

Britton, Jack; Farquharson, Christine; Sibieta, Luke; Tahir, Imran; Waltmann, Ben

**Research Report**

## 2020 annual report on education spending in England

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**Institute for Fiscal Studies**

**IFS Report R183**

**Jack Britton  
Christine Farquharson  
Luke Sibieta  
Imran Tahir  
Ben Waltmann**

# **2020 annual report on education spending in England**



**Economic  
and Social  
Research Council**

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## Foreword from the Nuffield Foundation

We welcome this third annual report on education spending in England from the Institute for Fiscal Studies, which provides an authoritative and impartial analysis of a vital area of public expenditure. This year's report also offers a timely consideration of the challenges posed by the COVID-19 crisis for the education sector.

The report highlights the impact of the pandemic on spending across all phases of education in England from early years provision, through schooling, and into further, higher and vocational education. The analysis shows how the impact of the pandemic is threatening the financial sustainability of both privately funded early years education and childcare providers and universities. In addition, schools in deprived areas have seen faster falls in education spending over the past decade, which is a particular cause for concern given that educational inequalities have widened during lockdown. Although further education providers have been given additional funding this year, increased student numbers – in part due to a lack of training and employment opportunities for young people – could mean a real-terms fall in per-pupil funding.

These key findings reinforce and expand upon the emerging evidence on the impact of COVID-19 on education from other research funded by the Nuffield Foundation. For example, we know that some private early years providers are facing closure and that school-aged students started the new term on average three months behind in their learning, with the most deprived pupils and those from black, Asian and minority ethnic backgrounds most likely to be affected. Mitigating these effects will remain a major challenge for the education system in the coming months and years.

We are grateful to the IFS team for this report. At a time when educational inequalities threaten to widen ever further, this analysis offers policymakers, those who work in education and the wider public constructive analysis of the spending challenges for all phases of education in England.



**Tim Gardam**  
Chief Executive, Nuffield Foundation

## Preface

This report is the third 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/43355). The Nuffield Foundation is an independent charitable trust with a mission to advance educational opportunity and social well-being. It funds research that informs social policy, primarily in Education, Welfare and Justice. It also provides opportunities for young people to develop skills and confidence in science and research. The Nuffield Foundation is the founder and co-funder of the Nuffield Council on Bioethics, the Nuffield Family Justice Observatory and the Ada Lovelace Institute. The Nuffield Foundation has funded this project, but the views expressed are those of the authors and not necessarily the Foundation. For more information, visit [www.nuffieldfoundation.org](http://www.nuffieldfoundation.org).

The authors also thank the Economic and Social Research Council for support via the ESRC Institute 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 data appendices for individual stages of education. Modelling in the early years chapter uses the 2017–18 Family Resources Survey, 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 Office for National Statistics (ONS) Quarterly Labour Force Survey and the University of Essex's British Household Panel 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, Higher Education Statistics Agency Limited nor HESA Services Limited can accept responsibility for any inferences or conclusions derived by third parties from 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

In our annual series of reports on education spending, funded by the Nuffield Foundation, we bring together data on education spending per student across the life cycle and provide analysis about the major issues facing different sectors.

In this year's report for 2020, we update our estimates of spending per student and analyse the challenges facing each phase of education due to the ongoing COVID-19 pandemic. We focus on the medium-term challenges facing providers as they respond to substantial changes in student numbers, as well as the loss of learning and increased inequalities that are likely to have emerged during lockdown.

The challenges facing each sector will be very different and our analysis partly draws on special reports we have already published looking at the financial challenges facing the early years and higher education sectors.

As our special report on the early years makes clear, the main challenge facing the early years is simply remaining open as parental demand remains well below pre-pandemic levels. The widespread closure of settings would represent a significant economic and social cost, particularly if closures are concentrated in certain areas of the country. Evidence suggests that the closure of schools to most pupils during lockdown has led not only to a significant loss of learning but also to a widening of existing educational inequalities. Mitigating these effects will be a major challenge facing the school sector over the next few years. Further education colleges and sixth forms will also face challenges around education catch-up, but may also need to expand to accommodate extra students as apprenticeship and employment opportunities dry up. As our special report on higher education demonstrates, higher education institutions are heavily exposed to financial losses as a result of pension scheme losses, declines in international student numbers and changes in domestic student participation. These calculations are updated in this annual report.

## Early years

- 1 Government spending on funded early education and childcare places for 3- and 4-year-olds stood at £3.3 billion in 2019–20 (in today's prices). This is equivalent to £3,800 per child accessing a place, down almost £100 from its high point the previous year due to a real-terms fall in rate of spending per hour.
- 2 Real-terms spending per hour has been falling since 2017–18; in 2019–20 it stood at the same level as in 2016–17, meaning that the boost to hourly spending alongside the introduction of the extended entitlement in 2017 has been eroded. Spending per hour for the 2-year-old entitlement has dropped even more sharply, falling 9% in real terms between 2018–19 and 2019–20. Most local authorities are due to see another small drop in real-terms hourly funding rates in 2020–21, though the impact of this on providers will be dwarfed by the financial consequences of COVID-19.
- 3 Take-up of the free entitlement remains high, with 93% of 3- and 4-year-olds accessing a funded childcare place. But it has been falling slowly but steadily over the last 15 years, even before the COVID-19 pandemic. Policymakers should consider what factors might be making the free entitlement harder to access or less appealing to families; this is especially important if early education is intended to help level the playing field between children when they start school.
- 4 During the first national lockdown, providers delivering mostly or entirely free entitlement hours were financially well protected by the government's commitment to continue to fund those hours based on pre-pandemic take-up. But most providers offer a mix of publicly and privately funded hours, so are exposed to financial risk from the steep drop in childcare demand. The November 2020 lockdown will see childcare settings allowed to remain open, but demand will likely fall (from a starting point which was already 40% below normal levels in October).
- 5 The end or reconfiguration over the winter and spring of some of the programmes that support privately funded providers, and the

reassessment of free entitlement funding in January 2021, mean that providers are much more financially exposed, both to the second lockdown and more broadly to a rather slow and incomplete return of demand for childcare.

## 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 Over the 2010s, cuts in spending per pupil were lower in Wales (5%), but similar in Northern Ireland (10%). In contrast, spending per pupil in Scotland rose by 5% in real terms over the 2010s, reflecting extra funding to pay for increases in teacher pay totalling more than 10% over 2018 and 2019. Spending per pupil is highest in Scotland (£7,300), at similar levels in Wales and England (£6,100) and lowest in Northern Ireland (£5,800).
- 3 The government has allocated an extra £7.1 billion for schools in England in 2022–23. This will increase spending per pupil by 9% in real terms between 2019–20 and 2022–23 (as measured against expected general inflation) and near enough reverse past cuts. If we account for expected increases in teacher pay, the real-terms increase in spending per pupil will be lower, at 6%. In any case, spending per pupil in 2022–23 is set to be no higher in real terms than in 2009–10.
- 4 Secondary school spending per pupil in England (£6,000) was about 16% higher than in primary schools (£5,200) in 2019–20. This is down from a secondary/primary funding difference of 30% in 2010–11, partly reflecting large cuts to school sixth-form funding. It also continues a long-run trend, with the funding difference down from over 50% during the 1980s. Whilst empirical evidence shows high benefits to spending at younger ages, it is not clear evidence supports such a dramatic shift.

- 5 The school funding system in England provides greater levels of spending to more deprived schools to help narrow the achievement gap between rich and poor. During the 2000s, the extra funding received by the most deprived schools compared with the least deprived ones grew from 20–25% in 2000–01 to 35% by 2010–11.
- 6 Despite the introduction of the Pupil Premium in 2011, the deprivation funding premium shrank back to 25% in 2018–19. This can be partly explained by faster falls in deprivation inside London and a school funding system that did not adjust to such changes. In the long run, the new National Funding Formula should ensure the funding system is more responsive. However, the new formula will deliver funding increases of 3–4 percentage points less to schools in poorer areas up to 2021. We also see the fastest falls in spending per pupil of 13% for deprived secondary schools outside London since 2010–11. These patterns run counter to the objective of using school funding to ‘level up’ poorer regions.
- 7 Given lost schooling and a likely widening of educational inequalities during lockdown, the government has announced a range of measures to help schools. These include a one-off extra £80 per pupil aged 5–16 and a National Tutoring Programme. Whilst the focus on tutoring is well aligned with empirical evidence, the plans are modest compared with the likely reductions in learning. Only the National Tutoring Programme is targeted at more disadvantaged pupils, making it harder to address the inequalities that have widened during lockdown.
- 8 Faster falls in spending per pupil over the last decade, slower increases under the National Funding Formula, a likely widening of educational inequalities and higher costs associated with higher teacher starting salaries, given that deprived schools are more likely to employ new teachers, all provide a case for greater targeting of funding to more deprived schools.

## Further education

- 1 Further education colleges and sixth forms have seen the largest falls in per-pupil funding of any sector of the education system since 2010–11. Funding per student in further education and sixth-form colleges fell by 12% in real terms between 2010–11 and 2019–20, while funding per student in school sixth forms fell by 23%. The latter will have partly driven cuts in school spending per pupil.
- 2 Funding is lowest in school sixth forms and sixth-form colleges. In the 2019–20 academic year, we calculate that funding per student was £4,600 in sixth-form colleges, £5,000 in school sixth forms and £6,100 per young person in further education colleges. Higher funding per student at further education colleges mainly results from a funding system that provides more for students taking vocational or complex courses, as well as to students from deprived backgrounds.
- 3 Since the early 2000s, there have been large falls in spending on adult education. Spending is nearly two-thirds lower in real terms than in 2003–04 and about 50% lower than in 2009–10. This fall was mainly driven by the removal of public funding from some courses and a resultant drop in learner numbers, which fell from 4.4 million in 2004–05 to 1.5 million by 2018–19.
- 4 Part of the fall in adult education spending has been replaced by higher spending on apprenticeships. However, total spending on adult education and apprenticeships combined is still about 35% down on 2009–10 in real terms.
- 5 There has been a large rise in the number of adults (aged 19+) participating in apprenticeships (from 460,000 in 2010–11 to 580,000 in 2018–19). The share of young people (aged under 19) taking apprenticeships was about 5.6% in 2019, about the same level as in 2010 but down on a high point of 6.7% in 2016.
- 6 There could be a sharp increase in student numbers in colleges and sixth forms in 2020. Population projections imply a 3% growth in the number of 16- and 17-year-olds in 2020 and

growth of 13% between 2019 and 2023. The economic downturn itself could then lead to an increase in the rate of participation. In previous recessions, young people's participation in further education has increased (by 3.8 percentage points during the Great Recession of the late 2000s). Any rise seems likely to be smaller this time around given already high participation in full-time education. However, a fall in apprenticeship or training places of 15–20% could generate a 1.5–2 percentage point increase in the participation rate in full-time education.

- 7 Responding to these changes in participation will be challenging given that providers' funding is set based on lagged student numbers. The government has already provided an extra £400 million for 16–18 education in 2020–21. This implies real-terms growth in spending per pupil of about 2% based on population forecasts. However, exceptional growth in student numbers could easily erode much, if not all, of this planned real-terms increase in spending per student. The 16–19 funding system does have mechanisms to address significant within-year growth in student numbers. However, this is 'subject to affordability' and it is not designed to address significant sector-wide growth.
- 8 Despite additional incentives, training and apprenticeship opportunities for young people are likely to reduce significantly due to the economic downturn and COVID-19 social distancing restrictions. This is likely to be especially challenging for vocational courses that include significant industry placements, which include T levels, which began to be rolled out in September 2020.
- 9 A White Paper on further education is expected in Autumn 2020. The government has already committed to restore public funding for first full Level 3 qualifications for all age groups from April 2021. Further proposals are expected to increase funding for Level 4/5 courses, as proposed in the 2019 Augar Review of post-18 education and funding.

## Higher education

- 1 Long-run government spending on higher education is set to be higher as a result of the COVID-19 crisis. For this year's cohort of students, we estimate the government contribution to higher education could increase by around 20% – £1.6 billion – under the Office for Budget Responsibility's (OBR's) pessimistic scenario for future labour market conditions. Around a quarter of this increase is due to there being around 15,000 extra UK students, while the rest is due to lower expected earnings and employment prospects for the 2020 cohort after they graduate.
- 2 The costs are much higher when we also factor in the effects of COVID-19 on previous cohorts of university students, as their current and future student loan repayments are likely to be lower too. In total, we expect long-run additional spending (or the reduction in student loan repayments) to be as high as £12 billion for university entrants up to the 2020 cohort under the OBR's pessimistic labour market forecast, and around £5 billion under its central scenario.
- 3 Universities face several risks to their finances, including pension deficits and reduced income from accommodation, conferences and catering. While student numbers appear to have held up for now, universities might still lose income if large numbers of students drop out before completing their degrees.
- 4 By far the largest source of financial risk is staff pensions. Reduced interest rates and depressed rates of return have significantly increased the expected cost of pension promises, further increasing the already large deficit on the main university pension scheme. New deficit figures for that scheme suggest the long-run cost to universities could be as high as £8 billion, double our previous central estimate of around £4 billion. The long-run cost to universities could be reduced by changes to the structure of the scheme or by significant increases in employee contributions.
- 5 All of these projections are subject to a high level of uncertainty given the unpredictable nature of the COVID-19 pandemic.

# 1. Introduction

Education spending is the second-largest element of public service spending in the UK behind health, representing about £95 billion in 2019–20 in today’s prices or about 4.2% of national income. To make efficient and equitable policy choices, it is crucial to have a clear, consistent picture of how much spending is targeted at each phase of education, how this has changed over time, how it is likely to evolve going forwards and what factors have driven these changes. This provides policymakers and the public with a sense of current resource priorities and future challenges. These issues are also a vital component of the education policy debate, particularly given empirical evidence emphasising the differential effectiveness of resources at different stages of the life course (Cunha, Heckman and Schennach, 2010; Johnson and Jackson, 2019).

In our annual series of reports on education spending, funded by the Nuffield Foundation, we bring together data on education spending per student across the life cycle and provide analysis about the major issues facing different sectors.

In this year’s report, we update our estimates of spending per student and analyse the challenges facing each phase of education due to the ongoing COVID-19 pandemic. We focus on the medium-term challenges facing providers as they respond to substantial changes in student numbers, as well as the loss of learning and increased inequalities that are likely to have emerged during lockdown. We do not focus on the short-term resource challenges, such as extra cleaning and equipment to maintain social distancing, as the likely cost of these measures is uncertain and appears to change rapidly as the pandemic moves through different stages. We do, however, fully acknowledge that such costs will be significant in the short run. Ensuring providers can meet these costs will allow them to stay open and mean they are better able to face the medium- and long-term challenges.

The challenges facing each sector are likely to be very different and our analysis partly draws on special reports we have already published looking at the financial challenges facing the early years and higher education sectors (Blanden et al., 2020; Drayton and Waltmann, 2020).

As our special report on the early years makes clear, the main challenge facing the early years is simply remaining open as parental demand remains well below pre-pandemic levels. The widespread closure of settings would represent a significant economic and social cost, particularly if closures are concentrated in certain areas of the country. The closure of schools to most pupils during lockdown is likely to have led to a significant loss of learning and a widening of existing educational inequalities. Mitigating these effects will be a major challenge facing the school sector over the next few years. Further education colleges and sixth forms will also face challenges around education catch-up, but may also need to expand to accommodate extra students as apprenticeship and employment opportunities dry up. As our special report on higher education demonstrates, higher education institutions are heavily exposed to financial losses as a result of pension scheme losses, declines in international student numbers and changes in domestic student participation. These calculations are updated in this annual report.

## 1.1 Total spending on education

As Figure 1.1 shows, the total level of UK education spending has risen significantly in real terms over time. 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 has since fallen in real terms as spending cuts began to take effect from 2010 onwards. Between 2010–11 and 2018–19, recorded education spending fell by about 14% in real terms, taking it back to the same level it was in 2005–06 and a similar share of national income to that last seen through most of the 1990s.

Importantly, these official figures do not fully account for the cost to the taxpayer of issuing student loans from 2011–12 onwards; this means that the series is inconsistent over time and is likely to overstate cuts to education spending since 2010–11. Recent changes to national accounting rules mean that the expected cost of issuing student loans is, however, 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 £3.7 billion higher in 2015–16 and £6.3 billion higher in 2019–20. If we add these numbers to the official measure of education spending, the real-terms cut in education spending since

2010–11 falls from 14% to 8%. Education spending as a share of national income rises to about 4.4% in 2019–20, about the same level as in the mid 1990s.<sup>1</sup>

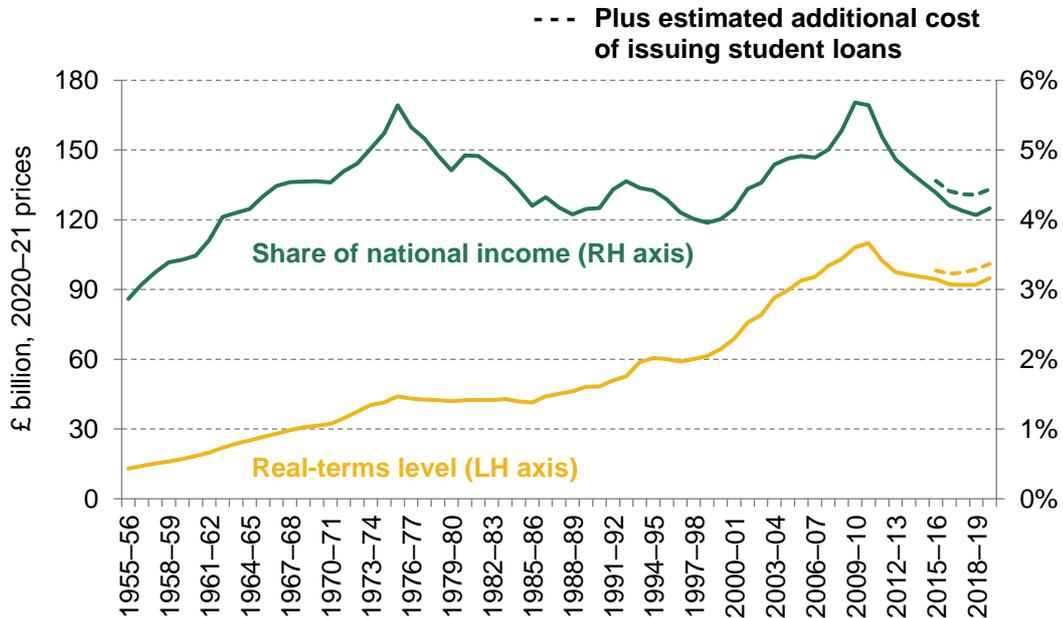
Looking over the longer term, it is clear that education spending as a share of national income has not risen since the early 1970s, when it stood at just under 5% of national income. It has instead oscillated between about 4% and 5.5% of national income. This contrasts sharply with health spending, which has nearly doubled as a share of national income since the early 1970s, from about 3.5% to over 7% of national income.<sup>2</sup>

Looking to the future, education as a share of national income is likely to prove erratic and unusual in 2020–21, and perhaps for a number of years afterwards. In July 2020, the Office for Budget Responsibility forecasted a 13% drop in national income in 2020–21 due to the effects of the pandemic, with a large amount of uncertainty around this forecast. A sizeable drop in national income would have the effect of increasing education spending as a share of national income, as would the many temporary boosts to education spending outlined in the rest of this report. However, the contribution of the education sector to national income is based on outputs, largely proxied by pupil and student numbers (Nabarro, 2020). With fewer pupils in school during lockdown, the contribution of the education sector to national income will decline in 2020–21. The picture for education spending is therefore likely to become highly complicated. Different countries also adopt different approaches in this regard, so international comparisons of education

<sup>1</sup> To estimate the additional cost of student loans not accounted for in official education spending measures, we proceed as follows. First, we construct a measure of the cost (i.e. the deficit impact) of student loans according to the new National Accounts treatment by subtracting nominal interest under the old accounting rules (from the Office for Budget Responsibility’s Economic and Fiscal Outlook, various years; available at <https://obr.uk>) from the additional cost of student loans according to the Office for National Statistics (from table 3 of <https://www.ons.gov.uk/economy/governmentpublicsectorandtaxes/publicsectorfinance/methodologies/studentloansinthepublicsectorfinancesamethodologicalguide>). Second, we subtract tertiary education spending in England from overall UK education spending according to the 2020 Public Expenditure Statistical Analyses to obtain a measure of education spending excluding tertiary education in England. Third, we add to that measure the cost of student loans obtained in the first step, as well as (capital and resource) teaching grants to universities (from Higher Education Funding Council for England and Office for Students funding guides, various years), the cost of maintenance grants and the Disabled Students Allowance (from <https://www.gov.uk/government/statistics/student-support-for-higher-education-in-england-2019>). 2019–20 values for grants to students are imputed based on zero maintenance grants and unchanged Disabled Students Allowance.

<sup>2</sup> [https://www.ifs.org.uk/tools\\_and\\_resources/public\\_finances](https://www.ifs.org.uk/tools_and_resources/public_finances).

Figure 1.1. UK education spending (2020–21 prices)



Source: HM Treasury, *Public Expenditure Statistical Analyses 2020*; previous PESAs; Office for National Statistics, *Blue Book*; HM Treasury GDP deflators, June 2020 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-june-2020-quarterly-national-accounts>); Office for Budget Responsibility, *Fiscal Sustainability Report: July 2020* (<https://obr.uk/fsr/fiscal-sustainability-report-july-2020/>); Office for Budget Responsibility, *Economic and Fiscal Outlook*, various years (available at <https://obr.uk>); 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>); Higher Education Funding Council for England and Office for Students funding guides, various years; Student Loans Company, 'Student support for higher education in England 2019', November 2019 (<https://www.gov.uk/government/statistics/student-support-for-higher-education-in-england-2019>).

spending as a share of national income could also look unusual in future years. Caution and attention to detailed methodologies will therefore be needed when interpreting future trends and comparisons of total education spending.

## 1.2 Student numbers

Total spending figures also 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. Figure 1.2a 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 –

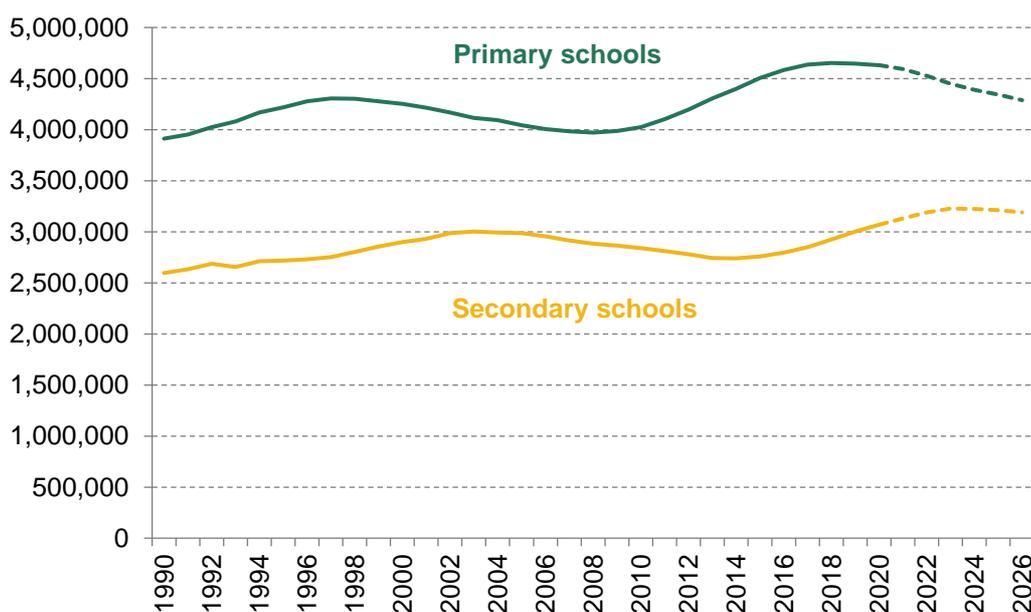
or effectively a full cohort of children. They are now, however, starting to fall again slowly. Pupil numbers in secondary schools fell from the early 2000s through to about 2014–15. They are now forecast to grow by 6% or 200,000 between 2019–20 and 2026–27.

While pupil numbers in primary and secondary schools are driven mainly by population size, pupil numbers in non-compulsory stages of education – early years, further education and higher education – are also affected by changing patterns of participation. Figure 1.2b shows that there have been big increases in pupil numbers at all three stages. While population growth plays a role, 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.

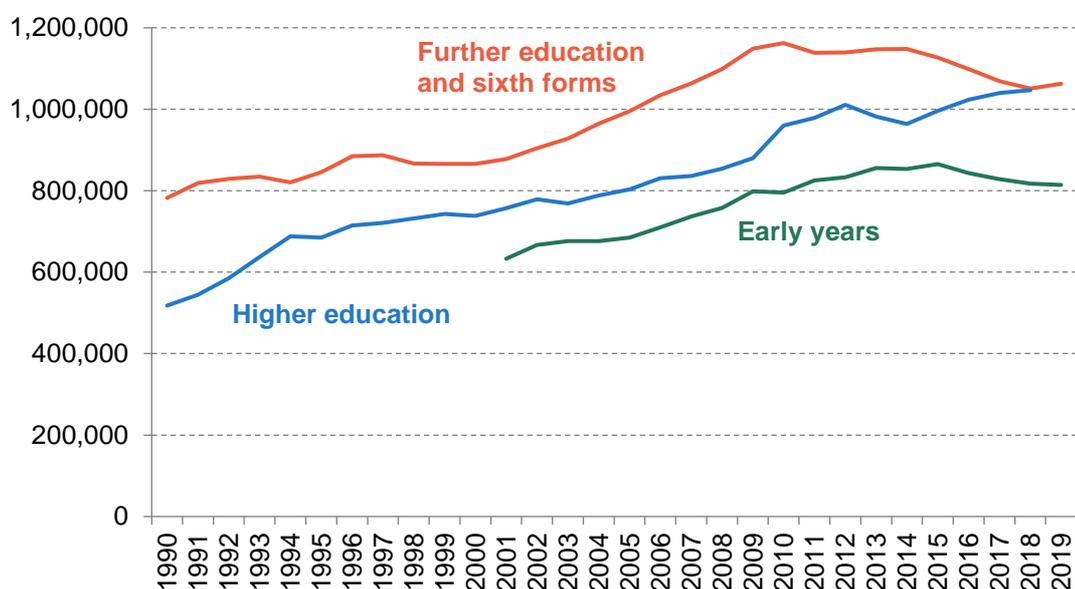
The number of children in early years education has risen by about 30% since 2001–02. The number of students in 16–18 education grew by almost 50% between 1990–91 and 2010–11, from about 800,000 to 1.2 million full-time-equivalent (FTE) students. Since 2010–11, numbers fell by about 10% up to 2018–19, reflecting reduced cohort sizes rather than falls in participation. In the latest year of data, numbers have started to rise again (by 1% in 2019–20). As shown in Chapter

**Figure 1.2. Pupil numbers in education in England**

**a) Schools**



## b) Other stages of education



Source: 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 2020 (<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 2019 and earlier years (<https://www.gov.uk/government/statistics/schools-pupils-and-their-characteristics-january-2019>) and 'National pupil projections: July 2020' (<https://www.gov.uk/government/statistics/national-pupil-projections-july-2020>). 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: 2019' (<https://www.gov.uk/government/statistics/participation-in-education-training-and-employment-2019>). 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>).

4, further rises are expected over the next few years due to population growth and rises in participation linked to the current pandemic. Numbers in higher education have doubled since 1990, with an increase of 9% or 80,000 since 2014. This large increase in higher education student numbers over time has led many governments in recent years to make substantial changes to the higher education finance system in order to ensure sufficient levels of resources.

## 1.3 Key definitions and inclusions

In this report, we mainly focus on current or day-to-day public spending on education in England. We do, however, discuss plans for capital spending on schools in the context of past levels and trends, as well as plans for extra capital spending on colleges. We focus on England primarily for data availability reasons, but include comparisons of school spending per pupil over time across the nations of the UK. Following standard naming conventions at each stage of education, we refer to ‘spending per child’ in early years education, ‘spending per pupil’ for children aged 5–16 and ‘spending per student’ for young people aged over 16.

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. The one exception to this is that we look in detail at how expected graduate contributions to the cost of higher education have increased over time. For schools, we also know that the proportion of pupils in independent schools has remained roughly steady at 6–7% since the early 1980s, despite average fees trebling in real terms between 1980 and 2016 (Green et al., 2017). In the early years, it is difficult to disentangle private spending on early education per se from more general spending on childcare, which has been recorded in a range of surveys (e.g. Harding and Cottell, 2018).

Our definition of spending is given in each chapter, with appendices providing further details. In some cases, our measures of spending per child, pupil or student are calculated as total spending divided by the total number of children, pupils or students. In other cases, our calculations represent ‘bottom-up’ estimates of spending per child, pupil or student based on micro-data for schools and students in higher education.

The rest of this report is set out as follows: early years (Chapter 2); schools (Chapter 3); further education (Chapter 4); higher education (Chapter 5); and comparisons (Chapter 6).

## 2. Early years

England has a wide range of programmes in place to subsidise early childhood education and care (ECEC). In the early years even more so than during school, the boundary between ‘education’ and ‘childcare’ is hard to draw; often, the prioritisation of each aspect differs not just between different programmes of government support, but also over time. In this chapter, we therefore explore how spending on a number of early years programmes has changed over time. We also examine the financial challenges facing early years providers as a result of the ongoing COVID-19 pandemic, drawing on a more detailed analysis of the challenges facing early years providers during and after lockdown.

We first summarise the early years system in England and the rationale for – and evidence on – subsidising ECEC provision. Section 2.2 updates our estimates on trends in take-up of and spending on the free entitlement to a funded ‘early education’ place. In Section 2.3, we turn to the impacts that the COVID-19 pandemic has had on the childcare sector; we assess the government support package in place during the first national lockdown and summarise how the lockdown might have affected providers’ financial health. Section 2.4 turns to the challenges facing the sector over the coming year, most notably the risks around how much and how quickly demand for childcare returns and the plans for free entitlement funding over the coming terms. Finally, Section 2.5 concludes with a summary of this chapter.

### Key findings

- 1 Government spending on funded early education and childcare places for 3- and 4-year-olds stood at £3.3 billion in 2019–20 (in today’s prices). This is equivalent to £3,800 per child accessing a place, down almost £100 from its high point the previous year due to a real-terms fall in rate of spending per hour.

- 2 Real-terms spending per hour has been falling since 2017–18; in 2019–20 it stood at the same level as in 2016–17, meaning that the boost to hourly spending alongside the introduction of the extended entitlement in 2017 has been eroded. Spending per hour for the 2-year-old entitlement has dropped even more sharply, falling 9% in real terms between 2018–19 and 2019–20. Most local authorities are due to see another small drop in real-terms hourly funding rates in 2020–21, though the impact of this on providers will be dwarfed by the financial consequences of COVID-19.
- 3 Take-up of the free entitlement remains high, with 93% of 3- and 4-year-olds accessing a funded childcare place. But it has been falling slowly but steadily over the last 15 years, even before the COVID-19 pandemic. Policymakers should consider what factors might be making the free entitlement harder to access or less appealing to families; this is especially important if early education is intended to help level the playing field between children when they start school.
- 4 During the first national lockdown, providers delivering mostly or entirely free entitlement hours were financially well protected by the government’s commitment to continue to fund those hours based on pre-pandemic take-up. But most providers offer a mix of publicly and privately funded hours, so are exposed to financial risk from the steep drop in childcare demand. The November 2020 lockdown will see childcare settings allowed to remain open, but demand will likely fall (from a starting point which was already 40% below normal levels in October).
- 5 The end or reconfiguration over the winter and spring of some of the programmes that support privately funded providers, and the reassessment of free entitlement funding in January 2021, mean that providers are much more financially exposed, both to the second lockdown and more broadly to a rather slow and incomplete return of demand for childcare.

## 2.1 The early years system in England

In England, there are (at least) eight different programmes, spread across three different departments, through which the government supports early childhood education and care (ECEC). These are summarised in Table 2.1 and described in more detail below.

### Free childcare

The **free entitlement**, or ‘funded hours’, offers families a set number of early education hours that they can access for free, with the government paying the nursery (or other childcare provider) a set amount of funding per hour of care delivered. The number of funded hours that a child gets depends on his or her age and family circumstances:

- All 3- and 4-year-olds are entitled to a part-time place (15 hours per week, for 38 weeks of the year).
- Three- and four-year-olds in ‘working’ families (where all adults are in work and earning at least the equivalent of 16 hours at the minimum wage, and not more than £100,000 each) get another 15 hours a week of free childcare.
- Finally, 2-year-olds in disadvantaged families – roughly the 40% poorest children aged 2 – also get a part-time place.

### Benefits system

The government also offers support to low-income families with their childcare costs through the **benefits system**. The childcare element of universal credit (and its predecessors, working tax credit, working families’ tax credit and family credit) offsets a share of recipient families’ childcare expenses. The size of the payment depends on a family’s earnings, their monthly childcare costs, and the number and ages of their children.

At the moment, most families with young children have not yet transitioned to universal credit, so they are still in the working tax credit system. The **childcare element of working tax credit** currently covers 70% of childcare expenses, with

Table 2.1. Summary of programmes supporting early education and childcare in England

Type of policy	Programme	What is it?	Who gets it?	How many benefit?
Free childcare	Universal offer	15 hours/week, 38 weeks/year	All 3- and 4-year-olds	1,272,000 children
	Extended offer	Additional 15 hours/week	3- and 4-year-olds whose parents work <sup>a</sup> and earn ≤£100,000	346,000 children
	2-year-old offer	15 hours/week, 38 weeks/year	40% most disadvantaged 2-year-olds <sup>b</sup>	143,000 children
Subsidy through benefits system	Childcare support: working tax credit	Reimbursement of up to 70% of childcare expenses <sup>c</sup>	Children aged 14 and younger in low-income working families (closed to new entrants) <sup>d</sup>	258,000 families*
	Childcare support: universal credit	Reimbursement of up to 85% of childcare expenses <sup>e</sup>	Children aged 15 and younger in low-income working families <sup>f</sup>	70,000 families**
Tax reliefs and other subsidies	Employer-supported childcare (including childcare vouchers)	Salary sacrifice scheme: 32% subsidy for basic-rate taxpayers <sup>g</sup>	Children aged 15 and younger whose parents are employed by a company offering a voucher programme (now closed to new entrants) <sup>h</sup>	510,000 families* (government) 660,000 parents* (CVPA)
	Tax-free childcare	£2 government top-up per £8 in a designated account <sup>i</sup>	Children aged 11 and younger in working families whose parents earn ≤ £100,000 <sup>j</sup>	~220,000 children***
VAT exemptions		VAT exemption worth up to 20%	Depends on provider/characteristics	<i>Not available</i>

Notes and source: See the next page.

the subsidy capped at £531 a month (for families with one child) or £910 per month for households with two or more children.<sup>3</sup>

#### Notes and source to Table 2.1

\* 2018 data. Figures for England are estimated by rescaling totals for the whole UK by the English share of the under-15 population (85.2%).

\*\* As at February 2020.

\*\*\* Figures for England are estimated by rescaling totals for the whole UK by the English share of the under-15 population.

<sup>a</sup> In most cases, both parents (or the lone parent) must be in paid work with weekly earnings at least the equivalent of 16 hours at the relevant minimum wage (£140 for those aged 25 and older).

<sup>b</sup> This includes looked-after children, children with special educational needs or an education, health and care plan, and those whose families receive certain means-tested benefits (e.g. income support, income-based jobseeker's allowance, tax credits or universal credit). Caps on family income also apply in some of these cases.

<sup>c</sup> The amount of subsidy is capped at £122.50 per week (if the family has one child) or £210 per week (for families with two or more children).

<sup>d</sup> Childcare costs can be included for children until the week of 1 September after they turn 15, or 16 for young people with certain disabilities.

<sup>e</sup> The amount of subsidy is capped at £646 a month for one child, or £1,108 per month for families with two or more children. This works out to about £149 and £256 respectively per week.

<sup>f</sup> Childcare costs can be claimed for a dependent child up to the 31 August following the child's 16<sup>th</sup> birthday.

<sup>g</sup> Specifically, employees can divert some of their salary into buying childcare vouchers from their employer, but they do not pay income tax or National Insurance contributions on the money they use to buy the vouchers. Employers are also exempted from paying their side of the National Insurance contributions on these earnings.

<sup>h</sup> The childcare voucher programme is not open to self-employed parents, parents whose company does not offer vouchers, or parents who are not in work. The scheme is administered on a per-parent (rather than per-child) basis, so families with a lone parent have less potential subsidy than families with two parents in employment.

<sup>i</sup> The subsidy is capped at £500 per quarter (£167 per month, or about £38.50 a week). Parents open an account on behalf of their child, so families with more children are eligible for a greater total subsidy. The cap is twice as high for disabled children, who are also eligible until they are 17.

<sup>j</sup> Children stop being eligible on 1 September following their 11<sup>th</sup> birthday. For full details of eligibility, see <https://www.gov.uk/tax-free-childcare>.

Source: Farquharson, 2019, table 1. Updates based on authors' calculations detailed in this chapter.

<sup>3</sup> In practice, the subsidy cap for working tax credit is calculated based on weekly (rather than monthly) childcare expenditures. For a one-child family, up to £175 of childcare costs per week are subsidisable, equivalent to £9,100 per year or – at a 70% subsidy rate – a cash subsidy of up to £6,370 a year. Similar calculations apply for families with two or more children, who can have up to £300 per week of childcare costs subsidised.

### Tax system and other subsidies

There is also public support for childcare through the tax system. To date, this has mostly been in the form of employer-sponsored childcare vouchers. Under this system, an employee reduces his or her annual salary and receives the same amount in vouchers to spend on childcare, effectively paying for childcare out of pre-tax income. This means that the exchequer forfeits the tax and National Insurance contributions (NICs) that would otherwise have been due.

Childcare vouchers have been closed to new entrants since October 2018. Instead, the government has introduced the tax-free childcare programme. Parents open an account on behalf of their child. For every £8 they contribute to it, the government tops it up by £2, up to £167 of government contribution a month. This means that childcare payments made through this account are notionally free of income tax (paid at the basic rate), though not of National Insurance contributions.

### VAT exemptions

Finally, the government subsidises childcare providers with VAT exemptions. The precise treatment depends on the type of childcare provider, their turnover, and the specific activities involved in childcare. But these exemptions are important: for a regulated private provider, for example, the exemption is worth between 15% and 20% of the price of childcare. Unfortunately, data on the total value of these exemptions are not available, so this dimension of childcare subsidies is not included in the estimates of spending in this chapter.

### The goals of early years spending

The range of programmes available to support the early years hints at both the widespread agreement that this is an important stage of life to prioritise, and the different rationales for what this spending can achieve. There are at least three arguments for subsidising spending on ECEC:

- **Child development.** There is an international evidence base that shows that formal childcare in the early years can have benefits for children's academic and social development. Since these benefits are often stronger for children from disadvantaged families, childcare can also help to narrow inequalities between children from different backgrounds, so that they are on a more level playing field when they start school.

- **Facilitating work.** Childcare closures during the COVID-19 pandemic have made for a very visible reminder of the importance of access to childcare for working parents. This is particularly important for mothers, since their decisions about whether and how much to work in the years before their child enters school have a major impact on their wages for the rest of their lives (and hence on the gender wage gap).
- **Support for families with young children.** Childcare in the UK is expensive; OECD statistics show that the UK comes out near the top of the league table for total childcare costs (parent-paid fees and public subsidies) among 35 developed countries (OECD, 2019).<sup>4</sup> Policymakers often view childcare subsidies as a way to help families with young children with one of the major costs in their household budget.

### What is the evidence for these benefits?

While there is good international evidence that many of these benefits *can* result from subsidising childcare, asking whether they *do* occur is a different question. Research from around the world has found that the benefits for mothers' labour supply depend on factors such as the female employment rate, the use of parent-paid childcare and social attitudes to mothers working (Cattan, 2016). And while there is strong evidence that small programmes with very high quality that are targeted at the most disadvantaged can have substantial benefits for children, the evidence for large-scale and universal programmes is mixed (Cascio, 2015). Programmes that are closer to 'childcare' than 'early education' can even make disadvantaged children worse off, if the need for large-scale, affordable and flexible provision means that quality suffers (Baker, Gruber and Milligan, 2008; Datta Gupta and Simonsen, 2010).

Within England, there are a number of studies that shed light on the impacts of the free entitlement. Brewer et al. (2020) find that offering a free part-time childcare place to a mother's youngest child through the free entitlement has only a small impact on her probability of being in work, but a full-time place at school has much bigger effects. (Neither part-time nor full-time places for older siblings have much impact on the working patterns of mothers whose youngest child is still not

<sup>4</sup> The precise spot depends on what type of family is being considered – single versus coupled families, families with different numbers of children at different ages, and high- and lower-income families will all affect childcare costs as a share of household income. But Farquharson (2019) shows that, for two example families, the UK ranks third in total childcare costs.

eligible.) Blanden et al. (2016) find that extending the free entitlement to 3-year-olds had small benefits for their test scores at age 5, but these had faded out by age 11. They suggest that differences in the quality of childcare provided, and particularly the lower average quality in the private sector, could help explain these relatively modest effects.

Overall, then, it seems that the free entitlement in England is doing a middling job at best at delivering the benefits for children and mothers that policymakers had hoped, though it represents a significant transfer to families with young children which will help with their cost of living.

However, this is not to say that *childcare* has only small effects in England. Rather, the high levels of childcare provision and take-up before the free entitlement meant that many children were already benefiting from childcare. These high take-up rates meant that there was less scope for the free entitlement to encourage more children into formal childcare, which limits the scope for the policy to deliver benefits. Indeed, there is evidence from England showing that children whose families choose to send them to childcare earlier have better outcomes at school entry, and those who attended high-quality settings continued to outperform their peers throughout primary and secondary school (Taggart et al., 2015), although this is not necessarily causal.<sup>5</sup>

## 2.2 Trends in participation and spending

Taken together, the government spent around £5.6 billion on early childhood education and care in 2018–19 (in today’s prices), the last year for which data on subsidies through the tax and benefit systems are currently available.

