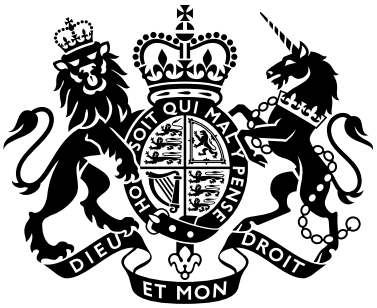
Office for
Budget Responsibility

Economic and fiscal outlook

October 2018

Cm 9713



Office for Budget Responsibility: Economic and fiscal outlook

Presented to Parliament by
the Exchequer Secretary to the Treasury by
Command of Her Majesty

October 2018

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Supplementary information and charts and tables data are available on our website.

Foreword

The Office for Budget Responsibility (OBR) was established in 2010 to provide independent and authoritative analysis of the UK's public finances.

In this *Economic and fiscal outlook* (*EFO*) we set out forecasts to 2023-24. We also assess whether the Government is on course to meet the medium-term fiscal and welfare spending objectives that it has set itself. The forecasts presented in this document represent the collective view of the three independent members of the OBR's Budget Responsibility Committee (BRC). We take full responsibility for the judgements that underpin them and for the conclusions we have reached.

We have, of course, been hugely supported in this by the staff of the OBR. We are enormously grateful for the hard work, expertise and professionalism that they have brought to the task. Given the highly disaggregated nature of the fiscal forecasts we produce, we have also drawn heavily on the work and expertise of officials across government, including in HM Revenue and Customs, the Department for Work and Pensions, HM Treasury, the Ministry of Housing, Communities and Local Government, the Department for Business, Energy and Industrial Strategy, the Department for Education, the Oil and Gas Authority, the Office for National Statistics, the UK Debt Management Office, the Scottish Government and Scottish Fiscal Commission, the Welsh Government, the Department for Communities in Northern Ireland, Transport for London and various public service pension schemes. We are grateful for their time and patience.

Given the legal requirement for the OBR to base its forecasts on current Government policy, we once again asked the Government to provide us with any detail on post-Brexit policies in relation to trade, migration and EU finances:

- On future migration and trade regimes, the Government directed us to the White Paper published in July 2018. As with previous speeches and Government publications, securing the outcomes that it seeks will depend on further policy development by the UK authorities and on the continuing negotiations with the EU.

- On future financial flows the Government directed us to the Prime Minister's speech in Florence last September and further details in the White Paper.

Our forecasts continue to reflect the provisional broad-brush adjustments that we made in our November 2016 *EFO* to incorporate the possible impact of Brexit. These are set out in Chapter 3 (economy) and Chapter 4 (fiscal) of this document. We will review these assumptions when the Government reaches and publishes a full Withdrawal Agreement with the EU.

The forecast process for this *EFO* was unusually challenging. In part that reflected the demands on many parts of Government presented by the current phase of the Brexit negotiations, which squeezed the normal forecasting timetable. But it also reflected repeated failures to observe the forecast timetable that was initially agreed between the Treasury and ourselves. This has resulted in a regrettable but thankfully relatively small inconsistency between our economy and fiscal forecasts, as well as the Government announcing a package of measures affecting universal credit whose fiscal cost we could not certify as reasonable and central on the basis of the information we were provided. We will be seeking assurance that this will not be repeated at future fiscal events.

The full forecast timetable has been as follows:

- On 23 August the Treasury notified us that we should prepare to publish a forecast, no earlier than the week beginning 29 October, without confirming a specific Budget date. Given the exceptional circumstances and uncertainty around the timetable for agreeing a Withdrawal Agreement with the EU, we agreed to start the process on this basis. We continued to prepare our forecasts to this provisional timetable until the Budget date was publicly confirmed by the Chancellor on 26 September.

- We began the forecast process with the preparation by OBR staff of a revised economy forecast, drawing on data released since our previous forecast in March and with our preliminary judgements on the outlook for the economy. We sent our first economy forecast to the Chancellor on 12 September.

- Using the economic determinants from this forecast (such as the components of nominal income and spending, unemployment, inflation and interest rates) we then commissioned new forecasts from the relevant government departments for the various tax and spending streams that in aggregate determine the state of the public finances. We discussed these in detail with the officials producing them, which allowed us to investigate proposed changes in forecasting methodology and to assess the significance of recent tax and spending outturns. In many cases, the BRC requested changes to methodology and/or the interpretation of recent data. We sent our first fiscal forecast (including a provisional judgement on progress towards meeting the fiscal targets) on 21 September.

- As the process continued, we identified key judgements that we would need to make to generate our full economy forecast. Where we thought it would be helpful, we commissioned analysis from the relevant analysts in the Treasury to inform our views. The BRC then agreed the key judgements, allowing the production by OBR staff of a second full economy forecast.

- This provided the basis for a further round of fiscal forecasts. Discussion of these with HMRC, DWP and other departments gave us the opportunity to follow up our requests for further analysis, methodological changes and alternative judgements made during the previous round. We provided our second economy and fiscal forecast to the Chancellor on 5 October.

