 in sixth-form colleges. This is because students in FE colleges are more likely to study vocational qualifications and are more likely to come from deprived backgrounds, both of which attract higher levels of funding.

Figure 6.1. Spending per student in further education colleges (16–18), sixth-form colleges and school sixth forms

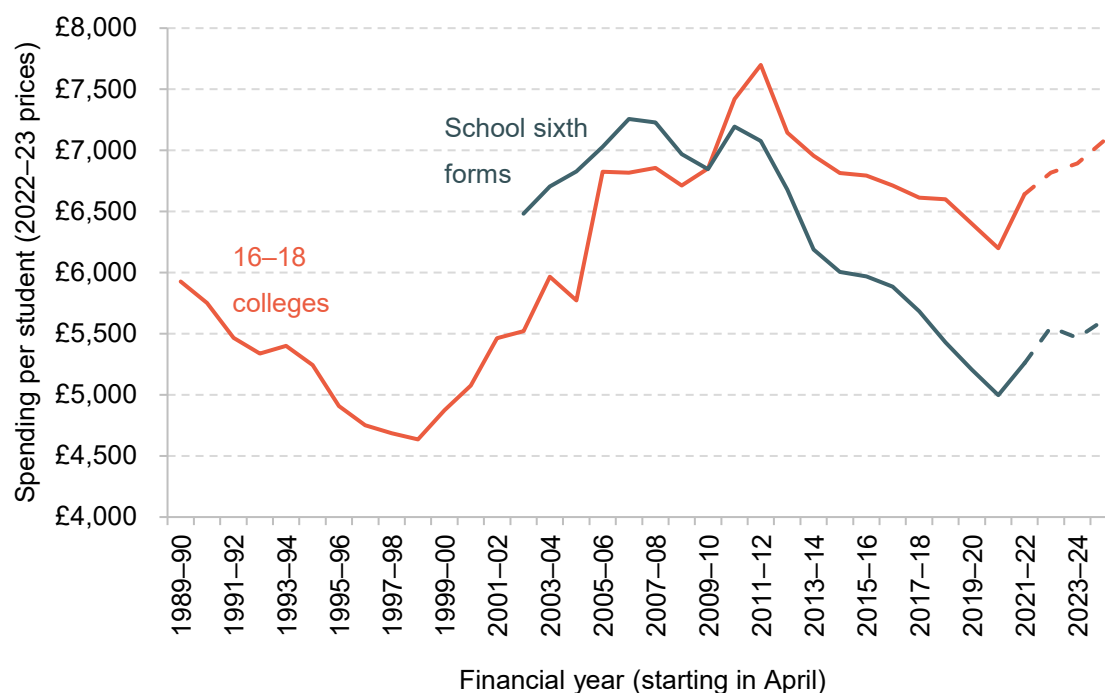
Note and source: See <https://ifs.org.uk/data-and-methods>. HM Treasury GDP deflators, November 2022 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-november-2022-autumn-statement>).

Real-terms cuts between 2013–14 and 2019–20 were similar across school sixth forms and sixth-form colleges, at 16–17%. The cuts to FE colleges were smaller, at 8% over the same period. This reflects the fact that FE colleges have gained more from new funding streams aimed at vocational qualifications.

In the 2019 and 2021 spending reviews, the government sought to reverse the decline in further education spending by allocating an additional £2.3 billion in funding by 2024–25 relative to 2019–20 (Farquharson et al., 2021). In the next academic year (2022–23), spending per pupil is set to have risen by 7–8% in FE colleges and sixth-form colleges and by 10% for school sixth forms relative to 2019–20.

Although this represents significant additional funding, spending per pupil will remain well below the levels seen in the early 2010s. This is illustrated by Figure 6.2, which shows how per-pupil funding levels in school sixth forms and colleges have evolved between 1989–90 (from 2002–03 for school sixth forms) and the present day, and how the additional funding will change spending levels up until 2024–25. For data reasons, we combine FE and sixth-form colleges, which we refer to as 16–18 colleges, and track spending by financial instead of academic year.

Figure 6.2. Spending per student in 16–18 colleges and sixth forms



Note and source: See <https://ifs.org.uk/data-and-methods>. HM Treasury GDP deflators, November 2022 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-november-2022-autumn-statement>).

Since 2010–11, there has been a decline in per-student spending across all types of institutions. Between 2010–11 and 2019–20, spending per student fell by 14% in colleges and 28% in school sixth forms. For colleges, this left spending per student at around the level it was in 2004–05, while spending per student in sixth forms was lower than at any point since at least 2002.

Overall, per-pupil spending in 16–18 education is set to rise by 9% between 2021–22 and 2024–25. Yet even with the additional funding set out in recent spending reviews, college spending per pupil in 2024–25 will still be around 5% below 2010–11 levels, while school sixth-form spending per sixth-form pupil will be 22% below 2010–11 levels. Therefore, the additional funding for sixth forms and colleges will only partially reverse the cuts of the previous decade.

Future challenges

The lack of new spending set out in the Autumn Statement comes at a time when 16–18 education providers are grappling with a range of challenges. In common with the rest of the education sector, colleges and sixth forms are facing rising costs for inputs such as staff and energy. On staffing costs, whilst an exact pay settlement has not yet been agreed, the Association of Colleges has so far only offered a headline salary rise of 2.5% for college staff in

2022–23, plus non-consolidated cost-of-living payments of £500–750 for lower-paid staff.⁸ This offer is clearly well below expected inflation and is less than the 5% offered to teachers. College staff were also already paid less than their counterparts in schools.⁹ Delivering a significantly lower pay award for college staff than that in schools could risk exacerbating recruitment and retention difficulties at a time when the workforce will need to expand to meet the growing student population. However, with no additional funding, colleges would have to find money from their existing budgets to meet the cost of any higher staff pay awards.

School sixth forms will need to pay teachers a salary rise of 5% or more this year. However, school sixth forms might be able to cross-subsidise this with some of the extra funding they received in the Autumn Statement to cover pupils up to age 16.

As well as rising cost pressures, schools and colleges will have to educate a far larger number of students in the next few years. The Office for National Statistics (ONS) projects that the total number of 16- and 17-year-olds in England will grow by a further 6.5% or 90,000 between 2022 and 2024. This would make for a 17% rise between 2019 and 2024 – or an extra 200,000 young people. Given current levels of participation, this would equate to over 170,000 extra students that schools and colleges will have to accommodate. Beyond the current spending review period, a projected 3% rise in the student population between 2024 and 2026 will create additional spending needs. To partly help meet this need, the government announced an extra £1.5 billion in capital investment in the college estate in the 2021 Spending Review (HM Treasury, 2021). Higher student numbers would also imply higher funding for colleges and sixth forms through the 16–19 funding formula. However, the cost will still need to be found within departmental spending plans after 2024, which became a lot tighter in the 2022 Autumn Statement.

An additional challenge faced by the sector comes from an overhaul of the post-16 qualification landscape. There is a major ongoing reform of the Level 3 qualification landscape, with funding being removed from technical qualifications that overlap with T levels.¹⁰ In October 2022, the government published the final list of qualifications that will have their funding withdrawn from August 2024, which amounts to just over 100 qualifications.¹¹

The qualifications listed include many common BTEC and City and Guilds qualifications in subject areas that overlap with T levels. To give a sense of the impact of these reforms, in Figure

⁸ <https://www.aoc.co.uk/news-campaigns-parliament/aoc-newsroom/aoc-pay-recommendation-for-2022-23>.

⁹ <https://www.tes.com/magazine/archived/etf-pay-gap-between-fe-and-schools-indefensible>.

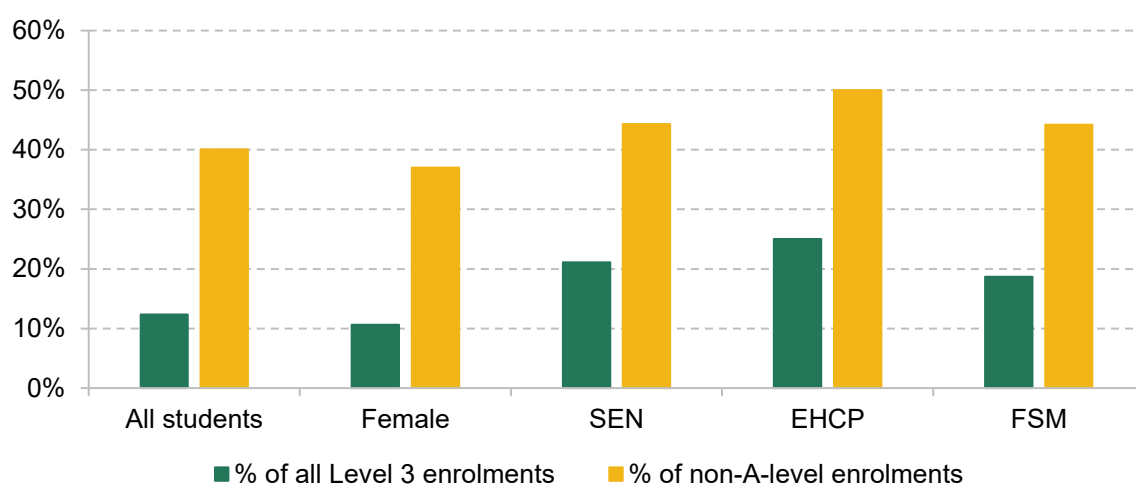
¹⁰ In Department for Education (2021b), a qualification is classified as overlapping with a T level if it is a technical qualification that has outcomes which are similar to those set out in a standard covered by a T level and aims to take a student to employment in the same occupational area.