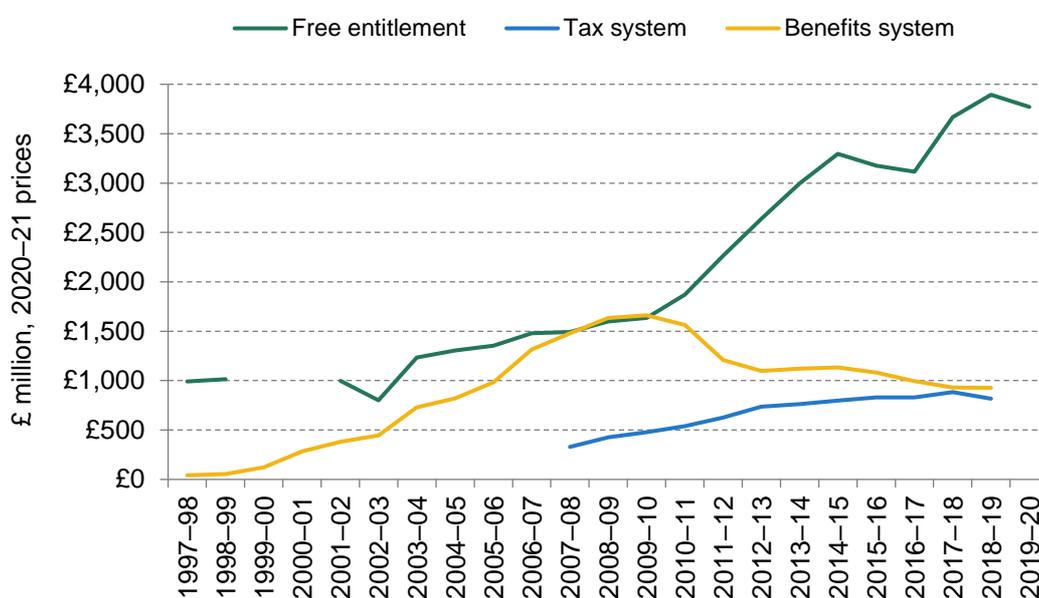
In the rest of this chapter, we will mainly focus on spending through the three free entitlement programmes, for two reasons. First, conceptually, this funding is closer to ‘education’ spending than other programmes that subsidise childcare. Free entitlement funding is provided by the Department for Education and available only

<sup>5</sup> This study was based on statistical analysis that compared the outcomes of children who had had different pre-school experiences. The authors account for a range of factors in their analysis, but their methodology does not allow them to fully account for the potential differences in the types of children and families who choose to enter formal childcare earlier.

at regulated, Ofsted-registered providers. Some parts of the entitlement (notably the 2-year-old entitlement) are also explicitly aimed at boosting school readiness. The second reason is practical: as Figure 2.1 shows, spending on free entitlement programmes made up about 70% of total spending on ECEC subsidies in 2018–19.

Figure 2.1 highlights both the rapid growth in total spending on ECEC and the substantial changes in how it is delivered. Spending on the free entitlement has risen from around £1 billion in the late 1990s to £1.6 billion in 2009–10 to a peak of

**Figure 2.1. Total 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; see Farquharson (2019) for details.

Source: See Appendix A. HM Treasury GDP deflators, June 2020 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-june-2020-quarterly-national-accounts>). Office for Budget Responsibility, *Fiscal Sustainability Report: July 2020* (<https://obr.uk/fsr/fiscal-sustainability-report-july-2020/>).

£3.9 billion in 2018–19. This increase, particularly in the last decade, is all the more remarkable for occurring against a backdrop of austerity and sharp cuts in spending on many public services (Zaranko, 2020).

On the other hand, spending through the benefits system has been cut sharply, falling by nearly half from £1.7 billion in 2009–10 to £900 million in 2018–19 (the last year for which data are available). Spending on tax reliefs via employer-sponsored childcare vouchers and tax-free childcare has grown from around 10% of total ECEC spending to about 15% of the total, or £800 million in 2018–19.

### Spending on the free entitlement

The substantial increases in spending on the free entitlement shown in Figure 2.1 reflect the increasing priority that the early years have attracted from policymakers. However, overall spending on the programme does not tell the full story of what has happened.

In practice, much of the increase in free entitlement spending is explained by the successive increases in the generosity or coverage of the programme, which are summarised in Table 2.2. Three-year-olds received coverage from April 2004, and since 2010 the universal entitlement has covered 15 hours a week for 38 weeks of the year. The 2-year-old offer was made into a formal entitlement in 2013, and doubled to cover twice as many children the following year. September 2017 saw the introduction of a new extended entitlement, with 3- and 4-year-olds in working households getting an additional 15 hours a week.

These policy changes have been important drivers of the trends in early years spending (see Belfield, Farquharson and Sibieta (2018) for details). Most recently, the introduction of the extended entitlement has seen a sharp increase in total spending on the free entitlement for 3- and 4-year-olds, which rose from £2.5 billion in 2016–17 to £3.1 billion the following year and £3.4 billion in 2018–19.<sup>6</sup>

<sup>6</sup> Spending figures for 2018–19 are based on the schools budget allocated to the early years, including the individual schools budget, the high-needs budget, and some elements of central spending on the early years. See Appendix A for more details.

Table 2.2. History of national free entitlement policies

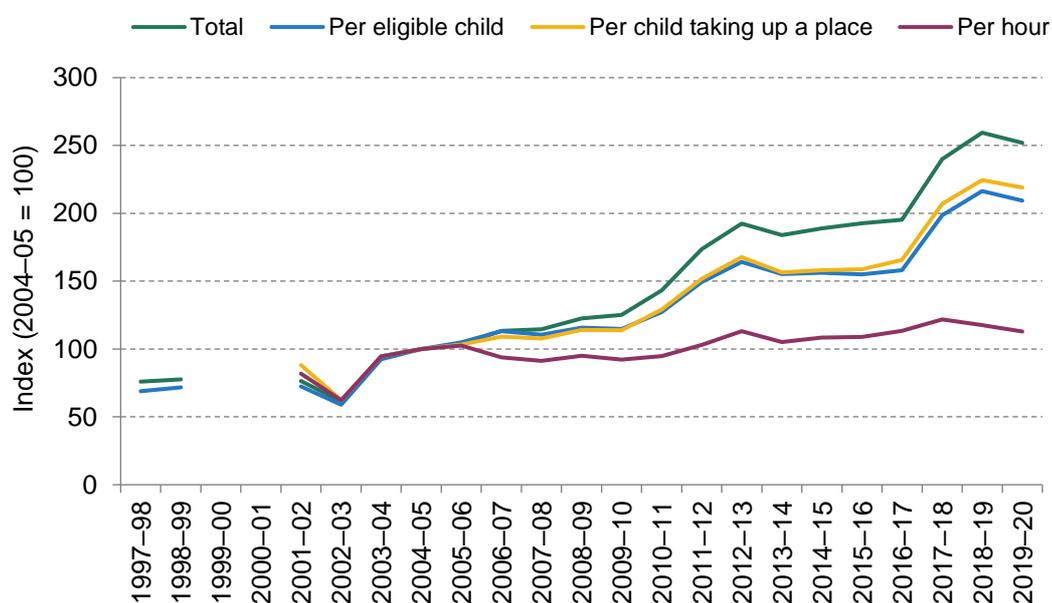
	Ages	Hours/ week	Weeks/ year	Targeting
September 1997	4	12.5	33	
April 2004	3 & 4	12.5	33	
April 2006	3 & 4	12.5	38	
September 2009	2	10	38	Initial pilot extended to ~15% most disadvantaged
	3 & 4	12.5 or 15	38	15 hours for 25% most disadvantaged
September 2010	3 & 4	15	38	
September 2013	2	15	38	Offer made a legal entitlement and extended to 20% most disadvantaged
September 2014	2	15	38	Offer extended to 40% most disadvantaged
September 2017	3 & 4	15 or 30	38	30 hours for children whose parents work, earning ≤£100,000 each

Source: Adapted from West and Noden (2016) and Belfield, Farquharson and Sibieta (2018). Information on the 2-year-old offer also draws on Gibb et al. (2011).

### Trends in spending: 3- and 4-year-old entitlements

These successive expansions in the entitlement are an important part of the story of education spending in the early years. But from the point of view of providers, what matters most is the resources they have to deliver the free entitlement. Figure 2.2 shows spending on the free entitlement spending for 3- and 4-year-olds overall, per eligible child, per child taking up a place and per hour. Spending is reported relative to its level in 2004–05, the year the 3-year-old free entitlement was introduced.

**Figure 2.2. Growth in real-terms spending on the 3- and 4-year-old free entitlements (2004–05 = 100)**



Note: Spending on universal and (from 2017) extended entitlements for 3- and 4-year-olds. Spending per place is spending per part-time equivalent place (15 hours) across both entitlements, so a child accessing their full universal and extended entitlement would count towards two PTE places.

Source: See Appendix A.

After peaking in 2018–19 at £3.4 billion, 159% more in real terms than in 2004–05, total spending on the 3- and 4-year-old free entitlement fell back slightly in 2019–20 to £3.3 billion (152% more than in 2004–05).

This overall increase over time is partly driven by the growth in population over this period, which has increased the number of children eligible for a place.

Stripping out the impact of population growth (shown in blue) explains around 43 percentage points of the overall increase in spending between 2004–05 and 2019–20. By 2019–20, spending per eligible child stood at just over £3,600, more than twice its 2004–05 level in real terms.

The pattern looks very similar if we also control for take-up by looking at spending per child actually taking up a free entitlement place (in gold). This reflects the high rates of take-up over most of the history of the programme: in 2004, 98% of eligible children were already accessing the free entitlement. But while take-up of the universal entitlement remains high, there are signs that it is starting to slip (which

can be seen in the growing gap between the blue and gold lines). In 2019, only 93% of eligible children accessed some of their free entitlement, the lowest figure since 2001. This follows a slow but steady decline in take-up since 2006, and is a warning to policymakers to consider what factors are making the free entitlement less attractive to parents than it once was.

From providers' perspective, though, the funding figure that matters most of all is the amount of spending per free entitlement hour delivered. Figure 2.2 shows that spending per hour has grown much more slowly than overall spending – at its peak in 2017–18, it was still only 22% above its 2004–05 level in real terms.

More concerning for providers, there are signs that even this relatively modest increase is not being maintained. Per-hour spending fell by 7% in real terms between 2017–18 and 2019–20, from £5.69 to £5.28 in today's prices.<sup>7</sup> This left hourly spending just 13% above 2004–05 levels.

To the extent that costs in the childcare sector rose more quickly than general inflation, the pressures on providers could be more substantial than even this relatively slow growth suggests; Box 2.1 discusses some of these challenges in more detail. For example, the adult minimum wage has risen from £5.05 in 2005 to £8.21 in 2019–20, a rise of 63%, compared with 31% inflation over the same period.

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### Box 2.1. Free entitlement funding and cost pressures

While growth in the real-terms value of the hourly funding rate for the free entitlement has been slow (and it has fallen in recent years), there is perhaps an even more important question over whether it is 'high enough'. This has been the subject of considerable debate between childcare provider representatives and the government for many years.

In practice, this is an extremely difficult question to answer, not least because there are different definitions of 'high enough'. At its most basic level, 'high enough' might mean

<sup>7</sup> In this chapter, we distinguish between per-hour spending – which is the measure that we have constructed based on the sources and methods described in Appendix A, and which incorporates spending such as the Early Years Pupil Premium and high-needs funding – and per-hour funding, which is the set of hourly funding rates that the Department for Education uses to allocate funding through the Early Years National Funding Formula. See Belfield, Farquharson and Sibieta (2018) for more discussion of the EYNFF.

that the funding rate is enough to meet the basic costs of the majority of providers. Data from the 2018 Survey of Childcare and Early Years Providers (based on a small sample of 117 providers, weighted to be nationally representative) find that the average provider reports an hourly cost of £3.95 to deliver childcare for 3- and 4-year-old children (Paull and Xu, 2019).

This compares with a minimum hourly funding rate of £4.30 in the Dedicated Schools Grant and an average rate of £4.86 (in cash terms for 2018–19). LAs are required to pass on at least 95% of this funding to providers, meaning an effective minimum funding rate of £4.09 and an average of £4.62. Additional spending – for example, through the Early Years Pupil Premium and top-up grants for maintained nursery schools – meant that average per-hour spending would have been even higher; our measure of per-hour spending (which includes spending done by LAs) was £5.40 in cash terms in 2018–19.

However, there are a number of additional pressures that are not reflected in these figures. First, as documented in Figure 2.2, the per-hour funding rate has been falling in real terms since its high point in 2017–18. Some providers are likely to have seen their costs rise more quickly than inflation – for example, because of successive increases in the minimum wage. Providers who are running very close to breaking even will also have less ability to draw on their reserves to fund larger one-off costs (for example, investing in building new capacity). They may also have lower financial resilience to help insulate them against shocks such as COVID-19; the impact of the pandemic on providers' finances is discussed later in this chapter.

### **The tension between cost control and ensuring high-quality provision**

There are also good reasons for the government to spend more per hour than the average hourly cost of childcare. Most obviously, matching the average rate will leave a large share of providers who have above-average costs operating at a loss. In 2018–19, around 13% of childcare providers went out of business (Blanden et al., 2020). This was partly offset by another 7,500 providers entering the market.

While there are clear advantages to the public purse from having less-efficient providers leave the childcare market, this needs to be balanced against the need for high-quality provision that will support children's development and their early education. Driving providers to implement the cheapest-possible model of childcare delivery is unlikely to be consistent with the aim of supporting child development and reducing inequalities in school readiness. Higher funding rates would make a wider range of models of childcare provision possible, but they would also open up new challenges in ensuring that this money is spent well and in ways that deliver the intended benefits to children and their families.

Between 2017–18 and 2018–19, the drop in per-hour spending was mainly due to an increase in take-up of the extended entitlement; part-time equivalent (PTE) places rose by 12% as the share of children meeting the eligibility criteria rose and as the policy started to bed in. This was faster than the 8% real-terms growth in total spending. Take-up of the extended entitlement continued to rise the next year as the eligibility rate rose again,<sup>8</sup> with PTE places growing 6% between 2018–19 and 2019–20.<sup>9</sup> But this higher take-up needed to be met within an overall budget that was around 3% smaller in real terms, partly due to cash-terms freezes in the per-hour funding rate used to allocate early years funding to local authorities.

Initial signs suggest that this funding squeeze is not likely to ease materially in 2020–21. Virtually all local authorities (LAs) will see their per-hour funding rates (as used in the Early Years National Funding Formula, EYNFF) rise by 8p an hour in cash terms. For most LAs, this is broadly just enough to offset inflation and keep hourly funding constant in real terms.<sup>10</sup> Other LAs will see small real-terms cuts to their hourly funding rates, with the median LA facing a 0.2% cut in real terms. For a handful of LAs (mostly but not exclusively in Inner London),<sup>11</sup> a cash-terms freeze in hourly funding rates between 2019 and 2020 will translate into real-terms cuts of around 2%. This is part of the transition to the EYNFF; these local authorities were historically overfunded relative to the rate dictated by the EYNFF, and so have had their rates frozen in cash terms.

### Trends in spending: 2-year-old entitlement

Free childcare for some 2-year-olds was first introduced in a pilot in 2006. In January 2009, the government announced that it would extend this nationally to the 15% most disadvantaged 2-year-olds. Even so, the scale of the programme

<sup>8</sup> We estimate the eligibility rate with data from four quarters of the Labour Force Survey. For 2019–20, we use data from 2019 Q2 through 2020 Q1. We estimate that 57% of 3- and 4-year-olds were eligible for the extended entitlement in 2019–20, up from 52% in 2018–19 and 49% the year before.

<sup>9</sup> Since part-time equivalent take-up of the universal entitlement fell slightly over this period, the overall number of PTE places for 3- and 4-year-olds rose by just over 1%.

<sup>10</sup> Changes to inflation forecasts since the COVID-19 pandemic mean that most LAs will now see their hourly funding dip slightly in real terms, but these are small changes and are driven by highly uncertain forecasts, so the precise change should not be given undue attention.

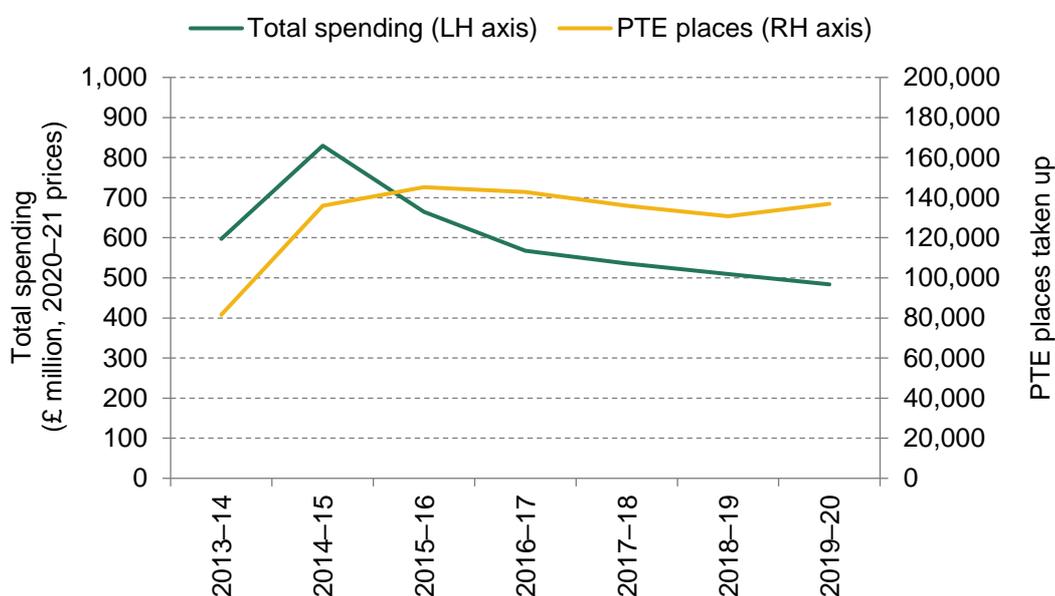
<sup>11</sup> The full list is Bristol, Camden, Derbyshire, Ealing, Halton, Islington, Lambeth, Rutland, Southwark, Sunderland, Tower Hamlets and Westminster.

remained extremely small, with just £57 million in funding (cash terms) to deliver 23,000 places at 10 hours per week (Cabinet Office, 2009, paras 3.27–3.30).

The following year, the government announced that the 2-year-old entitlement would be made a legal entitlement, covering 15 hours per week for 38 weeks of the year, from 2013. It also formalised the eligibility criteria, announcing that the entitlement would deliver 130,000 places to the 20% most disadvantaged 2-year-olds (Gibb et al., 2011). After the funding was topped up in the 2011 Autumn Statement, the programme was due to receive £570 million in (cash-terms) funding in 2013–14 (Gibb et al., 2011, figure 1.1; HM Treasury, 2011, table 2.1).

Figure 2.3 shows how the (real-terms) level of funding has changed since then, as well as the changing take-up rates. Take-up and funding both increased significantly from 2013–14 to 2014–15, with the share of eligible children taking up a place rising from 58% to 68%. Despite initial expectations that take-up would continue to rise quickly, take-up then stabilised at around 70% of eligible children.

**Figure 2.3. Total spending and part-time equivalent places taken up under the 2-year-old entitlement**



Note: Part-time equivalent places are based on a 15-hour entitlement for all years.

Source: See Appendix A. HM Treasury GDP deflators, June 2020 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-june-2020-quarterly-national-accounts>). Office for Budget Responsibility, *Fiscal Sustainability Report: July 2020* (<https://obr.uk/fsr/fiscal-sustainability-report-july-2020/>).

But the programme has seen total spending fall in every year since 2014–15, with real-terms spending in 2019–20 less than 60% of its 2014 level (and spending per hour down by a similar share). This partly reflects the ever-smaller contingency funds being set aside to cover unexpectedly high levels of take-up (these were, sensibly, quite high at the beginning of the programme when take-up was much more uncertain). But this accounts for at most around £100 million of the fall since 2014.

Another factor, at least between 2015–16 and 2018–19, was the 10% total fall in PTE places taken up (mostly because of a smaller population). But even accounting for this, spending per hour has fallen from just over £8 in 2015–16 to around £7 the following year, and £6.19 in 2019–20. This reflects the cash-terms freezes that have been applied to funding rates for the 2-year-old offer.

## 2.3 The COVID-19 spring lockdown

So far, this chapter has focused on trends in spending on and participation in the free entitlement up until 2019–20 (which is the last year for which data on actual spending are available). This showed that, while the early years have been prioritised by repeated governments for increased spending, much of this funding has gone on delivering ever-more-generous entitlements to funded childcare. There are, however, signs that a boost in per-hour funding in 2017 has since been eroded.

Of course, the landscape for childcare has changed almost beyond recognition in the last eight months, with the COVID-19 pandemic putting enormous pressure on some childcare providers. When the UK entered its first lockdown on 23 March 2020, the majority of parents were required to keep their children home from school and childcare. Even so, childcare providers were asked to remain open if possible to provide care to the children of key workers and the most vulnerable children. These restrictions were lifted in England on 1 June, but recovery in the sector is still very much a work in progress.

In this section, we discuss what government support was available to support providers during the first lockdown and how providers' financial position might

have been affected by the lockdown period.<sup>12</sup> This section does not specifically consider the risks and challenges posed by the second national lockdown announced on 31 October 2020.

## Government support during the lockdown

During the first lockdown, the government introduced a wide range of programmes to support the childcare sector (summarised in Box 2.2). Some of these programmes, such as the business rates holiday for private and voluntary-sector nurseries, were specific to the childcare sector. Others, such as the Coronavirus Job Retention Scheme (better known as the furlough scheme) and the Self-Employment Income Support Scheme (SEISS, the self-employment grants) were available across the economy.

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### Box 2.2. Major elements of the government's support package during the first national lockdown

#### **Continued funding through the Dedicated Schools Grant (free entitlement funding).**

Childcare providers delivering publicly funded childcare hours for children aged 2, 3 and 4 continued to receive their regular government funding for these hours during lockdown.

#### **Temporary grandfathering of 30-hour extended entitlement and tax-free childcare.**

Parents who became unemployed or saw their earnings fall below or rise above the eligibility thresholds for tax-free childcare and the extended entitlement due to COVID remained eligible for these programmes until the end of October.

**Coronavirus Job Retention Scheme (furlough scheme).** Providers were allowed to access the furlough scheme for any 'privately paid' employees when the income that would usually support their salaries had dried up. In practice, this meant that providers were allowed to use the furlough scheme to cover staff costs in proportion to the share of income they lost during the lockdown. Because providers were still receiving full funding for publicly provided hours, they were not allowed to use the furlough scheme for these staff costs. The furlough scheme has since been replaced with the Job Support Scheme, first announced at

<sup>12</sup> Much of the analysis in this section and Section 2.4 has been previously published to inform debate on policy options for the sector. See Blanden et al. (2020) for a much more detailed treatment of these topics.

the end of September, and something close to the original furlough scheme (allowing for part-time furlough) has been reintroduced for the second national lockdown in November.

**Self-Employment Income Support Scheme.** Self-employed childcare providers (mostly childminders) could receive a taxable grant based on the average profits they reported between 2016–17 and 2018–19, up to £2,500 per month. For the first three months, this was worth 80% of average profits, dropping to 70% for the following three months. To be eligible, providers needed to report that their income had been negatively affected by the crisis (so those with exclusively free entitlement income may not have been eligible), but they were still allowed to earn income over and above this grant (so those with some private fees could claim SEISS while also continuing to receive free entitlement funding). This programme was subsequently extended (at a lower, 40% replacement rate) for a further six months and is now due to end in April 2021.

**Business rates holiday.** Private and voluntary childcare providers will not be charged business rates for 2020–21. While childminders are included in this, most do not pay business rates to start with (as they already pay council tax on their homes).

**Universal credit.** The government also announced a range of temporary giveaways through the benefits system. Most of these will affect individuals rather than childcare businesses. However, self-employed childcare providers might benefit particularly from the suspension of the minimum income floor in the universal credit system, allowing more low-earning self-employed people to claim universal credit (which has also been made temporarily more generous) in proportion to their actual earnings.

**Other forms of support.** Providers were also eligible for general programmes of business support, such as, for example, Small Business Grants funding of £1,000 for private providers eligible for small business rate reliefs, the Coronavirus Business Interruption Loan Scheme, Bounce Back loans, and deferrals of VAT owed.

**Local support packages.** Most local authorities ensured that, when children accessing the free entitlement needed to move setting during lockdown, both their regular and their temporary setting received free entitlement funding. A small number of local authorities also used some of their emergency funding to support childcare. For example, Birmingham City Council provided all childcare providers with a retainer of £100 per week per child they were caring for, and an additional retainer of £300 for all nurseries and maintained nursery schools that stayed open during the lockdown.

Source: Blanden et al., 2020.

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### Continued free entitlement funding

From the perspective of the free entitlement, the single most important commitment was the government's promise to continue to fund providers for the free entitlement hours they were scheduled to deliver during the Spring and Summer 2020 terms (regardless of whether these children actually attended or whether the setting remained open). In effect, this ensured that providers that were funded entirely by the free entitlement saw their income continue uninterrupted during the lockdown. This decision certainly prevented enormous financial hardship for these providers.

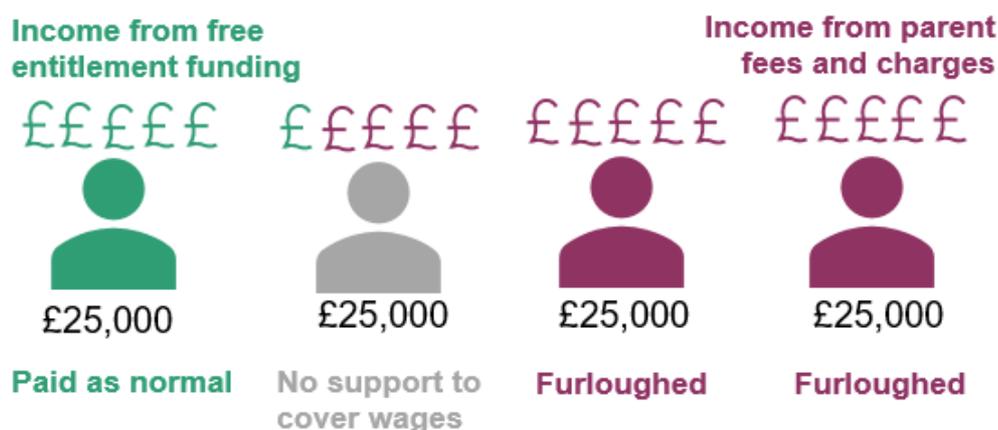
However, relatively few of the providers who deliver the free entitlement are entirely publicly funded; most also receive income from parent fees and charges. The mix between public and private income spans the entire range of possibilities, from entirely or mostly publicly funded, through a roughly equal mix, to almost entirely reliant on parent fees. So, while some providers who deliver the free entitlement will have been reasonably well insulated (financially) by continued public funding, others will have faced much larger threats to their financial viability. For these settings, the other types of government support in Box 2.2 were crucial to their financial experiences of the lockdown.

### Combining free entitlement funding with the furlough scheme

Providers that offer a mix of publicly and privately funded childcare hours continued to receive their free entitlement funding, but were allowed to use the furlough scheme for employees not involved in delivering these free entitlement hours. This is a sensible distinction to draw in theory: it means that providers with (uninterrupted) public funding available to pay staff wages were not allowed to access additional public money through the furlough scheme to cover those wages.

In practice, though, drawing a distinction between publicly and privately funded staff is challenging. Providers with a mix of funding streams were asked to calculate the share of their income that came from private sources; they were then able to access the furlough scheme to cover up to the proportion of its wage bill that

Figure 2.4. Illustrative example of a provider with an employee ‘almost but not quite’ eligible for furlough



Note: Illustrative example only. Assumes a provider with four employees earning salaries of £25,000 each.

was notionally paid from private income.<sup>13</sup> But, since employees could not be part-furloughed, some providers ended up with an employee who was ‘almost but not quite’ eligible for furlough, and could not access any furlough funding to cover the portion of that employee’s wages that would usually be paid from parent fees. Figure 2.4 shows an example of how this might have happened.

Another challenge for the sector was how the guidance was delivered. The furlough scheme was first announced on 26 March, but it was over three weeks later that the Department for Education issued guidance clarifying how it would interact with continued free entitlement funding.

## Financial consequences of the first national lockdown

In order to assess how the first lockdown might have affected childcare providers’ finances, Blanden et al. (2020) use data from the 2018 Survey of Childcare and

<sup>13</sup> Providers were also asked to take into account any private income that they continued to receive – for example, from any vulnerable children or children of key workers attending the setting. More details on how these programmes were administered can be found in the Department for Education’s official guidance of 17 April (<https://www.gov.uk/government/publications/coronavirus-covid-19-financial-support-for-education-early-years-and-childrens-social-care/coronavirus-covid-19-financial-support-for-education-early-years-and-childrens-social-care#sector-specific-guidance>).

Early Years Providers (the latest year available) to model the impact of the changes in income and the government support programmes over this period.<sup>14</sup> They model two lockdown scenarios. The first assumes that *all* income from parent fees dries up; the second assumes that private income falls by 85%, but providers still have a small amount of fee income (for example, from charging parents retainers or from providing childcare to eligible children during the lockdown).

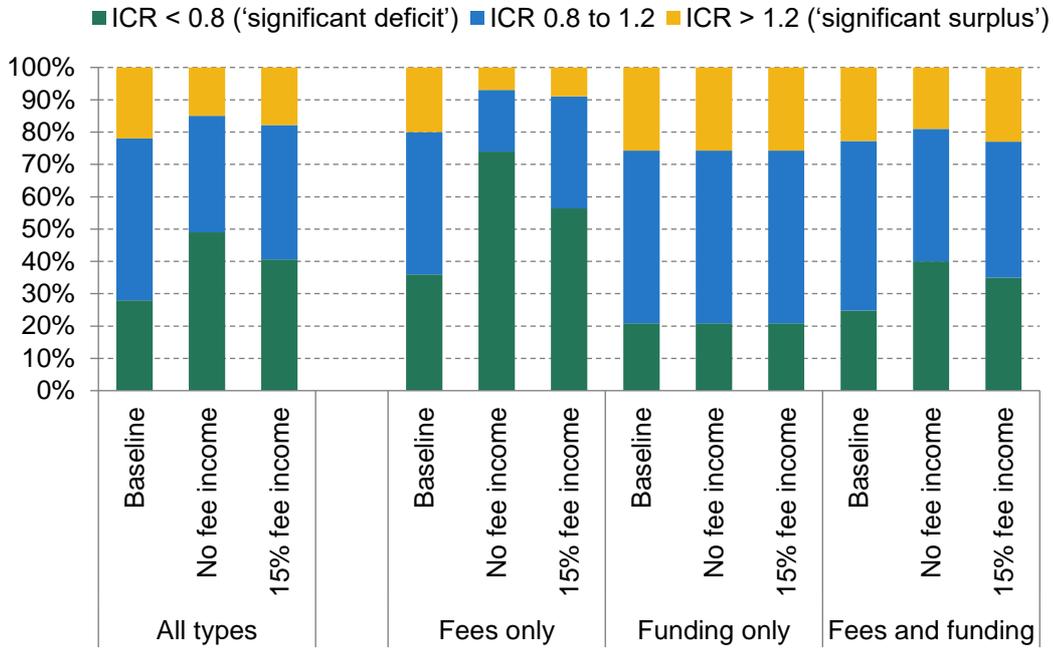
Blanden et al. construct an ‘income-to-cost ratio’ (ICR) for each provider. This divides the provider’s total income by its total costs and is a measure of financial health. An ICR greater than 1 means that a provider has more income than costs; less than 1, and the provider is operating in deficit. Since measuring income and costs at one point in time inevitably provides only a snapshot of providers’ financial health, the authors consider three broad groupings of ICRs: providers in significant surplus (with £6 or more of income for every £5 of costs); providers in significant deficit (with £4 of income or less for every £5 of costs); and providers in between, with ICRs between 0.8 and 1.2.

Figure 2.5 summarises the impact of the first lockdown on providers’ ICRs. Among providers as a whole, Blanden et al. find that nearly one in three was operating at a significant deficit even before the crisis. This included a quarter of nursery classes. During the first lockdown, fully half of providers could have been operating at a significant deficit if all income from parent fees dried up (and 41% might have been in deficit if parent fee income fell by 85%).

However, these effects are driven by the impact on providers that receive income from parents. Among providers that rely only on income from fees, just over a third entered the crisis in significant deficit; an astonishing three-quarters of fee-funded providers could have faced significant deficit if all fee income dried up. On the

<sup>14</sup> See box 4.1 in Blanden et al. (2020) for more detail on the data and methodology used in this modelling.

**Figure 2.5. Providers’ income-to-cost ratios under lockdown scenarios (first national lockdown), by income source**



Note: ‘Fees only’ refers to providers with no public free entitlement income. ‘Funding only’ refers to providers with no income from parent fees or charges. Providers are classified as running a significant deficit if their income-to-cost ratio is below 0.8 (more than £5 of costs for every £4 of income) and as running a significant surplus if their income-to-cost ratio exceeds 1.2 (more than £6 of income for every £5 of costs).

Source: Blanden et al., 2020, figure 4.4.

other hand, providers that receive all their income from free entitlement funding saw no change in their income-to-cost ratios in Blanden et al.’s modelling.<sup>15</sup>

Among the majority of providers that receive both fee and funding income, the share operating at a deficit increased from 25% to 40% under the more pessimistic scenario (35% in the scenario with some parent fees). Interestingly, there is little evidence of these providers falling out of significant surplus: before the pandemic,

<sup>15</sup> This is driven by the modelling assumptions, which assume that providers with only fee income saw both their income and their costs continue as normal. In practice, this will not have been strictly true in all cases; for example, local authorities had some flexibility to reallocate free entitlement funding to support providers that were offering childcare to vulnerable children and children in key worker families during the lockdown (which means some other providers might have taken an income hit). On the other hand, some providers will have seen their costs fall somewhat (for example, because of savings on costs such as meals and nappies or because of support through programmes such as the business rates holiday).

23% were operating at a significant surplus, which fell to 19% in the more pessimistic scenario and was unchanged in the more optimistic scenario.

### Implications for policy

It is clear that the lockdown period meant substantial financial hardship for many childcare providers. However, the pain was not evenly distributed. Providers that rely mostly or entirely on public funding saw their incomes largely protected, and between a fifth and a quarter of them continued to operate at a significant surplus.

Providers that rely more on income from parent fees benefited from considerable support through the furlough and self-employment grant schemes; Blanden et al. (2020) estimate that these were worth over half of the lost fee income for the median provider. Even so, these providers faced a much tougher financial climate, and evidence from surveys of the sector suggests that many of them are concerned about going out of business.<sup>16</sup>

Taken together, this means that the provision of the free entitlement will have been relatively lightly hit by the first lockdown. But the Department for Education (DfE) should not consider this part of the childcare market in isolation: most of the providers that deliver free entitlement hours also take income from parent fees, and consequences for these providers – such as being forced to downsize or close – will have consequences for provision of the free entitlement as well.

If the DfE does choose to provide additional support to the childcare sector as a whole, it should consider the difference in the generosity of support that providers received during 2020. This means that any additional support might well flow disproportionately to providers that are *less* reliant on DfE funding in normal times.

Importantly, the approach in England differs from the approach taken in some of the devolved nations. Wales, Scotland and Northern Ireland all continued to fund their versions of the free entitlement for the first few months of the lockdown, but only England has committed to continue this funding through the rest of 2020 (Cottell and Sibieta, 2020). On the other hand, the devolved nations have chosen to

<sup>16</sup> For example, a quarter of private, voluntary or independent (PVI) providers and childminders who responded to the Early Years Alliance's survey in April 2020 said that it was somewhat or very unlikely that they would still be operating in 12 months' time (Early Years Alliance, 2020). These concerns were higher among providers in more disadvantaged areas.

offer grants at varying levels of generosity to help providers with the costs of the lockdown and of adapting to new social distancing measures. For example, the Scottish government has given grants to the childcare sector based on the number of children the provider cares for, while Welsh grants were targeted to providers that had not been able to access other business support schemes.

## 2.4 Challenges facing the sector

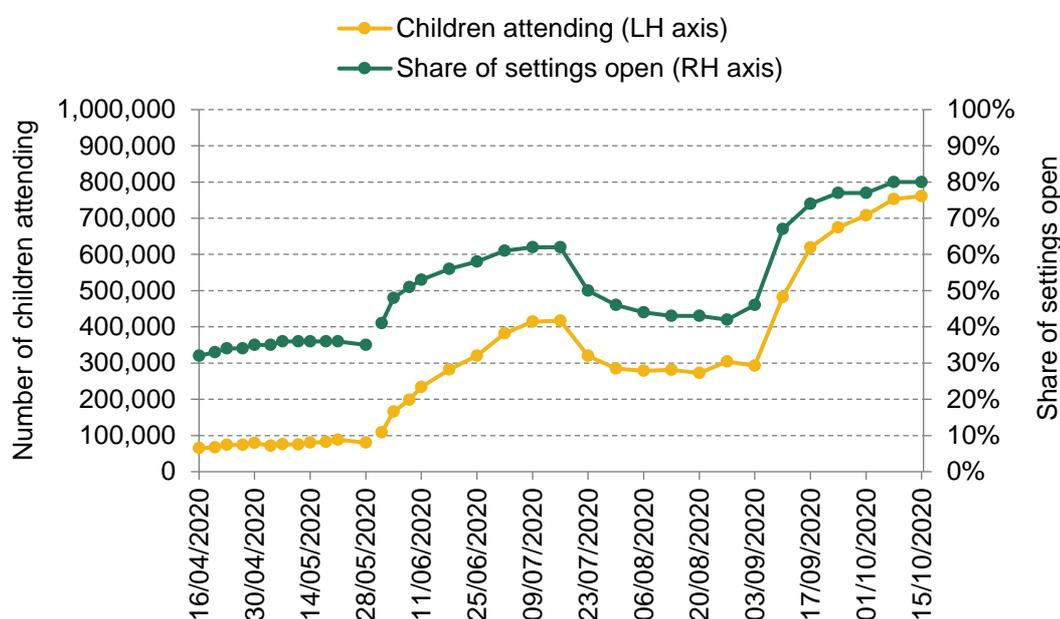
The initial lockdown on childcare provision in England was lifted on 1 June. But this does not mean that the risks to the sector are past. Most notably, the government has recently announced a second national lockdown, initially due to last for a month. More widely, even outside national lockdowns, this autumn and winter will see further risks to providers from a resurgent virus (which will see some settings needing to close at short notice when COVID-19 cases are identified among their staff or children). Illness and self-isolation could make staffing more challenging than usual, especially given legally mandated ratios on the one hand and COVID-related guidance to avoid using short-term agency staff on the other. The return of demand for childcare is hugely uncertain, but early indications are that parents are less willing to send their children to childcare (even when it is freely available). And all of these challenges come against a backdrop of the end of support through the furlough and self-employment grants schemes, and the current plans for reassessment of free entitlement funding in January 2021. In this section, we discuss some of these medium-term risks facing the sector.

### (Persistent?) low demand for childcare

Demand for childcare collapsed during the first national lockdown; statistics collected by the DfE each week found that, on average, only around 75,000 children attended childcare on a given day between mid April and the end of May. This was partly inevitable: settings were told to turn away children unless they were vulnerable or lived with a key worker. While the precise number of children who were entitled to access childcare during the lockdown is not known, Blanden et al. (2020) estimate that it could have been as high as 1.5 million children aged 0–4.

From early June, children started to return to childcare. In mid July, before the school holidays, take-up peaked at 420,000; by mid September, when virtually all older children were back at school, take-up rose to 620,000 (Figure 2.6).

**Figure 2.6. Share of childcare settings confirmed open and number of children attending**



Source: Table 2 of <https://explore-education-statistics.service.gov.uk/find-statistics/attendance-in-education-and-early-years-settings-during-the-coronavirus-covid-19-outbreak/2020-week-42>, published 20 October 2020.

These are fast increases in take-up, but there is a long way to go. Before the pandemic, there were around 1.4 million children aged 0–4 attending childcare on any given day; by mid October, take-up of childcare was still more than 40% lower than normal.<sup>17</sup> While settings can remain open and parents can continue to use childcare to enable them to work during the second lockdown, it seems likely that providers will face another hit to childcare demand in November.

The amount of demand that comes back after that, and how quickly it returns, will be the key questions facing the sector going forward. There are a number of significant challenges here:

- **Parents' preferences may have changed.** For example, parents might be more concerned about the health risks of childcare settings, or parents who have left

<sup>17</sup> There is an additional complication driven by the free entitlement funding rules; the pre-pandemic numbers are based on estimates that average over the school year, but eligibility for the free entitlement is lowest in the autumn term (when the 4-year-olds who had previously been accessing childcare enter school). So this pre-pandemic figure will slightly overstate attendance during the autumn in a normal year.

work or are working from home might find that they do not need as much childcare as they previously did.

- **Parents' financial situations may have changed.** So far, official statistics find that the UK employment rate has fallen only slightly over the first half of 2020. But there are major risks to this with changes to the furlough scheme and the potential for the second lockdown and tighter social distancing regulations through the winter to hit employment and earnings. While household budgets do not necessarily have a direct impact on demand for free entitlement childcare hours (which are free to parents), lower employment rates could affect the share of children who are eligible for the 30-hour extended entitlement from November onwards, unless the grandfathering of eligibility is extended.<sup>18</sup>
- **Social distancing might make it more difficult to match children to childcare places.** COVID-related guidance to childcare settings asks them to minimise visitors to the setting. This is making it more difficult for parents to visit potential childcare settings and to help their child settle in to a new place. These frictions might be particularly important for children who are newly eligible for their free entitlement, or children whose usual childcare setting has closed down (temporarily or permanently) as a result of the crisis. These struggles could be exacerbated if many children need to switch childcare provider because their setting has closed (or not reopened).

These challenges to demand will shape the financial sustainability of the sector. Lower demand from parents will mean a loss of income – immediately, in the case of parent-paid fees, and come January in the case of free entitlement hours. Without changes to their costs, once all support schemes end a 10% fall in fees and funding would see 37% of providers running a significant deficit; a 25% fall would bring this to nearly six in ten providers (Blanden et al., 2020).

### Free entitlement funding in the 2020–21 academic year

From the point of view of providers that rely mostly or entirely on the free entitlement for their income, these changes in demand for childcare will not yet be

<sup>18</sup> Normally, eligibility requires all adults in the family to be in work and earning the equivalent of 16 hours' work a week at the relevant minimum wage (and not more than £100,000 a year). During the lockdown, the DfE changed the eligibility rules so that families that fell out of eligibility as a direct result of the crisis would remain eligible until the end of October 2020. In addition, the DfE raised the maximum income to £150,000 for key workers undertaking extra work as part of the COVID-19 response. This higher threshold will remain in place until 5 April 2021.

affecting their finances in most cases. Exceptionally, free entitlement funding for the Autumn 2020 term will continue to be based on January 2020 pupil numbers rather than pupil numbers for January 2021 (as long as providers are open or are closed for public health reasons).<sup>19</sup> Even before the second lockdown was announced, this recognised that take-up of childcare might not be back to pre-crisis levels during the autumn term.

However, the current expectation is for funding for the spring and summer terms to be based on January 2021 pupil numbers, suggesting that – at least for the moment – the DfE expects pupil numbers at this point in time to be a good reflection of demand over the spring and summer terms. However, areas in which take-up of the free early education entitlement is recovering at a slower rate could see their early years funding cut sharply from the start of 2021, while take-up of childcare places could rebound more quickly if, for example, a vaccine is rolled out next spring. Since local authorities have a duty to ensure that there is sufficient childcare provision to fulfil demand for free entitlements, this risks a mismatch between available funding and childcare demand. Separate arrangements would also have to be made for any areas in lockdown at the time of the January 2021 census.

### Support for providers relying on parent fee income

Most of the support programmes described in Box 2.2 are time-limited. The temporary grandfathering of eligibility for the extended entitlement ended at the end of October. The original furlough scheme has also ended (though a similar programme has been temporarily reintroduced) and the self-employment grants are now due to end in April 2021 (with a less generous replacement rate during the extension). The business rates holiday and temporary increases to universal credit are also set to end in April 2021.

For providers that rely mostly on fee income, the end of these programmes will mean the end of government insurance against low income (either because of low demand or because of local or national lockdowns). As discussed in Section 2.3,

<sup>19</sup> The guidance for local authorities, which actually disburse the funding to providers, is somewhat more flexible: they should continue to fund providers ‘at broadly the levels they would have expected to see in the 2020 autumn term had there been no [COVID-19] outbreak’ (Department for Education, 2020c). However, LAs are encouraged to take into account anticipated changes such as changes in local area demographics, which would ordinarily have affected local demand.

these programmes have been a vital financial support for providers that rely mostly or entirely on parent fee income.