- We then produced a third economy and fiscal forecast, which allowed us to take on latest data and to ensure that our judgements on the fiscal forecast had been reflected. We completed this final pre-policy-measures forecast and sent it to the Chancellor on 15 October. The Chairman met with the Chancellor on the same day.

- In line with the forecast timetable agreed with the Treasury at the start of the process, we were provided with details of policy decisions with a potential wider impact on the economy forecast on 17 October. These should have been final, but on 23 October we were provided with details of significant changes to several measures, the net effect of which would have moved our economy forecast had they been provided in time. At that stage, we did not have time to reopen our economy forecast and run the results through our receipts and spending forecast models, but we were able to make 'ready-reckoned' adjustments to those forecasts that brought them closer into line with the Government's final policy package. Our economy and fiscal forecasts in this *EFO* are therefore unfortunately not fully consistent. We do not believe that the inconsistency would have altered our GDP forecast to 0.1 per cent of GDP in any year.

- We were provided with the final Budget policy measures on 25 October, a day later than the agreed timetable. We incorporated these measures into our final fiscal forecast which we returned to the Treasury the same day.

- Meanwhile, we were scrutinising the costing of tax and spending measures that were being considered for announcement in the Budget. As usual, the BRC requested changes to almost all the draft costings prepared by HMRC, DWP and other departments. Unusually, there were several measures that we were unable to certify as the Treasury did not provide sufficient information in time for us to judge that the Government's estimated costs were reasonable and central. These all relate to the large package of measures that increase the generosity of universal credit. In some cases, we were not notified of the precise changes that were to be announced until 24 October. Experience warns that mistakes are inevitable when such changes are estimated in haste late in a Budget process – this was certainly true following the Summer Budget 2015 welfare cuts. So, in the absence of a certified estimate of the cost of the package, we have incorporated the Government's estimates but warn that these are very likely to change once DWP analysts have been able to model their effects properly. We cannot predict in advance whether such changes will increase or reduce the cost of the overall package, so have not adjusted the Treasury's figures for use in our own forecast. We have continued our fuller discussion and calibration of the uncertainties that surround all the policy costings in this Budget. This is presented in Annex A of this *EFO* and in our annex to the Treasury's *Budget 2018 policy costings document*.

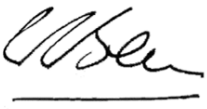
- The Treasury made a written request, as provided for in the Memorandum of Understanding (MoU) between us, that we provide the Chancellor and an agreed list of his special advisers and officials with a near-final draft of the *EFO* on 24 October. The various timetable issues described above meant that in practice we provided only some draft material on 24 October and a full draft on 25 October. This allowed the Treasury to prepare the Chancellor's statement and documentation. Given that the Budget is, unusually, taking place on a Monday this year, we sent the usual pre-release of the final *EFO* at midday on Sunday 28 October

(providing slightly more than the normal 24-hour pre-release access) so that the Treasury could finalise their own documentation that day.

During the forecasting period, the BRC held around 60 scrutiny and challenge meetings with officials from other departments, in addition to numerous further meetings at staff level. We have been provided with all the information and analysis that we requested in respect of our underlying forecast, although as already noted we were not provided with sufficient information about the costing of the package of universal credit measures to be able to certify its estimated cost. We have come under no pressure from Ministers, advisers or officials to change any of our conclusions as the forecast has progressed. A full log of our substantive contact with Ministers, their offices and special advisers can be found on our website. This includes the list of special advisers and officials that received the near-final draft of the *EFO* on 24 and 25 October.

Our non-executive members Sir Christopher Kelly and Bronwyn Curtis OBE provide additional assurance over how we engage with the Treasury and other departments by reviewing any correspondence that OBR staff feel either breaches the MoU requirement that it be confined to factual comments only or could be construed as doing so. That review will take place over the next two weeks and any concerns our non-executive members have will be raised with the Treasury's Permanent Secretary or the Treasury Select Committee, if they deem that appropriate.

We would be pleased to receive feedback on any aspect of the content or presentation of our analysis. This can be sent to feedback@obr.uk.


Robert Chote | Sir Charles Bean | Andy King

The Budget Responsibility Committee

1 Executive summary

Overview

1.1 At first glance the outlook for the public finances in the medium term looks much the same as it did in March. But this masks a significant improvement in the underlying pace of deficit reduction, that on its own would have put the Government on course to achieve its objective of a balanced budget for the first time. As it happens, this underlying improvement had already been swallowed up by the Prime Minister's promise of higher spending on the NHS made in June. The remaining Budget policy measures are a further near-term giveaway that gradually diminishes over the forecast, leaving the deficit in 2022-23 little changed overall.