¹¹ <https://www.gov.uk/government/publications/qualifications-that-overlap-with-t-levels>. This list does not yet include qualifications overlapping with health and science T levels.

6.3 we show the share of Level 3 enrolments in the 2019–20 academic year which would no longer be eligible for funding under the 2024–25 funding system.

Around 12% of all enrolments at Level 3 and 40% of non-A-level enrolments at Level 3 will have funding withdrawn for new starters aged 16–19. These reforms are especially likely to affect the post-16 choices of students from poor households (eligible for free school meals), students with education, health and care plans, and students with special educational needs, all groups that are more likely to be taking qualifications that will have funding removed. It is vital that schools and colleges ensure that these students continue to have opportunities to access quality routes through post-16 education.

Figure 6.3. Percentage of age 16–19 Level 3 enrolments which will no longer be eligible for funding in 2024–25



Note: SEN is students with special educational needs. EHCP is students with education, health and care plans. FSM is students eligible for free school meals.

Source: Authors' calculations using table 3 in Department for Education (2021c).

In summary, colleges and sixth forms are in a particularly difficult position, both now and looking into the future. Although an extra £2.3 billion was provided in recent spending reviews, this will only partially reverse the large cuts that took place up to 2020. Furthermore, unlike schools, colleges and sixth forms did not receive any extra funding in the 2022 Autumn Statement to help them meet rising cost pressures. In the next few years, they also face rising student numbers and a rapidly changing qualifications landscape. But yet again, the scope for additional funding looks unlikely as the government has pencilled in tighter public spending plans after 2024.

6.2 Adult education and skills

The government has stated that reforming adult education and skills policy is key to realising long-term economic growth. In recent years, there have been a number of major reforms to skills policy, including the introduction of T levels, the roll-out of skills bootcamps and the launch of the lifelong loan entitlement from 2025.

In the 2021 Spending Review, the government allocated £900 million in extra day-to-day funding for adult education and apprenticeships as compared with 2019–20. However, over the last decade, there have been significant cuts to public spending on adult education, which will only be partially offset by this extra money.

Adult education funding system

In the remaining analysis in this chapter, we divide skills spending between classroom-based courses and apprenticeships. Public spending on classroom-based adult education is complex and comes from multiple sources, which we set out in Table 6.1.

Table 6.1. Adult education funding sources

Source	Description
Adult education budget (AEB)	A long-standing government fund which funds qualifications at Level 3 or below for adult learners (aged 19+) with low education levels. Since 2019, the AEB has been devolved in certain Mayoral Combined Authorities (MCAs) and the Greater London Authority (GLA).
National Skills Fund	The government has committed to spend an extra £2.5 billion in total on adult education and skills over the course of this parliament, which it has called a 'National Skills Fund'. In reality, this is very similar to the AEB and this extra money looks set to be mainly spent on the Level 3 course entitlement and skills bootcamps.
UK Shared Prosperity Fund (UKSPF)	A fund created to replace EU structural funds and help fulfil the government's levelling-up ambitions. £560 million from the UKSPF will be spent on a nationwide numeracy programme called 'Multiply'.
Advanced learner loans / student finance	Adult learners can access advanced learner loans (ALLs) for Level 3–5 courses, and higher education student finance for certain advanced qualifications.

In 2017, the government introduced the apprenticeship levy. Under the levy, large employers with a total pay bill in excess of £3 million pay 0.5% of their pay bill above that level as an apprenticeship levy. This is transferred into a digital account and topped up by 10% of public funding, which can be used to pay for the costs of apprenticeship training. There is also a generous system of public funding for non-levy-paying firms, who only have to pay 5% of the

costs of apprenticeship training. As a result, apprenticeships at levy- and non-levy-paying firms receive very similar levels of public funding (up to funding caps for different courses).

Adult education spending over time

In the 2021 Spending Review, the government allocated additional skills funding across a range of different channels:

- an extra £550 million for adult education in 2024–25 as compared with 2019–20;
- £170 million in increased apprenticeship funding by 2024–25;
- £560 million from the UKSPF to be spent on ‘Multiply’ to improve numeracy skills across the UK. This is to be spread over three years and so will amount to about £190 million per year on average.

Taken together, this equates to about £900 million in extra day-to-day spending in cash terms on adult education and apprenticeships in 2024–25 as compared with 2019–20. To set this in historical context, Figure 6.4 shows spending on adult education and apprenticeships since the early 2000s up until the present day, and the projected level of spending in 2024–25.

Total spending on adult skills is set to increase by 22% between 2019–20 and 2024–25. Part of this additional spending has already been realised: total spending on adult education and apprenticeships increased by almost 3% in real terms between 2019–20 and 2021–22. This is likely to be a slight underestimate of the true growth up to 2021–22 as published figures do not include spending on skills bootcamps or the Multiply programme. However, given that these programmes have only recently launched and are not yet fully rolled out, expenditure is likely to be comparatively small in 2021–22, which means the 2021–22 spending figure should not be too far from the true level of spending. Indeed, spending on skills bootcamps is likely to have been under £50 million in 2021–22, increasing to a higher figure of £150 million in 2022–23.¹²

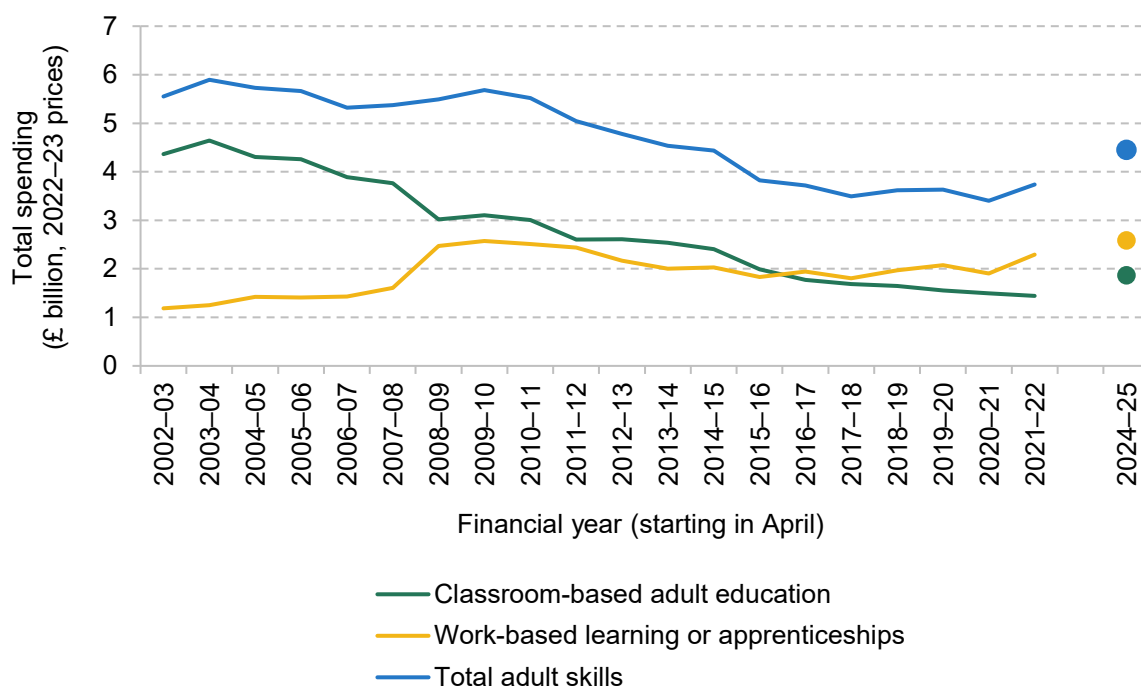
As with spending on 16–18 education, planned increases in spending only reverse a fraction of past cuts: total skills spending in 2024–25 will still be 22% below 2009–10 levels (this includes expected spending on skills bootcamps). Spending on classroom-based adult education has fallen especially sharply, and will still be 40% below 2009–10 levels even with the additional funding.

It is important to note that we only look at direct public spending on adult education. In particular, Figure 6.4 does not include spending on Advanced Learner Loans (ALLs), which

¹² Figures supplied by the Department for Education.

totalled around £145 million in the 2021–22 academic year.¹³ The repayment terms for these loans are very similar to those for higher education.