### Financial risks in the medium term

The key question for providers' financial health in the medium term – after the November lockdown has ended – is how much demand for childcare returns, and how quickly. Blanden et al. (2020) use survey data on childcare providers' finances to model a number of illustrative scenarios for how different falls in income could affect providers' finances in the absence of government support.

If only private income is at risk while free entitlement funding continues uninterrupted, they find that a very modest 5% cut in parent fee income would see the share of providers that would operate at significant deficit if they did not cut costs would rise from 28% to 32%. For every further 5 percentage point cut in fee income (up to 25%), the share of providers in deficit rises by 3–4 percentage points.

If income from both parent fees and the free entitlement is affected, a 5% fall in income could see 33% of providers operating at significant deficit if they did not cut their costs. But every percentage point fall in income beyond that sees ever-greater numbers of providers fall into deficit. Most notably, a 20% fall in all sources of income would see 47% of providers in significant deficit; that share rises to 57% if the income fall is 25%. Because the range of income-to-cost ratios is narrower for providers with mostly public funding, there are groups of providers with very similar finances. So, when one of these thresholds is reached, it is possible to see a substantial number of providers tipped into deficit at the same time.

## 2.5 Conclusion

For much of the last 20 years, the early years have been a clear priority for policymakers. But most of this focus has been on delivering an ever-more-generous entitlement to funded childcare places. Spending per hour has grown quite slowly since 2004, and the recent boost in 2017–18 has now been completely eroded in real terms. There are also signs that the universal free entitlement is becoming somewhat less attractive; take-up has slipped steadily since its high of 98% between 2004 and 2006, and stood at 93% in 2019–20. Combined with evidence that the universal, part-time entitlement for 3- and 4-year-olds has had only modest benefits for children's development and mothers' labour supply, there is a case for analysing

whether the current system is delivering on its aims for parents, children and government.

Against this backdrop, the COVID-19 crisis has caused enormous difficulties for providers. While the support package announced was not perfect, the programmes announced – most notably continued free entitlement funding, furloughing and self-employment grants – have been vitally important for the sector. Providers that rely mostly on public income have been almost totally protected through the first national lockdown, though settings that take in significant income from parent fees were still partly exposed to the financial hit.

But there are questions about what happens next. The end or reconfiguration over the winter and spring of the programmes that support privately funded providers, and the reassessment of free entitlement funding in January 2021, mean that providers will be much more financially exposed, both to the second lockdown and more broadly to a rather slow and incomplete return of demand for childcare.

If demand for childcare is substantially lower than we have been used to for the foreseeable future, then – as painful as it will be for providers and families – it makes sense for the sector to adjust by shedding capacity as providers downsize or go out of business. And there is evidence that, at least in normal times, the childcare market features reasonably high levels of turnover; in the financial year 2018–19, more than 10,000 providers left the market while another 7,500 entered it. This suggests that new providers will be able to enter the market if demand does rebound later on.

The risk, though, is that this adjustment will take time, or that it will be more difficult in some parts of the childcare market. If providers go out of business now only for demand to return to normal levels in six months' time, there will inevitably be extra frictions, costs and delay associated with rebuilding capacity. And since access to some form of childcare is necessary for most parents to work, and since there is some evidence that the use of childcare has benefits for children, delays that leave some families without access to childcare could have long-lasting impacts on particular cohorts of parents and children.

## 3. Schools

School spending covers pupils in state-funded schools aged 5–16, as well as pupils aged 16–19 in school sixth forms. In 2019–20, total spending on schools in England represented about £51 billion (in 2020–21 prices), accounting for 17% of total public service spending in England.<sup>20</sup>

Following large increases over the 2000s, spending per pupil has fallen since 2010–11, the first cuts to school spending per pupil since the mid 1990s. Whilst total spending was largely protected in real terms, a more than 10% increase in the pupil population meant that spending per pupil fell in real terms. The present government has sought to reverse this picture by providing a three-year settlement for school spending, which will provide a £7.1 billion increase in spending in cash terms in 2022–23 compared with spending in 2019–20. Section 3.1 sets these plans in context by showing how spending per pupil in England has evolved over time.

The government has committed to ‘level up’ poorer regions of the country, and schools seem likely to be a major focus of this commitment. Narrowing the achievement gap between children from rich and poor families has long been a priority for policymakers across the political spectrum. To inform these priorities and challenges, Section 3.2 shows how spending per pupil has changed for schools facing different levels of deprivation over the last 20 years, and how changes under the government’s new National Funding Formula are likely to alter these patterns.

Section 3.3 shows how school spending per pupil has changed over the last decade for the four nations of the UK.

The closure of schools during lockdown in the COVID-19 pandemic will create immense challenges for schools. Section 3.4 describes the scale of these challenges, including the likely widening of educational inequalities. It also sets out the catch-

<sup>20</sup> Total school spending as calculated in Figure 3.1 and quoted as a percentage of total resource departmental expenditure limits for 2019–20 (excluding Wales, Scotland and Northern Ireland) as recorded in PESA 2020 (<https://www.gov.uk/government/statistics/public-expenditure-statistical-analyses-2020>).

up and support activities already announced by the government for schools in England. We analyse the extent to which these plans are targeted at the likely challenges resulting from the COVID-19 pandemic, as well as pre-existing challenges such as the teacher labour market and the state of school buildings.

## Key findings

- 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 Over the 2010s, cuts in spending per pupil were lower in Wales (5%), but similar in Northern Ireland (10%). In contrast, spending per pupil in Scotland rose by 5% in real terms over the 2010s, reflecting extra funding to pay for increases in teacher pay totalling more than 10% over 2018 and 2019. Spending per pupil is highest in Scotland (£7,300), at similar levels in Wales and England (£6,100) and lowest in Northern Ireland (£5,800).
- 3 The government has allocated an extra £7.1 billion for schools in England in 2022–23. This will increase spending per pupil by 9% in real terms between 2019–20 and 2022–23 (as measured against expected general inflation) and near enough reverse past cuts. If we account for expected increases in teacher pay, the real-terms increase in spending per pupil will be lower, at 6%. In any case, spending per pupil in 2022–23 is set to be no higher in real terms than in 2009–10.
- 4 Secondary school spending per pupil in England (£6,000) was about 16% higher than in primary schools (£5,200) in 2019–20. This is down from a secondary/primary funding difference of 30% in 2010–11, partly reflecting large cuts to school sixth-form funding. It also continues a long-run trend, with the funding difference down from over 50% during the 1980s. Whilst empirical evidence shows high benefits to spending at younger ages, it is not clear evidence supports such a dramatic shift.

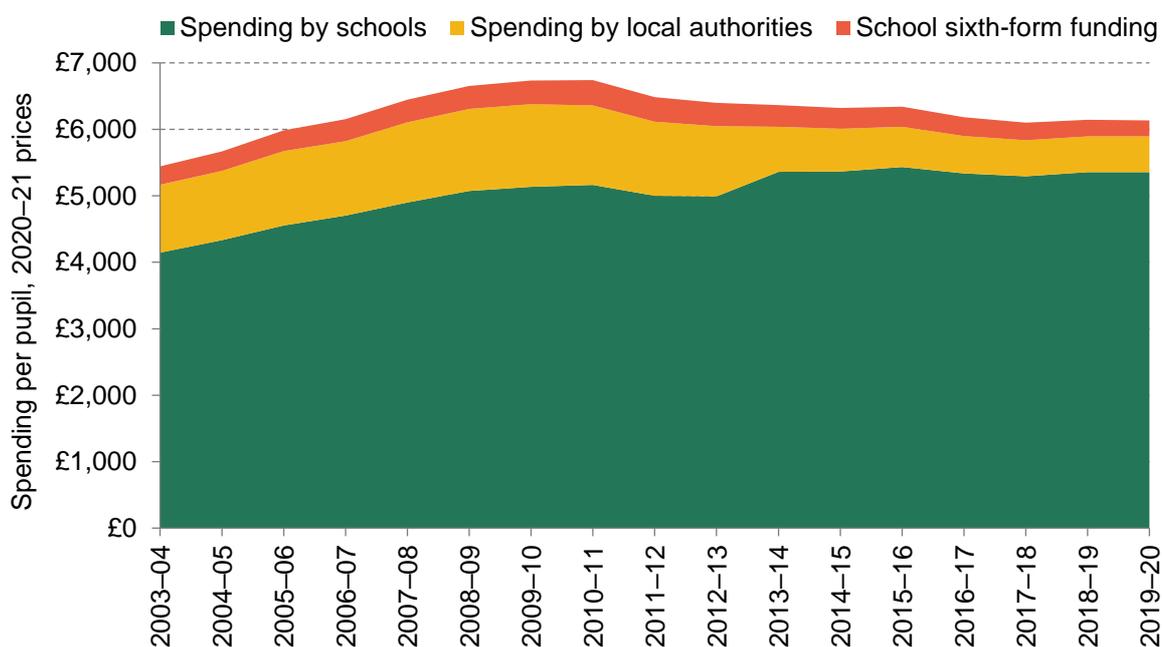
- 5 The school funding system in England provides greater levels of spending to more deprived schools to help narrow the achievement gap between rich and poor. During the 2000s, the extra funding received by the most deprived schools compared with the least deprived ones grew from 20–25% in 2000–01 to 35% by 2010–11.
- 6 Despite the introduction of the Pupil Premium in 2011, the deprivation funding premium shrank back to 25% in 2018–19. This can be partly explained by faster falls in deprivation inside London and a school funding system that did not adjust to such changes. In the long run, the new National Funding Formula should ensure the funding system is more responsive. However, the new formula will deliver funding increases of 3–4 percentage points less to schools in poorer areas up to 2021. We also see the fastest falls in spending per pupil of 13% for deprived secondary schools outside London since 2010–11. These patterns run counter to the objective of using school funding to ‘level up’ poorer regions.
- 7 Given lost schooling and a likely widening of educational inequalities during lockdown, the government has announced a range of measures to help schools. These include a one-off extra £80 per pupil aged 5–16 and a National Tutoring Programme. Whilst the focus on tutoring is well aligned with empirical evidence, the plans are modest compared with the likely reductions in learning. Only the National Tutoring Programme is targeted at more disadvantaged pupils, making it harder to address the inequalities that have widened during lockdown.
- 8 Faster falls in spending per pupil over the last decade, slower increases under the National Funding Formula, a likely widening of educational inequalities and higher costs associated with higher teacher starting salaries, given that deprived schools are more likely to employ new teachers, all provide a case for greater targeting of funding to more deprived schools.

## 3.1 Trends in spending per pupil in England

Figure 3.1 shows total school spending per pupil aged 3–19 between 2003–04 and 2019–20 broken down into three 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.
- **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 provided to schools and pupils by local authorities.

**Figure 3.1. Total school spending per pupil by component (2020–21 prices)**



Note and source: See Appendix B. HM Treasury GDP deflators, June 2020 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-june-2020-quarterly-national-accounts>) and Office for Budget Responsibility, *Fiscal Sustainability Report: July 2020* ([https://cdn.obr.uk/obr\\_FSR\\_July\\_2020.pdf](https://cdn.obr.uk/obr_FSR_July_2020.pdf)).

- **Sixth-form funding.** Funding provided to schools for pupils aged 16–19. We include sixth-form funding for practical reasons as this is often included within school expenditure figures. Wider spending on 16–19 education, including spending on further education and sixth-form colleges, is discussed in Chapter 4.

In 2003–04 (the earliest year for which we can produce this consistent set of figures), spending directly allocated to schools represented £4,100 per pupil (in 2020–21 prices) or about 76% of total school spending per pupil, which stood at £5,400 per pupil. The rest represented spending by local authorities (about £1,000 per pupil) and sixth-form funding (about £275 across all pupils aged 3–19 or about £5,100 per pupil in school sixth forms).

As summarised in Table 3.1, over the six years up to 2009–10, each component rose by a similar amount – roughly a quarter – in real terms. As such, the share of total spending directly allocated to schools remained at around 76%.

**Table 3.1. Summary of levels and changes in different components of total school spending per pupil (2020–21 prices)**

	Spending by schools	Spending by local authorities	School sixth-form spending	Total spending
<b>2003–04</b>	<b>£4,144</b>	<b>£1,022</b>	<b>£276</b>	<b>£5,442</b>
<i>Change</i>	£989	£225	£77	£1,292
<i>Real-terms growth</i>	24%	22%	28%	24%
<b>2009–10</b>	<b>£5,133</b>	<b>£1,247</b>	<b>£354</b>	<b>£6,734</b>
<i>Change</i>	£223	–£707	–£114	–£599
<i>Real-terms growth</i>	4%	–57%	–32%	–9%
<b>2019–20</b>	<b>£5,355</b>	<b>£540</b>	<b>£239</b>	<b>£6,135</b>

Note and source: See Appendix B.

After 2009–10, the different components evolved very differently. Per-pupil spending by schools rose by around 4% in real terms or about £220. This increase is larger than initial plans for a real-terms freeze in school spending per pupil (including spending on the Pupil Premium), which is the result of a combination of factors. First, actual inflation turned out to be over 3% lower than expected between 2010–11 and 2014–15, leading to a higher settlement in real terms than initially anticipated. Second, after 2011–12, a range of responsibilities and associated funding moved from local authorities to schools themselves. Analysis by Sibieta (2015) suggests this transfer of funding equated to about 4% of school budgets. Third, these figures also include growth in early years spending reported in Chapter 2. Total spending on all pupils aged 3–19 grew by 1% in real terms between 2009–10 and 2019–20, but fell by about 2% if we exclude all reported early years spending.

In contrast, local authority spending on services fell by 57% or about £700 per pupil in real terms between 2009–10 and 2019–20. Some of this effect is mechanical, reflecting a transfer of funding and responsibilities from local authorities to both academies and maintained schools. School sixth-form funding per pupil fell by about 32%. This is higher than the nearly 25% reduction in sixth-form funding per student quoted in Chapter 4 as the figure here relates to sixth-form funding per pupil aged 3–19 (and therefore includes the effect of falls in the number of pupils aged 16–19).

As a result of these contrasting trends, total school spending per pupil fell by about 9% or about £600 per pupil between 2009–10 and 2019–20. Much of this fall happened prior to 2015–16, with a fall of 6% in real terms between 2009–10 and 2015–16 and a further fall of 3% between 2015–16 and 2019–20. The falls between 2009–10 and 2015–16 are entirely driven by falls in local authority spending and school sixth-form funding. The 9% fall is larger than the 8% quoted in last year's report due to changes in inflation, pupil numbers and incorporation of actual data for 2019–20.

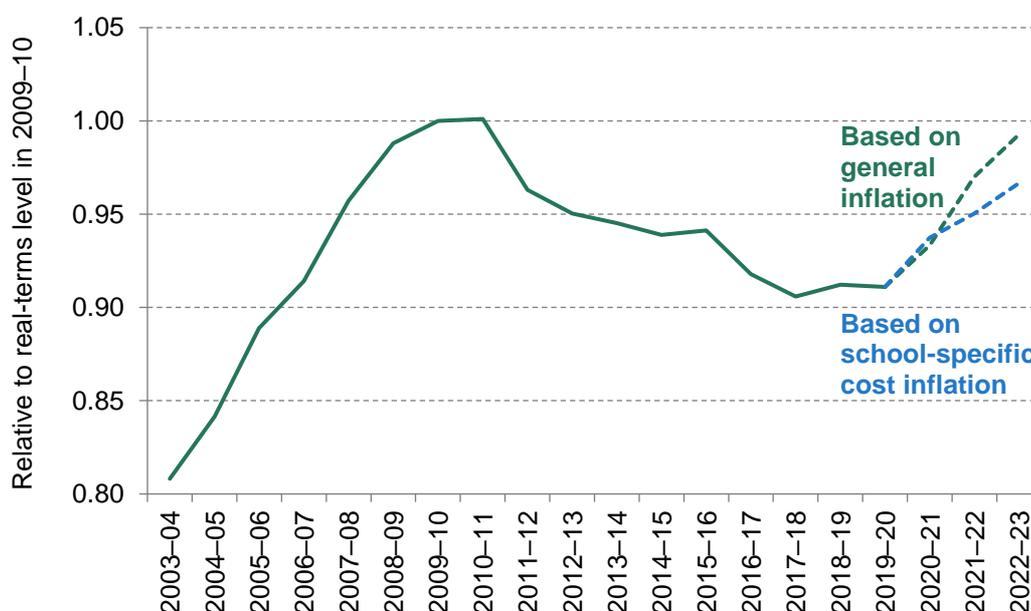
Looking over the long run, these changes leave total school spending per pupil about 13% higher in real terms than at the start of our series in 2003–04.

These figures represent the best measure of the change in total public spending available for school services 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 has fallen by 8% in real terms between 2009–10 and 2019–20.

In the 2019 Spending Round, the government announced a new three-year settlement for day-to-day spending on schools in England through to 2022–23. This included a cash-terms rise in the schools budget (covering pupils aged 5–16) of £7.1 billion between 2019–20 and 2022–23.

**Figure 3.2. Total school spending per pupil (actual up to 2019–20, projected to 2022–23), 2009–10 = 1**



Note and source: HM Treasury, *Spending Round 2019*

(<https://www.gov.uk/government/publications/spending-round-2019-document>), HM Treasury GDP deflators, June 2020 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-june-2020-quarterly-national-accounts>) and Office for Budget Responsibility, *Fiscal Sustainability Report: July 2020*

([https://cdn.obr.uk/OBR\\_FSR\\_July\\_2020.pdf](https://cdn.obr.uk/OBR_FSR_July_2020.pdf)). Forecasts all assume that early years and sixth-form funding per pupil aged 3–19 follows the same path as school spending per pupil. School-specific cost inflation assumes that teacher expenditure grows by 3% per year, other staff pay grows by economy-wide average earnings growth and non-staff costs grow in line with the GDP deflator, the latter two as projected in the OBR's July Fiscal Sustainability Report. See Appendix B for further details on school spending up to 2019–20.

After accounting for expected growth in pupil numbers of just under 2% between 2019–20 and 2022–23, we project that spending per pupil will grow by 9% in real terms between 2019–20 and 2022–23. This would be the first sustained growth in school spending per pupil for over a decade. As shown in Figure 3.2, this would near enough reverse past cuts and take total spending per pupil back to about 1% below its level in 2009–10.

These figures are based on economy-wide inflation as captured by the GDP deflator. As argued in Box 3.1, the GDP deflator provides the best measure of inflation for making consistent comparisons over different areas of spending. Over the last decade, real-terms changes in spending per pupil are similar whether using the GDP deflator or a measure of school-specific inflation (with school-specific inflation below general inflation up to 2015 and above it thereafter). However, general inflation and school-specific inflation can be very different in the short run, particularly during periods of economic uncertainty and when the government chooses to make substantial changes to teacher pay.

At present, general inflation is forecast to be close to 0% in 2021–22. This is likely to be significantly below planned increases in teacher pay, which is due to rise by about 3% per year, in line with a government commitment to increase starting salaries to £30,000 and deliver pay rises for existing teachers too. If we calculate a measure of school-specific cost growth, the measure of inflation faced by schools could be closer to 8% between 2019–20 and 2022–23 (as opposed to 6% as captured by general inflation). Based on school-specific inflation, the expected real-terms growth in spending per pupil between 2019–20 and 2022–23 is 6% (instead of 9% based on general inflation). As shown in Figure 3.2, this would leave spending per pupil about 3% below its 2009–10 level.

Whilst the planned increases in school spending per pupil represent a clear turnaround as compared with recent trends, 1% and 3% falls in spending per pupil over 13 years would both represent a significant squeeze on school resources as compared with recent history. The previous lowest growth over a 13-year period was 17% for secondary schools between 1987–88 and 2000–01 (see Figure 3.3 later).

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**Box 3.1. Adjusting for inflation**

In most of our analysis, we adjust for inflation using the GDP deflator, which captures economy-wide inflation. This allows for consistent and clear comparisons across different areas of education spending, and with other areas of public spending, over long periods.

Such a measure might, however, under- or over-estimate the growth in specific costs faced by schools and real-terms changes in spending if school-specific costs are evolving at a different rate from overall inflation. The most likely reason for this to occur is if school staff costs are growing by more or less than inflation. In this case, however, it is important to acknowledge that above-inflation increases in staff pay could translate into increases in the quantity and quality of school resources.

Ideally, one would calculate real-terms changes in spending per pupil based on general inflation and based on school-specific costs. This is likely to be possible over short periods, but is likely to prove more difficult over the long run due to a lack of necessary data.

In our 2019 annual report on education spending in England, we compared recent real-terms changes in spending per pupil calculated on the basis of economy-wide inflation and school-specific costs (Britton, Farquharson and Sibieta, 2020). This showed that between 2010–11 and 2015–16, spending per pupil fell by 5.5% in real terms using the GDP deflator, but by the lower figure of 4.5% using school-specific costs. The lower growth in school-specific costs reflects the squeeze on public sector pay implemented between 2010 and 2015. However, between 2015–16 and 2019–20, spending per pupil fell by more adjusting for school-specific costs (4.2%) than when adjusting for economy-wide inflation (3.4%). This reflects faster growth in school-specific costs due to increases in public sector pay and employer on-costs (employer pension and National Insurance contributions). Taking the period as a whole, the real-terms fall in spending per pupil was very similar using the GDP deflator (8.7%) and school-specific costs (8.5%).

This illustrates that over the long run, the GDP deflator can provide a good approximation to school-specific costs in calculating real-terms changes in spending per pupil. This is likely to be less true over the short run. We therefore show all real-terms changes using the GDP deflator, but indicate where school-specific costs might grow by more or less in the short run due to policy decisions.

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These figures exclude the £1.5 billion cost of compensation for schools for increases in employer contributions to the Teachers' Pension Scheme. We exclude this grant as it is deliberately intended to reflect the higher costs schools will face as a result of these higher employer pension contributions. In contrast to the effects of the Teachers' Pay Grant, actual or expected pension benefits for teachers are unaffected. However, the higher contributions are calculated on the basis of a higher future expected cost of the Teachers' Pension Scheme as calculated in the quadrennial review. One could argue that this higher cost translates into a greater value of pension benefits for teachers.

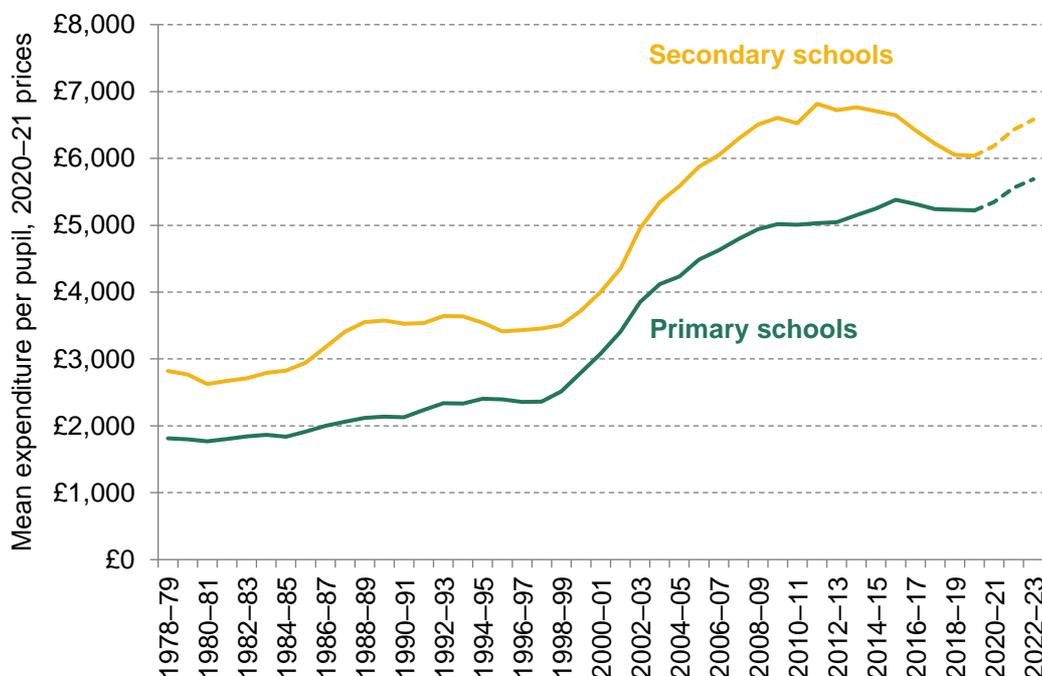
If one included the £1.5 billion grant for employer pension contributions, school spending per pupil would increase by about 3% in 2022–23. This would leave spending per pupil about 2% higher in real terms than in 2009–10. However, even including the pension contributions grant, spending per pupil will have still seen a significant squeeze in historical terms between 2009–10 and 2022–23.

### Primary and secondary school spending per pupil

Figure 3.3 shows our estimates for the level of primary and secondary school spending per pupil in England over time (in 2020–21 prices), together with projections up to 2022–23 based on the 2019 Spending Round and economy-wide inflation. The data we use to calculate these figures allow us to track spending per pupil further back in time. Here, our definition of school spending is the sum of the amount of spending undertaken by individual schools, which will include expenditure on sixth-form students. It excludes spending undertaken directly by local authorities and spending on special schools.

These figures differ slightly from those presented in our education spending report in previous years for two main reasons. First, we have made use of extra data for more recent years (2015–16 to 2018–19) on spending by individual schools as opposed to planned levels of total funding from central government. This provides a more accurate picture of actual spending by schools. Second, we have slightly adjusted methods for earlier years to ensure consistency with more recent data, which leads to higher levels of spending per pupil during the 2000s. Further details and a comparison with our previous calculations are provided in Appendix B.

**Figure 3.3. Spending per pupil in primary and secondary schools (2020–21 prices)**



Note and source: See Appendix B for a full list of sources and methods for school spending. HM Treasury GDP deflators, June 2020 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-june-2020-quarterly-national-accounts>) and Office for Budget Responsibility, *Fiscal Sustainability Report: July 2020* ([https://cdn.obr.uk/OBR\\_FSR\\_July\\_2020.pdf](https://cdn.obr.uk/OBR_FSR_July_2020.pdf)).

As can be seen, 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 2.2% per year, on average, in real terms and secondary school spending per pupil grew by slightly less (around 1.5% per year, on average). There was also a fall of 6% in real terms in secondary school spending per pupil between 1992–93 and 1995–96.
- Rapid growth over the 2000s.** From 1999–2000 onwards, spending per pupil grew rapidly, with growth of 6% per year in real terms for primary and secondary schools over the 2000s. This led primary school spending per pupil to rise from £2,800 per pupil in 1999–2000 to reach £5,000 by 2009–10, whilst secondary school spending per pupil grew from £3,700 to £6,600 per pupil.
- Real-terms protection between 2010 and 2015.** Under the coalition government, existing school spending per pupil was frozen in cash terms from

2010–11 onwards. The Pupil Premium was created on top of this settlement and amounted to just under £2.5 billion by 2015–16. In 2010, this settlement was expected to lead to a constant level of spending per pupil in real terms through to 2015–16 (Chowdry and Sibieta, 2011). However, Figure 3.3 shows that spending per pupil actually grew by 7% in real terms in primary schools and was largely unchanged in real terms in secondary schools between 2009–10 and 2015–16. This would equate to total real-terms growth of about 3–4% across primary and secondary schools.

- There are a number of reasons why school spending grew in real terms over this period and why it grew faster in primary schools. First, actual inflation turned out to be lower than originally expected in 2010, which increased the real-terms value of the overall settlement. Second, funding moved to primary and secondary schools as maintained schools and academies took on responsibility for services previously provided by local authorities. Figure 3.2 accounts for this by combining school and local authority spending. Related to this point, Figure 3.3 shows an apparent increase in 2011–12, which can be largely explained by inconsistencies in the data. Third, the Pupil Premium was gradually introduced at a higher rate in primary schools, which led to larger increases in spending in primary schools. Fourth, secondary schools will have further lost out from reductions to school sixth-form funding (see Chapter 4 for further details).
- **Real-terms falls since 2015** – Between 2015–16 and 2017–18, school spending per pupil continued to be frozen in cash terms, though it was largely protected in real terms from 2017–18 onwards. This translated into a 3% real-terms fall in primary school spending per pupil and a 9% real-terms fall in secondary school spending per pupil. The faster fall in secondary school spending can be partly accounted for by the continued falls in school sixth-form funding. The cut to primary school spending per pupil is the first real-terms cut in primary school spending since at least the 1970s. The cuts to secondary school spending per pupil are larger than the last real-terms cut to secondary school spending, in the mid 1990s, during which time spending per pupil fell by 6% in real terms.
- These cuts will leave secondary school spending per pupil about 9% lower in real terms than a decade earlier in 2009–10. In contrast, primary school spending per pupil will still be about 4% higher as a result of the faster growth that took place between 2009–10 and 2015–16.
- **Return of growth up to 2022.** As a result of the 2019 Spending Round, we project that spending per pupil will grow by 9% in real terms between 2019–20

and 2022–23 (as measured against economy-wide inflation). If we assume equal growth across primary and secondary schools, spending per pupil in primary schools in 2022–23 will be 13% higher in real terms than in 2009–10, but largely unchanged in secondary schools.

The expected average growth in spending per pupil between 2019–20 and 2022–23 is about 3% per year. This is identical to the long-run average growth in spending per pupil between the start of our consistent time series in the late 1970s through to 2009–10 before cuts began to take effect. However, expected future growth of 3% per year is above the long-run average observed up to 1999–2000 (2.1% per year for primary schools and 1.3% for secondary schools).

Looking over the long run, primary school spending per pupil was about 70% higher in 2019–20 than in 2000–01, and secondary school spending per pupil was about 50% higher. These figures are likely to be over-estimates as they partly reflect transfers of responsibilities and funding from local authorities to schools.

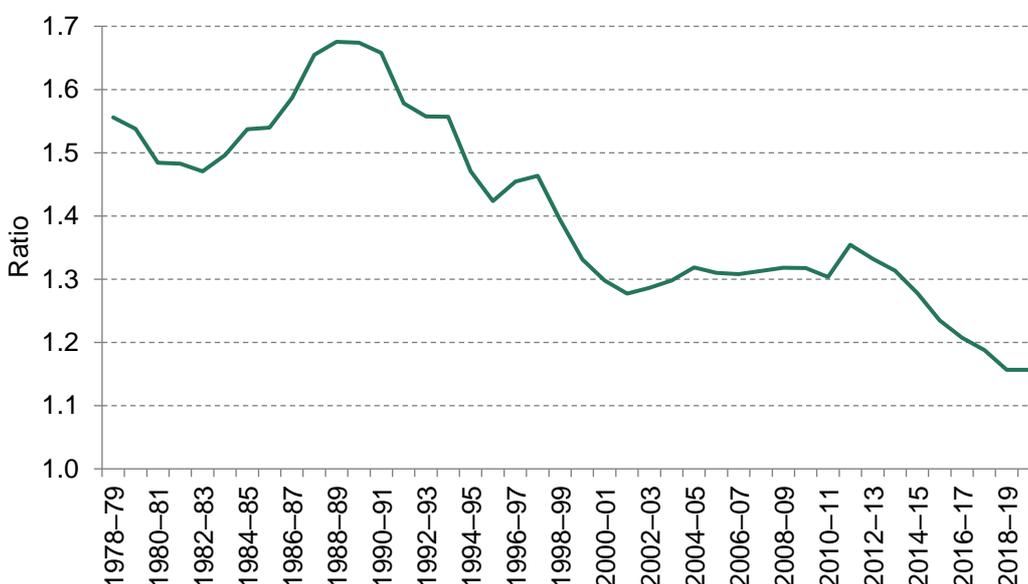
Perhaps one of the biggest (and under-appreciated) long-run shifts in school spending over the last few decades has been the increase in primary school spending relative to secondary schools. This was already evident from recent trends, with a 9% real-terms cut in secondary school spending per pupil between 2009–10 and 2019–20, compared with a 4% rise for primary schools.

Figure 3.4 shows that this continues a long-run pattern. Following an increase over the mid-1980s, spending per pupil was about 67% higher in secondary schools than in primary schools at the end of the 1980s. This then fell to a gap of about 30% by the end of the 1990s. The ratio was then largely constant over the 2000s, but has since fallen to about 16% in the most recent year. This is the lowest gap between primary and secondary schools since the late 1970s. Given a ratio of 1.55 in the late 1970s, the current ratio of 1.16 is probably a lot lower than that seen before the 1970s too (unless there were much larger increases in secondary school spending relative to primary school spending in earlier years).

This large reduction in the secondary/primary funding ratio is very striking, with the trends up to 2013 already noted elsewhere (Belfield and Sibieta, 2016). The further falls since 2013 represent a new finding, but a continuation of the long-run trend. Part of this fall in the secondary/primary funding ratio will have been driven by larger cuts to school sixth-form funding. However, it is not clear that

policymakers intended such a large shift in resources. Empirical evidence certainly suggests that earlier school investments can be more productive than later investments (Cunha, Heckman and Schennach, 2010; Nicoletti and Rabe, 2018; Johnson and Jackson, 2019). However, such evidence does not point to the need for such a large shift in spending. Further research is needed to understand the implications of this change in the profile of spending across primary and secondary schools.

**Figure 3.4. Ratio of secondary school spending to primary school spending per pupil over time**



Note: See Appendix B for a full list of sources and methods for school spending.

## 3.2 Differences in spending by levels of deprivation

In this section, we move beyond average spending to examine differences in spending per pupil by levels of deprivation. This represents a key consideration in understanding trends in school spending given the government's focus on 'levelling up' poorer areas of the country. Recent evidence also suggests that school spending can have a larger positive effect on the long-run outcomes of children from poorer families (Jackson, Johnson and Persico, 2016; Jackson, 2018; Gibbons, McNally

and Viarengo, 2018). This suggests that providing higher levels of spending to schools facing higher levels of deprivation could be an important tool in narrowing the achievement gap between children from rich and poor families.

Such differences are also important to consider in light of the ongoing COVID-19 pandemic. Most evidence suggests that educational inequalities between children from rich and poor families are likely to have widened during lockdown (DELVE Initiative, 2020). Understanding trends in spending per pupil by levels of deprivation should therefore provide an indication as to the extent to which schools facing greater levels of deprivation are well prepared and resourced for the challenges ahead.

Table 3.2 shows the level of spending per pupil for primary and secondary schools in five equally sized groups or quintiles of deprivation based on the share of pupils eligible for free school meals in each individual year. The definition of school spending is the same as in Figure 3.3, i.e. excluding spending by local authorities but including sixth-form funding. This is shown for 2000–01, 2009–10 and 2018–19, together with real-terms changes over time (all in 2020–21 prices). Figure 3.5 shows the level of spending per pupil relative to the least deprived quintile and Figure 3.6 shows the level of spending relative to that seen in 2009–10, both over time.

Spending per pupil grew significantly across all quintiles over the 2000s, but by the most amongst schools with the most deprived intakes. Spending per pupil grew by 69% in real terms amongst the most deprived primary schools and by 56% amongst the least deprived primary schools. As a result, spending per pupil reached over £6,000 amongst the most deprived primary schools in 2009–10, compared with £4,500 amongst the least deprived. This created a deprivation funding premium of about £1,500 per pupil or 34% in 2009–10, which compares with differences of £650 or 23% in 2000–01.

**Note and source to Table 3.2**

Spending based on methods and data described in Appendix B. Share of pupils eligible for free school meals calculated using LEASIS 1993–2009 as per Belfield and Sibieta (2016) and data downloaded from annual performance tables for 2010–18 (<https://www.compare-school-performance.service.gov.uk/>). HM Treasury GDP deflators, June 2020 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-june-2020-quarterly-national-accounts>) and Office for Budget Responsibility, *Fiscal Sustainability Report: July 2020* ([https://cdn.obr.uk/OBR\\_FSR\\_July\\_2020.pdf](https://cdn.obr.uk/OBR_FSR_July_2020.pdf)).

Table 3.2. Spending per pupil by quintile of eligibility for free school meals (2020–21 prices)

## a) Primary schools

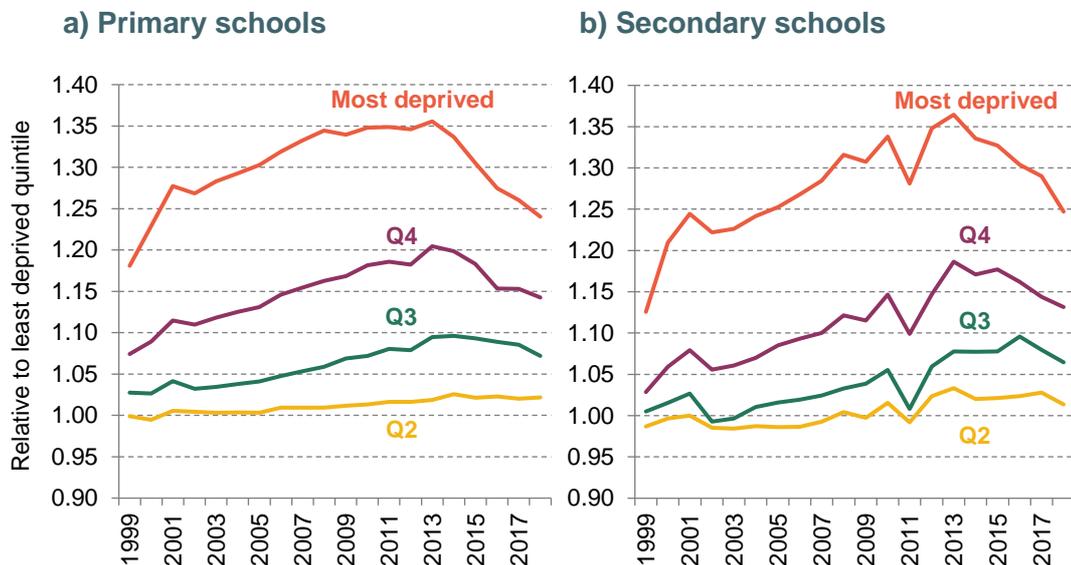
	Q1 (least deprived)	Q2	Q3	Q4	Q5 (most deprived)
<b>2000–01</b>	<b>£2,886</b>	<b>£2,870</b>	<b>£2,962</b>	<b>£3,144</b>	<b>£3,546</b>
<i>Change</i>	£1,602	£1,670	£1,835	£2,101	£2,464
<i>Real-terms growth</i>	56%	58%	62%	67%	69%
<b>2009–10</b>	<b>£4,488</b>	<b>£4,540</b>	<b>£4,797</b>	<b>£5,244</b>	<b>£6,011</b>
<i>Change</i>	£291	£343	£326	£216	<b>–£84</b>
<i>Real-terms growth</i>	6%	8%	7%	4%	–1%
<b>2018–19</b>	<b>£4,779</b>	<b>£4,883</b>	<b>£5,123</b>	<b>£5,460</b>	<b>£5,927</b>

## b) Secondary schools

	Q1 (least deprived)	Q2	Q3	Q4	Q5 (most deprived)
<b>2000–01</b>	<b>£3,787</b>	<b>£3,774</b>	<b>£3,846</b>	<b>£4,012</b>	<b>£4,581</b>
<i>Change</i>	£2,266	£2,264	£2,443	£2,739	£3,333
<i>Real-terms growth</i>	60%	60%	64%	68%	73%
<b>2009–10</b>	<b>£6,053</b>	<b>£6,038</b>	<b>£6,288</b>	<b>£6,751</b>	<b>£7,914</b>
<i>Change</i>	<b>–£500</b>	<b>–£408</b>	<b>–£376</b>	<b>–£466</b>	<b>–£988</b>
<i>Real-terms growth</i>	–8%	–7%	–6%	–7%	–12%
<b>2018–19</b>	<b>£5,553</b>	<b>£5,630</b>	<b>£5,912</b>	<b>£6,284</b>	<b>£6,926</b>

Note and source: See previous page.

**Figure 3.5. Spending per pupil by quintile of eligibility for free school meals, relative to least deprived quintile**



Note and source: See Table 3.2.

A similar pattern can be seen for secondary schools, with 73% growth in spending per pupil amongst the most deprived secondary schools and 60% growth amongst the least deprived schools. As a result, spending per pupil stood at about £7,900 amongst the most deprived secondary schools in 2009–10, about £1,900 or 31% more than amongst the least deprived schools. This compares with a deprivation funding premium of £800 or 21% in 2000–01.

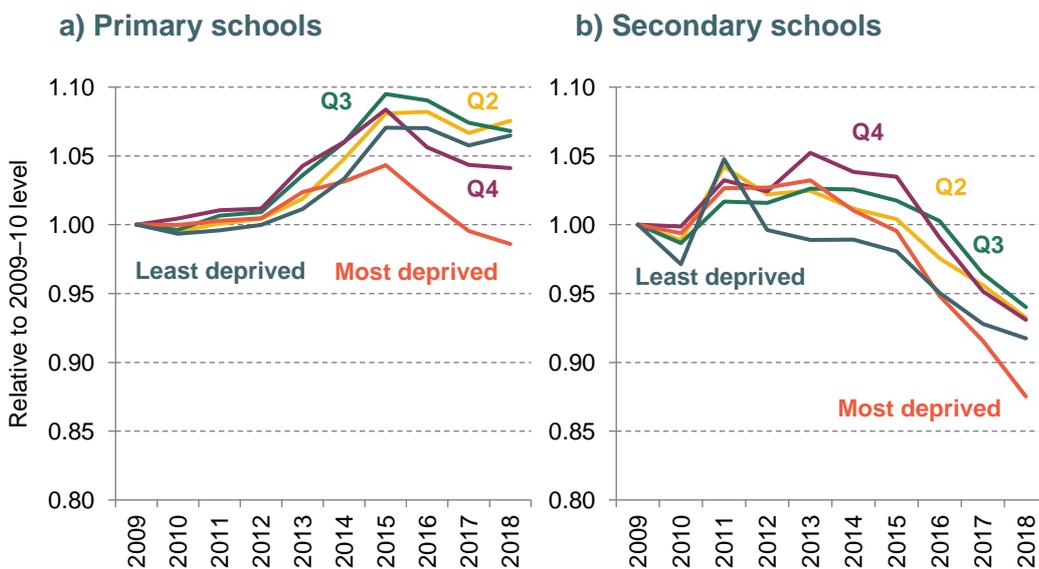
There was therefore a very substantial increase in the degree to which school funding was targeted at more deprived schools over the 2000s, which has been widely documented (West, 2009; Belfield and Sibieta, 2016). In previous work, we have shown that this was largely driven by a high use of specific grants or direct payments from central government targeted at more disadvantaged schools, such as the School Development Grant, Standards Funding and Ethnic Minority Achievement Grant (Belfield and Sibieta, 2016). These grants were then folded into the main schools grant in 2011 (the Dedicated Schools Grant), with local authorities explicitly allowed to take account of previous allocations in order to preserve the higher funding for more deprived schools.

Between 2010 and 2015, existing school spending per pupil was largely frozen in cash terms, with the new ‘Pupil Premium’ introduced on top of this. The Pupil

Premium represents an extra payment to schools for pupils from disadvantaged backgrounds. This effectively continues the past trend of providing more funding to schools with more disadvantaged intakes. It was gradually extended over time and increased at a higher rate in primary schools. By 2015–16, it stood at an extra £1,320 for pupils ever eligible in the previous six years for free school meals in primary schools and £935 in secondary schools (higher rates are used for children in care and a smaller premium is available for children whose parents are in the armed forces). These rates have since been largely frozen in cash terms, with only a £20–25 increase in 2020–21.