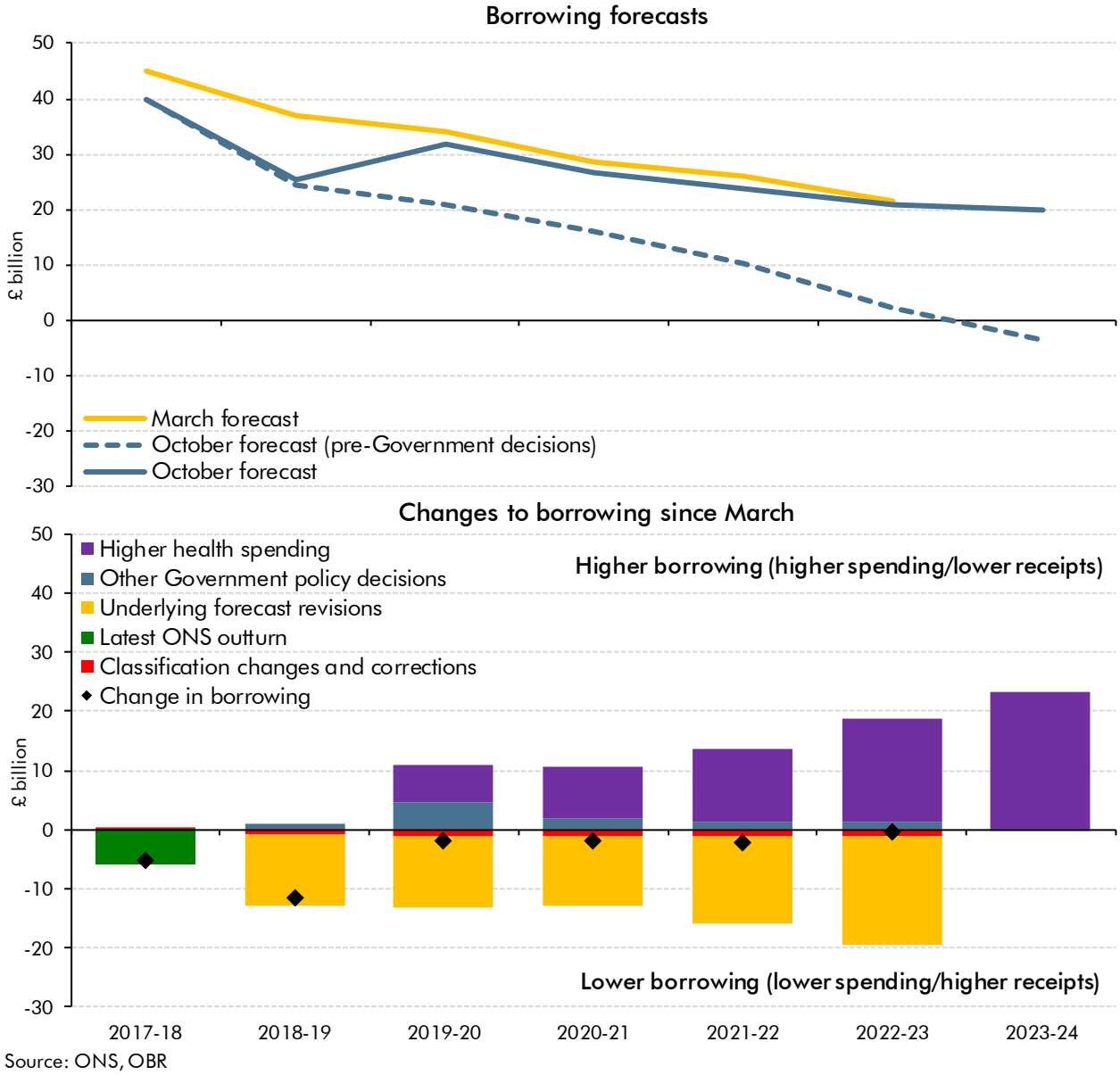
1.2 The public finances have performed better so far this year than we and outside forecasters expected back in March, even though the economy has grown less quickly. Once again, the ONS has revised last year's budget deficit lower, relative both to its initial estimate in April and to our forecast from March. Borrowing has also fallen more sharply in the first half of 2018-19 than anticipated, relative to the same period last year. As a result – and before the impact of any policy decisions – we have revised borrowing £11.9 billion lower for the full year (like for like), creating a more favourable starting point for the forecast. This reflects stronger tax revenues and lower spending on welfare and debt interest than expected.

1.3 The performance of the real economy has been less impressive relative to expectations. We have revised real GDP growth in 2018 down from 1.5 to 1.3 per cent, but primarily due to the temporary effects of the snowy first quarter. Thereafter we expect slightly stronger growth over the forecast as a whole than in March, reflecting a downward revision to our estimate of the sustainable rate of unemployment and an upward revision to potential labour market participation, reflecting new data on participation by age that we flagged back in July.

1.4 The upward revision to cumulative GDP growth means that the underlying improvement in the budget deficit rises from £11.9 billion this year to £18.1 billion by 2022-23. At 0.6 per cent of GDP, on average, this is the largest favourable underlying forecast revision we have made since December 2013, but only the sixth largest we have made in either direction since 2010. On its own, this would have been sufficient to achieve a budget surplus of £3.5 billion in 2023-24, meeting the 'fiscal objective' of balancing the budget by 2025.

1.5 But the Budget spends the fiscal windfall rather than saving it. Most significantly, it confirms funding for the NHS settlement announced in June, the cost of which rises from £7.4 billion in 2019-20 to £27.6 billion in 2023-24 in gross terms and from £6.3 billion to £23.4 billion adjusting for the boost it gives to nominal GDP. The rest of the package has the familiar Augustinian pattern of a near-term giveaway followed by a longer-term takeaway, increasing borrowing by £5.3 billion in 2019-20 but reducing it by £0.2 billion by 2023-24.