Figure 6.4. Public spending on adult education and apprenticeships (actual and projected for 2024–25)

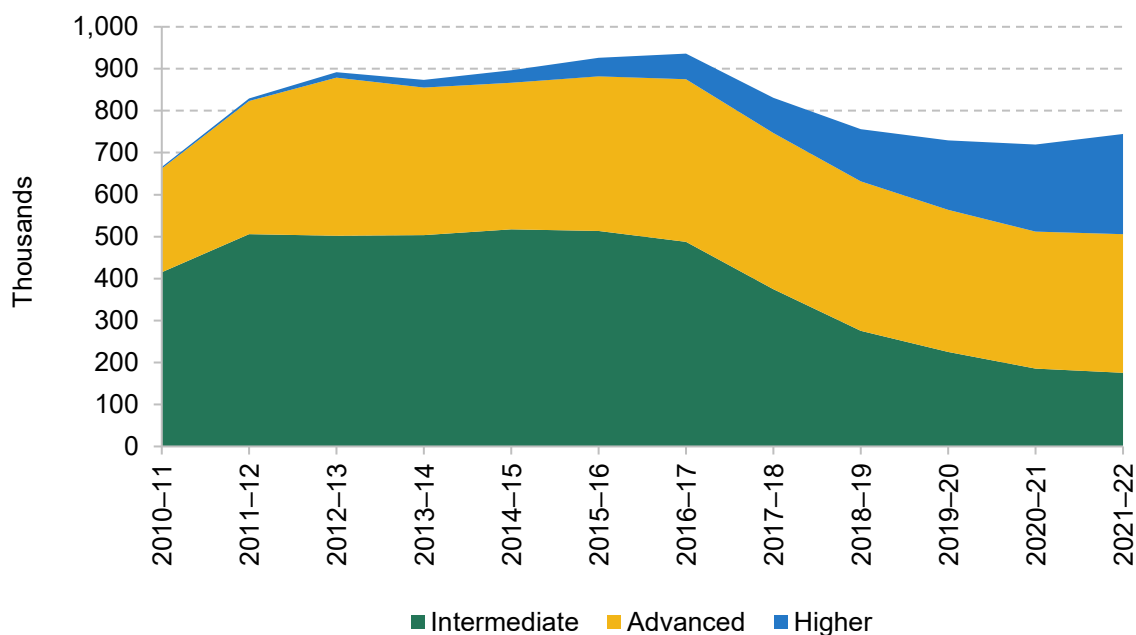


Note: The figure for 2024–25 is a projected spending level based on spending plans announced in the 2021 Spending Review.

Source: Authors' calculations using Department for Education annual report and accounts 2018–19 (<https://www.gov.uk/government/publications/dfe-consolidated-annual-report-and-accounts-2018-to-2019>), Education and Skills Funding Agency annual report and accounts 2021–22 (<https://www.gov.uk/government/publications/education-and-skills-funding-agency-esfa-annual-report-and-accounts-2021-to-2022>), 2019–20 (<https://www.gov.uk/government/publications/education-and-skills-funding-agency-esfa-annual-report-and-accounts-2019-to-2020>) and 2017–18 (<https://www.gov.uk/government/publications/education-and-skills-funding-agency-annual-report-and-accounts-2017-to-2018>), Skills Funding Agency annual reports and accounts 2010–11 to 2016–17 (<https://www.gov.uk/government/collections/sfa-annual-reports-and-accounts>) and Department for Innovation, Universities and Skills departmental report 2009 (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/238617/7596.pdf); Department for Education, 'Adult education budget: S31 grant determination letters' 2021 to 2022 (<https://www.gov.uk/government/publications/adult-education-budget-devolved-grant-determination-letters-2021>), 2020 to 2021 (<https://www.gov.uk/government/publications/adult-education-budget-s31-grant-determination-letters-2020-to-2021>), 2019 to 2020 (<https://www.gov.uk/government/publications/adult-education-budget-s31-grant-determination-letters>); HM Treasury GDP deflators, November 2022 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-november-2022-autumn-statement>).

¹³ <https://www.gov.uk/government/statistics/advanced-learner-loans-paid-in-england-ay-202122-aug-to-jul/advanced-learner-loans-paid-in-england-academic-year-202122-august-to-july-inclusive>.

Figure 6.5. Number of adults participating in apprenticeships by level



Note: Intermediate apprenticeships are the lowest level of apprenticeship (at Level 2 or below); advanced apprenticeships are at Level 3 (A level or equivalent); and higher apprenticeships are the highest level of apprenticeships (Level 4 or above).

Source: Department for Education (<https://explore-education-statistics.service.gov.uk/data-tables/permalink/6f988a4a-65d9-4874-860e-08dad51ca1cc>).

These figures also exclude the effect of the Multiply programme as it is not yet clear how this funding will be distributed across the nations of the UK or by year. But, based on population shares and a constant allocation across years, Multiply could represent about £150–160 million in additional spending on adult education and skills in England by 2024–25, or about 3½% of planned spending in 2024–25. According to the Department for Education, about £80 million was allocated to local authorities in England in 2022–23, which is then likely to increase over time.¹⁴

While there has been a sharp decline in public spending on classroom-based adult education, funding for apprenticeships (or work-based learning further back in time) has remained fairly constant at around £2 billion in real terms since the late 2000s. In 2016–17, the level of public spending on apprenticeships overtook public spending on classroom-based adult education. Between 2019–20 and 2021–22, apprenticeship spending rose by 10%; part of this increase is likely due to apprenticeship activity recovering post-pandemic.

Following on from big increases between 2010 and 2015, the total number of adult apprentices has actually declined in recent years since 2016, which coincides with the introduction of the

¹⁴ Figures supplied by the Department for Education.

apprenticeship levy. In Figure 6.5, we show the number of adults participating in apprenticeships by level. Between 2016–17 and 2021–22, the total number of adult apprentices declined by 20%, which was mainly due to a significant fall in intermediate apprentices (GCSE-equivalent level). The number of higher apprentices, which include degree apprentices, has almost quadrupled in the same period. Since the total number of apprentices has fallen, the constant level of spending is likely to be attributable to an increase in the number of higher-level apprentices which are far costlier to fund.

The overall impact of this change in apprenticeship composition is unclear. The increase in the number of adults taking higher-level apprenticeships could be a positive trend. However, the reduction in intermediate apprentices may represent a decline in the opportunities for low-skilled adults. One especially concerning trend is the decline in the number of young people taking apprenticeships (the number of starts by 19- to 24-year-olds has fallen by 25% since 2016–17), for whom intermediate apprenticeships often provide a route into employment.

Future challenges

The government has placed a high emphasis on adult education and skills policy as a key channel to achieving long-term economic growth. While the government clearly has high aspirations, overcoming the scale of cuts and decline in participation over the past decade will be a huge challenge. Between 2010–11 and 2020–21, the number of adults taking low-level qualifications halved. Even with the additional funding set out last year, real terms spending on adult education will remain well below the levels seen in the early 2000s.

Another challenge is how the devolution of adult skills will be managed. Since 2019, skills spending has been devolved to Mayoral Combined Authorities (MCAs) and the Greater London Authority (GLA), initially to six MCAs and the GLA but now to three further MCAs. This year marks the first year in which more than half of the adult education budget has been devolved to these local administrations. A large part of the future success of skills policy will depend on how well these areas are able to use this money to address local skills needs.

Lastly, one of the key determinants of whether the government's skills reform package is successful is whether it can address skills gaps among non-graduates. Alongside the reintroduction of a free Level 3 course entitlement for those not qualified to this level, the main plans for helping these adults are two national training programmes – skills bootcamps and Multiply. These are new programmes which are relatively untested, but the existing evidence on the efficacy of such training programmes is mixed (for example, see Card, Kluve and Weber (2018)). It is vital that government and local providers work together to ensure these new programmes work well. Providing effective support and training for non-graduates is a significant challenge, but it is essential to realising the government's growth and levelling-up ambitions.

7. Higher education

Education spending is a more complex concept for higher education than for other stages of education, as the up-front spending per student (as shown later in Figure 8.1) can differ substantially from the long-run cost. The reason is that higher education in England is financed almost entirely through student loans, and future repayments towards these loans reduce the long-run cost of providing higher education for the taxpayer. An additional complication is that student loans not only cover the cost of higher education itself, but also provide a contribution to meeting students' living costs through maintenance loans.

This year, the up-front cost of higher education per student has continued on a steady downward trajectory. Total teaching resources per student per year for the 2022–23 university entry cohort now stand at £9,300 in today's prices. That is around £250 less per year in real terms than for 2021–22 entrants and £1,700 less than for 2012–13 entrants. The downward trend in resources per student is expected to continue for at least two more years, as the maximum level of tuition fees will remain frozen in nominal terms until 2024–25.

The long-run taxpayer cost of higher education, however, has fallen sharply this year. This is due to a major reform of the student loans system announced earlier this year, which has shifted a larger share of the cost onto graduates themselves. Graduates from the 2012 university entry cohort onwards can now expect to repay a substantially larger share of their student loans.