Despite the introduction of the Pupil Premium, Figure 3.6 shows that it was not the most deprived primary schools that experienced the largest increases in spending over the period from 2010 to 2015. Instead, it was schools in quintiles 3 and 4 (schools with average or just above average levels of spending) which experienced the largest increases in spending per pupil (about 8–9% in real terms, as compared with 4% amongst the most deprived schools). A similar pattern can be seen for secondary schools, with quintiles 3 and 4 seeing slightly larger increases in funding than the most deprived schools.

**Figure 3.6. Spending per pupil by quintile of eligibility for free school meals, relative to 2009–10 level**



Note and source: See Table 3.2.

For both primary and secondary schools, the most deprived and least deprived schools saw similar changes in spending per pupil between 2009–10 and 2014–15. As a result, the deprivation funding premium remained at around 30–35% over this period. This is a surprising finding as one would have expected the Pupil Premium to have increased funding for more deprived schools by the most, all other things being equal. We investigate this surprising outcome in the next subsection.

From 2015 onwards, an even more striking pattern has emerged. Since 2014–15, spending per pupil has fallen by 4% amongst the most deprived primary schools as compared with a rise of 3% amongst the least deprived primary schools. Amongst secondary schools, the most deprived schools saw a 13% real-terms fall in spending per pupil between 2014–15 and 2018–19, which compares with a 7% fall amongst the least deprived schools.

Looking at the whole period since 2009–10, spending per pupil has fallen by the largest amount amongst the most deprived primary and secondary schools. Most quintiles of primary schools saw small increases in spending per pupil, including a 6% rise for the least deprived schools, which contrasts with a small fall of 1% for the most deprived primary schools. The least deprived secondary schools saw falls in spending per pupil (8%), but these were less than those seen for the most deprived schools, which saw a 12% real-terms fall in spending per pupil between 2009–10 and 2018–19.

The result is that the deprivation funding premium fell significantly. It remained at about 30–35% between 2009–10 and 2014–15, before then falling to about 25% in 2018–19. This takes the funding premium back to the levels in the early 2000s. Indeed, the level of spending per pupil for the most deprived primary schools was about the same in 2018–19 as it was in 2009–10, whilst spending per pupil in the most deprived secondary schools was about the same level in 2018–19 as it was in 2005–06. This represents a significant reversal of the focus on more deprived schools up to 2014–15.

## Explanations

What are the likely explanations for this significant shift in the pattern of school spending by deprivation? As we have already indicated, the deprivation funding premium was relatively constant at about 30–35% between 2009–10 and 2014–15, which is surprising in itself given that the Pupil Premium was introduced and

increased. There were then faster falls in spending per pupil amongst more deprived primary and secondary schools after 2014–15, which reduced the deprivation funding premium to about 25%.

The direct implication is that other sources of funding became less focused on the most deprived schools over time. Unfortunately, the highly complex nature of the school funding system and incomplete data over much of this period make it near impossible to undertake comprehensive analysis. However, we can assess the plausibility of a number of potential explanations:

- **Cash freeze in the Pupil Premium.** School spending per pupil would be only about 0.5–0.6% higher in the most deprived schools relative to the least deprived ones if the Pupil Premium had kept pace with inflation.<sup>21</sup> Figure 3.6 shows that spending per pupil fell by 7% more amongst the most deprived primary schools since 2014–15 and by about 6% more amongst the most deprived secondary schools as compared with the least deprived schools. A cash freeze in the Pupil Premium can therefore only explain a small amount of the faster fall in spending per pupil amongst the most deprived schools.
- **Introduction of simpler local funding formulae within local authorities.** In 2013–14, all local authorities were obliged to introduce simpler local funding formulae.<sup>22</sup> The Department for Education set out a number of factors, with local authorities setting the values applying to all state-funded schools in their area. The fact that this change pre-dates the larger falls in spending for more deprived schools after 2014–15 suggests that the introduction of these formulae is unlikely to be a major explanation in itself. Furthermore, analysis of these formulae suggests that the share of funding allocated on the basis of deprivation has remained at around 8% of total spending between 2014–15 and 2018–19.<sup>23</sup>

<sup>21</sup> If Pupil Premium rates had been uprated in line with economy-wide inflation since 2014–15, they would have been about £80–£90 higher than the actual rates used in 2018–19. Given a difference of about 40% in the share of pupils ever eligible for free school meals between the most and least deprived schools, school spending per pupil would be about 0.5–0.6% higher in the most deprived schools relative to the least deprived ones if the Pupil Premium had kept pace with inflation.

<sup>22</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/244364/school\\_funding\\_reform\\_-\\_final\\_2013-14\\_arrangements.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/244364/school_funding_reform_-_final_2013-14_arrangements.pdf).

<sup>23</sup> Authors' calculations using Department for Education schools block funding formulae for 2014–15 (<https://www.gov.uk/government/publications/schools-block-funding-formulae-2014-to-2015>) and 2018–19 (<https://www.gov.uk/government/publications/schools-block-funding-formulae-2018-to-2019>).

- **Changing geography of deprivation across local authorities.** The geography of deprivation was also changing over this period, with reduced levels of deprivation amongst the most deprived schools and declining levels of deprivation in London in particular. This could have reduced actual funding received by the most deprived schools for deprivation (given lower levels) and led deprived schools to be less likely to be located in London (where spending per pupil is higher due to London weighting for staff salaries).<sup>24</sup>
- Figure 3.7 seeks to address this issue by showing the change in spending per pupil between 2010–11 and 2018–19 amongst schools by contemporary quintile and by quintiles fixed at 2010–11 levels. Results are only shown for Q1 (least deprived) and Q5 (most deprived) to make the changes easier to see. The figure shows that when using 2010 quintiles instead of contemporary quintiles, the differences in growth between the least deprived and most deprived falls significantly (from 8.6% to 3.1% for primary schools, and from 6.4% to –0.7% for secondary schools).

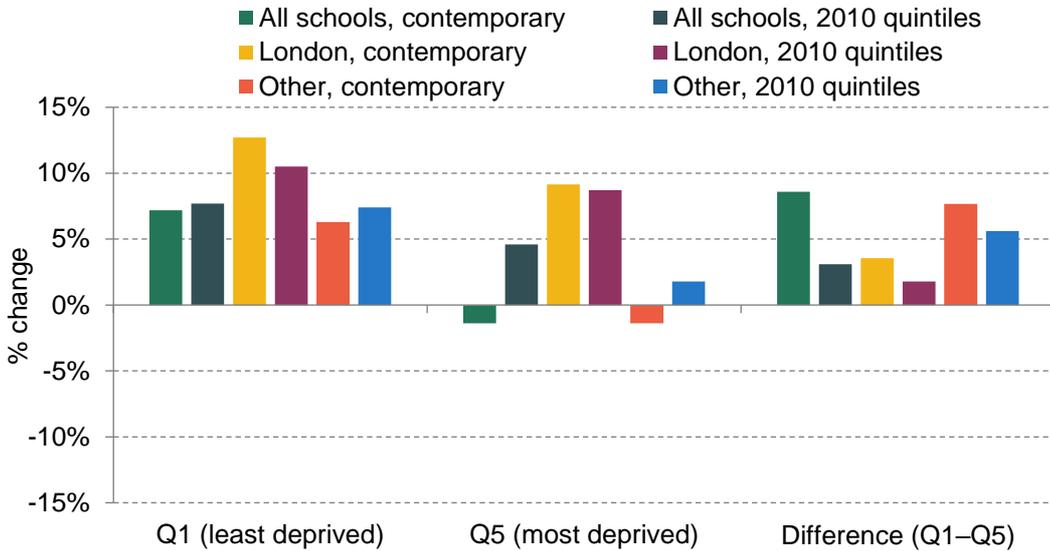
Therefore, a large part of the faster cuts amongst more deprived schools can be explained by the changing geography of deprivation, with some initially more deprived schools becoming less deprived over time and other schools becoming more deprived over time. Schools in London moving down quintiles (i.e. becoming less deprived) is likely to be playing a large role here.

Given that funding per pupil was largely based on what local authorities received in the previous year for much of this period (and not local authorities' actual characteristics), funding would not necessarily have responded to this changing geography of deprivation. This is an important reason why the new National Funding Formula was introduced, as it will allow funding differences across local authorities to respond to changes over time.

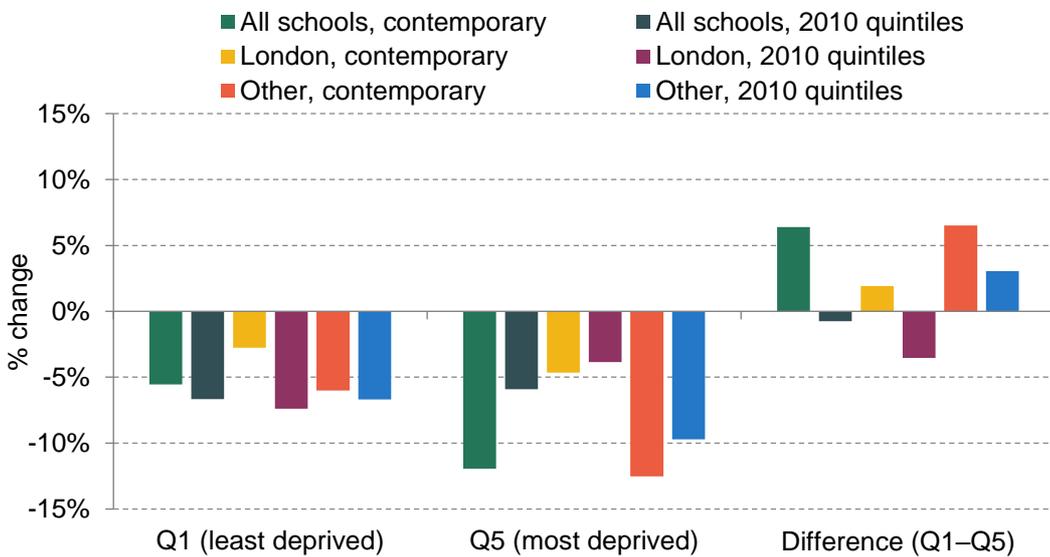
<sup>24</sup> 29% of primary schools in the most deprived quintile were in London in 2010–11 as compared with 16% in 2018–19. Amongst secondary schools, the trends are even more dramatic. 34% of secondary schools in the most deprived quintile in 2010–11 were in London, and this fell to 22% by 2018–19.

**Figure 3.7. Real-terms change in spending per pupil between 2010–11 and 2018–19 (current and fixed at 2010–11 levels), by quintile of free school meal eligibility, inside and outside London**

**a) Primary schools**



**b) Secondary schools**



Note and source: See Table 3.2.

Figure 3.7 also breaks these results down by schools inside and outside London (though quintiles are based on all schools). This shows that faster falls in spending per pupil for the most deprived schools have been concentrated in areas outside of London. This is true based on contemporary quintiles and those fixed at 2010 levels. Indeed, deprived schools outside of London have seen the largest cuts since 2010–11. Deprived primary schools outside London saw a real-terms fall of 1% between 2010–11 and 2018–19, which compares with a picture of growth for less deprived schools outside London and all schools in London. Deprived secondary schools outside London saw real-terms cuts of 13%. This suggests that faster cuts for more deprived schools cannot solely be explained by the changing geography of deprivation. More research is needed to understand the force driving this trend.

### Expected future changes due to National Funding Formula

Looking to the future, the changing distribution of funding per pupil across schools will be largely determined by the new National Funding Formula (NFF) for schools. This was introduced for 2018–19 and calculates a notional funding allocation for each school based on the number and characteristics of pupils attending each school. The NFF incorporates various funding factors, including pupil numbers, the number of pupils from deprived backgrounds, the number of pupils with low prior attainment and extra funding for smaller schools, as well as a range of other factors.

This amount is then summed across each school in a local authority to determine the local authority’s budget. Local authorities can then use these NFF allocations or implement their own local funding formulae. Actual funding allocations to schools currently still reflect local authority choices. The government has indicated that it intends to move to a ‘hard’ national funding formula in the future, where funding to individual schools directly reflects NFF allocations, but has not yet set a date.<sup>25</sup>

Importantly, the NFF includes statutory minimum funding levels for primary and secondary schools. These were initially set at £3,500 for primary schools and £4,800 for secondary schools. However, they were only used to determine funding allocated to local authorities, as per other elements of the NFF. For 2020–21, the

<sup>25</sup> <https://www.gov.uk/government/news/every-pupil-in-england-to-see-another-rise-in-funding-in-2021>.

government increased these minimum levels to £3,750 for primary schools and £5,000 for secondary schools. It has also made them compulsory for local authorities. These minimum funding levels were further increased to £4,000 for primary schools and £5,150 for secondary schools for 2021–22.<sup>26</sup>

These minimum funding levels have played an increasingly important role in the school funding system. Indeed, Andrews (2020) shows that one in five schools will receive the minimum funding levels in 2021–22. Schools benefiting from these minimum funding levels tend to be less deprived schools with lower levels of funding.

With these changes in mind, Figure 3.8 shows the real-terms changes in NFF allocations by school deprivation quintile (based on the percentage of pupils eligible for free school meals) for each year of the NFF's operation. The first bar for each quintile compares the NFF's allocations for 2019–20 with the baseline for 2017–18, whilst the next two compare 2020–21 and 2021–22 with the previous year. The final bar shows the cumulative change from 2017–18 to 2021–22.

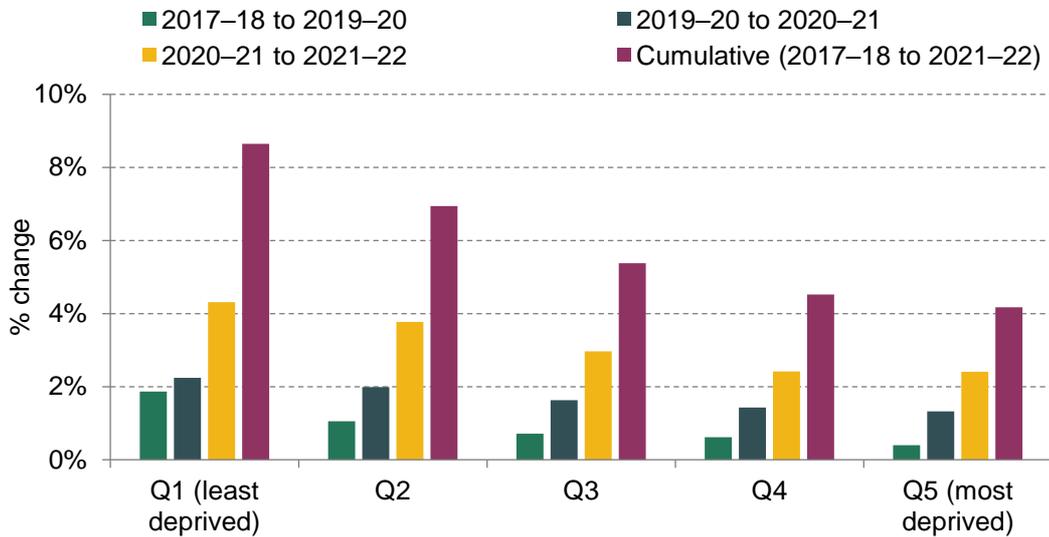
As can be seen, more deprived schools are due to receive lower real-terms increases in funding per pupil for each year of the NFF up to 2021–22. Cumulating these increases, NFF funding per pupil will increase by 4 percentage points less in real terms amongst the most deprived primary schools (4.2%) as compared with the least deprived ones (8.6%) between 2017–18 and 2021–22. We see a similar picture for secondary schools, with 3 percentage points lower growth amongst the most deprived secondary schools (3.9%) as compared with the least deprived ones (7.3%). These changes will reflect the increasingly important role played by minimum funding levels, as well as other changes to NFF factors over time (Andrews, 2020).

Actual school funding levels will be determined by local authority choices. However, NFF allocations will play an important role in determining the budgetary choices available to local authorities and minimum funding levels will represent a clear constraint.

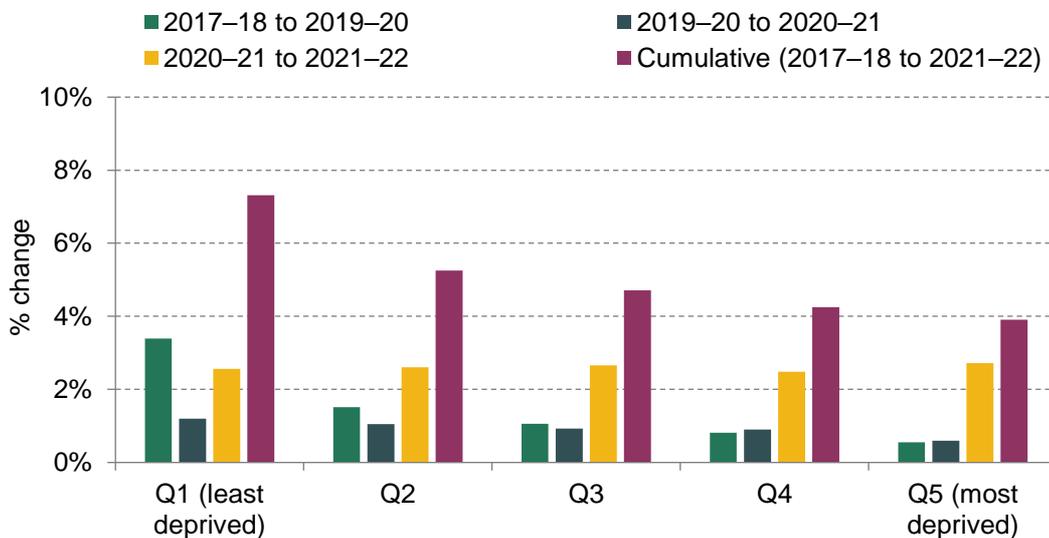
<sup>26</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/901889/FINAL\\_2021-22\\_NFF\\_Policy\\_Document\\_MB.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/901889/FINAL_2021-22_NFF_Policy_Document_MB.pdf).

**Figure 3.8. Real-terms changes in NFF allocations by quintile of eligibility for free school meals**

**a) Primary schools**



**b) Secondary schools**



Note and source: Department for Education, National Funding Formula Allocations for [2019–20](#), [2020–21](#) and [2021–22](#). Additional data provided by the Department for Education. HM Treasury GDP deflators, June 2020 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-june-2020-quarterly-national-accounts>). Office for Budget Responsibility, *Fiscal Sustainability Report: July 2020* ([https://cdn.obr.uk/OBR\\_FSR\\_July\\_2020.pdf](https://cdn.obr.uk/OBR_FSR_July_2020.pdf)).

As shown in the previous subsection, the deprivation funding premium has already fallen over recent years, with larger falls in spending per pupil for the most deprived schools reducing the deprivation funding premium from around 35% in 2014–15 to about 25% in 2018–19. Other things being equal, the net effect of the changes to NFF allocations up to 2021–22 will likely be a further reduction in the deprivation funding premium.

## Summary

In summary, faster increases in spending per pupil meant that spending became much more focused on the most deprived schools over the 2000s, with spending per pupil around 30–35% higher in the most deprived schools as compared with the least deprived schools by 2009–10. Despite the introduction of the Pupil Premium, spending per pupil has fallen faster amongst more deprived schools over the last 10 years and the overall funding premium fell to about 25% by 2018–19, taking it back to mid-2000 levels. Having become significantly more focused on pupils from deprived backgrounds up to 2010 (Belfield, Goll and Sibieta, 2018), this picture has gone into reverse.

This can be partly explained by the changing geography of deprivation, with faster falls in deprivation inside London and a school funding system that was slow to adjust to such changes. This is an important reason why the National Funding Formula was introduced and, in the long run, it should allow the funding system to adjust to changes in the pattern of deprivation across local authorities. However, we also see faster falls in spending per pupil in deprived schools outside of London, based on current and past levels of deprivation. More research is needed to better understand these changes.

In the short run, the overall pattern also looks set to continue under existing plans for the National Funding Formula, with lower increases in formula allocations for schools in poorer areas. This pattern runs counter to the objective of using school funding to ‘level up’ poorer regions of the country and might pose additional challenges for deprived schools seeking to help pupils catch up after the closure of schools during the pandemic.

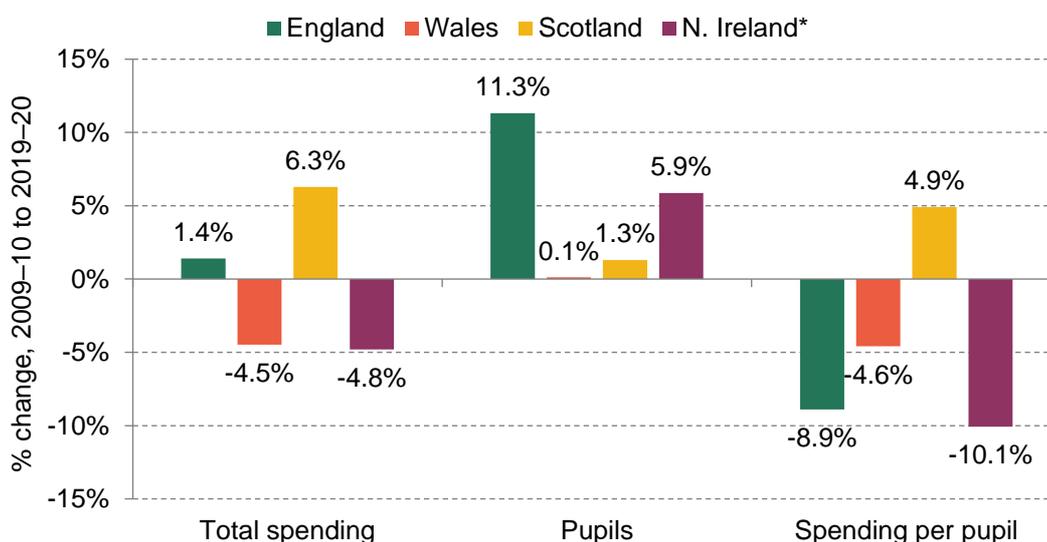
### 3.3 Comparisons across the UK

Up to this point, all our analysis has focused on England. In Figure 3.9, we expand our analysis by showing changes over time in total school spending, total pupil numbers and spending per pupil across the four nations of the UK. The definition of spending per pupil across the four nations largely matches that in Figure 3.1, i.e. total school spending on children aged 3–19 by schools and local authorities.

Figure 3.9 shows that real-terms cuts in school spending per pupil since 2009–10 have been largest in Northern Ireland (10%) and England (9%). Both countries have seen fast growth in pupil numbers. In England, a small real-terms increase in the total budget translated into cuts in spending per pupil as a result of 11% growth in pupil numbers. In Northern Ireland, the total budget fell in real terms by 5%, meaning that population growth of 6% led to even larger cuts in spending per pupil.

Cuts have been smaller in Wales (5%), where pupil numbers have been steady and cuts have been largely driven by a fall in total school spending of 4%.

**Figure 3.9. Real-terms change in total school spending, pupil numbers and spending per pupil in England, Wales, Scotland and Northern Ireland, 2009–10 to 2019–20**



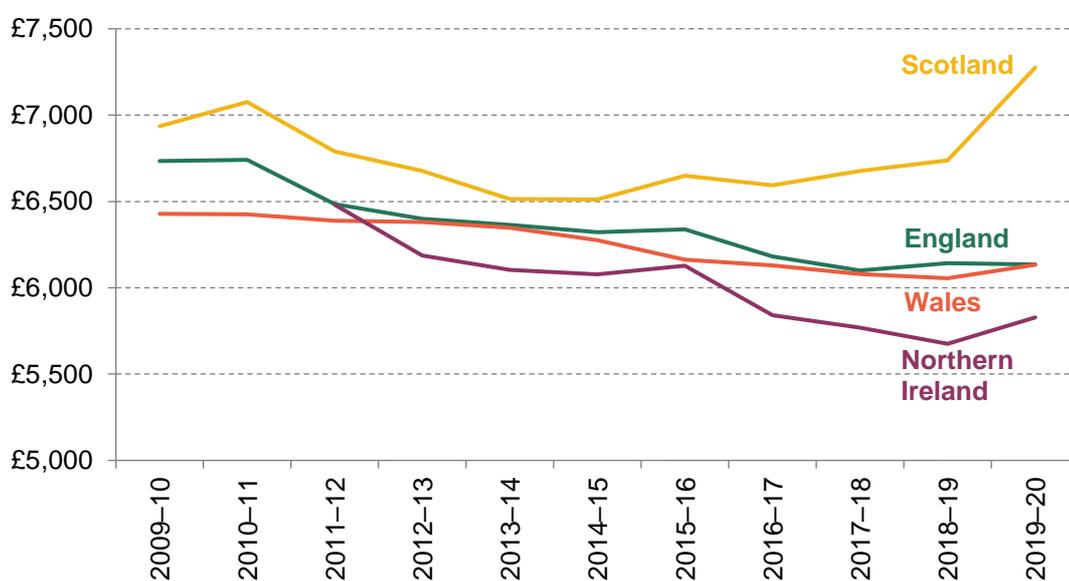
\* Northern Ireland only covers changes from 2011–12 to 2019–20.

Source: See Figure 3.10.

Figure 3.10 compares the level of spending per pupil over time across the four UK nations. Across the period, school spending per pupil is consistently highest in Scotland and lowest in Northern Ireland. In 2019–20, spending per pupil was £6,100 per pupil in both England and Wales, but over £1,100 higher in Scotland and £300 lower in Northern Ireland.

Between 2009–10 and 2014–15, spending per pupil fell by 6% in real terms in Scotland. It then began to increase gradually, with a total rise of 3% up to 2018–19. In 2019–20, there was a large single increase of 8% in real terms or an extra £500 per pupil. This increase mostly reflects the Scottish government’s decision to increase teacher pay scales by 7% from April 2019 (with a further increase of 3% backdated to April 2018).<sup>27</sup> The net result is that spending per pupil in Scotland will be about 5% higher in real terms in 2019–20 than in 2009–10. Scotland is the only UK nation to see a rise in spending per pupil between 2009–10 and 2019–20.

**Figure 3.10. School spending per pupil across England, Wales, Scotland and Northern Ireland (2020–21 prices)**



Source: See next page.

<sup>27</sup> <https://www.bbc.co.uk/news/uk-scotland-47487093>.

**Source to Figure 3.10**

Figures for England taken from Figure 3.1.

Total school spending for Wales taken from Stats Wales, 'Education revenue expenditure' (<https://statswales.gov.wales/Catalogue/Local-Government/Finance/Revenue/Education>), with 2019–20 nowcasted based on Welsh Government, 'Local authority budgeted expenditure on schools' (<https://gov.wales/local-authority-budgeted-expenditure-schools-april-2019-march-2020>). Number of full-time-equivalent pupils in state-funded schools taken from Welsh Government, 'Schools' census results', 2010, 2012, 2017 (<https://gov.wales/schools-census-results-january-2017>) and 2020 (<https://gov.wales/schools-census-results-january-2020>).

Total school spending for Scotland based on education spending minus non-school spending as reported in Scottish Government, 'Local government provisional outturn and budget estimates' (<https://www2.gov.scot/Topics/Statistics/Browse/Local-Government-Finance/POBESats>), with full-time-equivalent pupil numbers calculated as the sum of pupils in state-funded schools and early education centres (<https://www.gov.scot/publications/summary-statistics-schools-scotland-no-10-2019-edition/>).

Total spending for Northern Ireland defined as the General Schools Budget with data taken from Northern Ireland Audit Office, *The Financial Health of Schools* (<https://www.niauditoffice.gov.uk/publications/financial-health-schools-0>), Northern Ireland Department of Education, 'DE budget 2018–19' (<https://www.education-ni.gov.uk/publications/de-budget-2018-19>) and 'DE budget 2019–20' (<https://www.education-ni.gov.uk/publications/de-budget-2019-20>), and the Salisbury Review (<https://www.education-ni.gov.uk/publications/independent-review-common-funding-scheme-1>). Northern Ireland pupil numbers relate to full-time-equivalent pupils at all schools, excluding independent schools and pre-school Sure Start centres (<https://www.education-ni.gov.uk/publications/school-enrolments-northern-ireland-summary-data>).

HM Treasury GDP deflators, June 2020 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-june-2020-quarterly-national-accounts>). Office for Budget Responsibility, *Fiscal Sustainability Report: July 2020* ([https://cdn.obr.uk/OBR\\_FSR\\_July\\_2020.pdf](https://cdn.obr.uk/OBR_FSR_July_2020.pdf)).

### 3.4 Future challenges

The most prominent challenge facing schools and policymakers is that posed by the COVID-19 pandemic and the closure of schools to most pupils during lockdown. Empirical evidence strongly suggests that reduced time in school slows down the accumulation of skills. Pischke (2007) finds that West German students who, due to a reform, had two school years with approximately 40% less instructional time than normal were more likely to be held back a grade and less likely to enter academic tracks in secondary school (though long-run earnings were unaffected). Looking across around 50 countries, Lavy (2015) finds that an extra hour of instructional time per week in the main subjects increases test scores by around 6% of a standard deviation. Reviewing this and other literature, Burgess and Sievertsen (2020) estimate that 12 weeks' lost time in school will reduce educational attainment by a similar amount, or 6% of a standard deviation. This is a non-trivial amount, equivalent to about one month of normal educational progress (Education Endowment Foundation, 2020).

This effect will be partly mitigated by home and blended learning, as well as a return to school for some year groups from June 2020. However, the evidence suggests that the quantity of home learning was socially graded (Anders et al., 2020; Andrew et al., 2020; Cullinane and Montacute, 2020; Green, 2020). The actual number of pupils returning to school in June was rather limited too, with only 30% of pupils in Reception, Year 1 and Year 6 attending since the start of June, on average, and only about 10% of pupils in Years 10 and 12 attending on a given day.<sup>28</sup> Evidence suggests the intention to return to school was also socially graded (Andrew et al., 2020)

In addition to a general loss of learning, one would therefore expect the effects to be more pronounced for children from disadvantaged families. There is already a significant gap in the educational achievement of children from poorer and richer families, with children from disadvantaged backgrounds about 18 months behind their peers at GCSE (Education Policy Institute, 2020a). Based on the empirical literature, the Education Endowment Foundation (2020) estimates that school

<sup>28</sup> Author's calculations using Department for Education statistics (<https://www.gov.uk/government/statistics/attendance-in-education-and-early-years-settings-during-the-coronavirus-covid-19-outbreak-23-march-to-17-july-2020>).

closures will widen this attainment gap by between 11% and 75% by September 2020, with a median projection of 36%. Burgess and Sievertsen (2020) confirm this by showing widening test score inequalities during lockdown as compared with before, with larger widening of inequalities at younger ages. A National Foundation for Educational Research (NFER) survey shows that teachers expect the learning gap between disadvantaged pupils and their peers will widen by 46% as a result of lockdown (Sharp et al., 2020).

In addition to COVID-19 and school closures, a number of pre-existing pressures will create challenges for school budgets. These include the cost of staff, given rises in teacher pay to meet the government's commitment to starting salaries of £30,000 by 2022. They also include the cost of school buildings and maintenance to meet the needs of a growing pupil population and ensure that existing school buildings are in a fit state of repair.

Table 3.3 provides an overview of the government's response so far, both to the COVID-19 pandemic and to more general pressures. The table focuses on future challenges, as opposed to additional spending during lockdown (such as support through the 'Exceptional Costs Fund'<sup>29</sup> and digital equipment for disadvantaged learners<sup>30</sup>).

In the rest of this section, we analyse the extent to which these plans seem likely to meet the scale and nature of challenges faced by pupils and schools over the next few years. We focus here entirely on England, rather than the UK as whole. The Scottish government has announced £75 million of funding for local authorities, enough to recruit an additional 1,400 teachers to support education recovery.<sup>31</sup> The Welsh government has announced a £29 million plan to recruit an extra 600 teachers and 300 teaching assistants to support learners, focusing on Years 11–13 as well as disadvantaged and vulnerable learners of all ages.<sup>32</sup> Specific plans for Northern Ireland are yet to be announced.

<sup>29</sup> <https://www.gov.uk/government/publications/coronavirus-covid-19-financial-support-for-schools/school-funding-exceptional-costs-associated-with-coronavirus-covid-19-for-the-period-march-to-july-2020>.

<sup>30</sup> <https://www.gov.uk/guidance/get-help-with-technology-for-remote-education-during-coronavirus-covid-19>.

<sup>31</sup> <https://www.gov.scot/news/schools-to-re-open-full-time/>.

<sup>32</sup> <https://gov.wales/back-school-plans-september-coronavirus>.

Table 3.3. Summary of government response to challenges from COVID-19 and other existing challenges

Policy	Estimated cost and timescale	Details
<b>National Tutoring Programme</b>	£250m in 2020–21	Will provide subsidised access to tutors and coaches for pupils aged 5–16 and focused on disadvantaged pupils. Subsidies likely to continue for future years, though at lower rates. Extra £96m available for similar scheme for 16- to 19-year-olds.
<b>Catch-up premium</b>	£650m in 2020–21	One-off extra £80 per pupil aged 5–16; schools decide how to spend it.
<b>School maintenance</b>	£560m in 2020–21	Allocated to school sector for refurbishments.
<b>School building programme</b>	£1bn for projects starting in September 2021	50 projects starting in September 2021 as part of 10-year programme. £1bn likely to be spread out over a number of years. Further details expected in Spending Review.
<b>Increase in teacher pay</b>	£450m in 2020–21 About £1.9bn in 2022–23 ( <i>funded from existing budgets</i> )	3.1% increase in average teacher pay in 2020, with faster rise of 5.5% for new teachers. Overall increase likely to be over 9% by 2022 compared with 2019, with increase of 23% for new teachers to deliver £30,000 starting salaries.

Source: Department for Education (<https://www.gov.uk/guidance/coronavirus-covid-19-catch-up-premium>, <https://www.gov.uk/government/news/every-pupil-in-england-to-see-another-rise-in-funding-in-2021>, <https://www.gov.uk/government/news/pm-announces-transformative-school-rebuilding-programme>, <https://www.gov.uk/government/news/teachers-set-for-biggest-pay-rise-in-fifteen-years>, <https://www.gov.uk/government/publications/evidence-to-the-strb-2020-pay-award-for-school-staff>) and Sibieta (2020).

## Catch-up plans

The ‘catch-up premium’ represents a one-off extra £80 per pupil paid to schools for all pupils aged 5–16 in 2020–21. A higher rate of £240 will be paid to pupils in special schools, alternative provision and hospital schools given the higher per-pupil costs faced by these schools. The total allocation will be £650 million in 2020–21, which is equivalent to about 1.4% of the expected schools budget that year.

To see these figures in context, a rate of £80 per pupil equates to about £2,400 for a primary school class of 30 children. Based on current salaries, that would equate to about 10% of the cost of an additional teaching assistant for a year.<sup>33</sup> The catch-up plans are therefore relatively modest in scale.

The National Tutoring Programme (NTP) is estimated to cost about £350 million in 2020–21, with £250 million allocated for pupils aged 5–16 and about £100 million for pupils aged 16–19. The overall goal of this programme is to provide additional targeted support to disadvantaged and other pupils likely to have fallen behind. This approach is backed up by a strong evidence base showing large benefits to tutoring and small-group tuition.<sup>34</sup>

The NTP has two different components. First, NTP Academic Mentors will be recruited by Teach First and based in individual schools in the most disadvantaged areas. NTP Academic Mentors will be employed by schools and fully funded. Second, the NTP Tuition Partners programme (managed by the Education Endowment Foundation) will create a list of approved organisations able to provide tutoring and focused on disadvantaged pupils. Schools would receive a 75% subsidy towards tutoring services, with the rest needing to be paid from schools’ existing budgets or from the catch-up premium. It is expected that the NTP will continue beyond 2020–21, but with lower subsidy rates.

<sup>33</sup> This calculation is based on the minimum full-time-equivalent cost of support staff of £17,364 (<https://neu.org.uk/advice/support-staff-pay-and-conditions>) and likely employer National Insurance and pension contributions.

<sup>34</sup> <https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/one-to-one-tuition/>.

It is clearly difficult to assess the sufficiency of these proposals, but comparisons with existing evidence and illustrative calculations can be helpful.

First, let us consider what the £250 million NTP funding might be able to provide. Ignoring the distinction between the NTP Mentors and Partners programmes, let us assume there are 1.4 million pupils eligible for support (the number of pupils eligible for free school meals in January 2020<sup>35</sup>) and assume the cost of 1 hour of one-to-one tuition is £50<sup>36</sup> (with 75% paid by the NTP and 25% paid by schools). Based on these assumptions, £250 million would provide subsidised access to about 6 hours in total of tuition for 1.4 million pupils.

Based on Lavy (2015), Eyles, Gibbons and Monteburuno (2020) estimate that an additional 2 hours of tuition per week for a full school year would be required to make up for each week of learning lost. Clearly, the actual amount of tutoring provided through the NTP will depend on the actual costs per hour, which pupils are included and whether the tutoring is on a one-to-one or small-group basis. However, such calculations do suggest that the scale of the NTP might be relatively low compared with the scale of likely lost learning.

Second, there is now strong evidence showing higher benefits to increases in school resources for more disadvantaged pupils (Jackson, Johnson and Persico, 2016; Jackson, 2018; Gibbons, McNally and Viarengo, 2018). There is also now clear evidence pointing to bigger losses in learning for such pupils (DELVE Initiative, 2020). However, the catch-up premium is set at the same level for all pupils. Providing a higher catch-up premium for disadvantaged pupils might have allowed resources to be better targeted at pupils likely to have experienced the greatest losses in learning. Given that only the NTP is targeted at disadvantaged pupils, the overall package of catch-up support might be limited in its ability to mitigate rising inequalities. Faster falls in spending per pupil for the most deprived schools over the past decade will make it even harder for such schools to address the inequalities likely to emerge from school closures. Others have recommended a system of more targeted support, such as doubling the Pupil Premium for specific sets of

<sup>35</sup> <https://www.gov.uk/government/statistics/schools-pupils-and-their-characteristics-january-2020>.

<sup>36</sup> <https://www.tes.com/news/schools-must-fund-quarter-covid-catch-tutor-costs>.

disadvantaged pupils at a cost of £800 million for 2020–21 (Education Policy Institute, 2020b).

Third, whilst one could argue the catch-up plans might be relatively limited, this should be set against concerns regarding the potential to scale-up tutoring to such a large extent within a short time frame. Whilst the empirical evidence on the effects of tutoring is strong, it has not been attempted at such a scale before. Ensuring provision remains of a high quality everywhere represents a significant challenge.

### School capital and maintenance

As part of its response to the pandemic and wider spending plans, the government has also announced increases in capital spending, both for new buildings and for improving the condition of existing school buildings.

In June 2020, it announced an extra £1 billion in spending on school buildings for 50 projects commencing in September 2021, with further details of a 10-year programme to be announced at the time of the Spending Review.

Figure 3.11 sets the £1 billion announcement in context by showing the level of education capital spending between 2002–03 and 2020–21, the overwhelming majority of which relates to schools. As can be seen, spending rose rapidly through the 2000s from £4 billion in 2002–03 to reach a peak of £9 billion in 2009–10, reflecting the large increases under the Building Schools for the Future programme. It then fell very sharply back to reach a recent low point of just over £4 billion in 2013–14. Over the period between 2014–15 and 2019–20, spending then averaged a higher level of £5.4 billion per year. However, recent falls led to a planned spend of about £4.3 billion in 2020–21.

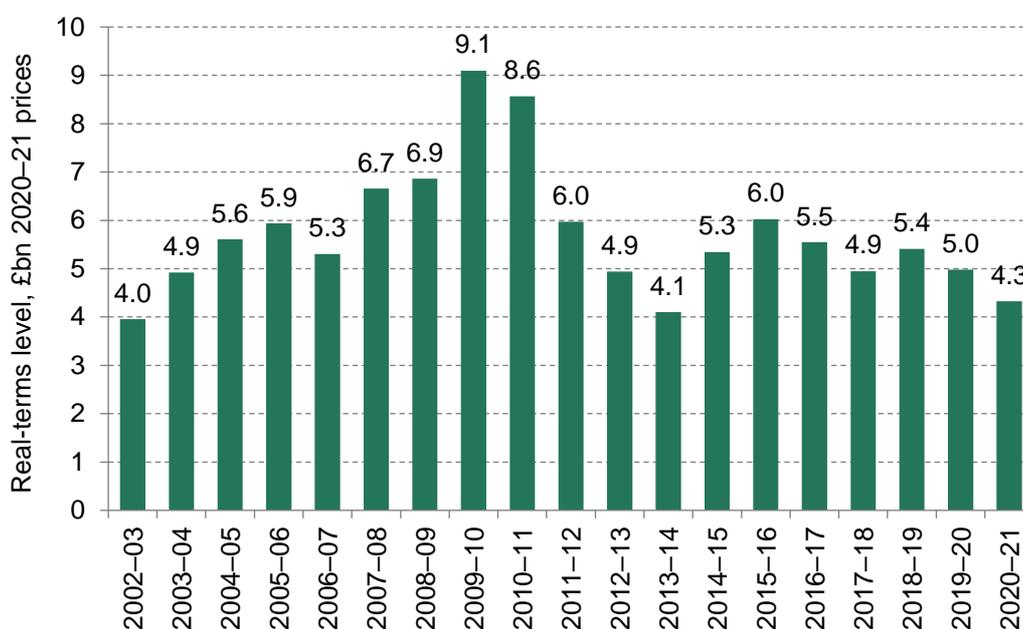
The additional £1 billion seems likely to be spread out over a number of years. However, even if all of the increase took place in 2021–22, this would only take capital spending back to the average level seen between 2014–15 and 2019–20 and still below the higher levels seen in the mid 2000s.

Whilst these plans for overall capital spending seem relatively modest compared with recent history, the need for new school buildings is likely to slow down over the next few years. Between 2010 and 2020, the number of pupils in state-funded schools in England grew by 11% or about 830,000. Between 2020 and 2023, the number of pupils is expected to grow by only 1% or 75,000. A falling primary

school population is expected to almost offset a rising secondary school population.<sup>37</sup> Other things being equal, this is likely to reduce the need to build new schools as compared with the last decade.

In June 2020, the government also announced £560 million of capital spending for repairs to existing schools. This would be in addition to existing plans for £1.4 billion of funding for school maintenance and repairs in 2020–21,<sup>38</sup> taking expected funding to £2.0 billion.

**Figure 3.11. Education capital spending over time, £bn 2020–21 prices**



Source: Public Expenditure Statistical Analyses 2020, 2019, 2014, 2013, 2010 (<https://www.gov.uk/government/collections/public-expenditure-statistical-analyses-pesa>) and 2008 (<https://www.gov.uk/government/statistics/public-expenditure-statistical-analyses-2008>). HM Treasury GDP deflators, June 2020 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-june-2020-quarterly-national-accounts>). Office for Budget Responsibility, *Fiscal Sustainability Report: July 2020* ([https://cdn.obr.uk/OBR\\_FSR\\_July\\_2020.pdf](https://cdn.obr.uk/OBR_FSR_July_2020.pdf)).

<sup>37</sup> <https://www.gov.uk/government/statistics/national-pupil-projections-july-2020>.

<sup>38</sup> <https://www.gov.uk/government/news/pm-announces-transformative-school-rebuilding-programme>.

Whilst this is clearly a significant annual increase, the key question is how this compares with measures of need. Between 2011 and 2014, the Department for Education undertook a wide-ranging survey of the condition of the school estate, which informed funding allocations. Based on this, the National Audit Office (2017) estimated that the cost of returning school buildings to a satisfactory or good condition would be about £6.7 billion, including £5.5 billion for major repairs (such as £1.4 billion to ensure that electrical services remained safe and usable). A further £7.1 billion was required to correct minor problems and bring all buildings into a good condition.