Chart 1.1: Public sector net borrowing: October versus March



Source: ONS, OBR

1.6 The giveaways include raising the income tax personal allowance to £12,500, increasing the generosity of universal credit and the traditional one-year freeze in fuel duty rates. Public services spending outside health also gets a boost rising to £3.2 billion by 2022-23, so that it no longer falls in real terms over the forecast. The main takeaways include a new tax on large digital businesses, a tightening of rules on people who work through their own company, the reversal of the 2016 decision to abolish Class 2 National Insurance contributions for the self-employed and the restriction of the NICs employment allowance to small businesses. Departmental capital spending has also been cut from 2019-20 onwards, a decision that does not appear on the Treasury's scorecard of policy measures.

1.7 The overall effect of the Budget measures is to increase the deficit by £1.1 billion this year and £10.9 billion next year, rising to £23.2 billion in 2023-24. This is the largest discretionary fiscal loosening at any fiscal event since the creation of the OBR. Combined

with the underlying forecast improvement and some small classification changes, the deficit has been revised down by £11.6 billion this year (to £25.5 billion), but by only around £2 billion a year on average thereafter. This leaves a deficit of £19.8 billion or 0.8 per cent of GDP in 2023-24, with just two years left to meet the balanced budget objective.

1.8 The forecast changes and policy decisions leave the Chancellor with £15.4 billion (0.7 per cent of GDP) of headroom against his 'fiscal mandate', which requires the structural budget deficit to lie below 2 per cent of GDP in 2020-21. The Budget policy package has been fine-tuned to ensure that this is precisely the same margin as he had in March.

1.9 The Chancellor also meets his supplementary target of reducing public sector net debt as a share of GDP in 2020-21. In this forecast it falls by 3.2 per cent of GDP in that year, compared to 3.0 per cent of GDP in March. (The ending of the Bank of England's Term Funding Scheme contributes 2.3 percentage points of the decline.) Net debt falls from 83.7 per cent of GDP this year to 75.0 per cent of GDP in 2022-23. This is down from 77.9 per cent of GDP in our March forecast, reflecting higher nominal GDP, slightly lower cumulative borrowing over the forecast, plus further planned sales of RBS shares and student loans.

1.10 As always, we highlight the considerable uncertainty that lies around any medium-term fiscal forecast. Experience shows that a favourable revision in one forecast can be followed by an unfavourable one in the next and that policy decisions ought to be robust to that. As we explain in the Foreword, this has also been an unusually challenging forecast process, with repeated failures to observe the agreed timetable. This has resulted in a regrettable (but thankfully small) inconsistency between our economy and fiscal forecasts, as well as the Government announcing a complicated package of measures that further delays and increases the generosity of universal credit, where we cannot certify the impact on borrowing as central and reasonable on the basis of the information we were provided. This implies greater scope for subsequent revisions than would normally be the case.

1.11 The big picture in this forecast is of a relatively stable but unspectacular trajectory for economic growth – close to 1½ per cent in every year – plus a gradual further decline in the budget deficit and in net debt as a share of GDP. Given the lack of any meaningful basis on which to predict the outcome of the negotiations over the future relationship between the UK and the EU – which may continue well beyond any near-term Withdrawal Agreement – we have based this forecast on the same broad-brush assumptions regarding the impact of Brexit that we have made in our previous post-referendum forecasts.

1.12 As we explained last month in *Discussion Paper No.3: Brexit and the OBR's forecasts*, we will adjust our assumptions as necessary for the eventual agreements on trade, migration, budget contributions and other issues. In the near term, it is worth emphasising that this forecast assumes a relatively smooth exit from the EU next year. A disorderly one could have severe short-term implications for the economy, the exchange rate, asset prices and the public finances. The scale would be very hard to predict, given the lack of precedent.