As we discuss below, the reform reduces the taxpayer cost of higher education even more on paper than it does in reality. This is due to a quirk in the National Accounts treatment of student loans, which means that lower interest rates charged on loans from the 2023 university entry cohort onwards actually *reduce* the cost of issuing new student loans on paper. The accounting cost of higher education will be further flattered over the next few years by high interest accrued on existing student loans, as a substantial share of this interest is counted as a current receipt in the public sector finance statistics.

In the remainder of this chapter, we first discuss falling levels of up-front funding per student and how they contribute to the overall financial picture for university finances. Second, we outline the effects of this year's student loans reforms and what they mean for the long-run cost of higher education. Finally, we assess how the student loans system is coping with exceptionally high inflation, again with a view towards long-run costs.

7.1 Funding pressures for universities

In 2020, we highlighted some risks to university finances in relation to the COVID crisis (Drayton and Waltmann, 2020). Declining international student numbers as a result of public health restrictions were expected to threaten income from international students' fees. The economic ramifications of the pandemic threatened to exacerbate deficits in defined benefit pension schemes, potentially requiring universities to make additional pension provisions.

In practice, neither of these risks has fully materialised. The total number of non-UK-domiciled students enrolled in their first year at higher education providers in England actually increased by 2.3% in 2020–21. This was a slowdown in growth compared with the average of 10% growth over the previous three years, and the composition of international students also changed, with a fall in the number of students from China and a large rise in students from India. Nonetheless, we did not see a large fall in enrolments. This is despite a significant fall (41%) in the number of student visas that were issued by the UK in the calendar year 2020.¹⁵ That enrolment numbers did not fall dramatically suggests many students were able to study at UK universities without attending in person in 2020. The number of student visas issued by the UK rebounded in 2021 and increased further in the year to September 2022, although this may in part be explained by some students delaying travel to the UK as a result of the pandemic.¹⁶

Over recent months, there has also been an improvement in the financial positions of university pension schemes. The value of assets held by the largest scheme, the Universities Superannuation Scheme (USS),¹⁷ recovered to pre-pandemic levels, due in large part to high returns on equities. Rising interest rates since last November have meant falls in both assets and liabilities, but the scheme's liabilities have fallen more quickly. The latest data suggest USS had a small surplus between May and September 2022 (USS, 2022). If these trends are representative, this suggests universities' pension schemes no longer present as large a degree of financial risk as was feared in 2020.

A number of significant risks remain, or have emerged since our last report. In particular:

- Higher inflation has contributed to greater demand from university staff for **higher pay awards**. National strike action took place in November over a pay offer equivalent to 3.2%

¹⁵ Study visas issued to main applicants. Source: <https://www.gov.uk/government/statistical-data-sets/immigration-statistics-data-tables-year-ending-september-2022>.

¹⁶ <https://www.gov.uk/government/statistics/immigration-statistics-year-ending-september-2022/recent-changes-to-visa-numbers-in-home-office-data>.

¹⁷ This is the largest funded defined benefit pension scheme in the country. Many universities also enrol non-academic staff in other funded defined benefit schemes which would expect to have been affected similarly by these trends.

on average, as well as cuts to pension benefits; the dispute is ongoing. Staff costs accounted for more than half (55%) of universities' total expenditure in 2020–21,¹⁸ meaning any increase in the total pay bill would add significantly to their costs.

- Universities will also be exposed to **higher energy prices**. They use significant amounts of natural gas and grid electricity, and in 2020–21 accounted for 2–3% of the energy consumption from all non-domestic buildings in England and Wales.¹⁹ Many will have already locked in energy prices for this winter, or will have been protected at least in part by the government's cap on prices for non-domestic users. However, these will both expire, and wholesale gas prices are expected to be around four times higher than pre-pandemic even in the mid 2020s (Office for Budget Responsibility, 2022a). This may be of particular concern to large research-intensive universities which typically have higher energy consumption per student.
- **International student numbers** held up well during the pandemic but significant risks remain. Heightened geopolitical tensions could lead to a fall in students from China. In light of high net migration to the UK, ministers have recently suggested they are considering reducing the access of international students to 'low-quality' courses, or reducing their ability to bring dependants to the UK. A large fall in numbers would present a risk to university finances, particularly for those that rely very heavily on international student fees.
- The rising cost of living is likely to **increase financial hardship amongst students**. This will be particularly acute given entitlements to maintenance support have not kept pace with inflation (an issue we discuss below). Many universities are offering substantially more support to their students this academic year, including emergency cash but also measures such as subsidised meals, designated warm spaces, mental health support and debt advice. Government funding for such activity is through the 'student premiums', which have not been increased in cash terms this academic year, suggesting universities are drawing on other funding for this extra support, and potentially repurposing funding from other activities. This is unlikely to be sustainable.

In addition, the cap on tuition fees has been frozen in nominal terms at £9,250 since 2017–18, and had been frozen before that at £9,000 since 2012–13. This means that the real value of tuition fees has been falling over time, and is now 18% lower than it was in 2012–13 (adjusting for inflation using the GDP deflator). Income from capped tuition fees makes up roughly a quarter of income for UK universities as a whole, and much more for some institutions.²⁰

¹⁸ <https://www.hesa.ac.uk/data-and-analysis/finances/table-12>; <https://www.hesa.ac.uk/data-and-analysis/finances/expenditure>.

¹⁹ <https://www.hesa.ac.uk/data-and-analysis/estates/table-2>; <https://www.gov.uk/government/statistics/non-domestic-national-energy-efficiency-data-framework-nd-need-2021>.

²⁰ <https://www.hesa.ac.uk/data-and-analysis/finances/income>.

7.2 Student loans reform

The package of student loans reforms announced in February can be divided into two components: changes that affect all English-domiciled students and graduates who have entered university since 2012, and changes that will only affect students who go to university from 2023 onwards. While the second set of changes have received the most attention, the first set of changes also had an important impact on both graduates' expected repayment burdens and the government finances. In fact, this year's reforms have substantially changed the expected long-run cost of higher education provided to all university entry cohorts since 2012.²¹

For the 2012 to 2022 university entry cohorts, the most important changes have been to the repayment threshold above which graduates need to make repayments towards their loans. This threshold has been frozen at £27,295 for three years until 2024–25. After that, it will be indexed to the Retail Prices Index (RPI) rather than to average earnings as before. This means that unless policy changes, the gap between what the repayment threshold would have been and what it is now expected to be will grow over time.

Figure 7.1 illustrates the real-terms path of the repayment threshold with and without the reforms. Before the reforms, we would have expected the real value of the repayment threshold to increase steadily over time, after a temporary fall in the years up to 2023–24 due to unusually high inflation (green line). This is because average real earnings generally trend upwards; only in a scenario without any real earnings growth would the real value of the threshold have stayed constant in the long term (dotted green line).

Due to the reforms, the repayment threshold for the 2012–22 university entry cohorts is now expected to reach a nadir in 2023–24 of £25,300 in 2022 prices (yellow line).²² From 2025–26 onwards, it is then expected to rise again, up to £27,300 in 2030–31. From 2030, the methodology for calculating the RPI will be reformed. From then on, it will be calculated in the same way as the Consumer Prices Index including owner-occupiers' housing costs (CPIH), so RPI inflation will be the same as CPIH inflation. As CPI and CPIH are very similar, this means that unless policy changes, the repayment threshold will remain roughly constant in real terms from 2030–31 onwards.

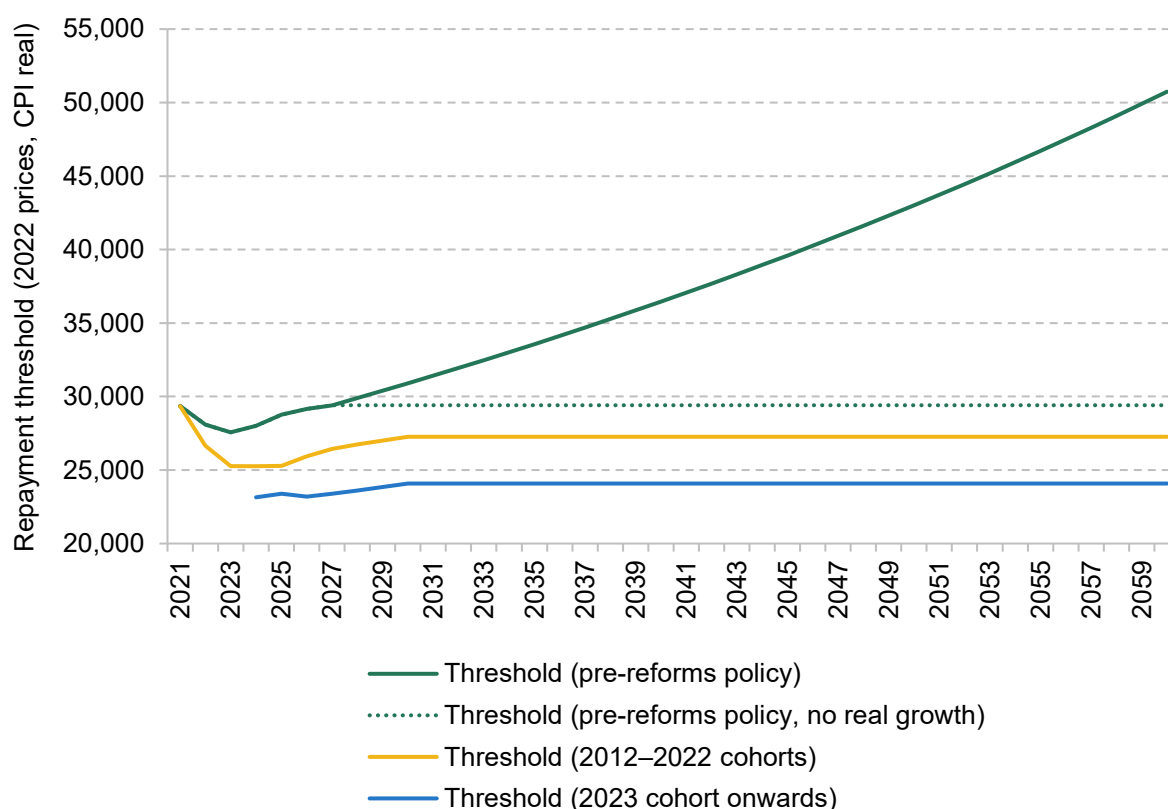
These changes to future repayment thresholds mean that any graduate from the 2012 to 2022 university entry cohorts who would have earned above the repayment threshold even without the threshold changes will now have to repay around £200 more in 2023–24 and around £300 more