The government expects the condition of the school estate to have worsened over time. According to modelling quoted by the National Audit Office (2017), ‘An estimated 40% of the estate was built between 1945 and 1976. The Department expects that many [school] buildings will need to be replaced or significantly refurbished soon because they were designed to last 60 years. Its indicative modelling suggests that the cost of returning all schools to satisfactory condition will double between 2015–16 and 2020–21, even after taking account of its investment’.

Between 2017 and 2019, the government was undertaking a further survey of school buildings, which will inform future spending levels. Until the results of this new survey are published, it would be hard to predict how much more spending will be needed for school repairs beyond the £560 million already announced.

### Growing staff costs

At the time of the 2019 Spending Review, the government announced a major commitment to increase teacher starting salaries to £30,000 by 2022. This would require a 23% or nearly £6,000 increase in starting salaries between 2019 and 2022 for new teachers outside of London. The government also committed to increased salaries for existing and more experienced teachers.

As a first step towards delivering on these commitments, the government chose to follow recommendations from the School Teachers’ Review Body (STRB)<sup>39</sup> and implement a 3.1% average increase in teacher pay for September 2020, with a 5.5%

<sup>39</sup> <https://www.gov.uk/government/publications/school-teachers-review-body-30th-report-2020>.

increase in starting salaries.<sup>40</sup> In its evidence to the STRB, the government estimated that a pay award on this scale would cost schools about £450 million in 2020–21.<sup>41</sup>

Looking further into the future, Sibieta (2020) estimates that implementing starting salaries of £30,000 in 2022 and a 3% per year increase in teacher pay per head would cost schools about £1.9 billion in 2022–23 (based on the government’s example trajectory set out in its evidence to the STRB). This would take up about one-third of the extra £7.1 billion in funding set out for 2022–23 (after excluding additional funding for £700 million earmarked for high-needs budgets).

To put it another way, the specific costs faced by schools are likely to grow at a faster pace than general inflation over the next few years. As we have already shown, the expected real-terms growth in spending per pupil between 2019–20 and 2022–23 remains positive but drops to about 6% after accounting for the specific costs schools are likely to face (from about 9% as measured against general inflation).

Different schools are likely to face very different cost pressures as a result of the teacher pay settlement. Given the faster increases for new and inexperienced teachers, schools will face higher costs if they are more likely to rely on such teachers. As Sibieta (2020) shows, schools with more disadvantaged pupils and schools in London are more likely to rely on early-career teachers (with less than five years’ experience), with an extra 10% of teachers in their early-career phase in schools with the most disadvantaged pupils as compared with schools with the least disadvantaged pupils. This will mean that schools serving more disadvantaged pupils, on average, will see faster rises in costs. The fact that funding increases are likely to be lower for such schools will add to the pressures they face in the next few years.

<sup>40</sup> <https://www.gov.uk/government/news/teachers-set-for-biggest-pay-rise-in-fifteen-years>.

<sup>41</sup> <https://www.gov.uk/government/publications/evidence-to-the-strb-2020-pay-award-for-school-staff>.

## 3.5 Summary and conclusions

Following large increases over the 2000s, total school spending per pupil fell by about 9% in real terms between 2009–10 and 2019–20. The government’s plan to increase school spending by £7.1 billion in cash terms by 2022–23 will mostly reverse these cuts. However, spending per pupil will remain lower in real terms in 2022–23 than it was 13 years earlier in 2009–10.

The picture of cuts to school spending per pupil differs across the countries of the UK over the last decade. Northern Ireland has seen a similar real-terms fall of 10%, whilst Wales has seen a smaller cut of about 5%. Up until 2014–15, spending per pupil also fell in Scotland. It has since begun to rise again, with an 8% real-terms rise in 2019–20 to help pay for large increases in teacher salaries.

In England, cuts have been focused more on secondary schools. In 2019–20, secondary school spending will be 9% lower in real terms, whilst primary school spending will be about 4% higher than it was in 2009–10. These changes result from rapid cuts to sixth-form funding and funding changes favouring primary schools between 2009–10 and 2015–16. This actually continues a long-run pattern of spending changes favouring primary schools relative to secondary schools. Spending in secondary schools was about 67% higher than in primary schools in the late 1980s. This difference has since fallen to 30% during the 2000s and now stands at 16%, the lowest spending ratio for at least 40 years, and probably a lot longer.

Over the 2000s, spending became much more focused on deprived schools, with spending per pupil around 30–35% higher in the most deprived schools than in the least deprived schools by 2009–10, up from just over 20% extra in 2000. Despite the introduction of the Pupil Premium, spending per pupil has fallen faster amongst more deprived schools over the last 10 years and the overall funding premium fell to about 25% by 2018–19, taking it back to mid-2000 levels. This can be partly explained by the changing geography of deprivation, with faster falls in deprivation inside London and a school funding system that was slow to adjust to such changes. In the long run, the new National Funding Formula should allow the funding system to adjust to changes in the pattern of deprivation across local authorities. However, in the short run, the overall pattern actually looks set to continue under existing plans for the National Funding Formula, with lower increases in formula allocations for schools in poorer areas. We also see faster falls in spending per pupil in deprived schools outside of London, based on current and past levels of deprivation.

These patterns run counter to the objective of using school funding to ‘level up’ poorer regions of the country and might pose additional challenges for deprived schools seeking to help pupils catch up after the closure of schools during the pandemic.

The COVID-19 pandemic and closure of schools during lockdown will create immense challenges for schools, with lost schooling and a likely widening of existing inequalities. This comes on top of existing challenges, such as past squeezes on school resources, increases in teacher pay and a growing need for school repairs.

The government has announced a range of additional spending measures to help schools face these challenges. These include a one-off catch-up premium of £80 per pupil aged 5–16, a national tutoring programme (£250 million for pupils aged 5–16), additional money for school repairs (£560 million), and £1 billion for school building projects starting in September 2021.

The set of catch-up funding and activities is likely to help mitigate the lost learning during lockdown, and the focus on tutoring is well aligned with empirical evidence. However, the plans are relatively modest compared with evidence on the likely reductions in skills. Only the National Tutoring Programme is targeted at more disadvantaged pupils. This will make it harder to address the inequalities that are likely to have emerged during lockdown. Schools serving disadvantaged areas have also seen larger falls in spending per pupil over the last decade and are set to see the smallest increases under plans for the National Funding Formula over the next few years. Large increases in starting salaries mean that disadvantaged schools are also likely to face the fastest increases in costs over the next few years as they are more likely to employ inexperienced teachers.

Faster falls in spending per pupil over the last decade, slower increases under the National Funding Formula, a likely widening of educational inequalities and higher costs associated with teacher pay changes mean that there is now a very strong case for extra funding targeted at more deprived schools at the upcoming Spending Review in Autumn 2020. There is also strong evidence showing that higher spending and resources have the largest impact on more disadvantaged or deprived pupils. The most natural way to provide such extra funding would be via increases in the Pupil Premium or the National Funding Formula factors relating to educational disadvantage.

The upcoming Spending Review will also focus on capital spending. Indeed, the government has already announced the start of a new 10-year school rebuilding programme from September 2021. The current state of school buildings and facilities means that more spending will be required in the autumn Spending Review to address major faults and repairs. How much more will only be known when the results of a three-year property survey are published.

## 4. Further education

At age 16, young people face a range of education and employment options. They can continue in full-time education at a school sixth form, sixth-form college or further education (FE) college. They can combine part-time work and education or training, including in an apprenticeship. Historically, many young people have also opted to move straight into paid employment, though this has become less common over time, particularly since the participation age was increased to 18 from 2013 onwards.

Participation in full-time education amongst 16- to 17-year-olds has more than doubled since the 1980s. The proportion of 16- and 17-year-olds in full-time education rose from 40% in the mid 1980s to 84% today.<sup>42</sup> As a result, the proportion in paid employment without training went down from 21% to 2% and the proportion in other forms of education or training fell from 29% to 10%. Despite the rise in the statutory participation age, there remain about 4% of 16- and 17-year-olds not in any form of education, employment or training.

Even within these categories, there are many different routes to choose between. For example, among the 16- and 17-year-olds in full-time education in 2019, about 54% were taking A/AS levels, 24% were taking other Level 3 qualifications and 22% were taking lower-level qualifications.<sup>43</sup> See Hupkau et al. (2017) for a more detailed overview of the choices available to young people.

The further education sector also provides education and training for adults, which has historically been the main focus of the sector. Here again, there is a vast range of education and training options to choose between, including formal education qualifications in classroom-based settings (usually taken part-time), apprenticeships and shorter training courses, and basic courses in English and maths.

<sup>42</sup> Table A7 in Department for Education, 'Participation in education, training and employment: 2019', <https://www.gov.uk/government/statistics/participation-in-education-training-and-employment-2019>.

<sup>43</sup> Table E7, *ibid.*

In this chapter, we update our estimates of spending levels and spending per student up to 2019–20. This illustrates the larger cuts to 16–18 education, particularly sixth form spending per student, than to other areas of education spending, as well as the large drop in adult education spending over time.

The second half of the chapter then examines the challenges facing the sector over the next few years. These include pre-existing challenges, such as the effects of past reductions in spending and high government ambitions for the sector. They also include the significant challenges and turbulence that will result from the COVID-19 pandemic. Here, we examine the potential change in student numbers that seems likely to occur. Whilst participation was already high in England, changes in the availability of different options and a much higher share of students being awarded at least five GCSEs at A\*–C could lead to large changes in the mix of students across different settings. These include rising numbers in full-time education, but also potentially lower numbers in training or apprenticeship schemes. As part of this analysis, we examine the extent to which the funding system is well placed to help sixth forms and colleges face these changes.

## Key findings

- 1 Further education colleges and sixth forms have seen the largest falls in per-pupil funding of any sector of the education system since 2010–11. Funding per student in further education and sixth-form colleges fell by 12% in real terms between 2010–11 and 2019–20, while funding per student in school sixth forms fell by 23%. The latter will have partly driven cuts in school spending per pupil.
- 2 Funding is lowest in school sixth forms and sixth-form colleges. In the 2019–20 academic year, we calculate that funding per student was £4,600 in sixth-form colleges, £5,000 in school sixth forms and £6,100 per young person in further education colleges. Higher funding per student at further education colleges mainly results from a funding system that provides more for students taking vocational or complex courses, as well as to students from deprived backgrounds.
- 3 Since the early 2000s, there have been large falls in spending on adult education. Spending is nearly two-thirds lower in real terms than in

2003–04 and about 50% lower than in 2009–10. This fall was mainly driven by the removal of public funding from some courses and a resultant drop in learner numbers, which fell from 4.4 million in 2004–05 to 1.5 million by 2018–19.

- 4 Part of the fall in adult education spending has been replaced by higher spending on apprenticeships. However, total spending on adult education and apprenticeships combined is still about 35% down on 2009–10 in real terms.
- 5 There has been a large rise in the number of adults (aged 19+) participating in apprenticeships (from 460,000 in 2010–11 to 580,000 in 2018–19). The share of young people (aged under 19) taking apprenticeships was about 5.6% in 2019, about the same level as in 2010 but down on a high point of 6.7% in 2016.
- 6 There could be a sharp increase in student numbers in colleges and sixth forms in 2020. Population projections imply a 3% growth in the number of 16- and 17-year-olds in 2020 and growth of 13% between 2019 and 2023. The economic downturn itself could then lead to an increase in the rate of participation. In previous recessions, young people's participation in further education has increased (by 3.8 percentage points during the Great Recession of the late 2000s). Any rise seems likely to be smaller this time around given already high participation in full-time education. However, a fall in apprenticeship or training places of 15–20% could generate a 1.5–2 percentage point increase in the participation rate in full-time education.
- 7 Responding to these changes in participation will be challenging given that providers' funding is set based on lagged student numbers. The government has already provided an extra £400 million for 16–18 education in 2020–21. This implies real-terms growth in spending per pupil of about 2% based on population forecasts. However, exceptional growth in student numbers could easily erode much, if not all, of this planned real-terms increase in spending per student. The 16–19 funding system does have mechanisms to address significant within-year growth in student numbers. However, this is 'subject to

affordability' and it is not designed to address significant sector-wide growth.

- 8 Despite additional incentives, training and apprenticeship opportunities for young people are likely to reduce significantly due to the economic downturn and COVID-19 social distancing restrictions. This is likely to be especially challenging for vocational courses that include significant industry placements, which include T levels, which began to be rolled out in September 2020.
- 9 A White Paper on further education is expected in Autumn 2020. The government has already committed to restore public funding for first full Level 3 qualifications for all age groups from April 2021. Further proposals are expected to increase funding for Level 4/5 courses, as proposed in the 2019 Augar Review of post-18 education and funding.

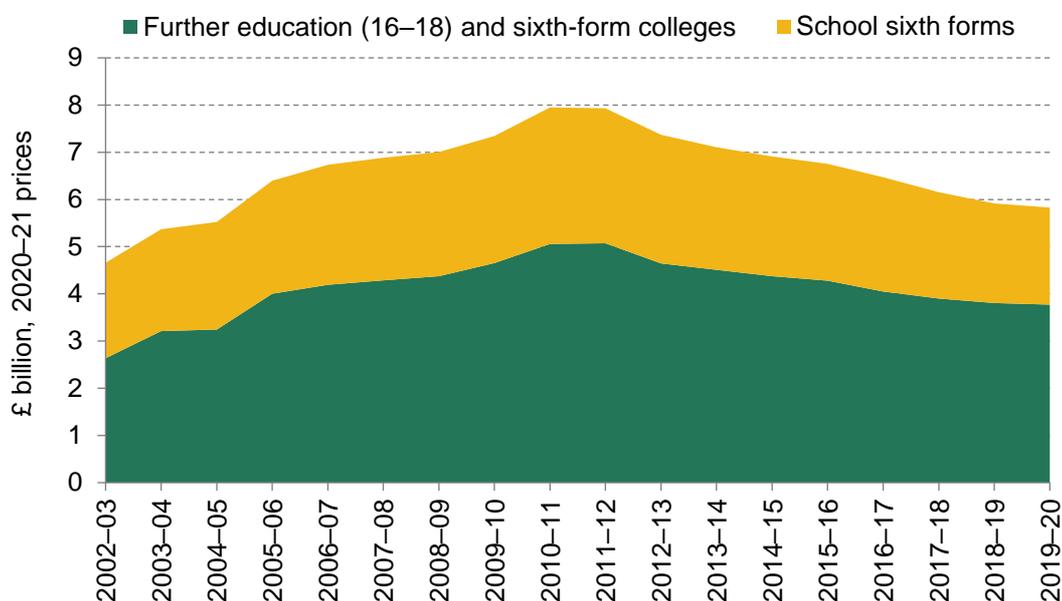
## 4.1 Spending levels

Figure 4.1 shows the total level of day-to-day spending on 16–18 education. In all cases, this represents allocations from central government, rather than actual spending. For example, we show allocations to school sixth forms, further education and sixth-form colleges, rather than spending by schools or colleges on 16–18 education.

Total spending on 16–18 education (including FE and sixth-form colleges and school sixth forms) stood at £5.8 billion in 2019–20 (in 2020–21 prices). This is significantly larger than total spending of £4.7 billion in 2002–03, reflecting the increases in post-16 participation amongst young people in England over time. However, total spending has evolved in two distinct phases.

- Between 2002–03 and 2010–11, there was a significant increase in total spending of 71%, reflecting increasing numbers of students. Spending on FE and sixth-form colleges grew by 92% in real terms, whilst spending on school sixth forms rose by 43%. This difference in growth reflects the fact that a larger part of the increase in post-16 participation was absorbed by FE and sixth-form colleges than by school sixth forms.

**Figure 4.1. Total spending on further education and skills for 16- to 18-year-olds (2020–21 prices)**



Note: ‘School sixth forms’ includes expenditure on sixth forms in academies and maintained schools.

Source: See Appendix C for sources and methods for further education and sixth-form colleges and school sixth forms. HM Treasury GDP deflators, June 2020 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-june-2020-quarterly-national-accounts>) and Office for Budget Responsibility, *Fiscal Sustainability Report: July 2020* (<https://obr.uk/fsr/fiscal-sustainability-report-july-2020/>).

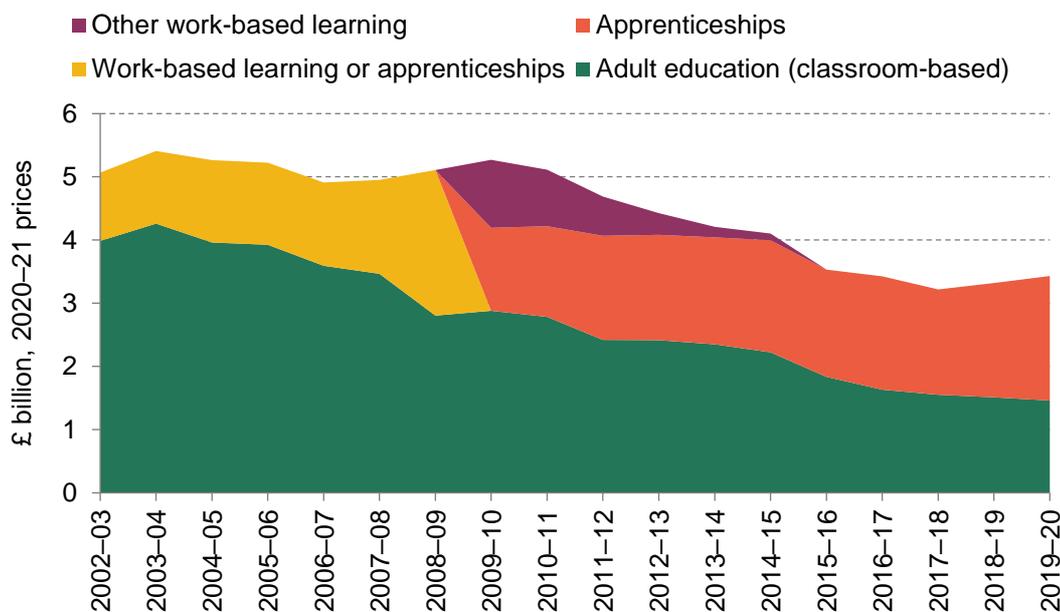
- Since 2010–11, total spending has fallen back in real terms, with spending on school sixth forms falling by 29% and spending on 16–18 further education and sixth-form colleges falling by 25%. This reflects declines in spending per student (see Section 4.2) and declining student numbers as the total population of 16- to 18-year-olds shrank by 9% between 2010 and 2019.

Figure 4.2 shows the total level of day-to-day spending on adult education and skills, including classroom-based education and apprenticeships (across all ages).

Spending on apprenticeships across all ages stood at about £2.0 billion in 2019–20 (in 2020–21 prices). This spending includes public subsidies and apprenticeship

levy spending by employers. In 2018–19, this covered about 160,000 16- to 18-year-olds and about 580,000 individuals aged 19 or over on apprenticeships.<sup>44</sup>

**Figure 4.2. Total spending on adult education and skills**



Note: 'Adult education (classroom-based)' includes all 19+ skills expenditure (excluding work-based learning, apprenticeships, higher education and offender learning). 'Work-based learning' includes Train to Gain. Apprenticeships include 16–18 and 19+ apprenticeships.

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 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](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 2019 to 2020' (<https://www.gov.uk/government/publications/adult-education-budget-s31-grant-determination-letters>); HM Treasury GDP deflators, June 2020 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-june-2020-quarterly-national-accounts>); Office for Budget Responsibility, *Fiscal Sustainability Report: July 2020* (<https://obr.uk/fsr/fiscal-sustainability-report-july-2020/>).

<sup>44</sup> Table 1 in Department for Education, 'Further education and skills: March 2020', <https://www.gov.uk/government/statistics/further-education-and-skills-march-2020>.

Spending on apprenticeships and other work-based learning for adults has fallen since 2009–10 by about 18% in real terms. Most of this fall can be explained by the rapid increase in expenditure on ‘Train to Gain’ between 2007–08 and 2009–10 and the subsequent winding down of spending on it up to 2014–15. Specific spending on apprenticeships rose by about 50% in real terms, from around £1.31 billion in 2009–10 to £1.97 billion in 2019–20. In the latest year of data (2019–20), spending on apprenticeships rose by about 9% in real terms.

Spending on apprenticeships for 16- to 18-year-olds stood at about £800 million in 2017–18 (2020–21 prices) and has been at this level since the early 2000s.<sup>45</sup> Spending earlier in the 2000s included a number of other youth training schemes, which have since been abolished. It is therefore likely that spending specifically on apprenticeships for young people has grown slightly over time. However, the number of young people on apprenticeships fell by about 20% between 2010–11 and 2018–19, from just over 200,000 down to just over 160,000. The number of young people on apprenticeships was also down a further 10% for the first half of 2019–20 as compared with the same period in 2018–19. Some of this fall reflects declining numbers of young people. The overall share of 16- to 18-year-olds taking an apprenticeship was 5.6% in 2019. This is largely unchanged compared with 2010, but lower than its recent high point of 6.7% in 2016.<sup>46</sup>

Spending on apprenticeships for individuals aged 19 or over stood at about £850 million in 2017–18 (2020–21 prices), when such a split by age was last available. The number of adults participating in apprenticeships has risen significantly over time and this rise accounts for almost all of the growth in apprenticeship numbers. In 2018–19, there were about 580,000 individuals aged 19 or over on an apprenticeship, which compares with just over 460,000 in 2010–11. However, much of this growth in numbers occurred in 2011–12, when the number of apprenticeships reached 620,000, and is likely related to individuals being moved from Train to Gain onto apprenticeships instead. The number of adults on apprenticeships reached a high point of 710,000 in 2016–17, but has since fallen back to 580,000 in 2018–19. For the first half of 2019–20, numbers are about 7%

<sup>45</sup> Unfortunately, this spending split by age is not available after 2017–18.

<sup>46</sup> Table 5a in Department for Education, ‘Participation in education, training and employment: 2019’, <https://www.gov.uk/government/statistics/participation-in-education-training-and-employment-2019>.

higher than the equivalent point in 2018–19. Nevertheless, the government looks set to miss its commitment for 3 million new apprenticeship starts between 2015 and 2020. To date, there have been 2 million new apprenticeship starts between 2015–16 and the middle of 2019–20.<sup>47</sup>

Funding for other adult education and skills, which will mostly be classroom- or community-based, stood at about £1.5 billion in 2019–20 (in 2020–21 prices). This includes about £400 million that was devolved to the Greater London Authority and six metropolitan mayoral areas (this relates to the financial year starting April 2019, with a total of £600 million over the full academic year starting August 2019). An even larger share of the adult education budget will be devolved in future as more city regions take control of devolved allocations.

Total spending on adult education (excluding apprenticeships) was at a high point of about £4.3 billion in 2003–04. It then fell by about 32% between 2003–04 and 2009–10 and by a further 49% between 2009–10 and 2019–20. Taken together, this represents an overall fall of two-thirds since 2003–04.

Most of this fall can be accounted for by falling learner numbers, particularly on lower-level courses (McNally, 2018). Total learner numbers (excluding apprenticeships) fell from 4.4 million in 2004–05 to about 2.7 million in 2010–11 and to about 1.5 million by 2016–17 (Belfield, Farquharson and Sibieta, 2018). In the latest full year of data (2018–19), numbers remained at this level.<sup>48</sup>

There has also been a large and deliberate shift from classroom-based to apprenticeship training. In 2003–04, total spending on apprenticeships and adult education was about £5.4 billion (2020–21 prices), with about 21% of this on apprenticeships or work-based learning. This combined total fell by 32% in real terms to about £3.4 billion in 2019–20, but now about 57% is spent on apprenticeships.

<sup>47</sup> Table 2 in Department for Education, ‘Further education and skills: March 2020’, <https://www.gov.uk/government/statistics/further-education-and-skills-march-2020>.

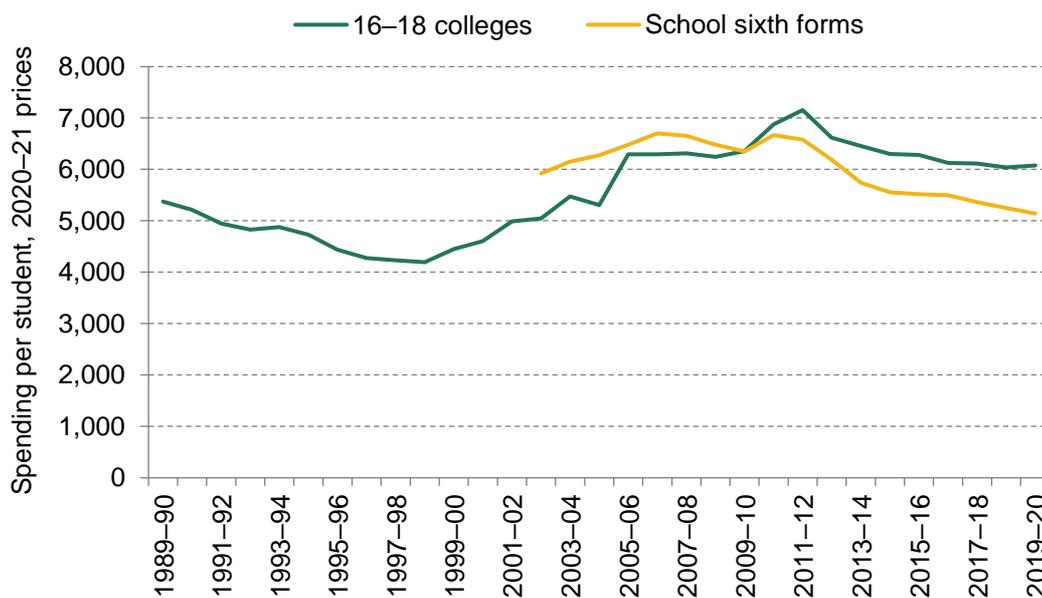
<sup>48</sup> Tables 1 and 4.1 in Department for Education, ‘Further education and skills: March 2020’, <https://www.gov.uk/government/statistics/further-education-and-skills-march-2020>.

## 4.2 Spending per student in 16–18 education

Figure 4.3 shows the level of spending per student in FE and sixth-form colleges (16–18 colleges) and school sixth forms over time.

These institutions differ in terms of the qualifications they offer, with young people in school sixth forms and sixth-form colleges more likely to take academic qualifications. Around 84% of full-time pupils in school sixth forms were taking A/AS levels in 2019, as were about 70% of pupils in sixth-form colleges. In contrast, only about 9% of pupils in FE colleges were taking A/AS levels, and a

**Figure 4.3. Long-run trends in spending per student in 16–18 colleges and school sixth forms**



Note: Number of full-time-equivalent (FTE) students is calculated as number of full-time students plus 0.5 times number of part-time students. '16–18 colleges' includes both FE and sixth-form colleges.

Source: See Appendix C. HM Treasury GDP deflators, June 2020 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-june-2020-quarterly-national-accounts>) and Office for Budget Responsibility, *Fiscal Sustainability Report: July 2020* (<https://obr.uk/fsr/fiscal-sustainability-report-july-2020/>).

much larger share were taking other, vocational, Level 3 qualifications (45%) or lower-level qualifications.<sup>49</sup>

Given the way the funding system works, these differences in the qualifications being taken will lead to differences in funding across all three institution types. For example, the system provides more funding for more complicated vocational qualifications, which will tend to boost funding for FE colleges by more. More funding is also provided for more deprived pupils, who are more likely to attend FE colleges (Hupkau et al., 2017; Belfield, Goll and Sibieta, 2018).

Unfortunately, we can only present a split by all three institutional types from 2013–14. Before then, data on FE and sixth-form colleges are combined.

### FE and sixth-form colleges

Starting with FE and sixth-form colleges, spending per student has evolved in three distinct phases.

In 1989–90, spending per student stood at around £5,400 (in 2020–21 prices). It then fell by 22% in real terms over the course of the 1990s to reach a low of £4,200 per student in 1998–99.

After that, spending per student rose significantly, by 64% in real terms, to reach a level of £6,900 in 2010–11.

Spending per student has since fallen in real terms as cuts to public spending have gradually taken hold. Between 2010–11 and 2019–20, we estimate that spending per student fell by around 12% in real terms. This reflects a cash-terms freeze in most funding rates within the national 16–19 funding formula.

Most of these cuts, however, occurred between 2010–11 and 2016–17. Since then, spending per student has only fallen by 1% in real terms and has been largely stable at about £6,100, its level in the latest year of data (2019–20). This relative stability in spending per student partly reflects new streams of funding, such as the Capacity

<sup>49</sup> Table C13 in Department for Education, ‘Participation in education, training and employment: 2019’, <https://www.gov.uk/government/statistics/participation-in-education-training-and-employment-2019>.

and Delivery Fund<sup>50</sup> and the Advanced Maths Premium,<sup>51</sup> on top of the cash freeze in funding rates.

Looking over the long run, spending per student in 2019–20 was only 13% higher in real terms than it was in 1989–90, which represents average annual growth of just 0.4% per year over the last 30 years. Spending in other areas of education has risen much faster over time. This means that average spending per student across FE and sixth-form colleges is now about the same as spending per pupil in secondary schools, having been about 50% *greater* at the start of the 1990s. It may well be that spending on further education was relatively generous in the early 1990s. However, the change compared with secondary schools is dramatic. Furthermore, colleges' other main income source – funding for adult education – will also have been falling over this time frame, restricting any opportunities for cross-subsidisation.

### School sixth forms

Trends in school sixth-form spending per student are only available back to 2002–03. We see from Figure 4.3 that annual spending per student was £600 higher in school sixth forms than in FE and sixth-form colleges on average during the mid 2000s. Both grew during the period, but faster growth in college spending meant that the picture had reversed by 2009–10. Spending per student is now around £900 higher in FE and sixth-form colleges than in school sixth forms. This largely results from a faster pace of cuts to school sixth-form spending per student, which has fallen by 23% in real terms between 2010–11 and 2019–20 (compared with 12% cuts for colleges).

Up to 2010, there was significant concern regarding the more generous funding of school sixth forms compared with FE colleges. The contrasting trends since then

<sup>50</sup> The Capacity and Delivery Fund (CDF) was first allocated to institutions in the 2018–19 academic year to enable them to build up the capacity and capability for delivering substantive industry placements. This is especially important in preparation for delivery of T levels, which will involve an industry placement. For more information on the CDF, see <https://www.gov.uk/guidance/industry-placements-capacity-and-delivery-fund-cdf-for-providers-delivering-in-2020-to-2021-academic-year>.

<sup>51</sup> The Advanced Maths Premium, which was first paid in the 2019–20 academic year, allocates £600 to providers per year per additional student studying Level 3 maths qualifications. Additional students are measured for each provider by comparing the number of students studying Level 3 maths qualifications in the current academic year against a baseline year (the baseline year for the 2019–20 funding is the 2018–19 academic year). For further information on the Advanced Maths Premium, see <https://www.gov.uk/guidance/16-to-19-funding-advanced-maths-premium>.

are a direct result of policymakers' efforts to ensure greater parity in funding between school sixth forms and FE colleges. The higher level of funding per student in FE colleges is also directly related to the new national 16–19 funding formula, implemented from 2013–14 onwards. This provides extra funding for pupils from more deprived backgrounds and for pupils taking more complicated vocational qualifications. Given that FE colleges contain more pupils from deprived backgrounds and pupils are more likely to be taking vocational qualifications (Belfield, Goll and Sibieta, 2018), these changes will have protected spending on FE college students in the years when overall funding rates were fixed in cash terms.

It should also be noted that less government support for capital expenditure is available for colleges (see Section 4.3) and that colleges – unlike schools or sixth-form colleges that have converted to academy status – cannot reclaim VAT on any expenditures attracting VAT.<sup>52</sup>

It is also important to acknowledge that schools with sixth forms could have benefited from the real-terms protection to secondary school spending per pupil under the coalition government (discussed in Chapter 3). These schools may have been able to partly offset cuts to sixth-form spending over that period. This is likely to have been less feasible since 2015–16, when school spending per pupil has also been cut in real terms. Furthermore, a 23% cut to a major source of funding for schools with sixth forms will clearly have placed a significant squeeze on budgets for these schools.

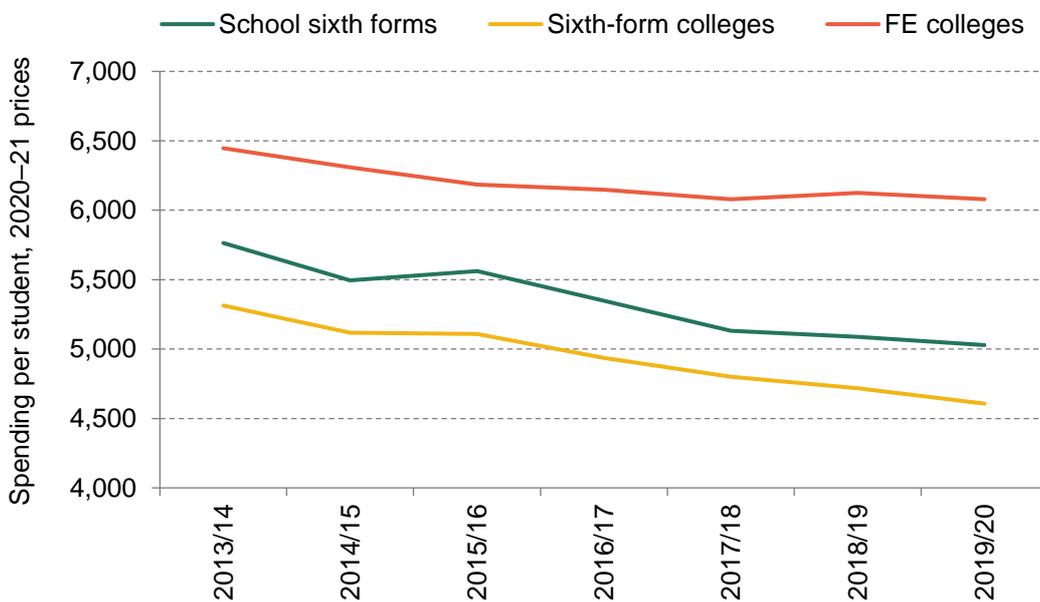
In contrast to colleges, school sixth-form funding per student has continued to fall in recent years, including a 2% real-terms fall in the latest year (2019–20). This is because school sixth forms are much less likely to benefit from the extra streams of funding added in recent years.

<sup>52</sup> Education services are exempt from VAT. As a result, colleges cannot reclaim VAT on any input expenditures attracting VAT. This differs from schools, which can recover VAT on inputs. In practice, the vast majority of college and school expenditure relates to staffing or expenditure attracting no or low rates of VAT (for example, books and energy). Calculating the effect of this differential VAT treatment is further complicated by a resultant incentive to produce some services in-house (for example, accountancy) as opposed to buying an outside service. Furthermore, colleges will benefit from not having to charge VAT on any related commercial services.

Figure 4.3 takes FE and sixth-form colleges together. This is necessary because reported spending totals combine these two different types of institutions across most years. Ideally, the figures would be presented separately.

In more recent years, it has become possible to disentangle spending in school sixth forms, sixth-form colleges, and FE colleges (for pupils aged 16–18). Figure 4.4 presents this analysis; note that the structure of the data means that these figures relate to academic years rather than financial years. As can be seen, spending per student is noticeably higher in 16–18 FE colleges (£6,100) than in school sixth forms (£5,000) and lowest in sixth-form colleges (£4,600) in academic year 2019–20. The pace of real-terms cuts has been similar across school sixth forms and sixth-form colleges, with real-terms cuts of 13% since 2013–14. The cuts to FE colleges have been smaller, at 6% between 2013–14 and 2019–20. This reflects the fact that FE colleges will have gained more from new funding streams.

**Figure 4.4. Spending per student in further education colleges (16–18), sixth-form colleges and school sixth forms**



Note: Number of full-time-equivalent (FTE) students is calculated as number of full-time students plus 0.5 times number of part-time students. Data relate to academic years.

Source: See Appendix C. HM Treasury GDP deflators, June 2020

(<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-june-2020-quarterly-national-accounts>) and Office for Budget Responsibility, *Fiscal Sustainability Report: July 2020* (<https://obr.uk/fsr/fiscal-sustainability-report-july-2020/>).

## 4.3 Future challenges

Further education colleges and sixth forms face significant resource challenges in the coming years. The COVID-19 pandemic and associated economic downturn will likely increase demand for further education and sixth-form education, with reduced employment, apprenticeship and training opportunities. Learners will likely have fallen behind during lockdown, and inequalities could have widened. At the same time, the sector faces a number of ongoing challenges. Large reductions in spending over the past decade have made it more difficult to provide a varied and high-quality education offer to young people, and a number of colleges face severe financial difficulties. Funding and numbers in adult education have fallen considerably too.

The government has high ambitions for the sector, with the first set of T levels commencing from September 2020 and a White Paper expected this autumn. Last year's Augar Review of post-18 education recommended increasing funding rates for adult education and further education, some of which the government has already committed to implementing.

This creates a vast range of challenges for the sector and for the government to consider as part of the upcoming Spending Review. Table 4.1 summarises the challenges, the nature of government response to date, and residual sources of risk and uncertainty. The rest of this section then discusses each issue in more detail.

### Source to Table 4.1

HM Treasury, *Spending Round 2019* (<https://www.gov.uk/government/publications/spending-round-2019-document/spending-round-2019>); HM Treasury, *Plan for Jobs 2020* (<https://www.gov.uk/government/publications/a-plan-for-jobs-documents>); Department for Education, press release (<https://www.gov.uk/government/news/every-pupil-in-england-to-see-another-rise-in-funding-in-2021>).

Table 4.1. Summary of risks and challenges facing colleges and sixth forms in England

Challenge	Government response	Residual risks and uncertainty
<b>Higher demand for further education and sixth forms due to lack of employment and training opportunities</b>	One-off extra £101m in 2020–21 for 18- and 19-year-olds continuing in education	13% rise in 16- to 17-year-olds expected 2019–23; funding system based on lagged student numbers
<b>Reduced availability of apprenticeships and work experience</b>	£2,000 for hiring apprentices aged under 25, £1,500 for over-25s (up to 31 Jan 2021); £111m for traineeships for 16- to 24-year-olds; £2bn for Kickstart Scheme in Great Britain	Social distancing and economic uncertainty will make offering high-quality apprenticeships and traineeships very difficult for firms
<b>Loss of learning during lockdown</b>	£96m catch-up fund	Uncertainty over speed and quality of programme
<b>Lower demand for commercial services</b>		£1.4bn in private demand at risk
<b>Past reductions in spending</b>	£400m in 2020–21 to increase 16–19 funding rates; £1.5bn in capital spending over 5 years	Growth in student numbers will likely erode much of any real-terms funding rise
<b>Changes to qualifications offer</b>	Additional T-level funding; full funding for first Level 3 qualifications for all ages	Further proposals expected in White Paper; allocations for 2021–22 to be determined

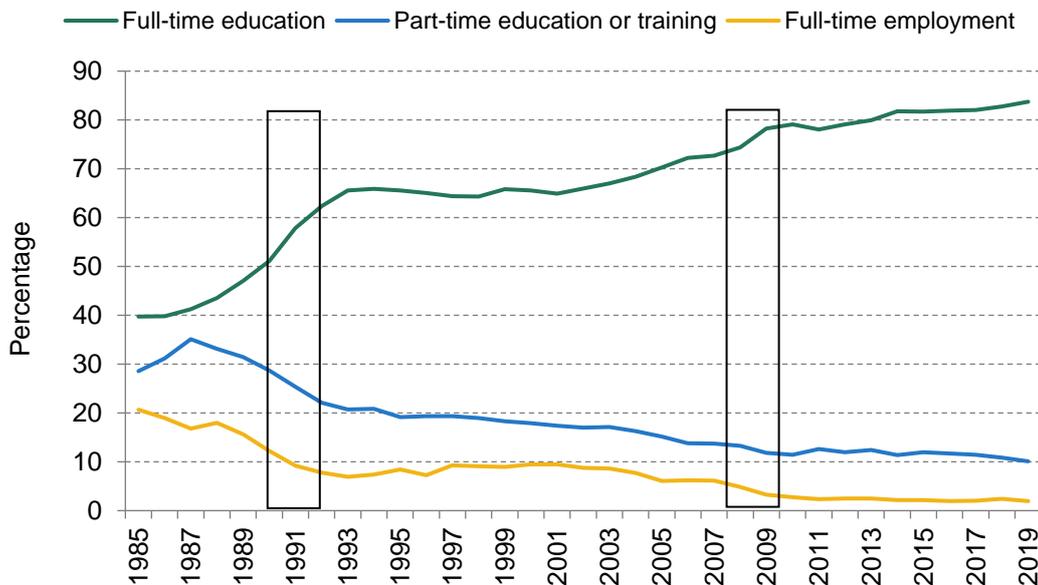
## Increased demand for further education and sixth forms

The economic downturn resulting from the COVID-19 pandemic means that it is more difficult for young people to find work or training and, as a result, they are more likely to stay in education. While the exact change in student numbers is uncertain, in previous recessions there have been marked increases in participation.

In a long-run analysis of trends in further education participation in England and Wales, McVicar and Rice (2001) find that youth unemployment is a significant determinant of further education participation. In periods with higher levels of youth unemployment, such as the early 1980s and 1990s, participation in further education rose. A study by Clark (2011) of the impact of unemployment on education rates in England between 1975 and 2005 finds that a 1% increase in local youth unemployment leads to roughly a 0.2% rise in post-compulsory enrolment.

Figure 4.5 shows the percentages of 16- to 17-year-olds in full-time education, part-time education or training, and full-time employment from 1985 onwards. Over this period, the proportion of this age group in full-time education has increased from

**Figure 4.5. Percentage of 16- to 17-year-olds in education, training and employment (with highlighted recessions)**



Source: Department for Education, 'Participation in education, training and employment: 2019' (<https://www.gov.uk/government/statistics/participation-in-education-training-and-employment-2019>).

40% in 1985 to 84% in 2019, while the share in part-time education or full-time employment has declined. In most years, there is a gradual rise in participation, but there have been especially sharp increases in the share of young people in education following the recessions of the early 1990s and late 2000s. Between 1990 and 1991, the share of 16- to 17-year-olds in full-time education grew by 6.8 percentage points, while full-time education participation rose by 3.8 percentage points during the Great Recession of the late 2000s.