Economic developments since our previous forecast

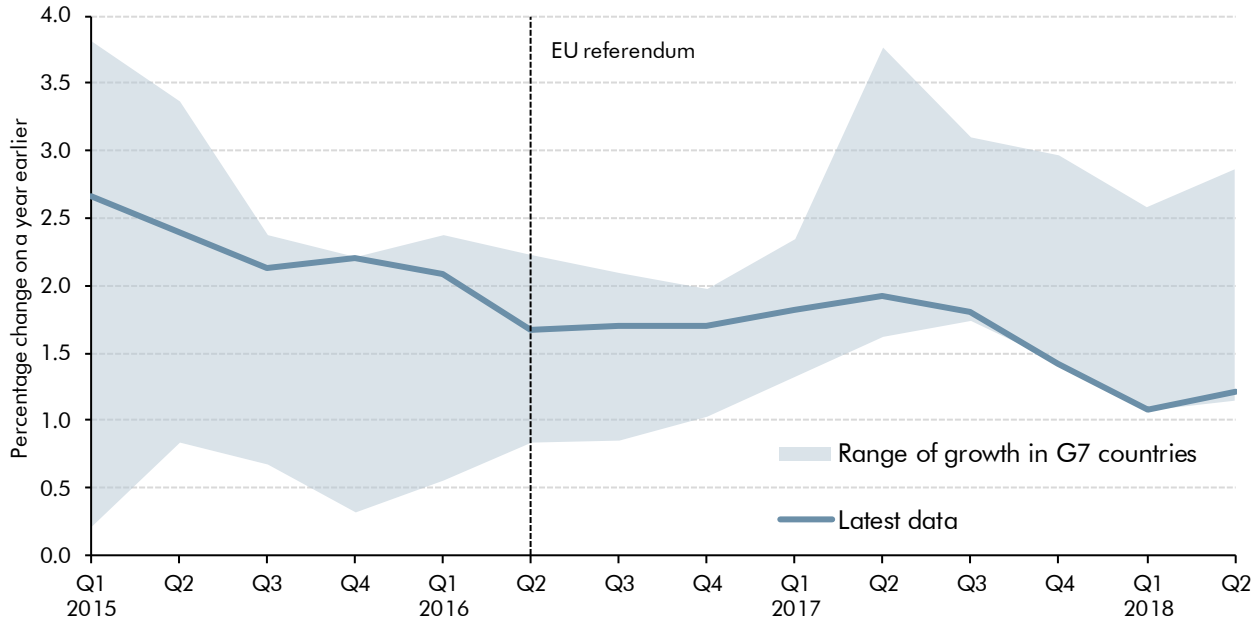
1.13 Thanks in part to severe winter weather, the UK economy grew by just 0.5 per cent in the first half of the year, less quickly than we expected in March. But employment has continued to outstrip expectations, rising by 240,000 in the same period, almost three times quicker than we forecast. Average hours failed to rebound from their dip at the end of 2017, as we had expected, so total hours worked were 0.5 per cent weaker and productivity (measured as output per hour) was 0.2 per cent stronger than forecast.

1.14 CPI inflation has declined in line with our March forecast in the first half of 2018. But higher oil prices and a weaker exchange rate than we had assumed pushes up inflation in subsequent quarters. Sterling oil prices have risen steadily since their trough in early 2016 and futures prices suggest that they will be nearly 50 per cent higher than our March projection in the fourth quarter of 2018. The trade-weighted exchange rate is 2½ per cent lower than we assumed it would be in March, pushing up import prices.

1.15 Since our last *Economic and fiscal outlook (EFO)*, the ONS has released its 2018 *Blue Book* and the full Quarterly National Accounts up to the second quarter. This year's changes had little impact on the paths of real and nominal GDP. Meanwhile, the income measure of real GDP has been noticeably weaker than the equivalent expenditure and output measures. With receipts exceeding expectations across most major taxes, this raises the possibility that current estimates of real and nominal GDP growth may in time be revised higher.

1.16 Notwithstanding potential future revisions, the referendum vote to leave the EU appears to have weakened the economy. The fall in the pound has squeezed real household incomes and consumption, while providing only a modest boost to net trade. Meanwhile, uncertainty regarding the Brexit negotiations appears to have dampened business investment (by more than earlier data suggested). Studies that construct a pre-vote 'doppelganger' for the UK suggest that the economy was 2 to 2½ per cent smaller by mid-2018 than it would have been if the referendum had not been called. The average quarterly growth rate has slowed from 0.6 per cent between 2013 and 2015 to 0.4 per cent since the beginning of 2016, taking the UK from near the top of the G7 growth league table to near the bottom.

Chart 1.2: GDP growth in the UK and other G7 countries



Source: OECD, ONS

The economic outlook

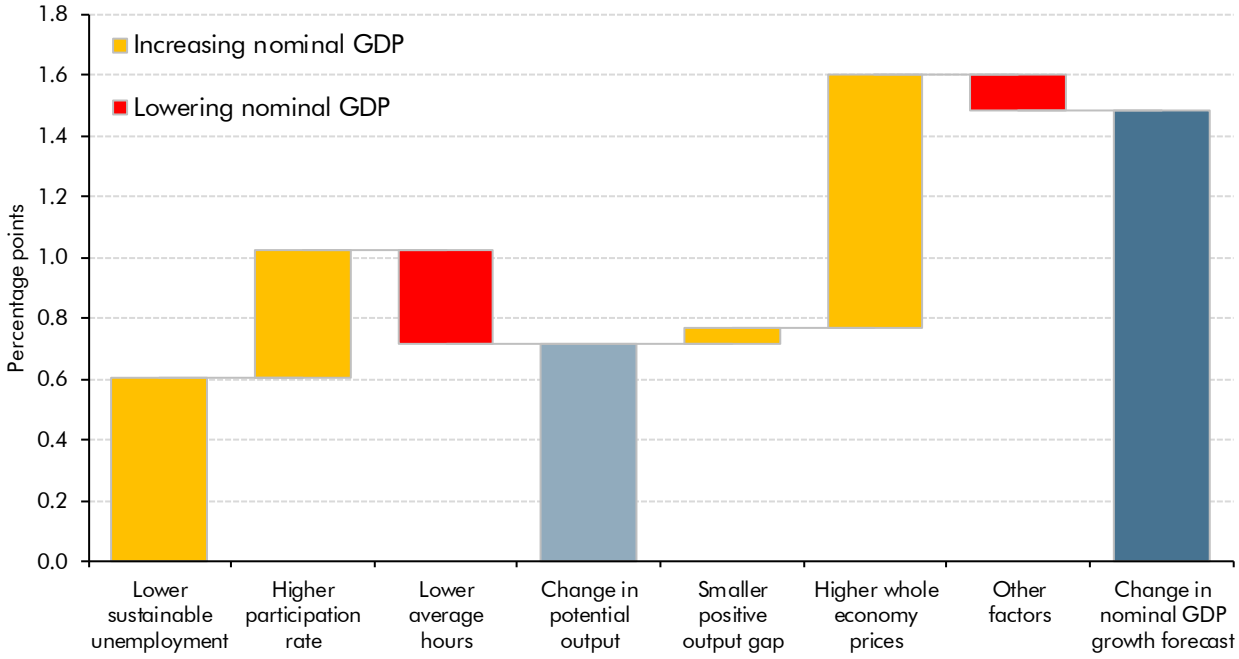
1.17 There remains no meaningful basis on which to predict the outcome of the current negotiations over the relationship between the UK and the EU after Brexit, so we have retained the broad-brush assumptions on productivity, trade and migration that we have made in our previous post-referendum forecasts. The one exception – in line with the March draft Withdrawal Agreement – is that we now assume that there will be a two-year transition period in which the trading relationship will remain as it is now. This delays the decline in trade intensity that we expect after we leave the EU.