²¹ For a more detailed analysis of this year's student loan reforms, see Waltmann (2022a).

²² We assume that despite negative expected RPI inflation up to 2025–26, the repayment threshold will not be cut in nominal terms.

by 2030–31 (in 2022 prices). If average earnings grow as predicted by the Office for Budget Responsibility, this amount could increase to £1,800 by 2055–56, when many graduates from the 2022 entry cohort will still be repaying their loans. However, these numbers should be taken with a large grain of salt. Given the frequency of policy changes in the past, it seems rather unlikely that the system will in fact evolve according to the rules announced this year.

Figure 7.1. Real repayment thresholds, current forecast



Note: 'Pre-reforms policy' means policy as announced by January 2022. 'No real growth' means earnings grow at the rate of CPI inflation from 2027–28, when the medium-term OBR forecast period ends.

Source: Department for Education (2022a); Office for Budget Responsibility (2022a); authors' calculations.

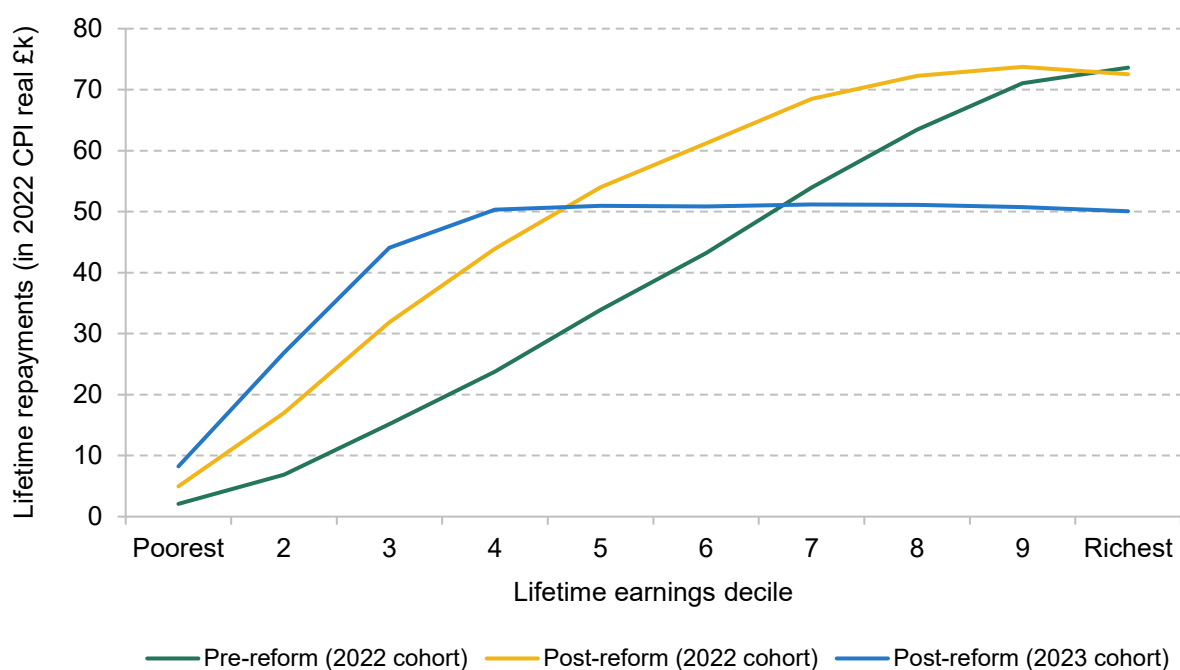
For the 2023 cohort onwards, the repayment threshold will be cut even more dramatically (blue line): it will be set at £25,000 and frozen in nominal terms until 2026–27, the year before the bulk of the 2023 entry cohort become liable to make repayments. According to current inflation forecasts, the repayment threshold for this cohort will then be £23,200 in 2022 prices. After RPI reform, the real value of the repayment threshold for the 2023 cohort onwards is expected to settle at around £24,100 in 2022 prices. This means that those going to university in 2023 will have to pay around £300 more every year towards their loans (in 2022 prices) than those who went one year earlier, provided they earned enough to be liable for repayments under either system.

For the 2023 cohort onwards, two other changes will have a large effect on repayments and thus long-run costs. First, the repayment period will be extended from 30 to 40 years, meaning that many graduates will be making repayments until their mid 60s. Second, in more welcome news for graduates, the maximum interest rate will be reduced from the rate of RPI inflation plus 3% to just the rate of RPI inflation. As RPI inflation will be the same as CPIH inflation from 2030 due to RPI reform, this means, roughly, that students will not be paying back more than they borrowed in real terms.

Taken together, these changes will transform the student loans system. Under the pre-reform system, few students paid off their loan in full. As a result, student loans were heavily subsidised, but a substantial minority were set to pay off more than they borrowed. Overall, the system functioned more like a tax than a loan for the vast majority of graduates.

This will now change. From the 2023 entry cohort onwards, most students can expect to repay their loans in full, and to repay roughly the same amount as they borrowed in real terms. Only low-earning graduates' loans will in the future be subsidised by the taxpayer.

Figure 7.2. Projected lifetime repayments (in real £k) by lifetime earnings decile



Note: 'Pre-reform' means with policy as announced by January 2022.

Source: [IFS Student Finance Calculator](#).

Figure 7.2 shows the distributional consequences of the reform for different cohorts. For the 2022 cohort (yellow line), the changes to the repayment threshold mean that most graduates will have to repay substantially more. The exceptions are graduates with the lowest and with the

highest lifetime earnings. The lowest-earning graduates will rarely earn above the repayment threshold, so will repay little either way. The highest-earning graduates would typically have paid off their loans even before the reform; the lower repayment threshold just means that they will pay off more quickly and therefore incur less interest. It is middle-earning graduates who will be hit hardest by the reform.

The distributional picture is quite different for the 2023 entry cohort (blue line), because the lower interest rate will make a big difference to high earners, who will typically pay off their loans. These high earners will pay back much less under the reformed system, because they will incur much less interest on their loans. In contrast, low-earning graduates will not benefit from the cut in the interest rate, as many will not pay back their loans in full even after the reform. Especially for those on lower-middling earnings, lifetime repayments will be much higher due to the lower repayment threshold and the longer repayment period.

What exactly these changes will mean for the long-term taxpayer cost of the student loans system is still highly uncertain. Even under the assumption that policy will evolve exactly as currently anticipated over the coming decades, there is still an enormous degree of uncertainty about what will happen to the economy and thus graduate earnings and repayments over this period. The reforms for the 2023 cohort onwards have increased this uncertainty, as repayments now matter for an additional 10 years into the future, and the repayment threshold will no longer be uprated with average earnings.

Table 7.1. Taxpayer cost of student loans in £ (in % of outlay)

	Undiscounted RPI real	Discounted at RPI+0.7%	Discounted at RPI–1.1%	Discounted at interest rate
2022 cohort (pre-reform)	£6.0bn (30%)	£9.1bn (46%)	£4.3bn (22%)	£9.5bn (48%)
2022 cohort (post-reform)	£1.1bn (6%)	£5.2bn (27%)	–£1.0bn (–5%)	£6.3bn (33%)
2023 cohort (pre-reform)	£5.5bn (28%)	£8.8bn (45%)	£4.0bn (20%)	£9.3bn (47%)
2023 cohort (post-reform)	£2.9bn (15%)	£6.3bn (34%)	£1.2bn (6%)	£2.9bn (15%)

Note: ‘Pre-reform’ means with policy as announced by January 2022. Following government guidance (Department of Health and Social Care, 2022), discount rates in the second and third columns are adjusted upwards by 0.9 percentage points after 2030 to achieve a constant discount rate relative to CPI despite RPI reform. Following standard Department for Education practice, loan outlay is not discounted.