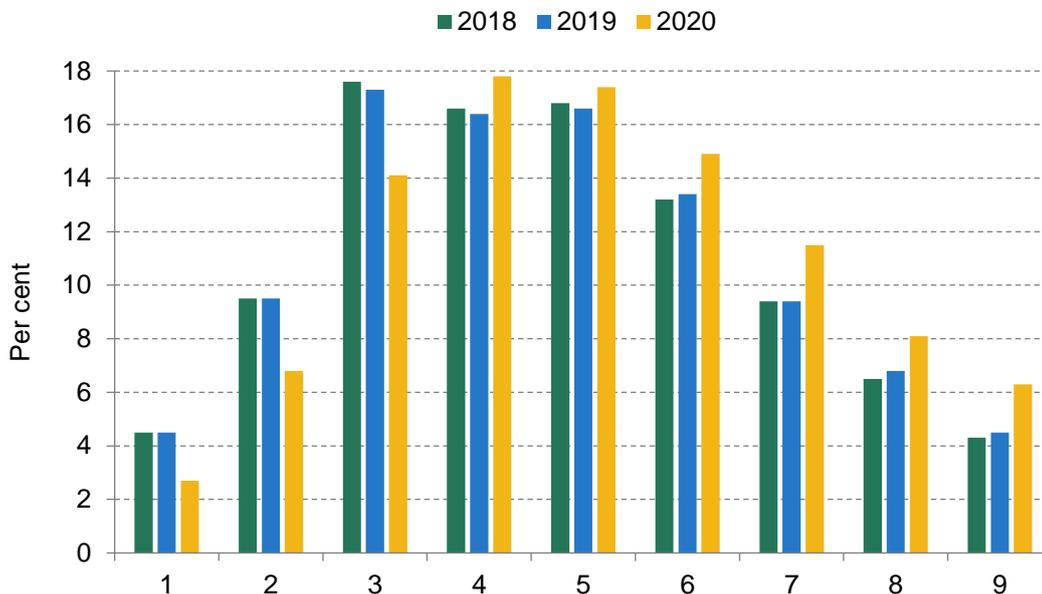
The economic downturn due to the COVID-19 pandemic has been even more severe than previous recessions, with young people particularly affected by sector shutdowns (Joyce and Xu, 2020). This could be tempered by the fact that participation in full-time education among 16- to 18-year-olds is already high, so the potential for participation increasing further may be limited. However, there is still significant potential for young people to move from part-time training into full-time education, given reduced training and apprenticeship opportunities.

The COVID-19 pandemic has not just impacted further education decisions through the availability of employment opportunities; it has also affected the grades awarded to young people. Since GCSE examinations were not sat by this year's cohort of students, grades were awarded on the basis of teacher-assessed grades, which has led to a significant change in the distribution of GCSE grades.

Figure 4.6 shows the distribution of GCSE grades across all subjects in 2018, 2019 and 2020. The 2020 distribution is considerably different from the two previous years, with a far higher share of students achieving high grades. For instance, in 2020, 76.0% of GCSE grades in all subjects were grade 4 and above (a pass grade), compared with 66.8% in 2018 and 67.1% in 2019.

Given that the GCSE grades of the 2020 GCSE cohort are, on average, higher than those of previous cohorts, young people in this cohort may choose different post-16 education routes from what they would have done in previous years. For instance, they may be more likely to choose A levels or sixth-form provision. Therefore, it may not just be the number of students participating in post-16 education that changes, but also the type of education that is demanded. As there is typically some switching of courses after the first year of further education (see Hupkau et al. (2017)), it remains to be seen whether any such change will be sustained beyond the first year though.

Figure 4.6. Percentage of GCSEs awarded at each grade across all subjects



Source: Ofqual, 'GCSE outcomes in England', 2018 and 2019 (<https://analytics.ofqual.gov.uk/apps/GCSE/Outcomes/>); Ofqual, 'Results tables for GCSE, AS and A level results in England, 2020' (<https://www.gov.uk/government/publications/results-tables-for-gcse-as-and-a-level-results-in-england-2020>).

In summary, the COVID-19 pandemic has created a great deal of uncertainty in the demand for further education, both in terms of the number of students and the type of education demanded. Responding to these changes in demand is likely to be challenging for further education providers, especially because providers' funding is set based on student numbers in the previous year. The use of lagged student numbers means that funding may not adjust to reflect the increased costs of educating a larger student intake.

The government has allocated an additional £101 million to providers for the 2020–21 academic year for 18- to 19-year-olds studying Level 2 and Level 3 courses (though this is currently only available for 2020–21). Moreover, the government has acknowledged the uncertainty facing providers<sup>53</sup> and already has in place emergency funding mechanisms to support providers at risk of insolvency. Yet it is

<sup>53</sup> <https://www.gov.uk/government/publications/coronavirus-covid-19-maintaining-further-education-provision/what-fe-colleges-and-providers-will-need-to-do-from-the-start-of-the-2020-autumn-term#funding>.

unclear how these existing mechanisms will cope with significant additional pressures across the entire further education and sixth form sector. The emergency funding mechanisms within the existing system are designed to deal with exceptional pressures on individual providers, rather than large increases in student numbers across the system as a whole. They are also ‘subject to affordability’.

At the same time, student numbers in further education colleges and sixth forms were already due to increase as a result of population growth. Having fallen over the last decade, Office for National Statistics (ONS) forecasts imply 13% growth in the number of 16- and 17-year-olds in England between 2019 and 2023, or an extra 160,000 young people (or growth of 11% and 190,000 in the number of 16- to 18-year-olds).<sup>54</sup> This was already due to place significant strain on a funding system based on lagged student numbers. Increases in the rate of participation in full-time education across the system will add to this pressure.

The government has very strongly encouraged providers to accept extra students in the current year and the additional funding of £101 million for 2020–21 provides some additional incentives for students. The government should therefore be making it clear to providers if and when any extra funding will be provided in order to prevent a significant fall in spending per student. As students making the transition have lost several months of schooling due the pandemic, the pedagogical requirements may also be more challenging than in a normal year.

### **Reduced availability of apprenticeships and work experience due to COVID-19**

Apprenticeships and work experience have been identified by the government as an important route into long-term employment, especially for young people. The economic disruption created by the COVID-19 pandemic, as well as the need to adhere to social distancing, mean that it is challenging for employers to offer work experience placements (Ventura, 2020). As a result, there is likely to be a significant reduction in the number of apprenticeships and work experience opportunities available both in the short and long term.

<sup>54</sup> <https://www.nomisweb.co.uk/sources/pest>.

There is already evidence that apprenticeships have been curtailed by employers. In a Sutton Trust survey of 150 apprentice employers in April, employers reported that just 40% of their apprentices were continuing as normal, and 43% of respondents reported that none of their apprentices was able to continue as normal (Doherty and Cullinane, 2020). In addition, an Association of Employment and Learning Providers survey<sup>55</sup> documented a sharp decline in apprenticeship starts during lockdown, with 60% of employers stopping all new apprenticeship starts since the COVID-19 pandemic began. There is clearly significant short-run disruption to apprenticeships, but even once social restrictions are eased, it is likely that there will continue to be fewer apprenticeships and work experience opportunities due to the continued economic uncertainty created by the COVID-19 pandemic.

As part of its Plan for Jobs 2020,<sup>56</sup> the government has announced a range of policies to ameliorate these issues and support firms in hiring apprentices and creating work experience opportunities. Between August 2020 and January 2021, firms hiring new apprentices will receive £2,000 for apprentices aged 16–24 and £1,500 for apprentices aged 25 and over. Furthermore, the government has pledged an additional £111 million this year for traineeships, which prepare young people (aged 16–24) with little or no work experience for work or an apprenticeship through training and a work experience placement. Additionally, the government has launched the Kickstart Scheme to create work placements for young people aged 16–24 who are on universal credit and at risk of long-term unemployment. The government has allocated £2 billion to this scheme which will be used to fund employers to create six-month placements for young people.

Such incentives are likely to mitigate the reduction in apprenticeship and training opportunities, though evidence suggests the effects are likely to be small in practice (Cavaglia, McNally and Overman, 2020) and the apprenticeship incentives are currently due to expire at the end of January 2021. Continued economic uncertainty and social distancing requirements mean that the supply of apprenticeships and training opportunities is likely to be depressed for a significant period of time. This will create further pressure on the demand for full-time education.

<sup>55</sup> <https://www.aelp.org.uk/news/news/press-releases/apprenticeship-starts-falling-off-a-cliff/>.

<sup>56</sup> <https://www.gov.uk/government/publications/a-plan-for-jobs-documents/a-plan-for-jobs-2020>.

This also creates a potential mismatch between funding sources and demand for education and training. Apprenticeships are partially funded through the apprenticeship levy and associated digital accounts. With a reduction in apprenticeships, the amount of funding in digital accounts could build up. At the same time, demand for full-time education could increase, but without a clear mechanism for funding to shift or respond within the current financial year.

### Loss of learning during lockdown

As with schools, students in further education and sixth forms will have missed out on learning opportunities during lockdown. The use of teacher-assessed grades will clearly create uncertainty as to how students would have performed if exams had taken place.

In response, the government has allocated an extra £96 million catch-up fund for 16- to 19-year-olds. This is focused on disadvantaged pupils, with £150 allocated for each full-time-equivalent student who has not achieved grade 4 or above in English and/or maths. It is intended to be used for small-group tuition, with colleges and sixth forms given the autonomy to decide what would work best for their students.<sup>57</sup>

As with the 5–16 National Tutoring Programme, it is not clear that such extra funding will be sufficient to mitigate the loss of learning during lockdown. The overall benefits will largely be determined by how quickly a high-quality offer can be made available to students, which is likely to be difficult in practice.

### Reduced demand for commercial services

In addition to publicly funded education, an important revenue stream for many colleges is providing privately funded education and training to employers, businesses and individuals, as well as income from commercial services (such as conference events or catering). According to the National Audit Office (2020), this accounts for about £1.4 billion or 22% of total college funding. It is highly likely

<sup>57</sup> <https://www.gov.uk/guidance/16-to-19-funding-16-to-19-tuition-fund>.

that this commercial demand will fall due to the COVID-19 pandemic, which will have a more severe impact on commercially focused colleges.<sup>58</sup>

## Past reductions and planned spending changes

Further education colleges and sixth forms must meet these challenges on the back of significant reductions in spending per student over the last decade. Spending per student aged 16–18 in colleges fell by 12% in real terms between 2010–11 and 2019–20, and it fell by 23% in school sixth forms (Figure 4.3). Adult education spending and learner numbers have fallen by nearly 50% in real terms over the last decade.

A recent NAO report on the financial sustainability of colleges in England concluded that ‘the financial health of the college sector [was] fragile’ before the COVID-19 pandemic (National Audit Office, 2020, para. 23). It finds that just over one-third of colleges were in deficit between 2013–14 and 2018–19 and that almost half of all colleges were in early or formal intervention with the funding agency because of their financial health. The report also quotes research by the Department for Education (2020b), which found that colleges had narrowed their curriculum – in subjects such as modern languages, science, technology, engineering and maths – and had reduced enrichment activities such as careers advice.

Before the pandemic, the government had already set out plans for an additional £400 million in funding for colleges and sixth forms in the 2020–21 financial year. This allowed for a 4.7% cash-terms increase in the main base rate for students, as well as increases in other formula factors too.<sup>59</sup> This will likely equate to more than £400 million when considered over the full academic year for colleges and sixth forms, which lasts from August to July each year. Other things being equal, these increases will partially ease the resource pressures on colleges. However, the settlement beyond 2020–21 is still to be determined.

Unfortunately, it is not possible to calculate how these increases in funding rates will change spending per pupil in 2020–21 and the extent to which these increases will reverse past cuts. This is because actual spending per pupil in 2020–21 will be

<sup>58</sup> <https://www.aoc.co.uk/news/understanding-college-finances-aoc-explainer-22-sept-2020>.

<sup>59</sup> <https://www.gov.uk/government/publications/16-to-19-funding-allocations-supporting-documents-for-2020-to-2021/16-to-19-further-education-revenue-funding-allocation-guide-2020-to-2021#Changes>.

heavily shaped by the large and uncertain increase in student numbers, their distribution across sectors and how the government responds through support for exceptional growth in student numbers.

To illustrate this point, the £400 million increase in funding for the 2020–21 financial year represents a nearly 5% real-terms increase in total funding for 16- to 18-year-olds in further education colleges and sixth forms. An increase in student numbers of more than 5% would therefore lead to a real-terms decrease in spending per student. Unfortunately, there are no official projections for the number of 16- and 17-year-olds in full-time education. However, ONS projections imply 3% growth in the total number of 16- to 17-year-olds in England in 2020.<sup>60</sup> In 2019, about 10% of this age group were in apprenticeships, training or other education. If about 15–20% (or 1.5–2% of all 16- to 17-year-olds) sought to move into full-time education instead in 2020–21, then total student numbers would grow by more than 5%. Reductions in employment could further add to numbers in full-time education.

Given that increases in funding rates will apply from August 2020, rather than the start of the financial year in April 2020, the increase in funding rates will likely equate to more than £400 million over the full academic year. Nevertheless, the above figures illustrate that large growth in student numbers in 2020–21 could erode much of any planned real-terms increases in spending per student.

This problem is exacerbated by using lagged student numbers in the funding system. On its own, this probably would not be a problem as lagged student numbers have been used in the funding system for a number of years. However, 2020 is a turning-point year for population growth. The combination of a resumption of population growth, higher GCSE results, increasing participation in full-time education and reduced demand for commercial services is likely to create significant risks for colleges and sixth forms. As highlighted earlier, the funding system does have mechanisms to address exceptional growth in student numbers within year. This is, however, ‘subject to affordability’ and it is not clear the system is well placed to address large growth in student numbers right across the sector.

Set against this, it is important to note that the government has allocated an additional £96 million in catch-up funding and an additional £101 million for

<sup>60</sup> <https://www.nomisweb.co.uk/sources/pest>.

18- and 19-year-olds taking Level 2 and Level 3 qualifications. However, this is intended to fund additional activities in response to the pandemic and is only set to last for a single year.

Looking to 2021–22 and beyond, the government is yet to set out funding levels for further education and sixth forms. This includes funding to cover additional employer pension contributions for teachers in colleges, which is currently set to run out in March 2021.<sup>61</sup>

### Changes to the structure and funding of qualifications

As well as COVID-19-related pressures, in the next few years the further education sector will be subject to a range of changes and potential reforms that will alter the landscape of the sector. Since the 2019 general election, the government has stressed the importance of skills investment and further education as part of its long-term economic strategy.<sup>62</sup> In this year’s Budget, a £2.5 billion National Skills Fund was created with the goal of improving adult skills education, though it is not clear the extent to which this represents new funding or a relabelling of existing spending.<sup>63</sup>

Two changes have already been announced by the government. The first is the introduction of T levels, which are a new qualification designed to be the technical alternative to A levels. The first three T levels – in ‘design, surveying and planning for construction’, ‘digital production, design and development’ and ‘education and childcare’ – were launched in September 2020, and T levels in other subject areas are set to be rolled out in future years. Whilst numbers in September 2020 are still likely to be small, this reform is an ambitious programme to improve the quality of technical education and will present a big challenge for providers. At the moment, the biggest challenge will be delivering industry placements, which represent a key component of T levels (and must last a minimum of 315 hours). Such placements will suffer from the same current challenges facing apprenticeships. More generally, the main challenge will be convincing employers that T levels are a high-quality equivalent for A levels and a permanent feature of the education system,

<sup>61</sup> <https://www.gov.uk/government/publications/teachers-pension-scheme-employer-contribution-grant-further-education-providers/teachers-pension-scheme-employer-contribution-grant-further-education-providers>.

<sup>62</sup> <https://www.gov.uk/government/speeches/pms-skills-speech-29-september-2020>.

<sup>63</sup> <https://www.gov.uk/government/publications/budget-2020-documents/budget-2020>.

particularly given the frequent changes to vocational qualifications over the last 20 years and longer.

The second change is an extension in the free provision of adult education. From April 2021, adults without an A level or equivalent Level 3 qualification will be eligible to study certain technical Level 3 courses for free,<sup>64</sup> paid for through the National Skills Fund. This follows on from recommendations in the Augar Review of post-18 education to extend full funding to first Level 2 and Level 3 courses to all adults (full funding is only currently available for first Level 2 and 3 courses for individuals aged under 24 or unemployed, with loans or co-funding available for older individuals). The Augar Review estimated the cost of extending full funding to first Level 2 and 3 courses was about £0.5 billion. The cost of just implementing the Level 3 component should therefore be less than this.

The reforms are unlikely to end there, with further announcements still expected this autumn when the government publishes a White Paper on further education to set out its ‘plans to build a world-class, German-style further education system in Britain’.<sup>65</sup> It is expected that the White Paper will draw further on recommendations from the Augar Review by changing the way in which higher-level further education courses are funded. Currently, individuals taking their first Level 4, 5 or 6 course in higher education are eligible for both tuition fee and maintenance loans in England. This includes foundation and degree-level courses. However, individuals taking Level 4 or 5 courses in further education are only eligible for Advanced Learner Loans, which cover tuition fees, but not maintenance loans. The Augar Review proposed extending coverage of the student loan system to Level 4 and 5 courses in further education, with an estimated annual cost in the region of £0.3–0.6 billion (after accounting for the expected cost of some loans not being repaid in full). This includes a proposal for lower fees of £7,500 a year to be aligned across the higher and further education systems, with teaching grants making up the difference to current funding in higher education.

While the exact details are not confirmed yet, the government has intimated that the existing further and higher education funding system will be replaced with a unified

<sup>64</sup> The exact technical courses eligible for this funding are yet to be announced.

<sup>65</sup> <https://www.fenews.co.uk/press-releases/79-sp-821/51127-gavin-williamson-set-outs-his-bold-plans-on-how-further-education-will-level-up-the-nation>.

post-18 funding mechanism that will give every student access to a flexible loan entitlement for four years of post-18 education. This seems likely to include extending the student loan system to cover fee and maintenance loans for Level 4 and 5 courses in further education colleges. There could therefore be even more radical changes to the existing funding system.

### Capital spending

The Augar Review highlighted that capital grants to further education colleges have fallen significantly over time, from a peak of £940 million per year in 2009–10 to about £130 million via Local Enterprise Partnerships in 2019–20. As a result of a lack of government grants, colleges must finance most capital projects themselves through other funding sources or borrowing. This contrasts with schools, where government pays for capital projects through various grants. The Augar Review thus recommended an additional £1 billion in capital spending to help modernise the further education college estate.

Responding to this recommendation, the March 2020 Budget set out a five-year plan from 2021 for £1.5 billion of capital spending for repairs and upgrades to colleges. Following the pandemic, about £200 million was brought forward to 2020–21.

## 4.4 Summary and conclusions

Further education and skills spending for young people and adults has received the largest cuts across all areas of education spending over the last decade. Amongst young people, spending per student in further education and sixth-form colleges fell by 12% in real terms between 2010–11 and 2019–20, while spending per student in school sixth forms fell by 23% in real terms.

Classroom-based adult education spending has fallen by nearly two-thirds in real terms since the early 2000s and is down nearly 50% since 2009–10 alone. This has mainly been driven by reduced learner numbers, particularly on low-level courses. It has also been partly supplanted by higher spending on apprenticeships. However, total spending on adult education and apprenticeships is still about 35% down on 2009–10 in real terms.

Prior to the COVID-19 pandemic, the government had pledged an extra £400 million in funding for colleges and sixth forms in 2020–21 as well as a five-year plan for £1.5 billion of capital spending for colleges. A settlement beyond 2020–21 is still to be determined, but it is likely that funding pressures will remain for providers of further education. It is in the context of these funding pressures that the sector must respond to the numerous challenges created by the COVID-19 pandemic.

A primary concern is how the sector will manage significant changes in demand for further education given a funding system based on lagged student numbers. Student numbers could rise drastically this year due to a reduction in training, apprenticeship and employment opportunities, as well as pre-existing population growth. Moreover, the distribution of grades for this year's GCSE cohort could lead to a shift in the type of further education or sixth-form provision demanded by students. The government has pledged additional funding for 18- to 19-year-olds and support to employers to create employment opportunities for young people. However, it is important that the government is clear on whether and how it would respond to significant system-wide growth in student numbers in 2020–21. If there is no additional funding to support growth in student numbers, planned real-terms increases in spending per pupil could be mostly eroded.

As well as coping with additional students, providers will need to take steps to mitigate the loss of learning during lockdown. Through the National Tutoring Programme, the government has allocated an extra £96 million in catch-up funds to support small-group tuition for disadvantaged 16- to 19-year-olds.

The government also has high ambitions for the further education and skills sectors. The first three T-level courses have been launched this year, with providers set to introduce further courses in the coming years. Partly in response to the Augar Review of post-18 education, the government has also already announced the restoration of full funding for first Level 3 courses at all ages. A White Paper is expected in Autumn 2020 which seems likely to herald further changes.

## 5. Higher education

Under the current higher education (HE) funding system in England, it costs around £17 billion in total to fund the education of each cohort of undergraduate students. This covers qualifications at degree level or higher (the previous chapter on further education discusses funding for Level 4 and 5 qualifications). It includes the cost of teaching for three or more years and funding towards the cost of living while at university for more than 350,000 students. Initially, this cost is funded almost entirely from government finances. In the long run, however, graduates make repayments on their student loans and the cost is split between taxpayers and students.

The HE system is funded primarily through tuition fees, with some government grants for ‘high-cost’ subjects. However, few students have to pay these fees up front. UK- and EU-domiciled students studying for their first undergraduate degree can take out government-backed loans to cover the full cost of tuition fees (as a consequence of Brexit, EU students will cease to be eligible for these loans from next year). In addition, UK residents are eligible for so-called maintenance loans to cover part of their living costs. These loans are repaid on an income-contingent basis: graduates repay a proportion of their income over a certain threshold and any outstanding loan is written off at the end of the repayment period. This system ensures that students do not face an up-front cost of attending HE, that high-earning graduates make significant contributions towards the cost of their degrees and that there is insurance for graduates who have periods of low earnings.

This way of funding HE means that a large negative shock to graduate earnings can dramatically reduce lifetime repayments and hence increase the long-run cost of the system to government. The COVID-19 pandemic seems set to create such a shock. Many graduates will struggle to find work as a result of the economic crisis, and those in work will earn less on average than previously forecast. In addition, short-term spending will be higher this year as a result of more young people with A-levels going to university on account of better-than-usual exam grades. Additional costs for the government across all past and present HE students are highly

uncertain, but are likely to come in somewhere between £700 million and £12 billion, with a central estimate of around £5 billion.

A related but separate concern is the effect of the COVID-19 crisis on the finances of universities, which was the topic of an IFS briefing note published early this July (Drayton and Waltmann, 2020). That work identified two key sources of financial risk for universities: losses arising from lower enrolment of international students and financial losses relating to staff pensions. New data on undergraduate admissions published since then have been very positive for universities. It appears that international enrolments might be roughly in line with our optimistic scenario (a 25% fall) for most universities, and even higher at the most selective ones. As a result, we now expect long-term losses relating to fewer international students to come in at less than £1 billion.

In contrast, the news on university staff pensions has been bad, suggesting that pension costs for universities are likely to be higher than in our central scenario. The main driver of these losses is lower expected future returns on investments, which mean more of today's money will be needed to finance the same pension entitlements. What share of these losses will fall on universities is still subject to negotiations between universities and employees, but we now expect losses from COVID-19 to exceed £5 billion.

When we update our central scenario from July to account for these developments, as well as the effects of the unusual A-level grades this year, we find that total projected losses for universities are only slightly smaller, at £10 billion, although a larger share is now accounted for by pension losses and a smaller share by losses of tuition fee income. As we found in July, the highest-ranked institutions and graduate-only institutions are still likely to suffer the highest losses per student, but lower-ranked institutions are at the highest risk of insolvency. Under the updated assumptions, we would still expect around a dozen institutions to end up with negative assets by 2024.

However, all of these numbers are still subject to a very large amount of uncertainty, largely due to the dynamic and unpredictable nature of the COVID-19 pandemic. It is impossible to know at the time of writing how many international students have dropped out or deferred at the last minute given the recent rise in COVID-19 cases. A major second wave of infections may also lead to a worse recession and therefore lower student loan repayments than projected, while a

readily available vaccine could have the opposite effect. The economic situation will also affect pension losses: the faster the economy recovers, the higher are likely to be interest rates and the returns on other assets, which in turn would lower the cost in today's money of financing pension entitlements.

In the remainder of this chapter, we lay out in detail how we arrive at these projections, and where the key risk factors are. Section 5.1 covers the consequences of the pandemic for the government's finances and Section 5.2 provides an update of our previous briefing note on university finances. Section 5.3 concludes.

## Key findings

- 1 Long-run government spending on higher education is set to be higher as a result of the COVID-19 crisis. For this year's cohort of students, we estimate the government contribution to higher education could increase by around 20% – £1.6 billion – under the Office for Budget Responsibility's (OBR's) pessimistic scenario for future labour market conditions. Around a quarter of this increase is due to there being around 15,000 extra UK students, while the rest is due to lower expected earnings and employment prospects for the 2020 cohort after they graduate.
- 2 The costs are much higher when we also factor in the effects of COVID-19 on previous cohorts of university students, as their current and future student loan repayments are likely to be lower too. In total, we expect long-run additional spending (or the reduction in student loan repayments) to be as high as £12 billion for university entrants up to the 2020 cohort under the OBR's pessimistic labour market forecast, and around £5 billion under its central scenario.
- 3 Universities face several risks to their finances, including pension deficits and reduced income from accommodation, conferences and catering. While student numbers appear to have held up for now, universities might still lose income if large numbers of students drop out before completing their degrees.

- 4 By far the largest source of financial risk is staff pensions. Reduced interest rates and depressed rates of return have significantly increased the expected cost of pension promises, further increasing the already large deficit on the main university pension scheme. New deficit figures for that scheme suggest the long-run cost to universities could be as high as £8 billion, double our previous central estimate of around £4 billion. The long-run cost to universities could be reduced by changes to the structure of the scheme or by significant increases in employee contributions.
- 5 All of these projections are subject to a high level of uncertainty given the unpredictable nature of the COVID-19 pandemic.

## 5.1 Government spending on higher education

### Teaching resources per student

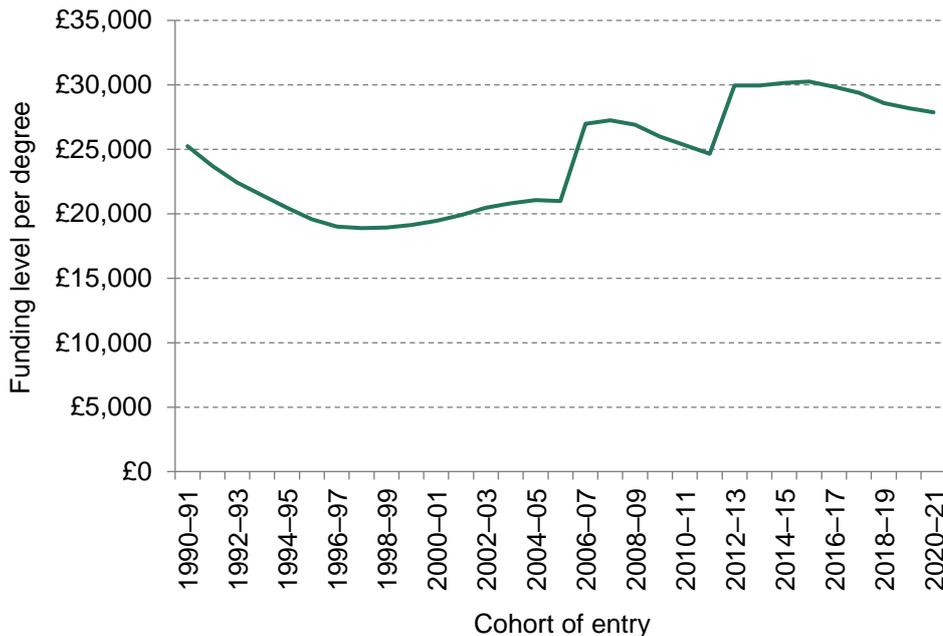
Teaching resources per student are the amount of funding universities receive for each student. In England, the vast bulk of this funding comes from tuition fees, and less than 10% is paid in the form of direct grants to universities. This is very different from the funding model before 2012, which featured no tuition fees for domestic students until 1998 and much lower fees up to 2011.<sup>66</sup>

Teaching resources per student in England have declined modestly this year as a result of real-terms declines in both tuition fees charged (as the tuition fee cap has been held constant in nominal terms) and government teaching grants. This follows similar declines in all of the past four years. As shown in Figure 5.1, teaching resources per student are still high by historical standards, though only about 10% above spending per student in 1990–91. Note that these figures cover three years of full-time study, rather than a single year.

<sup>66</sup> For a more complete recent history of higher education funding in England, see last year's edition of this report (Britton, Farquharson and Sibieta, 2019).

As with all other spending-per-student figures in this report, these figures only relate to grants for day-to-day or current spending. However, one should note that capital grants for teaching have been relatively modest over the last decade (less

**Figure 5.1. Total teaching resources provided per student in HE for cohorts starting between 1990–91 and 2020–21 (2020 prices)**



Note: The total level of teaching resources per degree is the sum of teaching grants, fees paid by local authorities (prior to their removal from 1998–99) and the up-front fees paid by students (with or without student loans). The up-front fees included in total resources prior to 2012–13 assume all courses are three years, so they represent a slight underestimate. The fee loan subsidy and teaching grants from 2012–13 onwards account for the actual course length. Fee waivers are included in the deficit impact for 1998–99 to 2005–06; total resources then include the additional income from fees. For 2006–07 to 2020–21, institution-specific bursaries and fee waivers (when appropriate) are deducted from total resources. For 2012–13 to 2014–15, National Scholarship Programme funding is included in total resources. Figures exclude targeted allocations, which are worth around £1,000 per student in recent years.

Source: HEFCE Teaching Grant Letters, various years

(<http://www.hefce.ac.uk/funding/annalocns/>). Figures from Department for Children, Schools and Families (2008). Data on student numbers are from HESA statistics

(<https://www.hesa.ac.uk/>) and the 'Historical statistics on the funding and development of the UK university system' data available through the UK Data Archive (<http://www.data-archive.ac.uk/>). HM Treasury GDP deflators, June 2020

(<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-june-2020-quarterly-national-accounts>). Office for Budget Responsibility, *Fiscal Sustainability Report: July 2020* (<https://obr.uk/fsr/fiscal-sustainability-report-july-2020/>).

than £350 million per year since 2011–12).<sup>67</sup> Most capital expenditure must therefore be funded through borrowing or other funding streams.

### Long-run spending on the 2020 cohort

Long-run government spending on higher education is different from teaching resources, as it also includes maintenance loans and disbursements and accounts for student loan repayments that the government receives. All else being equal, long-run spending per student in England would also have fallen slightly compared with last year, mainly due to the real-terms fall in the tuition fee cap. However, this effect is likely to be dramatically outweighed by the effects of the COVID-19 pandemic. According to the Office for Budget Responsibility's (OBR's) central forecast, overall output will still be 5% lower than previously forecast in early 2022, and 3% lower in early 2025. The overall unemployment rate is forecast to be 4 percentage points higher in early 2022 and 1 percentage point higher in early 2025. As a result, fewer graduates will find employment, and average earnings will be lower than forecast, leading to lower student loan repayments and ultimately higher write-offs for the government. To account for these effects, we start by updating the predictions for earnings and employment in our student loan repayment model based on the OBR's latest scenarios. We further account for the adverse consequences of graduating during a period of high unemployment, matching findings from Cribb, Hood and Joyce (2017).

For the 2020 cohort, we find that the COVID-19 recession will add between £40 million and £1.2 billion to the cost of student loan write-offs, with a central estimate of £500 million.<sup>68</sup> One reason that these losses are relatively modest is that loan repayment thresholds are linked to average earnings growth. As a result, the repayment thresholds will be lower than they would have been without the crisis, counterbalancing the effect of lower graduate earnings to some extent.<sup>69</sup>

<sup>67</sup> See Bolton (2020, p. 23).

<sup>68</sup> It should be noted that this range only takes into account uncertainty about the economic forecast as reflected in the OBR's scenarios. In addition, there is likely to be substantial modelling uncertainty. Although the Department for Education's recently published student loan forecasts do not directly examine the effect of the COVID-19 crisis, its prediction for write-offs on recently issued loans is somewhat larger than ours and has increased since the previous release, which may point to a larger impact of the crisis in its model (Department for Education, 2019 and 2020a).

<sup>69</sup> For graduates, the adjustment of the repayment threshold with earnings growth exacerbates the effects of the crisis. Not only will they have lower earnings, but they will also face compulsory student loan repayments starting at a lower earnings level.

Another source of extra costs pushing up total long-run government spending this year is the unusually high number of domestic university entrants. The main reason for this is likely to be the unusual grading of A levels, which has meant that record numbers of UK students have met their offers, so more than ever have been able to enrol. This raises spending, as the government covers nearly all of the up-front cost of university education in the form of tuition loans, maintenance loans and teaching grants to universities. While some of this up-front cost will eventually be repaid, student loan repayments generally only cover about half of the government's initial outlay.

It is impossible to say with certainty what exactly the government cost of higher enrolments as a result of the COVID-19 crisis will be, largely because it is still unclear both how many students there are and how many would have enrolled in absence of the pandemic. Recent UCAS admissions data indicate that substantially more applicants have accepted offers this year,<sup>70</sup> but that only provides a rough guide to the number of students paying for full degrees.<sup>71</sup> Extrapolating from demographic trends provides some sense of how many students would have enrolled in absence of the pandemic. On the basis of those calculations, our best estimate is that the net effect of the pandemic will be an increase of around 15,000 students, causing additional write-offs on the government's student loan portfolio of around £400 million.

This figure assumes that the additional students induced to go to university by their unusually high A-level grades will generate the same costs for the government as other students. It may well be the case that the true cost is higher, as these additional students may be less well prepared for their courses and therefore earn less later and make lower student loan repayments. However, government costs might equally well be lower, as students who made their offers at top universities as a result of more generous A-level grades may now achieve higher earnings than they otherwise would have achieved (see, for example, Belfield et al. (2018) for

<sup>70</sup> <https://www.ucas.com/data-and-analysis/undergraduate-statistics-and-reports/statistical-releases-daily-clearing-analysis-2020>.

<sup>71</sup> One concern is that students will be more likely to drop out this year. Conditions in universities are very different this year, which is perhaps the most likely driver of this, but it is also the case that many of the additional students will have comparatively low school attainment before their A levels. As Crawford (2014) has shown, low school attainment is a very good predictor of university dropout.

evidence that financial returns are higher at top institutions). It is unclear which of these effects will dominate; we assume that they roughly cancel out.<sup>72</sup>

Table 5.1 shows the long-run cost to government of providing higher education for the 2020 cohort in different scenarios. The first three columns show what we would expect to happen in the three different scenarios from the most recent OBR forecast, which it calls the downside, central and upside scenarios. The last column shows what we would have expected under the OBR's pre-pandemic forecast from March this year.

The first row shows the number of English full-time undergraduate entrants this year: the number of students we now expect given the presence of COVID-19 this year, as well as the number of students we would have expected in the absence of the pandemic. The panel labelled 'Cost per borrower' then gives total costs per borrower under the different scenarios, and how they would be split between graduates and the government.<sup>73</sup> The panel labelled 'Total costs' lists the up-front and long-run costs to the government for the whole cohort, as well as how much of the long-run cost is due to unusually high enrolments this year. The bottom row gives the so-called RAB charge, which measures what share of the total cost – in discounted present-value terms – will ultimately be borne by the government.

On the whole, losses are substantial but relatively small in comparison with pandemic-related spending in other areas. In the OBR's central scenario, we calculate that the cost of paying for the higher education of the 2020 cohort will be around £900 million more than it would have been without the pandemic, of which nearly half is due to the larger cohort size. However, given the uncertainty over the severity and length of the recession, this figure is subject to a large amount of uncertainty. It would be £1.6 billion in the OBR's downside scenario and only

<sup>72</sup> A separate concern is that the disruption to students' education as a result of the COVID-19 crisis could directly affect earnings and thus student loan repayments. This would not only affect the 2020 matriculation cohort, but also some earlier cohorts that are still at university. On the one hand, the COVID-19 disruption might lead to lower earnings if students accumulate fewer useful skills for the labour market during study (see, for example, Arteaga (2018)). On the other hand, lower examination standards may enable those at university during the pandemic to land better jobs on graduation: Maurin and McNally (2008) showed that this effect was large for the French cohorts affected by the disruption of the 1968 student protests. Again, we assume that the effects cancel.

<sup>73</sup> Predicted up-front government costs are slightly higher under more adverse economic scenarios, as lower earnings of parents raise average maintenance loan entitlements.

**Table 5.1. Long-run government cost of higher education for the 2020 cohort of university entrants**

	<b>Downside</b>	<b>Central</b>	<b>Upside</b>	<b>Mar-20</b>
<b>No. of UK entrants</b>	372,300	372,300	372,300	357,390
<b>Cost per borrower</b>				
Total up-front govt spend	£55,212	£55,079	£54,954	£54,782
<i>Of which loans</i>	<i>97%</i>	<i>97%</i>	<i>97%</i>	<i>97%</i>
Long-run graduate contribution	£25,004	£27,005	£28,312	£28,440
Long-run taxpayer subsidy	£30,207	£28,073	£26,642	£26,342
<b>Total costs (£bn)</b>				
Total up-front govt spend	£17.6	£17.5	£17.5	£16.7
Total long-run govt contribution	£9.7	£9.0	£8.5	£8.1
<i>Of which effect of higher enrolment</i>	<i>£0.4</i>	<i>£0.4</i>	<i>£0.3</i>	
<b>RAB charge</b>	<b>53.2%</b>	<b>49.4%</b>	<b>46.8%</b>	<b>46.4%</b>

Note: 2020 prices. Future student repayments discounted at 0.7% plus Retail Prices Index (RPI) inflation. These figures apply to full-time England-domiciled students starting a first undergraduate degree at a UK university in 2020. The assumption for student numbers for March 2020 is based on 2018–19 HESA data, adjusted by UCAS clearing data for 2019 and ONS forecasts of population growth for 2020 (fixing ratio of number of enrolled students to number of placed applicants and number of students to number of 18-year-olds, respectively). The assumption for student numbers in the three scenarios is based on the most recent UCAS clearing data from this year, again assuming the same ratio between placed applicants and enrolments as in 2019. We assume 15% non-take-up of student loans, although total costs include grant spending on those students. Figures exclude targeted allocations, which are worth around £500 million.

Source: Authors' calculations using IFS's graduate repayments model.

around £400 million in the upside scenario. Even this wide range may understate the true uncertainty about long-run costs, as long-run economic outcomes are likely to differ from current OBR forecasts.

### Long-run spending on previous cohorts

The economic fallout of the COVID-19 pandemic will not only affect the long-term cost of providing student loans to the 2020 cohort, but also the costs for all previous cohorts of university students that received income-contingent student loans.<sup>74</sup>

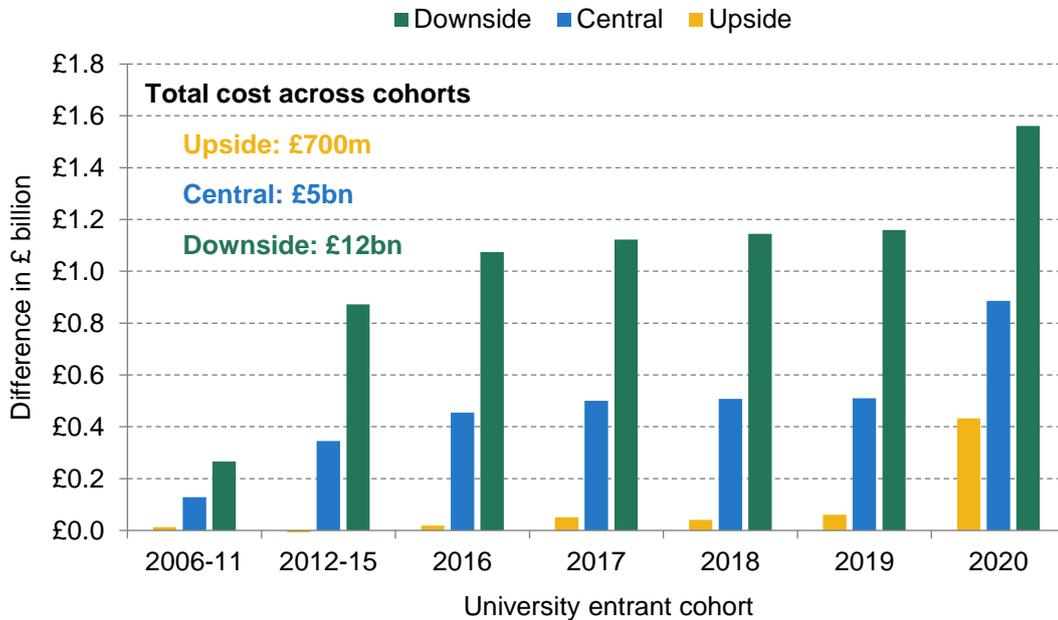
Figure 5.2 shows the additional long-run cost by cohort in the different scenarios (averages are shown for early cohorts). Per-cohort losses are much lower for the 2006–11 cohorts, as fees were much lower than today, at around £3,000, and many students were eligible for maintenance grants, so total loan amounts were lower. Furthermore, the repayment threshold is substantially lower for these cohorts than for later entrants. As a result of both these factors, additional write-offs for these cohorts are predicted to be relatively modest even in an adverse economic scenario.

Predicted additional write-offs are much higher for later cohorts. Owing to larger loan amounts and a higher repayment threshold, only a small minority of these students will ever pay off their student loan in full, so any deterioration in their earnings translates directly into lower repayments. Additional write-offs are somewhat smaller for the 2012–15 cohorts, as these cohorts were still eligible for maintenance grants (reducing total loan volumes) and entered the labour market before the recent recession (mitigating the effect on earnings and employment). Costs are highest for the 2020 cohort, as that cohort is now expected to be larger as a result of unusually high A-level grades.

Adding up predicted losses due to the COVID-19 crisis across all cohorts of university entrants between 2006 and 2020 yields a total cost of £5.0 billion in the OBR's central scenario. However, that figure crucially depends on the economic trajectory, with total extra costs varying from just £700 million in the upside

<sup>74</sup> In fact, as the level of earnings never catches up to the earnings path predicted in March in the OBR's central and downside scenarios, we would also expect higher student loan write-offs for all *future* cohorts of students receiving income-contingent loans, which may well be much larger than any losses relating to past cohorts. We do not model this, however.

**Figure 5.2. Expected long-run government cost for 2006–20 cohorts of university entrants under different economic scenarios, relative to March 2020 forecast**



Note: 2020 prices. Where multiple cohorts are shown in one group of bars, bars indicate the average across cohorts. Economic scenarios are taken from the OBR's July 2020 Fiscal Sustainability Report. The March 2020 forecast is taken from the OBR's Economic and Fiscal Outlook in the revised version that corrected some errors. We assume 15% non-take-up of student loans. The results for 2020 include costs from unusually high A-level grades.

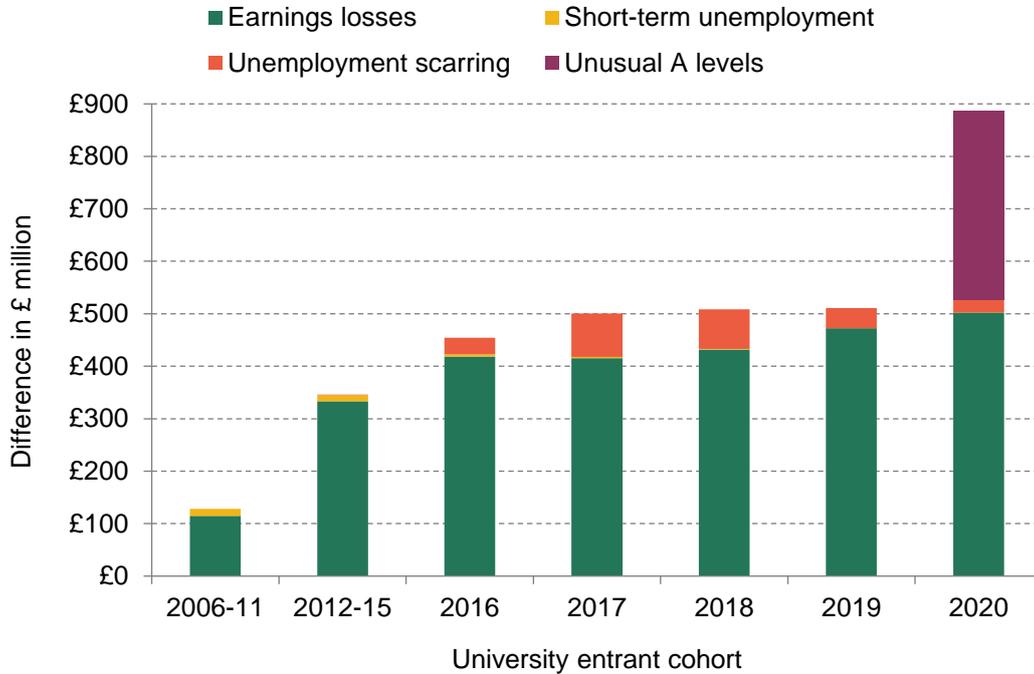
Source: Authors' calculations using IFS's graduate repayments model.

scenario to £11.2 billion in the downside scenario. Additional losses on income-contingent loans issued before 2006 are likely to come in between zero in the upside scenario and at most £1 billion in the downside scenario.<sup>75</sup> As a result, we expect total losses across all cohorts between £700 million and around £12 billion, with a central estimate of around £5 billion.