1.18 In order to estimate how much the economy can grow over the next five years, subject to the Bank of England meeting its inflation target in the medium-term, we start by estimating the extent to which the economy is currently operating above or below potential, and by forming a judgement as to the rate at which potential output will grow over time.

1.19 In this forecast we judge that the economy was running 0.2 per cent above potential in the second quarter of 2018, slightly below the 0.3 per cent we expected in March. Real GDP is then expected to grow by 6.1 per cent up to 2022-23, up from 5.5 per cent in March. One reason for the change is higher expected labour market participation, reflecting the incorporation of new data on participation by age in our cohort model (as flagged in our *Fiscal sustainability report* in July). We have also lowered our estimate of the sustainable rate of unemployment from 4½ per cent of the labour force to 4 per cent, reflecting the absence of a significant pick-up in wage growth as the jobless rate has continued to fall. (This takes us from slightly above to slightly below the Bank of England's latest published estimate.) This increases GDP over the forecast, partly offset by lower average hours.

1.20 Most discussion of the economic outlook focuses on real GDP – the volume of goods and services produced in the economy. But the nominal (or cash) value is more important for the public finances, especially for the path of tax receipts. We expect nominal GDP to rise by 14.4 per cent between 2018-19 and 2022-23, up from 12.9 per cent in March. About half of the increase comes from higher potential output, but there is an even bigger contribution from higher whole economy inflation – thanks mostly to the higher public spending in the Budget. The change in expected nominal GDP growth since March (Chart 1.3) contributes to steady increases in government receipts and lower borrowing over time. Less obviously, higher whole economy inflation means that a given amount of cash spending stretches less far in terms of the quality and quantity of public services it can deliver.

Chart 1.3: Revisions to nominal GDP growth



Source: OBR

1.21 So how do we expect the economy to evolve over the next five years, consistent with our slightly more upbeat view of its growth potential? We attribute the unexpectedly weak start this year to temporary factors, but they are still sufficient to lower real GDP growth for 2018 as a whole to 1.3 per cent from 1.5 per cent in March. We then expect it to pick up to 1.6 per cent next year, up from 1.3 per cent in March thanks to the Budget giveaway. Growth thereafter is only fractionally higher than in March, picking up from 1.4 per cent in 2020 and 2021 to 1.6 per cent by 2023 as underlying productivity growth improves.

1.22 With the economy currently running slightly above potential, the effect of higher public spending on GDP growth is assumed to fall to zero as the economy adjusts through wages and prices, as well as changes in monetary policy. We assume that financial market participants will not have fully anticipated the scale of the fiscal giveaway – perhaps assuming that some of the additional health spending would be financed by tax rises – and that it will not therefore be fully reflected in the market interest rate expectations that underpin our forecast. So output is still slightly above potential by the end of the forecast.

1.23 As noted in the Foreword, this forecast is based on a slightly larger fiscal giveaway than the Government eventually decided on, as we were notified of changes to the policy package after the agreed point at which our economy forecast was closed. But we do not believe that it would have altered real GDP growth in any year to one decimal place. The big picture is one of relatively steady growth of around 1½ per cent a year. We are slightly more pessimistic than the average of external forecasters, particularly in the later years.

1.24 Underlying our revisions to the overall path of GDP are relatively large changes in composition, thanks largely to the announced increase in NHS and other day-to-day public spending. Nominal government consumption is expected to end the forecast slightly higher as a share of GDP than it started, rather than fall as we expected in March. This is the first time that we have forecast such a rise. Growth in business investment no longer seems to have held up as well since the EU referendum as the data suggested in March – we continue to expect it to rise slightly as a share of GDP over the forecast, but at a slightly slower pace. Household consumption growth is stronger than forecast in March in the near term, and then expected to grow in line with income growth, consistent with our previous forecasts. The contribution of net trade to GDP growth is expected to be broadly neutral, and we continue to expect virtually no growth in both exports and imports for the last three years of our forecast, partly the result of an assumed reduction in trade intensity after leaving the EU.