Source: [IFS Student Finance Calculator](#).

In addition, the long-term taxpayer cost of student loans also depends crucially on how repayments far in the future are accounted for. This is illustrated in Table 7.1. The long-run cost of the system to the taxpayer varies enormously with the ‘discount rate’ used to value future repayments. The Department for Education used to favour a discount rate of RPI+0.7% (second column) for valuing student loans, but now uses a lower discount rate of RPI–1.1% (third column). For the two post-reform systems, that switch in discount rate alone changes the accounting cost of student loans by more than £5 billion.

The last column of Table 7.1 shows the long-term cost of student loans under the discounting scheme that is used by the Office for National Statistics (ONS) to compile public finance statistics. This measure determines the effect of extending new student loans on aggregate measures of government spending and borrowing such as the budget deficit. Future student loan repayments are discounted at the rate of student loan interest under this discounting scheme. This means that the lower interest rate charged on student loans from the 2023 university entry cohort onwards actually *lowers* the accounting cost of student loans to the government, as the effect of a lower discount rate outweighs the effect on actual repayments. This paradoxical effect exaggerates the true taxpayer gain from student loans reforms for the 2023 cohort onwards.²³

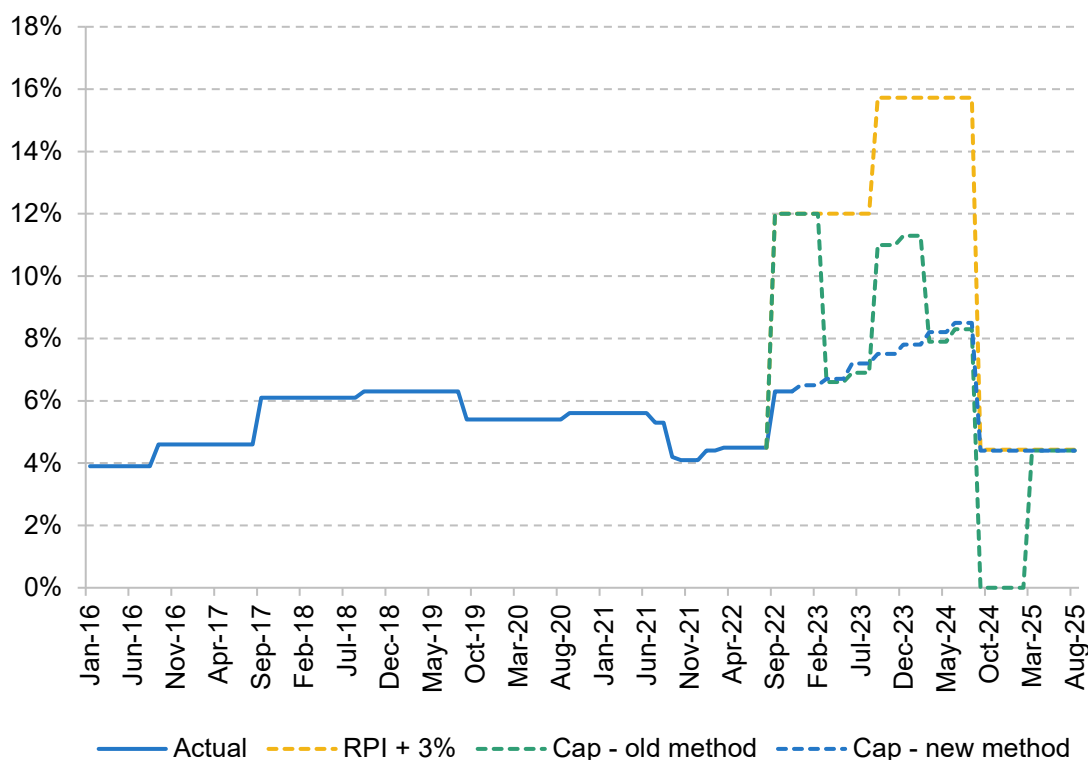
Despite all this complexity, we can be reasonably confident that the long-run taxpayer cost has fallen substantially due to the reform package, both for the 2012–22 cohorts and the 2023 cohort onwards. Under all the accounting systems shown in Table 7.1 and for both groups, the taxpayer saving due to the reform is in the billions. Whether the reformed 2012–22 system (‘Plan 2’) or the 2023 onwards system (‘Plan 5’) will in truth be cheaper for the taxpayer is impossible to say with confidence; what is certain is that due to the quirk in the ONS accounting treatment of student loans described above, the initial taxpayer cost of extending loans as recorded in the public finance statistics will be lower from the 2023 cohort onwards.

7.3 High inflation and student loans

The current period of high inflation has several important impacts on the student loan system, for both current students and graduates. As discussed above, the nominal freeze in the repayment threshold amounts to a more substantial real-terms cut when inflation is higher.

²³ All our estimates of the long-run cost of student loans are substantially lower than official government estimates (e.g. <https://explore-education-statistics.service.gov.uk/find-statistics/student-loan-forecasts-for-england>). This appears to be largely due to differences in the way long-term graduate earnings are modelled. Given the length of the forecast horizon, substantial differences in cost estimates due to differences in modelling assumptions are to be expected.

Figure 7.3. Maximum interest rate charged on student loans under alternative policies



Note: Dashed lines are based on OBR forecasts.

Source: Office for Budget Responsibility (2022a); Bank of England database; Department for Education (2022b); authors' calculations.

Inflation will also affect student loan balances directly through interest rates. This is because, for borrowers from the 2012 university entry cohort onwards, interest on student loans is normally linked to the Retail Prices Index. For those who started courses between 2012 and 2022, the interest rate charged is usually between the rate of RPI inflation and the rate of RPI inflation plus 3%, depending on a graduate's earnings.²⁴ Figure 7.3 illustrates the forecast path for RPI inflation plus 3%, and the maximum interest rate charged under different policies. Had the usual rules applied, the maximum rate would have reached 12% this academic year, and an eye-watering level of nearly 16% next year (dashed yellow line).

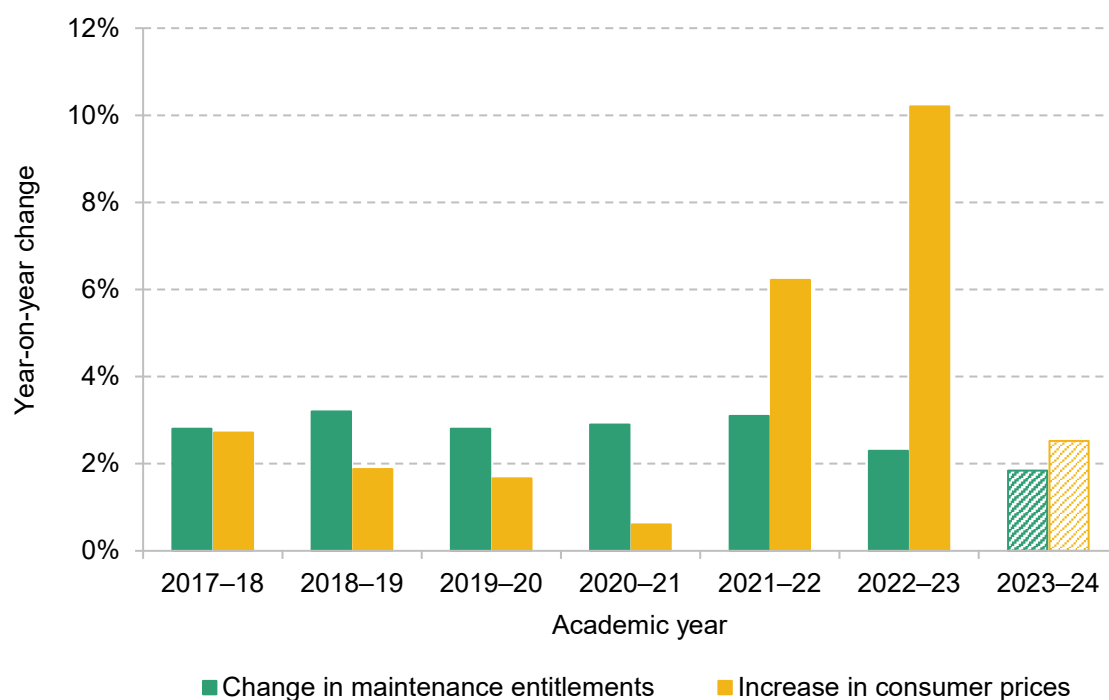
However, by law, student loan interest is not allowed to rise above interest rates 'prevailing on the market'. This is to protect student loan borrowers from being charged higher rates than those offered by private lenders. As we discussed back in April (Waltmann, 2022b), the way this cap was designed and implemented meant that there would in effect have been a six-month lag between student loan interest rates exceeding the cap and them actually being reduced. As a

²⁴ The relevant RPI inflation rate that determines student loan interest in any given academic year is out-turn RPI inflation over the year ending in March of the previous academic year.

result, maximum interest rates would have risen to 12% from September, and would then have followed a rollercoaster pattern (dashed green line). Borrowers would have been compensated for higher rates with lower rates later as interest rates would also have been cut for longer than the cap remained binding. However, this would not have been clear to many current and prospective students, who may have been alarmed by the eye-watering increases in rates and induced to pay off loans early, or put off taking out loans. It would also have created arbitrary redistribution between borrowers.