Figure 5.3 decomposes losses in the central scenario into their different components. The bulk of the losses is due to lower real earnings relative to the March 2020 forecast. Notably, the OBR expects that as a result of the COVID-19

<sup>75</sup> We do not explicitly model losses on loans issued between 2001 and 2005, because take-up was lower and loan amounts were even smaller than between 2006 and 2011. However, the numbers for the 2006 to 2011 cohorts strongly suggest that any losses will be small.

**Figure 5.3. Decomposition of expected long-run government cost for 2006–20 cohorts of university entrants, relative to March 2020 forecast**



Note: 2020 prices. Where multiple cohorts are shown in one bar, the bar indicates the average across cohorts. 'Earnings losses' includes the effect of revisions to inflation forecasts, which affect the cost of student loan provision in complex ways. The forecast is based on the central scenario from the OBR's July 2020 Fiscal Sustainability Report. The March 2020 forecast is taken from the OBR's Economic and Fiscal Outlook in the revised version that corrected some errors. We assume 15% non-take-up of student loans.

Source: Authors' calculations using IFS's graduate repayments model.

crisis, real earnings will be permanently lower than they otherwise would have been, so student loan repayments will be lower in all future years even after the immediate crisis has passed. This translates into higher write-off costs for all previous cohorts, at a cost of up to £500 million per cohort in the central scenario.

Beyond lower earnings, another factor that will likely lead to lower student loan repayments is higher unemployment. For the most recent cohorts, whether they are unemployed right after graduation makes essentially no difference to their overall repayments, because nearly none of them would have had substantive earnings above the repayment threshold anyway. However, matching the findings of Cribb, Hood and Joyce (2018), we assume that graduating in a period of high unemployment permanently depresses employment for affected cohorts to some extent. That effect is likely to increase the cost of student loan write-offs

significantly for recent cohorts – especially for the 2017 and 2018 cohorts, most of whom will have graduated in 2020 or will graduate in 2021.

For earlier cohorts, there is no scarring effect, because they will already have entered the labour market by the time the pandemic hit. Short-term unemployment is more significant for these cohorts, as a larger share of graduates would have had substantial earnings above the threshold (this is due to higher earnings and, in the case of the 2006–11 cohorts, a lower repayment threshold). However, these costs are negligible relative to other pandemic-related losses.

### Government support for universities

Beyond unusually high A-level grades and the economic recession, a third factor that would have created substantial costs for the government is a wholesale government bailout of the higher education sector. However, this now seems unlikely to happen, at least in the short term. With medium-term pension obligations now the main risk to university finances (see below), there is no immediately pressing need for the government to take action at the sector level. As a result, it seems likely that the government will stick with its current approach focused on supporting institutions' liquidity needs.<sup>76</sup> These measures are unlikely to create substantial costs.

As things stand, further help for institutions at risk of insolvency will only be available under strict conditions as part of the government's new higher education restructuring scheme.<sup>77</sup> Some struggling institutions may fail to qualify for this support: for instance, specialist music and arts colleges may struggle to demonstrate the labour market value of their courses and their importance for the local economy, both of which are criteria under the new restructuring regime. But as Drayton and Waltmann (2020) pointed out in July, even if the government decided to bail out *all* institutions threatened by insolvency, the cost would only be in the order of £100 million. Our estimate of that figure is largely unchanged.

<sup>76</sup> <https://www.gov.uk/government/news/government-support-package-for-universities-and-students>.

<sup>77</sup> <https://www.gov.uk/government/publications/higher-education-restructuring-regime>.

## 5.2 An update on university finances

### Staff pensions

The most important risk to university finances arising from the COVID-19 pandemic comes from the effect of the pandemic on funded defined-benefit pension schemes sponsored by universities. Funded defined-benefit pension schemes pay out a fixed percentage of employees' previous salaries after retirement, funded from employer and employee contributions during working life. This means individual employees are to a large extent insured against financial risk. If financial returns on pension contributions turn out lower than expected, each scheme's sponsors – generally employers – are ultimately liable for any losses.<sup>78</sup>

This scenario appears to be unfolding as a result of the COVID-19 pandemic. The recession and the associated easing of monetary policy have depressed both long-term interest rates and the return that can be expected on other assets such as shares and property. As a result, the promise of a given pension in the future is now more expensive in today's money. For defined-contribution schemes – by far the most common type of occupational pension – these losses fall on individual employees, meaning they need to increase their pension contributions if they want to achieve the same future pension. For the funded defined-benefit schemes that are common in the higher education sector, however, the effect is a funding shortfall as a result of increased pension scheme liabilities, which in the first instance falls on employers.<sup>79</sup>

The latest figures published by the Universities Superannuation Scheme (USS), the largest university-sponsored pension scheme, indicate a funding deficit of

<sup>78</sup> These types of pensions are unusually common in the higher education sector. The Universities Superannuation Scheme is the largest funded defined-benefit pension scheme in the country and one of the few schemes still accepting new members.

<sup>79</sup> Pension scheme liabilities were rising even before the pandemic due to a downward trend in long-term interest rates, but asset values mostly moved in tandem. At the beginning of the pandemic, asset values dropped. While those drops will now have been more than reversed for many pension schemes (depending on each scheme's asset allocation), most will still have seen rising deficits, as liabilities will have risen by more. For instance, the assets of the Universities Superannuation Scheme were worth £67.4 billion in March 2019 and £66.5 billion in March 2020; they are now valued at £75.3 billion as of August 2020. Scheme liabilities were £72.8 billion in March 2019, £84.4 billion in March 2020 and £96.8 billion as of August 2020 (March 2019 liabilities are not exactly comparable due to changes in valuation methodology).

£17.9 billion at the end of March 2020.<sup>80</sup> If anything, this deficit appears to have increased further since the end of March. The latest preliminary figures for 31 August indicate a deficit of £21.5 billion.<sup>81</sup> If confirmed, this would be an increase of £14 billion or 190% compared with the deficit at the 2017 valuation,<sup>82</sup> which fed into the most recent university accounts, and a roughly sixfold increase over the deficit at the latest valuation from March 2018, when it stood at £3.6 billion.<sup>83</sup> The new deficit figure is also much higher than a preliminary estimate for the end of March 2020 of £11 billion, which formed the basis of the projection of pension losses in Drayton and Waltmann (2020).<sup>84</sup>

Apart from USS, many universities also enrol (mostly non-academic) staff in other funded defined-benefit schemes; these tend to be local government pension schemes or ‘in-house’ schemes of individual universities.<sup>85</sup> While the finances of these other schemes may not have deteriorated quite as dramatically as those of USS, all schemes are likely to have experienced losses, as the problem of lower expected returns affects all funded pension schemes.<sup>86</sup> The total increase in the deficits of university-sponsored defined-benefit pension schemes – compared with the baseline reflected in the latest university accounts – may well be above £15 billion.

What share of these deficits universities will ultimately need to cover is far from clear at the moment. There are two reasons to think that it will not be the full amount. First, USS is already consulting with universities on changes that would enable it to take on more risk and thus generate higher expected returns, reducing

<sup>80</sup> <https://www.ussemployers.org.uk/sites/default/files/field/attachemnt/USS%20Technical%20Provisions%20consultation%202020%20valuation.pdf>.

<sup>81</sup> <https://www.uss.co.uk/-/media/project/ussmainsite/files/about-us/our-valuation/monitoring-dashboard-31-aug-2020.pdf?rev=a9049e8b8b2e4602b9c4006259260630>.

<sup>82</sup> <https://www.uss.co.uk/-/media/project/ussmainsite/files/about-us/our-valuation/actuarial-valuation--march-2017.pdf?rev=8fc9359d82cc483295c5cd8279265c22>.

<sup>83</sup> <https://www.uss.co.uk/-/media/project/ussmainsite/files/about-us/our-valuation/actuarial-valuation--march-2018.pdf>.

<sup>84</sup> <https://employers.uss.co.uk/~media/document-libraries/uss/how-uss-is-run/2020-valuation/hoi-note-3032020.pdf>.

<sup>85</sup> A special case is SAUL (Superannuation Arrangements of the University of London), which covers non-academic staff at a number of institutions, and was originally associated with the University of London.

<sup>86</sup> It is worth noting that some universities also enrol staff in *unfunded* defined-benefit pension schemes such as Teacher Pension Schemes (mostly academic staff of post-1992 universities) and NHS Pension Schemes (medical staff). These schemes are underwritten by the taxpayer and do not rely on investment income to fund pension entitlements. As a result, they are not subject to the same COVID-related losses.

the current deficit. Second, universities are likely to share the cost of covering any remaining deficits with their employees.

The changes USS is proposing are all about ‘strengthening the covenant’, i.e. making sure that employers will be willing and able to bail out USS should it get into financial difficulty. Its plan relies on three central proposals:

- **A permanent ban on unilateral exits from USS.** Universities would be locked in to the scheme forever, which would stop financially well-placed institutions from escaping liability for future losses by quitting the scheme.
- **A commitment that the scheme will be granted *pari passu* security with any future issuance of secured debt.** This means that future creditors could not be given higher priority than universities’ obligations under USS.
- **A new debt monitoring framework under which institutions would have to accept restrictions on borrowing.** If institutions were found to be in breach of these conditions, they could be required to pay additional contributions.

Implemented in combination, these measures would allow USS to achieve a ‘strong covenant’ and take on more risk, leading to an overall expected rate of return of 0.5% above inflation (measured by the Consumer Prices Index), as opposed to a return of 0% above inflation if the covenant were only ‘tending-to-strong’ (the baseline assumption). This seemingly minor change would have a large effect on the USS deficit, reducing it by more than £8 billion to £9.8 billion. However, given the highly restrictive nature of these measures, it is far from clear that universities will agree to all of them in full.

Further reductions of the cost to universities might be achieved through cost sharing with employees, but this would risk further industrial action from employees. If universities cannot agree to strengthen the USS covenant and deficit recovery contributions are spread over a period of 10 years, USS calculations show that pension contributions would need to rise to a total of 60.3% of earnings, or nearly double current rates of 30.7% (21.1% for employers and 9.6% for employees).<sup>87</sup> Under the default cost-sharing provisions, employers are liable for 65% of any increase in contributions required, with employees liable for the remainder. As a result, contributions for employees would more than double to 20.0% of earnings –

<sup>87</sup> <https://www.ussemployers.org.uk/sites/default/files/field/attachemnt/USS%20Technical%20Provisions%20consultation%202020%20valuation.pdf>.

the equivalent of a 10% salary cut. An increase in employee contributions at anywhere near this scale would naturally risk exacerbating the industrial dispute over university pensions that caused major disruption last year.

For the purposes of our analysis of university finances, this means that with regard to pensions, we can essentially rule out our previous optimistic scenario, under which no further balance sheet provisions would have been required. Even if universities can reach an agreement with USS to achieve a strong covenant, and the cost of remaining deficits can be shared with employees, a substantial gap will remain. As for the size of the necessary provisions, there is huge uncertainty stemming from the large impact of seemingly minor changes in financial market conditions, as well as the uncertain outcome of negotiations between universities and pension schemes as well as universities and their employees. On balance, our central estimate of a total one-off cost of £3.8 billion (from a rise in pension provisions by 25%) now seems optimistic, and our pessimistic scenario of double that cost appears to be a more realistic prospect.

Beyond the short-term additional contributions required to cover pension scheme deficits, lower expected returns will also require higher ongoing contributions from universities and employees to fund new pension entitlements. Supposing that the low-interest-rate environment persists beyond the immediate COVID-19 crisis, these higher contributions will push up university staff costs in the long run. These extra costs will translate into increased costs of university education, which may eventually fall on students and the taxpayer in the form of higher tuition fees.

### International students

The second key risk to university finances that Drayton and Waltmann (2020) highlighted in July relates to lower expected enrolments of international students as a result of the COVID-19 crisis. Since then, new UCAS admissions data have come out that make us cautiously optimistic that enrolments will be higher than assumed in our central scenario in July (a 50% fall in international enrolments costing £2.8 billion). Instead, we now expect much smaller falls in enrolments of between 5% and 35%, with the smallest declines at the most selective institutions.

In fact, the latest UCAS data show that by 10 September, 4% *more* prospective international undergraduates than last year had secured firm places to start studying at a UK university. This likely reflects a trajectory of the pandemic and

accompanying lockdown measures that was until recently more benign than in other countries competing for the same pool of international students (in particular, the US and Australia). Relatedly, and again in contrast to universities in other countries that receive large numbers of international students, UK universities announced early on that they were planning to retain substantial on-campus teaching (although these commitments may now come under strain). Finally, geopolitical tensions between the US and China as well as Australia and China may have worked to UK universities' advantage: the rise in international offer holders compared with last year is primarily driven by students from China, who constitute the largest group of international students in the UK.

That said, it is still not clear what share of these firm offers actually translated into sustained enrolments. While international offer holders will usually have had to pay deposits to secure their places, these deposits are in many cases refundable. Even if they did enrol, students at many universities can withdraw within the first two weeks without being liable for paying tuition fees (although the same may not be true for accommodation costs).

The recent rise in UK case numbers may well have been a reason for many prospective students not to take up their places this year. One factor may have been health concerns – especially for those coming from countries with low infection rates such as China. As in-person teaching is increasingly curtailed and lockdown measures are tightened, many may also have concluded that they would not get the university experience they were hoping for. Finally, recent trends in students being confined to their accommodation blocks may also have put some off at the last minute.

It should also be noted that undergraduates applying through UCAS only make up around a quarter of incoming international students at UK universities, and less than 20% of non-EU students. There are some reasons to think that postgraduate students, who make up the bulk of new starters among international students, may have chosen to delay their plans in greater numbers. Most importantly, many of

these postgraduate students will already have professional jobs, so the exact timing of their degrees may not matter to them as much.<sup>88</sup>

As a result, it still seems likely that overall numbers of international students starting university will fall this year, albeit not as much as we originally anticipated. These falls are likely to be smaller at the most prestigious universities: as the most recent UCAS data show, the 4% overall increase in placements of international students was entirely driven by a 9% rise at the most selective third of universities. However, a lack of data on postgraduate students means that any predictions on student numbers are still subject to a large amount of uncertainty.

### Higher domestic enrolment

Around 15,000 more UK applicants than last year have been accepted for undergraduate courses through UCAS this year, with the bulk of the increase accounted for by the more selective institutions. The main factor behind this increase is likely to be the government's decision to award teacher-predicted grades to A-level candidates this year, so more students than ever have met their offers. To enable universities to accept these extra students, the government has scrapped the student number caps it had introduced earlier in the year to discourage universities from admitting more students in response to falling demand from international students.

This record inflow of domestic undergraduates, in addition to higher demand from international undergraduates than many had expected, has strained the capacity of some providers. For the higher education sector as a whole, however, the higher A-level grades have been good news, as more students will bring in more tuition fee income. The additional demand from domestic students is especially helpful for institutions that would otherwise have experienced falls in numbers from lower enrolment of international students. Overall, we estimate that the additional student enrolments will very roughly add £500 million to university revenues compared with a normal cohort.

<sup>88</sup> However, there are also factors that may have had the opposite effect. For instance, final-year undergraduate students may have opted for further study to avoid entering the labour market during a global recession. This effect may explain high numbers of international applicants this year for UK MBA programmes (Moules and Jack, 2020).

But not all universities will have benefited: some of the lowest-ranked universities are likely to have lost prospective students to higher-ranked ones. As a whole, ‘lower-tariff institutions’ have placed slightly fewer students compared with last year, despite an overall gain of 4%. Notably, the lowest-ranked institutions are also the ones with the weakest finances, and are therefore most at risk of insolvency as a result of lower enrolments.

### Accommodation, conferences and catering

Higher-than-expected enrolments of both domestic and international students are in general good news not only for universities’ revenue from tuition fees, but also for their revenues from renting out student accommodation and from their catering operations. Everything else held constant, higher enrolments lead to more students living in university accommodation and eating university-provided meals. As a result, we would have expected smaller losses on accommodation, conferences and catering than we predicted at the beginning of July.

However, as has become clear in recent weeks, COVID-19 infection rates among students in university accommodation have been high. This has meant that catering facilities can still not be used as normal at many universities, leading to losses. In addition, quarantine in halls will have created extra costs for universities, including from the provision of free food and security staff. Finally, some universities have offered rent rebates to students, which will create further losses.

We model these extra costs to be roughly equivalent to an additional month of zero revenue from accommodation, conferences and catering. This would roughly cancel out any gains from higher-than-expected student numbers, leaving total losses nearly unchanged at around £1.4 billion. This estimate is still subject to some risk – skewed to the downside – as university outbreaks may yet affect a much larger share of students and for a longer period, leading to larger losses.

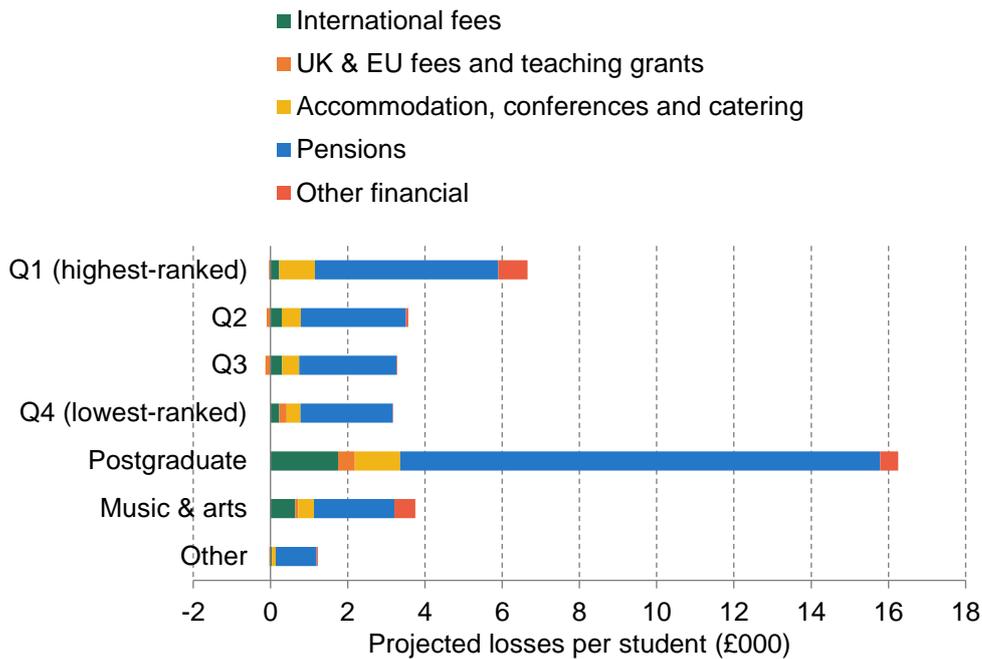
### Updated model results

In this subsection, we present an updated central scenario from the model of university finances underlying Drayton and Waltmann (2020), considering recent developments as outlined above. In particular we now assume that:

- Universities need to increase their balance sheet pension provisions by half.
- Enrolments of international students fall by 5–35%, depending on university selectivity.
- Enrolments of UK undergraduates rise by 2%.
- Student number caps are no longer a constraint for universities.
- Accommodation, catering and conference income is lost for a total of seven months.
- Universities’ long-term investments fall only 5% in value.

As shown in Figure 5.4, we find similar patterns to those in July. Postgraduate-only institutions are likely to suffer by far the highest losses per student, and per-student losses at the highest-ranked universities are also likely to be high. Total predicted losses in our updated central scenario are slightly smaller, at around £10 billion

**Figure 5.4. Updated projected losses per student by institution type**



Source: Authors’ calculations based on HESA finance records.

(before cost savings). The same number of institutions – 13 – would end up with negative net assets by 2024.<sup>89</sup>

However, we now expect around three-quarters of the predicted losses to come from an increase in pension provisions, up from around a third at the beginning of July. In absolute terms, our central estimate of pensions losses has doubled from £3.8 billion to £7.6 billion. Our central estimate for international fee losses, on the other hand, is now much smaller than in July, at around £600 million instead of £2.8 billion. In our updated central scenario, the second-most-important component of total losses now stems from accommodation, conferences and catering, where our central estimate is virtually unchanged at £1.4 billion.

The uncertainty associated with these numbers is still large. Partly this is because we still cannot say with certainty how many students have actually taken up their places this year, especially from abroad. But the main reason is that what will happen to USS and other funded defined-benefit pension schemes for university staff is still very unclear.

## 5.3 Conclusion

From the government's point of view, the additional spending on higher education arising from the COVID-19 crisis is relatively small compared with other shocks to spending and the public finances. If current predictions bear out, losses will amount to around £5 billion, driven by lower student loan repayments as a result of lower graduate earnings. This is large by almost any metric, but seems small compared with the monumental cost of other measures for supporting the economy.

For higher education institutions, the last few months have mostly brought good news on their finances. With hindsight, the relative calm in the trajectory of the pandemic between May and September may have been perfectly timed to maximise student enrolment. Even international enrolments appear to have held up remarkably. In addition, the unusually high A-level grades have brought more students into the system just when universities needed them (although some of the

<sup>89</sup> This is assuming that apart from the effect of the COVID-19 pandemic, university profitability would have remained constant, so real revenue would have kept pace with real expenditure. In reality, as the government has frozen the cap on domestic tuition fees in real terms until at least 2022, profitability may have declined even in the absence of the pandemic.

least selective universities will have missed out). While bad news on pensions will outweigh these gains for some institutions, it should be noted that any pension losses will only translate into cash losses in the medium term, giving institutions ample time to consider their options.

However, substantial risks remain for both the government and higher education institutions. For the government, a more adverse economic trajectory following a second lockdown would exacerbate losses on the student loan portfolio. For universities, the renewed financial trouble of the USS pension scheme may well lead to much higher staff costs, as well as risks of industrial dispute. As a result, universities' long-term profitability is likely to be lower than one might have expected before the crisis.

This raises questions about the long-term viability of some institutions. Around a dozen universities are likely to end up with negative net assets by 2024, mostly as a result of already weak finances before the crisis. A handful of perennially loss-making ones may even be forced to close, leading to job losses and potentially disruption to students' education. As yet, the government does not seem inclined to provide further financial support. On the contrary, it has now confirmed that in line with a recommendation of the Augar Review – a 2019 report on the funding of post-18 education by a government-appointed panel of experts – the tuition fee cap will remain frozen in nominal terms at least until 2022, adding to the financial pressure on the sector. It is true that spending on higher education in the UK is among the highest in the world (OECD, 2020), and the higher education sector as a whole has achieved large surpluses in recent years. However, a number of institutions face serious financial uncertainty in the short run.

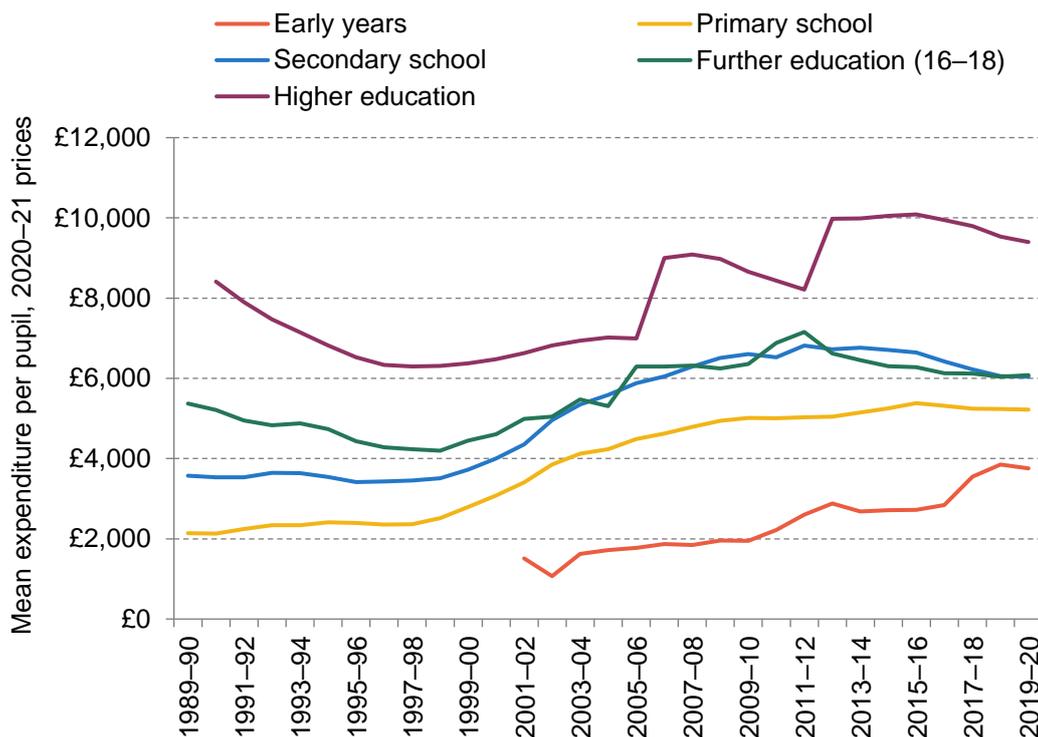
As Drayton and Waltmann (2020) discussed in July, the introduction of a lifelong learning loan allowance for tuition fees – another recommendation of the Augar Review – could soften this dilemma. The loan allowance, combined with matching maintenance support, would enable students to take degrees and individual modules in any order; the current rule that only full degrees at higher qualification levels can be funded would be scrapped. The resulting additional demand for courses below degree level would help the typically less selective universities that offer them, and these make up a substantial share of institutions at risk of insolvency. At the same time, the new loan allowance could give some workers laid off as a result of the COVID-19 crisis a chance to reskill.

## 6. Comparisons

In this final chapter, we compare the level of spending per student across the different stages of education. This only covers actual spending levels up to 2019–20 and not future plans.

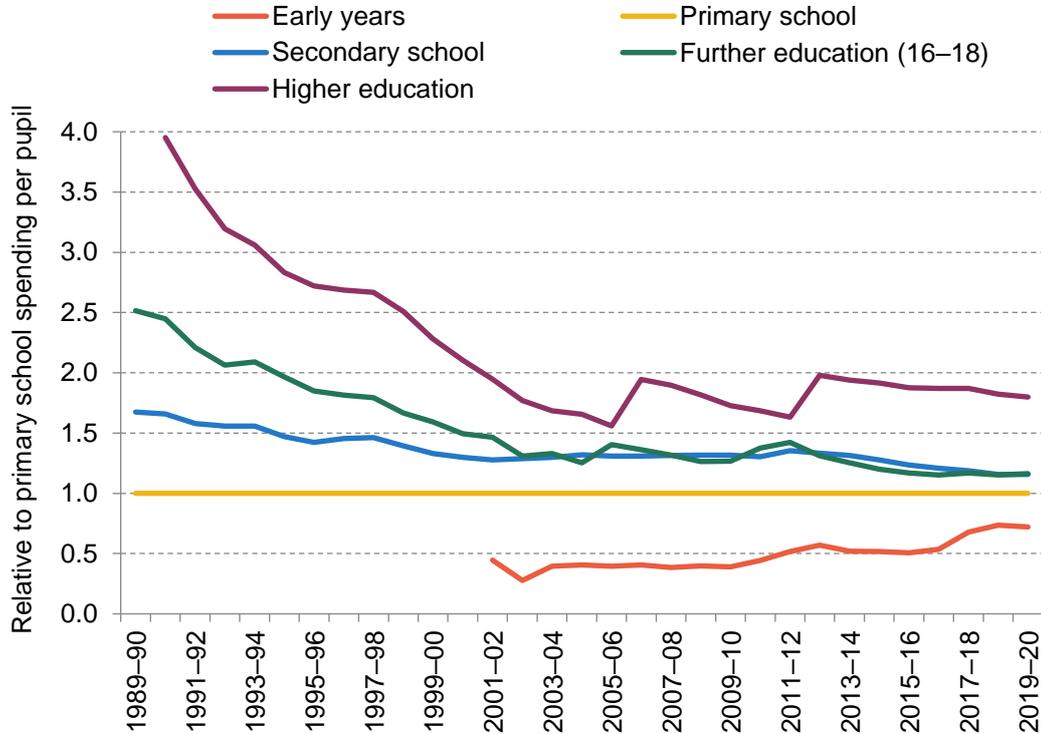
The shape of public spending on education has changed significantly since the early 1990s. In 1990–91, there was a very clear gradient across education stages: the

**Figure 6.1. Spending per pupil or student per year at different stages of education (2020–21 prices)**



Note and source: Early years figures are spending per child for 3- and 4-year-olds. Further education figures are for ages 16–18. Higher education figures are the cohort-based numbers shown in Figure 5.1, divided by 3 – an approximate course length. See Appendices A–C for a full list of sources and methods. HM Treasury GDP deflators, June 2020 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-june-2020-quarterly-national-accounts>). Office for Budget Responsibility, *Fiscal Sustainability Report: July 2020* (<https://obr.uk/fsr/fiscal-sustainability-report-july-2020/>).

**Figure 6.2. Relative spending per pupil or student per year at different stages of education (primary school spending per pupil = 1)**



Source: See Figure 6.1.

older the pupils being taught, the higher the level of public spending (or resources) per pupil per year. Although this broadly remains true in 2019–20, the relative differences are much smaller. Figure 6.1 compares these trends in public spending per student on various stages of education over time in England, whilst Figure 6.2 shows the levels relative to primary school spending per pupil.

For higher education, we focus on total resources per student, rather than the long-run government subsidy – for example, for the present day, it is total fees plus teaching grant and so includes the amount paid for by graduate contributions. We use this figure as we feel it best reflects the up-front resources going into higher education from government. For other stages of education, we focus on just the level of public subsidy as all other private spending comes directly from households and there is no evidence to suggest this has changed differentially over time.

At the start of the period, in 1990–91, higher education spending was £8,400 per student per year (this and all figures here are in 2020–21 prices), about four times

the level of primary school spending per pupil, and it all came directly from government spending. Further education spending was just over £5,200 per student and about 2.4 times the level of primary school spending (and 1.5 times the level of secondary school spending per pupil). Secondary school spending was £3,500 per pupil, about 1.7 times the level of primary school spending per pupil (£2,100). Early years spending was very low (less than £100 million in total) and is not shown on these graphs as a result.

Over the next 25 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).

During the period of falls in spending in the 1990s, 16–18 education and higher education spending per student both fell significantly in real terms, by around 19% and 25% respectively between 1990–91 and 1997–98. In contrast, primary and secondary school spending per pupil were largely frozen in real terms, shrinking the gap between school spending per pupil and post-compulsory education spending per student.

From 1997–98 to 2010–11, spending and resources increased across all stages of education. The early years entitlement was introduced and then extended over time. There were some very significant increases in school spending per pupil, with primary school spending per pupil growing by 6% per year and secondary school spending per pupil by 5% per year, on average, in real terms between 1997–98 and 2010–11. Further education spending per student also grew significantly over the period, but at a slightly slower rate of around 4% per year on average in real terms. As a result, by the late 2000s, the level of spending per pupil in secondary school was similar to that in 16–18 education, a dramatic turnaround compared with the picture in the early 1990s.

Resources for higher education increased slightly in real terms, by around 11% between 1997–98 and 2005–06, as the real value of teaching grants per student increased. The increase in the tuition fee cap to £3,000 then led to a large uptick in resources. However, these increases were not enough to keep pace with the growth in primary school spending over this period. In 1997–98, higher education received more than 2.6 times as much funding per student as primary schools, but by 2011–

12 this had fallen to a little over 1.6 times as much. This is a dramatic shift in the relative priorities of these spending areas.

From 2010–11 onwards, early years spending per head continued to rise as the scope of the free entitlement was expanded, first to 15 hours in 2010 and then to 30 hours for working parents in 2017. School spending per pupil was largely protected in real terms up to 2015. Since then, primary school spending per pupil has fallen by 3% in real terms and secondary school spending per pupil by 9%. As noted in Chapter 3, this led the secondary/primary funding ratio to fall to 1.16, the lowest difference between primary and secondary school spending per pupil in at least 40 years. There were larger falls in further education spending per student, which fell by 12% in real terms between 2010–11 and 2019–20. This left spending per pupil in further education and in secondary schools at about the same level as each other in 2019–20, but a lot lower in sixth forms (as noted in Chapter 4).

Higher education saw a large increase in resources per student as a result of the increase in tuition fees in 2012. This increase in resources was driven by increased expected graduate contributions. These resources were relatively steady up until 2015–16, but have since fallen in real terms. As a result, resources per student in 2019–20 are about 6% lower in real terms than they were in 2012–13. This leaves spending per student in higher education only about 12% higher in real terms than it was in 1990–91, though with a much larger student population and much larger total funding as a result. Because of cuts to school spending, spending per student in higher education also remains at about 1.8 times the level of spending in primary schools. However, these trends continue a clear historical pattern of large increases in higher education resources in years when fees are increased, which are then followed by periods of gradual real-terms falls in resources per student.

By 2019–20, we see a much more complex picture than we saw in 1990. Higher education resources per student continue to be higher than resources at all other stages, but only due to graduate contributions, and the changes over time have been far from smooth. School spending has been prioritised by successive governments, whilst 16–18 education has been the big loser from changes over the last 30 years, with spending per student in further education and in secondary schools at about the same level. Early years spending has been a focus of successive governments too, though spending per pupil is still only around 72% of that in primary schools, and we know there have been cuts to other early years services such as Sure Start. This

provides an important context for the challenges each stage of education faces in the years to come.

Overall, the picture of government spending on education has changed significantly over the last 30 years, with the focus of spending shifting towards earlier in youngsters' lives. Funding for the early years has been gradually expanded over time and schools have seen significant real-terms increases in spending per pupil over this period as a whole. Funding for older age groups has risen by much less over time. Spending per student in 16–18 education is only about 13% higher in real terms than 30 years ago. Funding per student in higher education has only increased by 12% over a similar time frame, though remains significantly higher than for all other stages of education. To inform the public debate, we plan to continue to use our annual reports to update our estimates of spending per pupil at each education stage.

# Appendix A. Early years methodology

In this appendix, we outline the data sources we have used to prepare spending figures in Chapter 2. As with any exercise to construct a historical series of spending, there will inevitably be limitations in the data quality and consistency from year to year. We have prioritised building a consistent series as far as possible, including using imputation where warranted.

## Spending on the free entitlement

In constructing a series of spending on early education, we combined information from several data sources, each with its own limitations. We used budget data from the Section 251 summary budget tables and data on spending (out-turns) from the Department for Education's Statistical First Release SFR52 series. We also used available data from the Section 251 out-turns and for the Dedicated Schools Grant (DSG).

Table A.1 summarises the availability of these different sources of data and the total spending figures implied by each (all in 2020–21 prices). Sources for each type of data are available via embedded hyperlinks for the spending figures, except for the Nursery Education Grant figures.<sup>90</sup>

<sup>90</sup> Spending in 1997–98 and 1998–99 represents reported central government spending on nursery vouchers through the Nursery Education Grant listed in Department for Education and Employment (1999).

Table A.1. Total spending on the 3- and 4-year-old free entitlement, by data source (£000s, 2020–21 prices)

	Nursery Education Grant	Budget, Section 251	Budget, DSG	Spend, Section 251	Spend, SFR52
1997–98	991,325				
1998–99	1,012,900				
1999–00					
2000–01					
2001–02		560,791		998,965	
2002–03		608,666		800,979	
2003–04		1,123,903		1,233,652	
2004–05		1,188,088		1,304,568	
2005–06		1,198,719		1,353,366	
2006–07		1,292,226		1,478,627	
2007–08		1,340,302		1,493,153	
2008–09		1,367,951		1,598,912	
2009–10		1,456,458		1,634,006	
2010–11		1,869,194		1,517,646	
2011–12		2,263,485		1,553,856	
2012–13		2,511,865		1,462,974	
2013–14		2,398,983			2,207,962
2014–15		2,465,742			2,178,115
2015–16		2,512,155	2,491,414		2,409,154
2016–17		2,546,476	2,408,485		2,498,762
2017–18		3,131,274	2,891,692		2,970,562
2018–19		3,384,421	3,169,409		3,252,798
2019–20		3,285,741	3,165,780		

Source: Links embedded in the table.

The budget data are based on the Individual Schools Budget for nursery schools (2001–02 to 2009–10) and for early years (2010–11 to 2019–20). From 2012–13 onwards, they net out spending on the 2-year-old free entitlement.<sup>91</sup> In an effort to focus as clearly as possible on spending related to education, these figures net out spending on health-related services as well as some elements of central spending, on school admissions, servicing schools forums, termination costs, the Falling Rolls Fund, capital expenditure from revenue, prudential borrowing costs, and equal pay back pay. Taken together, these excluded items were budgeted in cash terms at £3 million on a total budget of £3,674 million (inclusive of spending on the 2-year-old entitlement), so these classification decisions do not meaningfully affect our final spending estimates in any case.

Section 251 out-turn data are calculated as net current spend from nursery schools and private, voluntary and independent (PVI) providers plus net current central spend on nursery schools.

We believe that the data series have the following limitations:

- Budget data between 2001–02 and 2009–10 likely exclude spending on nursery classes.
- Spending figures from the Section 251 returns do not explicitly include spending on the free entitlement as delivered by PVI providers from 2013–14 onwards.

Since we do not believe that spending was overstated in any of these years, our decision has been to use the most complete measure of spending available in each period up to 2012–13 to provide the most accurate figures possible. Since 2012–13, the trends in the budget and SFR52 spending data have tracked each other closely (and, since 2015–16, the free entitlement block in the Dedicated Schools Grant has tracked both of these series as well). We have preferred the budget measures for these years to avoid another break in the data series and in order to get first estimates for the changes in spending in 2019–20 from a consistent data source. This means that our figures do the following:

<sup>91</sup> Spending on the 2-year-old offer is directly reported in the 2012–13 budget table. In 2013–14, it comes from the National Audit Office’s report on the free entitlement (National Audit Office, 2016, figure 7). From 2014–15 onwards, it comes from the early years table of the budget data.

- 1997–98 to 1998–99 – Use spending on the Nursery Education Grant.
- 1999–2000 to 2000–01 – There are no spending data in 1999–2000, and spending data in 2000–01 are incomplete. We do not report spending figures for these years.
- 2001–02 to 2009–10 – Use the Section 251 spending data as they explicitly include spending on PVI provision of the free entitlement (while the budget data are likely to exclude spending on nursery classes).
- 2010–11 to 2012–13 – Use the budget data (which now relate to all early years spending) as they are likely to be more comprehensive.
- 2013–14 to 2018–19 – Budget and SFR52 spending data track each other closely. Continue to use the budget data to provide a more consistent series and to report on planned spending levels in 2019–20.

## Tax and benefit spending

In Section 2.2, we consider historical patterns in spending on childcare subsidies delivered through the tax and benefit systems, including employer-supported childcare vouchers, tax-free childcare, and the childcare element of working tax credit and universal credit.

As for the free entitlement, we have pieced together a historical record of spending based on data from a number of sources. In the tax system, data on forgone tax and National Insurance revenues are first available from 2007–08 (although employer-supported childcare vouchers were first introduced in 2005). As shown in Table A.2, we combine data from table 2 of Stewart and Obolenskaya (2015) and from HMRC’s Ready Reckoner, which shows the costs of various tax reliefs.

One complication is that, since these are national policies, spending figures are reported for the whole of the UK. In order to be consistent with the rest of Chapter 2, which discusses spending on policies in England, we attribute a portion of these UK-wide costs to spending in England based on the English share of the under-15 population in the UK.

**Table A.2. Total spending on employer-supported childcare vouchers, by data source, and on tax-free childcare (£000s, 2020–21 prices)**

	<b>Stewart and Obolenskaya (2015)</b>	<b>HMRC Ready Reckoner</b>	<b>Tax-free childcare</b>
2007–08	329,400		
2008–09	427,600		
2009–10	478,900		
2010–11	539,000		
2011–12	626,500		
2012–13	626,400	735,600	
2013–14		761,300	
2014–15		799,400	
2015–16		831,300	
2016–17		831,500	
2017–18		854,400	29,500
2018–19		712,500	104,200

Note: HMRC Ready Reckoner figures include spending on workplace nurseries.

Source: Stewart and Obolenskaya (2015); HM Revenue and Customs, Ready Reckoner, 2016 and 2019 (links embedded in the table); Office for Budget Responsibility, *Economic and Fiscal Outlook*, March 2019 and 2020 (links embedded in the table).

In the one year where the two data sources overlap, there is a considerable difference between them; however, the figures from HMRC for 2012–13 are more consistent with the rapid growth in spending from previous years, so we prefer the official government source in that year (Stewart and Obolenskaya rely on Hansard records from responses to ministerial questions). We also avoid analysing spending around the point where the data source changes.

Table A.2 also reports our data for spending on tax-free childcare. To the best of our knowledge, there is only one data source for these figures: the Office for Budget Responsibility's Economic and Fiscal Outlook. We use the EFO for March 2019 (table 4.17) and March 2020 (fiscal supplementary table 4.7).

On the benefits side, we again rely on Stewart and Obolenskaya (2015) for historical data. For more recent years, we use HMRC's statistics on finalised awards through working tax credit. As with the tax system, we use population shares to attribute a portion of UK-wide spending to England. Table A.3 in Britton, Farquharson and Sibieta (2019) outlines the data availability and spending figures from these sources.

In the period where Stewart and Obolenskaya's figures overlap with data from HMRC's working tax credit statistics, there is a very close correspondence between the two series; discrepancies are likely the result of rounding during the calculations to compute English shares of the UK spending totals. We therefore prefer to use data from the Department for Work and Pensions (DWP) to be as consistent as possible with later figures, so we follow Stewart and Obolenskaya from 1997–98 through 2007–08 and the HMRC statistics thereafter.

There are no publicly available data on spending on childcare subsidies through universal credit (UC). Families with children were among the last to have UC rolled out to them, so even in 2019–20 the numbers claiming childcare benefits under UC remained small compared with the numbers on legacy benefits. We have therefore modelled spending on childcare subsidies through UC. To do this, we first use TAXBEN (IFS's microsimulation model of the tax and benefit system) to calculate the total cost of childcare subsidies through UC when it has been fully rolled out (using data from the 2017–18 Family Resources Survey). We then rescale this to the English population and assume that this spending is rolled out, and spending through the legacy system is rolled back, at a steady rate between 2018–19 and 2023–24 (i.e. the period between when UC effectively started to be rolled out to families with dependent children and the time when all of the pre-school children in this system would have aged into the school system).