1.25 In the household sector, the saving ratio (excluding pension contributions) is very slightly negative through the forecast, while unsecured debt rises steadily as a share of household income. But we are not assuming a growth outlook that is dependent on an unsustainable debt-fuelled increase in consumption. Experience shows that the saving ratio is frequently revised significantly (as it has been since March) and that the relatively flat outlook is probably more meaningful than the downward revision to the level. And only a small part of unsecured debt is made up of consumer credit. A growing share is accounted for by the stock of student loans, which are likely to continue to rise over the next five years

1.26 Following recent increases in oil prices and a further modest fall in sterling, we expect CPI inflation to tick up in the second half of the year and to end the year 0.5 percentage points above our March forecast at 2.6 per cent. It then falls back in 2019 as the impact of higher oil prices fades and thanks to policy measures on duties and energy prices. In the medium term, CPI inflation stays a little above the Bank's 2 per cent target, due to the small positive output gap. House price inflation averages just over 3 per cent a year.

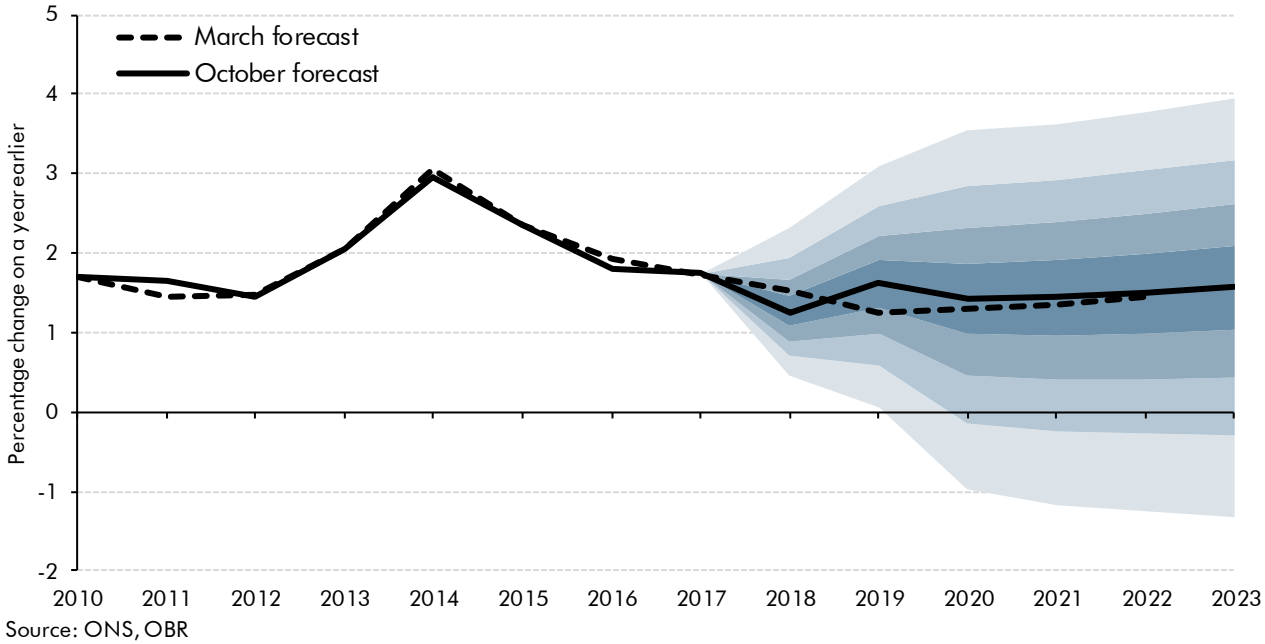
1.27 Unemployment fell to 4.0 per cent of the labour force in the second quarter, continuing the downward trend since late 2011. We expect it to fall to 3.7 per cent by the start of next year, before stabilising and then edging up towards its equilibrium rate, reaching 4.0 per cent in 2023. By the end of the forecast, employment is 400,000 higher than we forecast in March, reflecting both the downward revision to equilibrium unemployment and higher labour market participation. Thanks to the increase in departmental spending in the Budget, we project that general government employment will rise by 150,000 between the second quarter of 2018 and the first of 2023, compared with a fall of 250,000 projected in March.

1.28 Alongside the Budget, the Government has expressed its aspiration to end low pay, noting the definition used by the OECD, which corresponds to two-thirds of median earnings. In the coming months, it intends to consult on the remit for the Low Pay Commission, bearing in mind the potential impact on employment and economic growth. If it confirms that it wishes to pursue this goal, rather than just the current policy of getting to 60 per cent by 2020, that would represent a significant increase in the NLW, taking it to a level with few international precedents. An NLW at this level would directly affect the wages of the bottom quarter of the wage distribution and around half of the workforce directly or indirectly. There is limited evidence that previous increases in the National Minimum Wage and NLW have had a significant effect on employment, but we would expect an NLW at this level to price more workers out of jobs. By way of illustration, we estimate that an NLW set at two-thirds of median earnings would reduce real GDP by 0.2 per cent, and raise the unemployment rate by 0.4 percentage points, or 140,000 jobs in today's terms.