In June, the Department for Education announced that interest rates in 2022–23 would instead be capped at 7.3%. In August, it announced a new method of calculating and applying the prevailing market rate cap, which removes the delay in it taking effect. The blue dashed line shows the new expected path for maximum interest rates. Rates are expected to rise slightly each quarter over the next two academic years, peaking at 8.5%, before falling back down to 4.4% in 2024–25. This change will have little impact on total repayments for most borrowers, but is nonetheless welcome, avoiding large swings in interest rates with no good economic reason.

Figure 7.4. Changes in maintenance entitlements, and consumer price inflation, each academic year



Note: Increase in consumer prices is based on the first quarter (Q1) falling in each academic year. Change in maintenance entitlement in 2023–24 assumes rise in line with the Office for Budget Responsibility's March 2022 forecast for RPIX in 2024Q1.

Source: Bolton, 2022; Office for Budget Responsibility (2022a); authors' calculations.

More importantly for current and future students, a combination of high inflation and forecast errors has also meant that the real value of maintenance entitlements has fallen significantly over the last two years. In particular, the maximum amount students are entitled to borrow towards their living costs is increased each year in line with forecasts for RPIX. This has a well-known upward bias compared with standard (CPI) inflation, which has typically meant that entitlements have increased more quickly than consumer prices in recent years, as shown in Figure 7.4. However, over the last two years, inflation has turned out to be much higher than expected. Entitlements were increased by 3.1% in cash terms in 2021–22, and by 2.3% in 2022–23, but CPI was 6.2% in the 2021–22 academic year and is forecast to be 10.2% this year.

As we highlighted recently (Ogden and Waltmann, 2022), this means the real value of maintenance support for English-domiciled students has fallen by 10% in real terms since 2020–21 and is now at the lowest level it has been in seven years. For the poorest students, this cut is equivalent to £1,000 a year, or £90 a month.²⁵ Unless government policy changes, we can expect a further small real-terms cut in maintenance entitlements next year. There is currently no mechanism in place for these cuts ever to be undone, as past forecast errors are not considered when the adjustment in entitlements for the following year is determined. This implies that maintenance support for future students will be permanently lower as a result of these differences between uprating and actual inflation.

In addition to these cuts in the real value of entitlements, a further stealthy cut has resulted from the freezing of the lower parental earnings threshold. This threshold – below which students are eligible for the maximum level of maintenance support – has been frozen in nominal terms at £25,000 since 2008, even as average earnings have risen significantly. If it had instead been increased in line with average earnings, that threshold would now be closer to £35,000. This means that each year, fewer students are entitled to the maximum support, and others are entitled to less than they otherwise would be, even though their parents may be no better off. It also means the system relies more each year on students receiving financial support from their parents. This year, the rise in parents' own living costs may mean they are less able to contribute towards their children's, not more.

7.4 Summary

The up-front cost of higher education has continued on a steady downward trajectory this year. The cap on undergraduate tuition fees has remained frozen in nominal terms for another year, and so inflation has reduced the real value of fees further. According to stated government

²⁵ Students from the poorest families, studying outside London and not living with their parents, are entitled to a maximum maintenance loan of £9,706. In 2020–21, the same students would have been entitled to borrow £9,203, which is equivalent to £10,772 in today's prices.

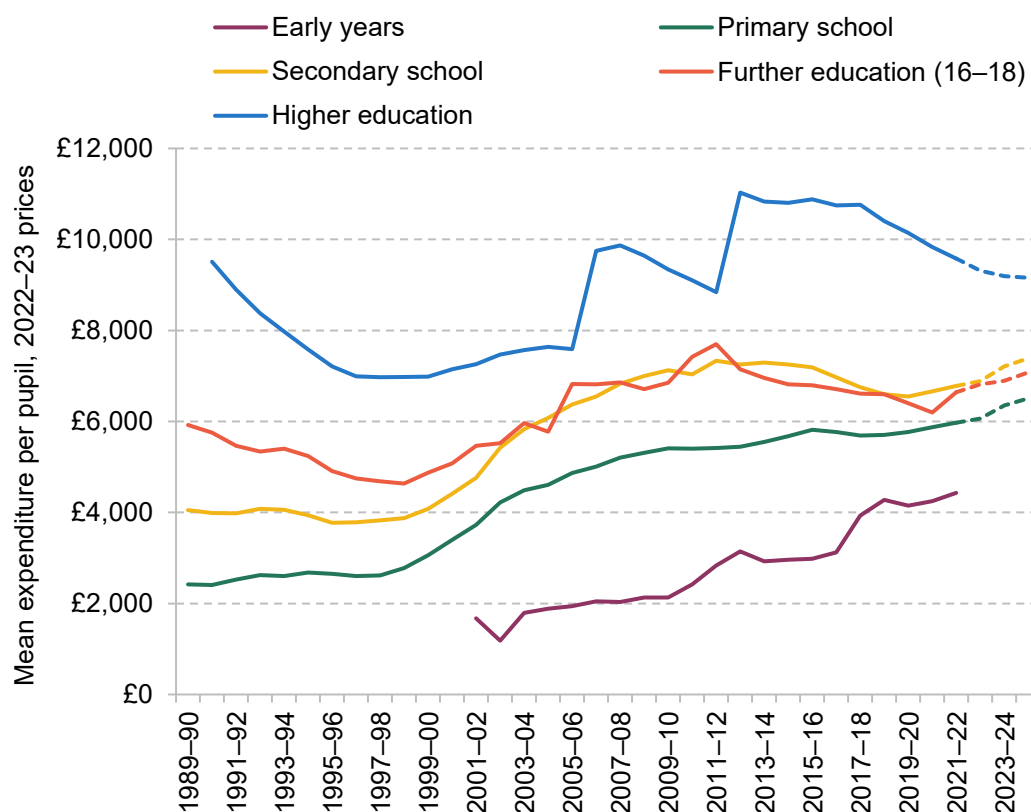
policy, this is set to continue for another two years. These falls in the real value of fee income add to other financial pressures on universities. In the near term, the most important one will be the cost of any settlement with staff over pay and pensions.

Real-terms cuts in fees have reduced the up-front taxpayer cost of higher education substantially over the years. Recent cuts in maintenance loan entitlements will cause hardship for some students, but further reduce taxpayer costs. Long-term costs have also been cut substantially by this year's package of student loan reforms, which has shifted more of the cost burden onto graduates. These cost savings per student will be partially counterbalanced by growth in student numbers, which is expected to remain strong.

8. Comparisons and conclusion

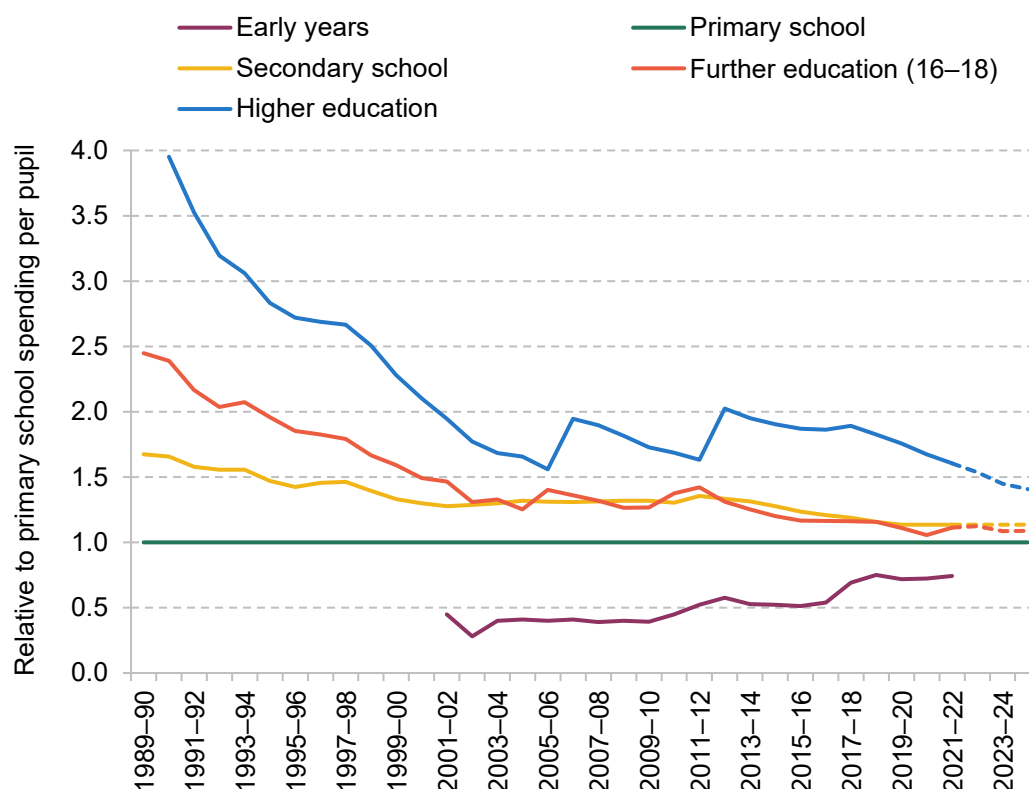
In this chapter, we compare the level of spending per pupil across the different stages of education. Figure 8.1 compares the trends in public spending per student on various stages of education over time in England, whilst Figure 8.2 shows the levels relative to primary school spending per pupil. For the early years, schools and further education colleges, we base these on the figures presented in Chapters 4–6, with projections up to 2024–25. For higher education, we focus on total up-front public resources provided for teaching. This is effectively tuition fees (minus any fee discounts) plus teaching grants. Whilst this includes up-front funding that will eventually be repaid via graduate contributions later in life, we feel this gives a better measure of the public resources available for teaching.