# Appendix B. School spending methodology

We have two main methods for calculating school spending per pupil. The first relates to school-based spending per pupil, whilst the second additionally includes spending undertaken by local authorities. Here, we detail the underlying assumptions, methods and data sources for each measure.

## School-based spending

Our measures of school-based spending per pupil are shown for both primary and secondary state-funded schools in Figure 3.3. The methods and data used for calculating these figures are updated from Belfield and Sibieta (2016). Spending includes all spending undertaken by state-funded schools, including academies and free schools where possible. Given that the data do not break expenditure down by pre-16 or post-16 categories, this will include spending on school sixth forms. We exclude special schools because funding arrangements for these schools are more complex and driven more by the needs of individual pupils.

We make use of five main data sources for expenditure: CIPFA Education Statistics Actuals between 1978–79 and 1999–2000; schools’ Section 52/251 returns between 1999–2000 and 2009–10; Consistent Financial Reporting data from 2010–11 to 2018–19; Academies Accounts Returns from 2011–12 to 2018–19; and national school funding allocations for 2019–20.

The CIPFA Education Statistics Actuals compile data returned by each local authority (LA) in England and Wales. This includes information about the number

of pupils and teachers and a breakdown of expenditure on primary<sup>92</sup> and secondary schooling.<sup>93</sup> The CIPFA data include all expenditure by LAs on schooling.<sup>94</sup> Prior to Local Management of Schools in 1990, this expenditure was primarily spent directly by the LA. After 1990, this expenditure is the amount allocated to schools directly through the LA formula plus the amount spent centrally by the LA. The CIPFA data thus combine school-based and LA-based expenditures. We are unfortunately not able to separate these two components.

From 1999–2000 to 2009–10, we use the Section 52/251 data. These data are compiled from the returns of individual schools about their levels of funding and expenditure each year. Differences between funding and expenditure may emerge when schools do not spend their entire budget. As we are interested in the amount of money spent on pupils' education, we use the expenditure data wherever possible. Importantly, this excludes central spending by LAs. As such, the data from Section 52/251 returns represent school-based expenditure. In all cases, we divide total expenditure in each financial year by the number of full-time-equivalent pupils in the January within the financial year to create per-pupil measures of school expenditure (for example, January 2013 for financial year 2012–13).

From 2010–11 onwards, we make use of Consistent Financial Reporting (CFR) data downloaded from the Schools Financial Benchmarking Service<sup>95</sup> and annual performance tables.<sup>96</sup> Spending per pupil is defined as total net expenditure divided by the number of full-time-equivalent pupils. Net expenditure is defined as total

<sup>92</sup> The expenditure data for nursery and primary are combined for the years 1978–79, 1979–80 and between 1987–88 and 1995–96; therefore we estimate combined nursery–primary per-pupil funding. We then combine this with the primary per-pupil Section 52/251 data using the method outlined below. This is a reasonable assumption, as total nursery funding only constituted 1.2% of total nursery and primary funding in 1986–87.

<sup>93</sup> We use the Net Expenditure variable (available from 1978–79) for consistency across years. This includes spending on teaching staff, other staff, contributions to/from other local education authorities and other net expenditure.

<sup>94</sup> In the years between 1993–94 and 1997–98, we add data on funding and pupils in grant-maintained schools (data kindly provided by Damon Clark). The CIPFA data are coded from scanned PDF documents available from the CIPFA website. Headings and definitions often change over time and there are a number of clear errors in the original data (for example, missing zeros, incorrect ordering and incorrect labelling of local authorities). We have made every effort to check and correct the data but a small number of errors may remain.

<sup>95</sup> <https://schools-financial-benchmarking.service.gov.uk/Help/DataSources>.

<sup>96</sup> <https://www.compare-school-performance.service.gov.uk/download-data>.

expenditure net of income from catering, teacher supply insurance claims, community-focused income and capital expenditure from revenue account.

Academies Accounts Returns (AAR) data are available from 2011–12 to 2018–19 from the Schools Financial Benchmarking Service<sup>97</sup> and the income and expenditure of academies.<sup>98</sup> This means all academies are missing from the data for any period between their foundation or conversion and 2011–12. We do not include schools where information is only available for part of the financial year. We only use spending recorded for individual academies, which will exclude any money retained centrally by multi-academy trusts. We use a similar definition of net expenditure to that used in CFR data. In particular, we define net expenditure as total expenditure minus income from catering, teacher supply insurance claims and capital expenditure from revenue account. Unfortunately, community-focused income can only be deducted for 2011–12.

A number of inconsistencies mean the spending per pupil will be higher for academies than for similar maintained schools. First, academies' financial data relate to the academic year, rather than the financial year. Second, academies' expenditure will include funding for services provided by LAs for maintained schools (particularly in the years 2011–12 and 2012–13). Third, sponsor academies tend to be located in more deprived, urban areas, which typically receive higher levels of funding. This means the exclusion of academies before 2011–12 will likely depress the recorded measure of overall spending below its true level and their inclusion afterwards will create an artificial jump in spending per pupil (particularly for secondary schools).

To create a consistent school spending figure, we need to use a consistent definition of LAs over time. Given that there were significant changes to LAs in the mid 1990s, we use the LAs as they were defined before 1996. We define 1996 LAs using the *Gazetteer of the Old and New Geographies of the United Kingdom* produced by the Office for National Statistics (ONS).<sup>99</sup> The Inner London Education Authority was also abolished in 1990 and replaced by 13 smaller LAs (including the City of London). To create a consistent series, we combine these

<sup>97</sup> <https://schools-financial-benchmarking.service.gov.uk/Help/DataSources>.

<sup>98</sup> <https://www.gov.uk/government/collections/statistics-local-authority-school-finance-data>.

<sup>99</sup> <http://www.ons.gov.uk/ons/guide-method/geography/beginner-s-guide/glossary/geography-gazetteer.pdf>.

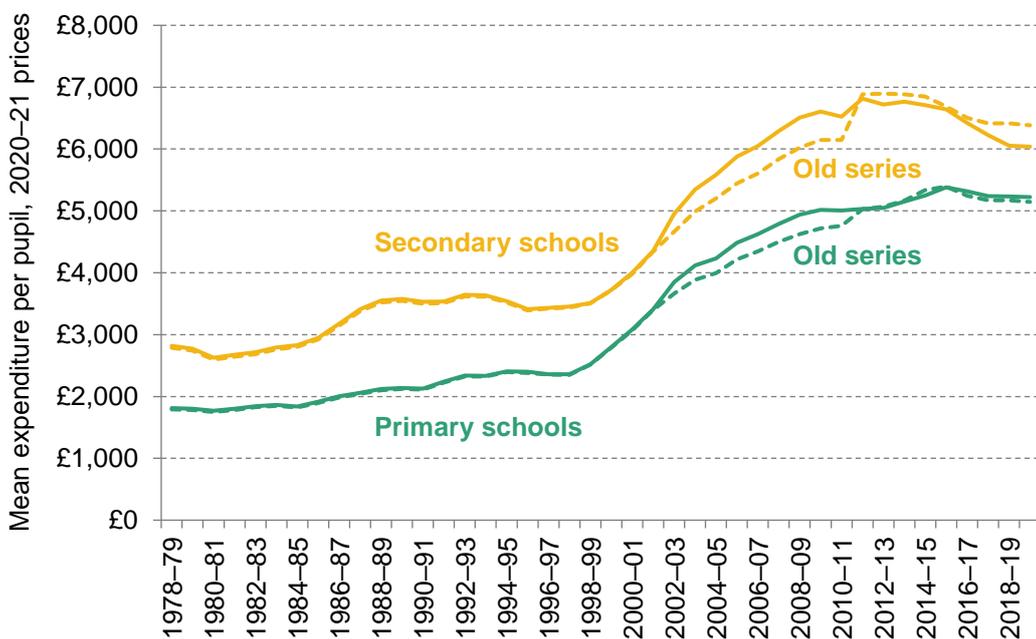
smaller areas to form a single LA in our analysis. This leaves us with 96 LAs in England (we exclude the Isles of Scilly and the Isle of Wight). We calculate LA-level expenditure-per-pupil data from the individual schools data in the Section 52/251 returns. All figures are weighted by pupil numbers to ensure that LAs with larger numbers of pupils are weighted more heavily in our analysis.

To combine our data sets, we apply the LA-level expenditure-per-pupil growth rates implied by the CIPFA data to extrapolate the Section 52/251 data backwards from 1999–2000. This creates an LA-level data series for school-based spending from 1978–79 through to 2009–10. However, there are three inconsistencies that remain between our data sets. In creating this series, we therefore make the following assumptions:

- The inclusion of nursery data does not significantly affect the *growth* rate of nursery and primary funding per pupil in the CIPFA data. Given that nursery spending was relatively small over the period covered by the CIPFA data (up to 1999–2000), this assumption appears relatively minor.
- The growth rate of LA expenditure (equivalent to school funding plus central LA expenditure) provides a good approximation to the growth rate of school-based expenditure within the LA between 1990–91 and 1999–2000. This appears to be a relatively innocuous assumption. Between 1994–95 and 1998–99, national statistics on school-based spending and total school spending by LA show that both sets of figures for spending per pupil were largely frozen in real terms (Department for Education and Skills, 2004).
- The exclusion of central LA spending from the Section 52/251 data does not significantly affect the trends and levels. This is not a benign assumption. Belfield and Sibieta (2016) show that LA-based spending represented a shrinking share of total school spending over the 2000s and that most of this reduction occurred over the early 2000s, falling from 16% in 2000–01 to 11% by 2006–07. These results suggest that trends in school-based expenditure probably represent an overestimate of the growth rate in total school spending over time. We therefore calculate an additional measure of total school spending stretching back to 2003–04, which does include LA-based spending (see below).

This provides a broadly consistent measure of school-based spending per pupil between 1978–79 and 2018–19. We then project the series up to 2019–20 by making use of the growth rate in total school funding per pupil between 2018–19 and 2019–20. This includes the Dedicated Schools Grant,<sup>100</sup> Pupil Premium allocations,<sup>101</sup> Teachers’ Pay Grant<sup>102</sup> and pupil number projections.<sup>103</sup>

**Figure B.1. Spending per pupil in primary and secondary schools under old and new data/methods (2020–21 prices)**



Source: Britton, Farquharson and Sibieta (2019) and this appendix. HM Treasury GDP deflators, June 2020 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-june-2020-quarterly-national-accounts>). Office for Budget Responsibility, *Fiscal Sustainability Report July: 2020* ([https://cdn.obr.uk/OBR\\_FSR\\_July\\_2020.pdf](https://cdn.obr.uk/OBR_FSR_July_2020.pdf)).

<sup>100</sup> 2018–19 (<https://www.gov.uk/government/publications/dedicated-schools-grant-dsg-2018-to-2019>) and 2019–20 (<https://www.gov.uk/government/publications/dedicated-schools-grant-dsg-2019-to-2020>).

<sup>101</sup> 2018–19 (<https://www.gov.uk/government/publications/pupil-premium-conditions-of-grant-2018-to-2019>) and 2019–20 (<https://www.gov.uk/government/publications/pupil-premium-allocations-and-conditions-of-grant-2019-to-2020>).

<sup>102</sup> <https://www.gov.uk/government/publications/teachers-pay-grant-allocations-for-2020-to-2021-financial-year>.

<sup>103</sup> <https://www.gov.uk/government/statistics/national-pupil-projections-july-2020>.

For this year's report, the use of CFR data through to 2018–19 and additional years of AAR data represents a change to data and methods. We have also adjusted methods for earlier years to ensure a consistent definition of net expenditure. In particular, we no longer deduct all private income for years 2002–03 through to 2010–11.

Figure B.1 shows the series from our 2019 report updated to 2020–21 prices and how this compares with our new figures from Figure 3.3. Making use of more years of actual expenditure (as opposed to central government funding allocations) naturally changes the picture since 2015–16, including greater cuts in secondary schools as a result of cuts to sixth-form funding. The new series indicates higher levels of spending per pupil between 2002–03 and 2010–11, about £200–£300 higher for primary schools and £300–£500 higher for secondary schools. This reflects a changed assumption of no longer deducting all private and voluntary income, matching the approach used in the CFR data more closely. A fortunate consequence of this change is that the jump in spending per pupil as a result of data inconsistencies in 2011–12 is much less prominent. Figures for 2010–11 through to 2015–16 are changed slightly due to use of different data and assumptions.

## Total school spending

Total school spending (as presented in Figure 3.1) is intended to represent all spending by either schools or local authorities on children aged 3–19 in state-funded schools in England.

'**Spending by schools**' is calculated as the sum of (net) individual school budgets, any money delegated to schools for high needs, the Pupil Premium and the Teachers' Pay Grant. Individual school budgets and high-needs delegated funding are calculated from Section 52/251 out-turn data up to 2012–13 and Section 52/251 budget data from 2013–14 to 2019–20. For years 2010–11 to 2012–13, we additionally include academies' recoupment funding from Dedicated Schools Grant allocations. Pupil Premium allocations 2011–12 to 2019–20 and the Teachers' Pay Grant are taken from the same sources as school-based spending above. For years 2013–14 to 2016–17, we also add imputed values of the Education Services Grant based on the published rate and pupil numbers.

This spending will include funding for delivery of the free entitlement for 3- and 4-year-olds, which cannot be excluded from individual school budgets in most years

of data. We are, however, able to exclude funding for 2-year-olds as detailed in table 8 of Section 52/251 budget statements.

**‘Spending by local authorities’** is calculated as the (net) schools budget minus any funding provided direct to schools via individual schools budgets or top-ups to providers for high-needs funding. We additionally include the wider education and community budget detailed in Section 52/251 out-turn and budget returns (excluding items 2.3.1 to 2.4 for consistency with school funding figures for Wales).

**‘School sixth-form funding’** is based on allocations to school sixth forms as presented in Figure 4.1 and detailed further in Appendix C.

Pupil numbers in state-funded schools are calculated from Department for Education, ‘Schools, pupils and their characteristics’, January 2010 to 2020<sup>104</sup> and Department for Education, ‘National pupil projections’, July 2020.<sup>105</sup> We then additionally include pupils aged 3–4 in private, voluntary and independent settings from Department for Education, ‘Education provision: children under 5 years of age’, January 2010 to January 2020.<sup>106</sup>

<sup>104</sup><https://www.gov.uk/government/collections/statistics-school-and-pupil-numbers>.

<sup>105</sup><https://www.gov.uk/government/statistics/national-pupil-projections-july-2020>.

<sup>106</sup><https://www.gov.uk/government/collections/statistics-childcare-and-early-years#provision-for-children-under-5-years-of-age-in-england>.

# Appendix C. 16–18 spending methodology

In this appendix, we detail how we constructed our series for spending per student in further education colleges (including sixth-form colleges) and school sixth forms (academies and maintained schools). Table C.1 gives details of the numbers and sources.

## 2003–04 to 2019–20

From 2003–04 to 2019–20, we are able to calculate both sets of figures by first calculating total reported allocations to further education and sixth-form colleges and to school sixth forms. This includes spending on learners with learning difficulties or disabilities between 2005–06 and 2014–15 (no spending is reported outside of these years) and high-needs top-up payments from local authorities to 16–18 providers between 2013–14 and 2019–20. For colleges, we are able to calculate these directly as top-up payments to post-school providers. For school sixth forms, we impute these as 0.125 of the total top-up payments to state-funded secondary schools (0.125 being the approximate share of pupils at state-funded secondary schools who are aged 16–19<sup>107</sup>).

For years between 2003–04 and 2015–16, we can then simply divide these allocations by the reported numbers of students by institution type. This includes pupils aged 16–18 who are studying further education in higher education institutions.

From 2017, sixth-form colleges had the opportunity to convert to academy status. This creates a problem for our analysis as the funding shifts from being classified at 16–18 colleges towards academies with school sixth forms. The students also move from being classified as in sixth-form colleges towards academies. Unfortunately,

<sup>107</sup><https://www.gov.uk/government/statistics/schools-pupils-and-their-characteristics-january-2018>.

the student and funding data are reported at different times of the years and are highly likely to be inconsistent with one another. Using the raw data would lead to a misleading conclusion. We therefore employ the following steps from 2016–17:

- We manually recode academy sixth-form colleges back to sixth-form colleges again. There are fewer than 20 of these by the academic year 2017–18, though closer to 30 by 2019–20.
- We calculate total funding (excluding student support and 19+ funding) allocated to school sixth forms and colleges.
- We divide by student numbers at school sixth forms and colleges as reported in national statistics for academic year 2016–17 (i.e. using end of calendar year 2016 for 2016–17).
- For academic years 2017–18 to 2019–20, we use student numbers as reported in the institutional allocations. However, these are high relative to national statistics (partly because they are lagged numbers used for allocations and partly because they are headcounts). We therefore adjust them by the known difference in 2016–17 (downrating school sixth-form numbers by 7.0% and college numbers by 8.3%, the adjustment being higher for colleges as it implicitly also includes an FTE adjustment for part-time students).
- This gives a series by academic years. We then take averages between years to give a series in financial years (e.g. FY 2017–18 =  $4/12 \times \text{AY } 2016\text{--}17 + 8/12 \times \text{AY } 2017\text{--}18$ ).

## Before 2004–05

Before 2004–05, figures for spending per student in further education are available from various departmental and Office for National Statistics publications. These give slightly different levels for spending per student in 2003–04 from the more recent source. We therefore take the more reliable 2003–04 figure and back-cast imputed figures based on past changes in spending per student in further education. Figures for spending per student in school sixth forms are not readily available before 2002–03.

Table C.1. Spending on and numbers of students in further education and sixth forms (spending figures in 2020–21 prices)

	Further education				School sixth forms		
	Total allocation, £bn	Calculated spending per student	Imputed spending per student	16- to 18-year-olds (FTE)	Total allocation, £bn	Calculated spending per student	16- to 18-year-olds (FTE)
1989–90		£5,827	£5,373	537,100			248,400
1990–91		£5,652	£5,212	529,150			254,700
1991–92		£5,367	£4,949	550,450			270,600
1992–93		£5,237	£4,829	554,250			276,300
1993–94		£5,293	£4,881	561,450			274,300
1994–95		£5,131	£4,731	548,700			277,100
1995–96		£4,810	£4,435	561,650			290,100
1996–97		£4,639	£4,277	582,450			308,100
1997–98		£4,898	£4,233	576,700			317,200
1998–99		£4,855	£4,196	555,700			318,100
1999–00		£5,148	£4,449	550,200			324,200
2000–01		£5,326	£4,603	544,700			329,700
2001–02		£5,776	£4,992	554,000			332,700
2002–03		£5,838	£5,045	572,050	<b>2.02</b>	<b>£5,923</b>	341,350

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2003–04	<b>3.21</b>	<b>£5,473</b>		586,400	<b>2.16</b>	<b>£6,151</b>	351,350
2004–05	<b>3.25</b>	<b>£5,305</b>		611,700	<b>2.28</b>	<b>£6,275</b>	363,300
2005–06	<b>4.00</b>	<b>£6,294</b>		635,350	<b>2.40</b>	<b>£6,481</b>	370,050
2006–07	<b>4.19</b>	<b>£6,296</b>		665,550	<b>2.54</b>	<b>£6,701</b>	379,350
2007–08	<b>4.29</b>	<b>£6,314</b>		678,750	<b>2.60</b>	<b>£6,655</b>	390,250
2008–09	<b>4.38</b>	<b>£6,246</b>		700,700	<b>2.63</b>	<b>£6,483</b>	404,900
2009–10	<b>4.65</b>	<b>£6,354</b>		732,200	<b>2.69</b>	<b>£6,350</b>	423,550
2010–11	<b>5.05</b>	<b>£6,880</b>		734,600	<b>2.90</b>	<b>£6,670</b>	434,150
2011–12	<b>5.07</b>	<b>£7,155</b>		708,850	<b>2.86</b>	<b>£6,577</b>	434,450
2012–13	<b>4.64</b>	<b>£6,618</b>		701,850	<b>2.73</b>	<b>£6,186</b>	440,750
2013–14	<b>4.51</b>	<b>£6,454</b>		698,950	<b>2.59</b>	<b>£5,742</b>	451,950
2014–15	<b>4.37</b>	<b>£6,303</b>		694,050	<b>2.54</b>	<b>£5,554</b>	456,750
2015–16	<b>4.28</b>	<b>£6,281</b>		680,950	<b>2.48</b>	<b>£5,518</b>	448,700
2016–17	<b>4.05</b>	<b>£6,126</b>		660,600	<b>2.42</b>	<b>£5,502</b>	439,950
2017–18	<b>3.90</b>	<b>£6,116</b>		637,596	<b>2.25</b>	<b>£5,360</b>	419,888
2018–19	<b>3.81</b>	<b>£6,039</b>		630,747	<b>2.11</b>	<b>£5,249</b>	401,878
2019–20	<b>3.78</b>	<b>£6,077</b>		621,267	<b>2.05</b>	<b>£5,142</b>	398,540

Note and source: See the next page.

**Note and source to Table C.1**

Number of full-time-equivalent (FTE) students is calculated as number of full-time students plus 0.5 times number of part-time students. Spending per student from 2016–17 to 2019–20 calculated based on total funding allocations in annual 16–19 funding allocations (<https://www.gov.uk/guidance/16-to-19-education-funding-allocations>) divided by the number of FTE students aged 16–18 in further education colleges and school sixth forms. Number of students taken from Department for Education, ‘Participation in education, training and employment: 2019’ (<https://www.gov.uk/government/statistics/participation-in-education-training-and-employment-2019>). For 2017–18 to 2019–20, these figures are adjusted based on the number of students reported in the aforementioned 16–19 institutional funding allocations. Spending per student for 2003–04 to 2015–16 calculated as spending on further education for 16- to 19-year-olds, sixth-form spending (maintained schools and academies) and spending on learners with learning difficulties or disabilities as reported in Education Funding Agency annual report and accounts for 2012–13 to 2015–16 (<https://www.gov.uk/government/publications/efa-annual-report-and-accounts-for-the-year-ended-31-march-2016>, <https://www.gov.uk/government/publications/efa-annual-report-and-accounts-for-the-year-ended-31-march-2015>, <https://www.gov.uk/government/publications/efa-annual-report-and-accounts-1-april-2013-to-31-march-2014>, <https://www.gov.uk/government/publications/efa-annual-report-and-financial-statements-for-april-2012-to-march-2013>), Young People’s Learning Agency annual report and accounts for 2011–12 (<https://www.gov.uk/government/publications/the-young-peoples-learning-agencys-annual-report-and-accounts-for-2011-to-2012>) and Learning and Skills Council annual report and accounts for 2004–05 to 2009–10 (<https://www.gov.uk/government/publications?departments%5B%5D=learning-and-skills-council>) and divided by number of FTE students aged 16–18 in further education colleges and school sixth forms. Number of students taken from Department for Education, ‘Participation in education, training and employment: 2018’ (<https://www.gov.uk/government/statistics/participation-in-education-training-and-employment-2018>). For years between 2013–14 and 2018–19, we also include local authority top-ups for high-needs pupils calculated from local authority spending plans (<https://www.gov.uk/government/collections/statistics-local-authority-school-finance-data>). Figures for spending per student in further education from 1989–90 to 2003–04 taken from Department for Children, Schools and Families departmental report for 2009 (<http://webarchive.nationalarchives.gov.uk/20130401151715/http://www.education.gov.uk/publications/eOrderingDownload/DCSF-Annual%20Report%202009-BKMK.PDF>) and Department for Education and Employment, ‘Education and training expenditure since 1989–90’, Statistical Bulletin 10/99 ([http://dera.ioe.ac.uk/13586/1/Education\\_and\\_training\\_expenditure\\_since\\_1989-90\\_%28Statistics\\_Bulletin\\_10\\_99%29.pdf](http://dera.ioe.ac.uk/13586/1/Education_and_training_expenditure_since_1989-90_%28Statistics_Bulletin_10_99%29.pdf)). Imputed figures are calculated by back-casting the calculated figure in 2003–04 by the real-terms growth in the calculated series (figures for overlapping years are not shown here). HM Treasury GDP deflators, June 2020 (<https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-june-2020-quarterly-national-accounts>). Office for Budget Responsibility, *Fiscal Sustainability Report: July 2020* (<https://obr.uk/fsr/fiscal-sustainability-report-july-2020/>).

## Split by three institutional types from 2013–14 onwards

From 2013–14 onwards, we are able to split spending per student by all three main institutional types: school sixth forms; sixth-form colleges; and further education colleges. These figures are based on reported allocations to providers,<sup>108</sup> with total spending measured as total programme funding for individuals aged 16–18, plus high-needs funding, funding adjustments for young people who have not achieved C grades in English and maths GCSEs, and funding from the Capacity and Delivery Fund and the Advanced Maths Premium. We adjust student and institution numbers in the same way as above to account for conversions of sixth-form colleges to academy status. However, in contrast to our main figures, we leave these figures in academic rather than financial years, given this is how the data are presented.

<sup>108</sup><https://www.gov.uk/guidance/16-to-19-education-funding-allocations#to-19-funding-allocations>.

# References

- Anders, J., Macmillan, L., Sturgis, P. and Wyness, G. (2020), ‘Homeschooling during lockdown deepens inequality’, <https://blogs.lse.ac.uk/covid19/2020/06/05/homeschooling-during-lockdown-will-deepen-inequality/>.
- Andrew, A., Cattan, S., Costa-Dias, M., Farquharson, C., Kraftman, L., Krutikova, S., Phimister, A. and Sevilla, A. (2020), ‘Learning during the lockdown: real-time data on children’s experiences during home learning’, Institute for Fiscal Studies (IFS), Briefing Note 288, <https://www.ifs.org.uk/uploads/BN288-Learning-during-the-lockdown-1.pdf>.
- Andrews, J. (2020), ‘Analysis: school funding allocations 2021-22’, Education Policy Institute, <https://epi.org.uk/publications-and-research/school-funding-allocations-2021-22/>.
- Arteaga, C. (2018), ‘The effect of human capital on earnings: evidence from a reform at Colombia’s top university’, *Journal of Public Economics*, 157, 212–25, <https://doi.org/10.1016/j.jpubeco.2017.10.007>.
- Augar, P. (2019), *Independent Panel Report to the Review of Post-18 Education and Funding*, <https://www.gov.uk/government/publications/post-18-review-of-education-and-funding-independent-panel-report>.
- Baker, K., Gruber, J. and Milligan, K. (2008), ‘Universal child care, maternal labor supply, and family well-being’, *Journal of Political Economy*, 116, 709–45, <https://www.jstor.org/stable/10.1086/591908>.
- Belfield, C., Britton, J., Buscha, F., Dearden, L., Dickson, M., van der Erve, L., Sibieta, L., Vignoles, A., Walker, I. and Zhu, Y. (2018), *The Relative Labour Market Returns to Different Degrees*, Department for Education (DfE), Research Report 787, <https://www.ifs.org.uk/publications/13036>.
- Belfield, C., Farquharson, C. and Sibieta, L. (2018), *2018 Annual Report on Education Spending in England*, Institute for Fiscal Studies (IFS), Report 150, <https://www.ifs.org.uk/publications/13306>.

- Belfield, C., Goll, D. and Sibieta, L. (2018), ‘Socio-economic differences in total education spending in England: middle-class welfare no more’, Institute for Fiscal Studies (IFS), Briefing Note 242, <https://www.ifs.org.uk/publications/13662>.
- Belfield, C. and Sibieta, L. (2016), *Long-Run Trends in School Spending in England*, Institute for Fiscal Studies (IFS), Report 115, <https://www.ifs.org.uk/publications/8236>.
- Blanden, J., Crawford, C., Drayton, E., Farquharson, C., Jarvie, M. and Paull, G. (2020), *Challenges for the Childcare Market: The Implications of COVID-19 for Childcare Providers in England*, Institute for Fiscal Studies (IFS), Report 175, <https://www.ifs.org.uk/publications/14990>.
- Blanden, J., Del Bono, E., McNally, S. and Rabe, B. (2016), ‘Universal pre-school education: the case of public funding with private provision’, *Economic Journal*, 126, 682–723, <https://doi.org/10.1111/eoj.12374>.
- Bolton, P. (2020), ‘Higher education funding in England’, House of Commons Library, Briefing Paper 7393, <https://commonslibrary.parliament.uk/research-briefings/cbp-7973/>.
- Brewer, M., Cattan, S., Crawford, C. and Rabe, B. (2020), ‘Does more free childcare help parents work more?’, Institute for Fiscal Studies (IFS), Working Paper 20/09, <https://www.ifs.org.uk/publications/14781>.
- Britton, J., Farquharson, C. and Sibieta, L. (2019), *2019 Annual Report on Education Spending in England*, Institute for Fiscal Studies (IFS), Report 162, <https://www.ifs.org.uk/publications/14369>.
- Burgess, S. and Sievertsen, H. H. (2020), ‘Schools, skills, and learning: the impact of COVID-19 on education’, Centre for Economic Policy Research (CEPR), <https://voxeu.org/article/impact-COVID-19-education>.
- Cabinet Office (2009), *New Opportunities: Fair Chances for the Future*, Cm 7533, [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/228532/7533.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/228532/7533.pdf).
- Cascio, E. (2015), ‘The promises and pitfalls of universal early education’, *IZA World of Labor*, 116, <https://wol.iza.org/articles/promises-and-pitfalls-of-universal-early-education/long>.

- Cattan, S. (2016), 'Can universal preschool increase the labor supply of mothers?', *IZA World of Labor*, 312, <https://wol.iza.org/articles/can-universal-preschool-increase-labor-supply-of-mothers/long>.
- Cavaglia, C., McNally, S. and Overman, H. G. (2020), 'Devolving skills: the case of the Apprenticeship Grant for Employers', *Fiscal Studies*, <https://doi.org/10.1111/1475-5890.12238>.
- Chowdry, H. and Sibieta, L. (2011), 'Trends in education and schools spending', Institute for Fiscal Studies (IFS), Briefing Note 121, <http://www.ifs.org.uk/bns/bn121.pdf>.
- Clark, D. (2011), 'Do recessions keep students in school? The impact of youth unemployment on enrolment in post-compulsory education in England', *Economica*, 78, 523–45, <https://doi.org/10.1111/j.1468-0335.2009.00824.x>.
- Cottell, J. and Sibieta, L. (2020), 'Education policy responses across the UK to the pandemic', Education Policy Institute, <https://epi.org.uk/publications-and-research/education-responses-uk-pandemic/>.
- Crawford, C. (2014), 'Socio-economic differences in university outcomes in the UK: drop-out, degree completion and degree class', Institute for Fiscal Studies (IFS), Working Paper 14/31, <https://www.ifs.org.uk/publications/7420>.
- Cribb, J., Hood, A. and Joyce, R. (2017), 'Entering the labour market in a weak economy: scarring and insurance', Institute for Fiscal Studies (IFS), Working Paper 17/27, <https://www.ifs.org.uk/publications/10180>.
- Cullinane, C. and Montacute, R. (2020), 'School shutdown', Sutton Trust, COVID-19 and Social Mobility Impact Brief 1, <https://www.suttontrust.com/our-research/covid-19-and-social-mobility-impact-brief/>.
- Cunha, F., Heckman, J. J. and Schennach, S. M. (2010), 'Estimating the technology of cognitive and noncognitive skill formation', *Econometrica*, 78, 883–931, <https://doi.org/10.3982/ECTA6551>.
- Datta Gupta, N. and Simonsen, M. (2010), 'Non-cognitive child outcomes and universal high quality childcare', *Journal of Public Economics*, 94, 30–43, <https://doi.org/10.1016/j.jpubeco.2009.10.001>.

DELVE Initiative (2020), *Balancing the Risks of Pupils Returning to Schools*, DELVE Report 4, <http://rs-delve.github.io/reports/2020/07/24/balancing-the-risk-of-pupils-returning-to-schools.html>.

Department for Children, Schools and Families (2008), *Departmental Report 2008*, <https://www.gov.uk/government/publications/department-for-children-schools-and-families-departmental-report-2008>.

Department for Education (2019), 'Student loan forecasts, England: 2018 to 2019', <https://www.gov.uk/government/statistics/student-loan-forecasts-england-2018-to-2019>.

Department for Education (2020a), 'Student loan forecast for England: financial year 2019–20', <https://explore-education-statistics.service.gov.uk/find-statistics/student-loan-forecasts-for-england/2019-20>.

Department for Education (2020b), 'Costs and cost drivers in the further education sector', <https://www.gov.uk/government/publications/costs-and-cost-drivers-in-the-further-education-sector>.

Department for Education (2020c), 'Use of free early education entitlements funding during coronavirus (COVID-19): updated 20 July 2020', departmental guidance, <https://www.gov.uk/government/publications/use-of-free-early-education-entitlements-funding-during-the-coronavirus-outbreak/use-of-free-early-education-entitlements-funding-during-coronavirus-covid-19>.

Department for Education and Employment (1999), 'Education and training expenditure since 1989–90', Statistical Bulletin 10/99, <http://dera.ioe.ac.uk/13586/>.

Department for Education and Skills (2004), 'Statistics of education: education and training expenditure since 1994–95', National Statistics Bulletin, October, <https://dera.ioe.ac.uk/13597/>.

Doherty, K. and Cullinane, C. (2020), 'Apprenticeships', COVID-19 and Social Mobility Impact Brief 3, Sutton Trust, <https://www.suttontrust.com/our-research/covid-19-impacts-apprenticeships/>.

Drayton, E. and Waltmann, B. (2020), 'Will universities need a bailout to survive the COVID-19 crisis?', Institute for Fiscal Studies (IFS), Briefing Note 300, <https://www.ifs.org.uk/publications/14919>.

- Early Years Alliance (2020), ‘The forgotten sector: the financial impact of coronavirus on early years providers in England’,  
[https://www.eyalliance.org.uk/sites/default/files/the\\_forgotten\\_sector\\_early\\_years\\_alliance\\_june\\_2020.pdf](https://www.eyalliance.org.uk/sites/default/files/the_forgotten_sector_early_years_alliance_june_2020.pdf).
- Education Endowment Foundation (2020), ‘Impact of school closures on the attainment gap: Rapid Evidence Assessment’,  
[https://educationendowmentfoundation.org.uk/public/files/EEF\\_\(2020\)\\_-\\_Impact\\_of\\_School\\_Closures\\_on\\_the\\_Attainment\\_Gap.pdf](https://educationendowmentfoundation.org.uk/public/files/EEF_(2020)_-_Impact_of_School_Closures_on_the_Attainment_Gap.pdf).
- Education Policy Institute (2020a), *Education in England: Annual Report 2020*,  
<https://epi.org.uk/publications-and-research/education-in-england-annual-report-2020/>.
- Education Policy Institute (2020b), ‘Preventing the disadvantage gap from increasing during and after the Covid-19 pandemic: proposals from the Education Policy Institute’,  
<https://epi.org.uk/publications-and-research/disadvantage-gap-covid-19/>.
- Eyles, A., Gibbons, S. and Montebruno, P. (2020), ‘Covid-19 school shutdowns: what will they do to our children’s education?’, Centre for Economic Performance (CEP), Covid-19 Analysis Paper 1, <https://cep.lse.ac.uk/pubs/download/cepcovid-19-001.pdf>.
- Farquharson, C. (2019), ‘Early education and childcare spending’, Institute for Fiscal Studies (IFS), Briefing Note 258, <https://www.ifs.org.uk/publications/14557>.
- Gibb, J., Jelacic, H., La Valle, I., Gowland, S., Kinsella, R., Jessiman, P. and Ormston, R. (2011), *Rolling Out Free Early Education for Disadvantaged Two Year Olds: An Implementation Study for Local Authorities and Providers*, Department for Education (DfE), Research Report 131, <https://www.gov.uk/government/publications/free-early-education-for-disadvantaged-two-year-olds-an-implementation-study-for-local-authorities-and-providers>.
- Gibbons, S., McNally, S. and Viarengo, M. (2018), ‘Does additional spending help urban schools? An evaluation using boundary discontinuities’, *Journal of the European Economic Association*, 16, 1618–68, <https://doi.org/10.1093/jeea/jvx038>.
- Green, F. (2020), ‘Schoolwork in lockdown: new evidence on the epidemic of educational poverty’, Centre for Learning and Life Chances in Knowledge Economies and Societies (LLAKES), Research Paper 67,  
[https://www.llakes.ac.uk/sites/default/files/LLAKES%20Working%20Paper%2067\\_0.pdf](https://www.llakes.ac.uk/sites/default/files/LLAKES%20Working%20Paper%2067_0.pdf).

- Green, F., Anders, J., Henderson, M. and Henseke, G. (2017), 'Who chooses private schooling in Britain and why?', Centre for Learning and Life Chances in Knowledge Economies and Societies (LLAKES), Research Paper 62, <https://www.llakes.ac.uk/sites/default/files/Green%2C%20Anders%2C%20Henderson%20%26%20Henseke.pdf>.
- Harding, C. and Cottell, J. (2018), 'Childcare Survey 2018', Family and Childcare Trust, <https://www.familyandchildcaretrust.org/childcare-survey-2018>.
- HM Treasury (2011), *Autumn Statement 2011*, Cm 8231, <https://www.gov.uk/government/publications/autumn-statement-2011>.
- Hupkau, C., McNally, S., Ruiz-Valenzuela, J. and Ventura, G. (2017), 'Post-compulsory education in England: choices and implications', *National Institute Economic Review*, 240, R42–57, <https://doi.org/10.1177%2F002795011724000113>.
- Jackson, C. K. (2018), 'Does school spending matter? The new literature on an old question', National Bureau of Economic Research (NBER), Working Paper 25368, <https://www.nber.org/papers/w25368>.
- Jackson, C. K., Johnson, R. C. and Persico, C. (2016), 'The effects of school spending on educational and economic outcomes: evidence from school finance reforms', *Quarterly Journal of Economics*, 131, 157–218, <https://doi.org/10.1093/qje/qjv036>.
- Johnson, R. C. and Jackson, C. K. (2019), 'Reducing inequality through dynamic complementarity: evidence from Head Start and public school spending', *American Economic Journal: Economic Policy*, 11, 310–49, <https://doi.org/10.1257/pol.20180510>.
- Joyce, R., and Xu, X. (2020), 'Sector shutdowns during the coronavirus crisis: which workers are most exposed?', Institute for Fiscal Studies (IFS), Briefing Note 278, <https://www.ifs.org.uk/publications/14791>.
- Lavy, V. (2015), 'Do differences in schools' instruction time explain international achievement gaps? Evidence from developed and developing countries', *Economic Journal*, 125, F397–424, <https://doi.org/10.1111/eoj.12233>.
- Maurin, E. and McNally, S. (2008), 'Vive la révolution! Long-term educational returns of 1968 to the angry students', *Journal of Labor Economics*, 26, 1–33, <https://doi.org/10.1086/522071>.

- McNally, S. (2018), ‘Apprenticeships in England: what does research tell us?’, Centre for Vocational Education Research, Briefing Note 8, <http://cver.lse.ac.uk/textonly/cver/pubs/cverbrf008.pdf>.
- McVicar, D. and Rice, P. (2001), ‘Participation in further education in England and Wales: an analysis of post-war trends’, *Oxford Economic Papers*, 53, 47–66, <https://doi.org/10.1093/oep/53.1.47>.
- Moules, J. and Jack, A. (2020), ‘Record numbers apply to top business schools’, *Financial Times*, 27 September, <https://www.ft.com/content/5492262c-c566-42a5-a3f7-f153620460fd>.
- Nabarro, B. (2020), ‘UK economic outlook: the long road to recovery’, in C. Emmerson, C. Farquharson and P. Johnson (eds), *The IFS Green Budget: October 2020*, <https://www.ifs.org.uk/publications/15078>.
- National Audit Office (2016), *Entitlement to Free Early Education and Childcare*, <https://www.nao.org.uk/report/entitlement-to-free-early-education-and-childcare/>.
- National Audit Office (2017), *Capital Funding for Schools*, <https://www.nao.org.uk/wp-content/uploads/2017/02/Capital-funding-for-schools.pdf>.
- National Audit Office (2020), *Financial Sustainability of Colleges in England*, <https://www.nao.org.uk/wp-content/uploads/2020/09/Financial-sustainability-of-colleges-in-England.pdf>.
- Nicoletti, C. and Rabe, B. (2018), ‘The effect of school spending on student achievement: addressing biases in value-added models’, *Journal of the Royal Statistical Society Series A*, 181, 487–515, <https://doi.org/10.1111/rssa.12304>.
- OECD (2019), ‘Net childcare costs for parents using childcare’, OECD.Stat, <https://stats.oecd.org/Index.aspx?DataSetCode=NCC> (various family types considered).
- OECD (2020), ‘Education spending (indicator)’, doi: 10.1787/ca274bac-en (accessed on 6 October 2020), <https://data.oecd.org/eduresource/education-spending.htm#indicator-chart>.
- Paull, G. and Xu, X. (2019), *Early Years Providers Cost Study 2018*, Department for Education (DfE), Research Report 894, <https://www.gov.uk/government/publications/early-years-providers-cost-study-2018>.

- Pischke, J-S. (2007), 'The impact of length of the school year on student performance and earnings: evidence from the German short school years', *Economic Journal*, 117, 1216–42, <https://doi.org/10.1111/j.1468-0297.2007.02080.x>.
- Sharp, C., Nelson, J., Lucas, M., Julius, J., McCrone, T. and Sims, D. (2020), 'Schools' responses to Covid-19: the challenges facing schools and pupils in September 2020', National Foundation for Educational Research (NFER), <https://www.nfer.ac.uk/schools-responses-to-covid-19-the-challenges-facing-schools-and-pupils-in-september-2020/>.
- Sibieta, L. (2015), 'School spending in England 2010–15', *Fiscal Studies*, 36, 283–302, <https://doi.org/10.1111/j.1475-5890.2015.12057>.
- Sibieta, L. (2020), 'Teacher shortages in England: analysis and pay options', Education Policy Institute, <https://epi.org.uk/wp-content/uploads/2020/02/Teacher-shortages-and-pay-2020-EPI.pdf>.
- Stewart, K. and Obolenskaya, P. (2015), 'The coalition's record on the under fives: policy, spending, and outcomes 2010–2015', Centre for Analysis of Social Exclusion, Social Policy in a Cold Climate, Working Paper 12, <http://sticerd.lse.ac.uk/dps/case/spcc/WP12.pdf>.
- Taggart, B., Sylva, K., Melhuish, E., Sammons, P. and Siraj, I. (2015), 'Effective pre-school, primary and secondary education project (EPPSE 3-16+): how pre-school influences children and young people's attainment and developmental outcomes over time', Department for Education (DfE), Research Brief, [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/455670/RB455\\_Effective\\_pre-school\\_primary\\_and\\_secondary\\_education\\_project.pdf.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/455670/RB455_Effective_pre-school_primary_and_secondary_education_project.pdf.pdf).
- Ventura, G. (2020), 'The future of apprenticeships is in the balance', LSE Business Review.
- West, A. (2009), 'Redistribution and financing schools in England under Labour: are resources going where needs are greatest?', *Educational Management Administration and Leadership*, 37, 158–79, <https://doi.org/10.1177%2F1741143208100296>.
- West, A. and Noden, P. (2016), 'Public funding of early years education in England: an historical perspective', LSE, Department of Social Policy, Clare Market Paper 21, <http://www.nuffieldfoundation.org/sites/default/files/files/Nuffield%20Final%20Report%20historical%2027%20September%202016.pdf>.

Zaranko, B. (2020), 'Spending Review 2020: COVID-19, Brexit and beyond', in C. Emmerson, C. Farquharson and P. Johnson (eds), *The IFS Green Budget: October 2020*, <https://www.ifs.org.uk/publications/15048>.