Figure 8.1. Spending per pupil or student per year at different stages of education (2022–23 prices)



Note and source: Early years figures are spending per child for 3- and 4-year-olds taking up a place. Secondary school spending per pupil includes spending on school sixth forms. Further education figures represent spending per student aged 16–18 in further education and sixth-form colleges. Higher education figures are cohort-based numbers divided by 3 – an approximate course length. HM Treasury, GDP deflators, November 2022 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-november-2022-autumn-statement>).

Figure 8.2. Relative spending per pupil or student per year at different stages of education (primary school spending per pupil = 1)



Source: See Figure 8.1.

The shape of public spending on education has changed significantly since the early 1990s. In 1990–91, there was a very clear gradient across education stages: the older the pupils being taught, the higher the level of public spending (or resources) per pupil per year. Although this broadly remains true in 2021–22, the relative differences are much, much smaller.

At the start of the period in 1990–91, higher education spending was £9,500 per student per year (this and all figures here are in 2022–23 prices), about four times the level of primary school spending per pupil, and it all came directly from government spending. Further education spending was about £5,800 per student and 2.4 times the level of primary school spending (and 1.4 times the level of secondary school spending) per pupil. Secondary school spending was £4,000 per pupil, nearly 1.7 times the level of primary school spending per pupil (£2,400). Early years spending was very low (less than £100 million in total, with no centralised national programmes for early education) and is not shown on these graphs as a result.

Over the next 30 years, there were then significant changes in this balance of spending, with three distinct phases of change: falls in spending (1990–91 to 1997–98); rapid growth (1997–98 to 2010–11); and differential protections from spending cuts (2010–11 onwards).

In the period of falling spending during the 1990s, higher education spending per student fell by 27% in real terms and further education spending per student aged 16–18 fell by 19% in real terms between 1990–91 and 1997–98. These cuts largely reflected total spending not keeping pace with rapid rises in student numbers. Secondary school spending per student fell by 4% over this period, whilst primary school spending per student rose by about 9% in real terms. These trends significantly narrowed the differences in spending per student between schools and further and higher education.

Spending per student then rose significantly across all stages of education between 1997–98 and 2010–11, though at different rates and for different reasons. The early years entitlement was introduced in the late 1990s, initially representing about £1,700 per child, and rose to about £2,400 in 2010–11 or 45% of the spending per student in primary schools. Turning to schools, we see that spending per student rose by about 6% in primary schools, on average per year in real terms, and by about 5% per year in secondary schools. This led primary school spending per student to rise from £2,600 in 1997–98 to £5,400 in 2010–11, and secondary school spending to rise from £3,800 to £7,000 per pupil. This narrowed the ratio between secondary and primary school spending per student from 1.5 in 1997–98 to 1.3 in 2010–11.

Further education spending per student also rose, but at the slower rate of about 4% per year in real terms. This narrowed the difference between further education and school spending per student, with further education spending per student only about 40% greater than primary school spending per student and very similar to secondary school spending per student by 2010.

Following the big decline during the 1990s, higher education spending per student increased by about 31% in total between 1997–98 and 2010–11, or about 2% per year, on average, in real terms. These increases largely reflected the introduction of tuition fees in 1998 and their increase to £3,000 in 2006. By 2006–07, spending per student in higher education was back above its level in 1990. However, cash-terms freezes in fees up to 2010 led to real-terms declines in spending per student, taking it back to below 1990 levels again. This meant that higher education spending per student was only 70% greater than primary school spending per student in 2010, having been about 2.7 times higher in 1997 and nearly 4 times in 1990.

Since 2010, most areas of education spending have seen real-terms cuts in some form or another. Early years has been the main exception, with spending per pupil about 83% higher in real terms in 2021–22 than in 2010–11. This mainly reflects extensions to the free entitlement, particularly the extension from 15 to 30 hours for working parents in 2017, and the boosts to hourly funding in 2017 and in more recent years. Hourly funding has grown more slowly, by about 24% in real terms between 2010–11 and 2021–22. Rapid growth in early years providers' costs is set to further erode the real-terms value of funding per hour through to 2024–25.

As we saw in Chapter 5, total school spending per student fell by 9% in real terms between 2010–11 and 2019–20. This was felt differently by individual primary and secondary schools, partly because of a transfer of funding and responsibilities from local authorities giving an artificial boost to individual schools' budgets. Primary school spending per student actually rose by 7% in real terms between 2010–11 and 2019–20, reflecting the transfer of responsibilities and funding. Secondary schools saw a worse picture, with a 7% real-terms cut over the same period. This worse picture for secondary schools largely reflects the 28% drop in school sixth-form funding per student over the same period. The cuts to school spending per pupil are now being reversed and spending per pupil will largely be back to at least 2010 levels by 2024.

Further education spending per student aged 16–18 fell by 14% in real terms between 2010–11 and 2019–20, the largest cut across all areas of education spending for young people. This is also now being partially reversed, but further education spending per student will still be about 5% lower in real terms in 2024–25 than in 2010–11.

Higher education has again seen a more complicated picture. The 2012 reforms to higher education led to a significant boost in spending per student of about 25% in real terms. This pushed spending per student up to £11,000, back again above its level of £9,500 in 1990. However, in a repeat of recent history, there have been real-terms falls in spending per student as fees have been frozen in cash terms across most years. Indeed, spending per student fell by about 11% in real terms between 2017–18 and 2021–22. This takes spending per student back to the same real-terms level as in 1990. This is projected to go lower still due to policy commitments to freeze tuition fees up to 2025, and no extra public funding for teaching.

This differential pattern of cuts has further narrowed differences in education spending per student by age. In 2021–22, early years spending per pupil represented about 75% of the value of primary school spending per pupil, having been a tiny element of public funding in the early 1990s. Secondary school spending per student will be about 14% greater than primary school spending, having been about 66% greater in 1990 and even more so further back in time (Belfield and Sibieta, 2016). Further education spending per student aged 16–18 is now lower than secondary school spending per student and only 11–12% greater than in primary schools, having been more than two times greater in the early 1990s. Higher education spending per student is still higher than across other stages, but is now back to 1990's level and is only 60% greater than primary school spending per student, having been almost four times greater in the early 1990s.

To conclude and look to the future. There is a set of common challenges across all sectors of education, though these are being felt and addressed to different degrees. They include: rising costs; changes in student numbers; and the effects of past cuts.

In the early years, provider costs are rising faster than overall inflation, which will significantly erode the value of real-terms funding per hour. The population of young children is now falling. This may ease pressure on the total budget as spending is spread over a smaller number of children. However, it might make it difficult for providers to fill spaces and fully cover costs.

Having seen a decade of real-terms cuts up to 2019–20, school spending per student is now rising again in real terms. This will take spending per student in 2024–25 back to 2010 levels. An extra £2.3 billion in funding announced at the 2022 Autumn Statement will also leave schools better able to cope with rises in staffing and non-staffing costs. However, no net change in spending per student over 14 years still represents a historically large squeeze on resources. The pupil population is also due to drop over the next decade. This may allow the government to cut total spending, but only if schools are able to cut staffing numbers too. Lower pupil numbers may also leave some schools financially unsustainable if they are not able to fill classes to sufficient levels.

Further education colleges and sixth forms are in a particularly difficult position. They have seen larger cuts since 2010, have not received extra funding to cope with larger-than-expected cost increases and are now seeing rising student numbers. This comes at a time when the government has scaled back departmental spending plans after 2024.

Higher education is also in a difficult position and faces a repeat of a familiar pattern over the last 30 years. Cash-terms freezes in tuition fees have taken up-front teaching resources back to 1990 levels. The sector is experiencing a surge in student numbers as the mini baby boom works its way through the system. Such scenarios have been common in recent history and often resulted in higher education funding reforms that have led to a temporary boost in resources per student. However, the government has only recently announced major reforms to higher education funding, mainly to reduce the public subsidy. It may have little appetite for another set of reforms, particularly any that increase the public subsidy or expected graduate contributions.

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