1.29 The future is, of course, uncertain and no central forecast will be fulfilled in its entirety. Indeed, past experience suggests that the growth path over the next five years is unlikely to be as smooth as that depicted in our central forecast. One mechanical way of illustrating the uncertainty around our GDP growth forecast is shown in Chart 1.4. This presents our central forecast together with a fan showing the probability of different outcomes based on past errors on official forecasts. The solid black line shows our median forecast, with successive pairs of lighter shaded areas around it representing 20 per cent probability bands. It implies a 10 per cent probability that GDP will fall year-on-year in 2019.

1.30 Among the downside risks confronting the economy, the most immediate and significant is the possibility of a disorderly exit from the EU next March. As we discussed in our recent *Discussion Paper No.3: Brexit and the OBR's forecasts*, this could have severe short-term implications for economic activity, the exchange rate and asset prices. If it comes to pass, it will be very hard to calibrate the potential impact given the lack of meaningful precedent.

Chart 1.4: Real GDP fan chart



Source: ONS, OBR

Table 1.1: Overview of the economy forecast

	Percentage change on a year earlier, unless otherwise stated						
	Outturn	Forecast					
	2017	2018	2019	2020	2021	2022	2023
Output at constant market prices							
Gross domestic product (GDP)	1.7	1.3	1.6	1.4	1.4	1.5	1.6
GDP per capita	1.1	0.6	1.0	0.9	0.9	1.0	1.1
GDP levels (2017=100)	100.0	101.3	102.9	104.4	105.9	107.4	109.1
Output gap	0.0	0.2	0.3	0.2	0.1	0.1	0.1
Expenditure components of real GDP							
Household consumption	1.8	1.3	1.2	1.2	1.3	1.4	1.5
General government consumption	-0.1	1.0	2.1	2.0	1.7	1.6	1.6
Business investment	1.8	0.5	2.3	2.1	2.1	2.1	2.2
General government investment	1.7	-0.2	5.7	3.3	1.8	0.9	1.4
Net trade[1]	0.7	0.2	-0.1	-0.1	0.0	0.0	-0.1
Inflation							
CPI	2.7	2.6	2.0	2.0	2.1	2.1	2.0
Labour market							
Employment (millions)	32.1	32.4	32.7	32.9	33.0	33.1	33.2
Average earnings	2.7	2.6	2.5	2.8	3.0	3.1	3.2
LFS unemployment (rate, per cent)	4.4	4.0	3.7	3.8	3.9	3.9	4.0
	Changes since March forecast						
Output at constant market prices							
Gross domestic product (GDP)	0.0	-0.3	0.4	0.1	0.1	0.0	
GDP per capita	0.0	-0.3	0.4	0.1	0.1	0.0	
GDP levels (2017=100)	0.0	-0.3	0.1	0.2	0.3	0.3	
Output gap	-0.1	-0.1	0.2	0.2	0.1	0.1	
Expenditure components of real GDP							
Household consumption	0.1	0.4	0.4	0.1	-0.1	0.0	
General government consumption	-0.4	-0.1	1.3	1.4	0.7	0.5	
Business investment	-0.5	-1.1	0.3	-0.1	-0.4	-0.4	
General government investment	-1.8	-2.3	3.6	-2.8	0.8	-0.3	
Net trade[1]	0.3	-0.2	-0.4	-0.1	0.0	0.0	
Inflation							
CPI	0.0	0.1	0.2	0.0	0.1	0.1	
Labour market							
Employment (millions)	0.0	0.2	0.3	0.4	0.4	0.4	
Average earnings	0.1	-0.2	0.1	0.3	0.2	0.2	
LFS unemployment (rate, per cent)	0.0	-0.4	-0.8	-0.8	-0.7	-0.7	

[1] Contribution to GDP growth.

The fiscal outlook

1.31 Public sector net borrowing has fallen from its post-crisis peak of 9.9 per cent of GDP (£153.1 billion) in 2009-10 to 1.9 per cent of GDP (£39.8 billion) in 2017-18, a smaller deficit than we forecast in March. With the output gap close to zero, we judge that the 2017-18 structural deficit (which excludes the effect of the economic cycle) was the same as the headline deficit at 1.9 per cent of GDP. On both measures, the deficit is expected to fall significantly in 2018-19, rise slightly in 2019-20, and then fall steadily thereafter.

1.32 Table 1.2 shows that on current policy – including the decisions announced in this Budget and our assumptions regarding the UK's exit from the EU – we expect the deficit to remain below 2 per cent of GDP throughout the forecast and, after a modest rise in 2019-20, to fall slowly over the four years to 2023-24. Our central forecast is for a structural deficit of 1.3 per cent of GDP in 2020-21, below the 2 per cent of GDP ceiling set in the Chancellor's 'fiscal mandate'. Our forecast is little changed from March, but this reflects the offsetting effects of a significant underlying improvement in the public finances and the Government's decision to use almost all that improvement to boost public spending.

Table 1.2: Overview of the fiscal forecast

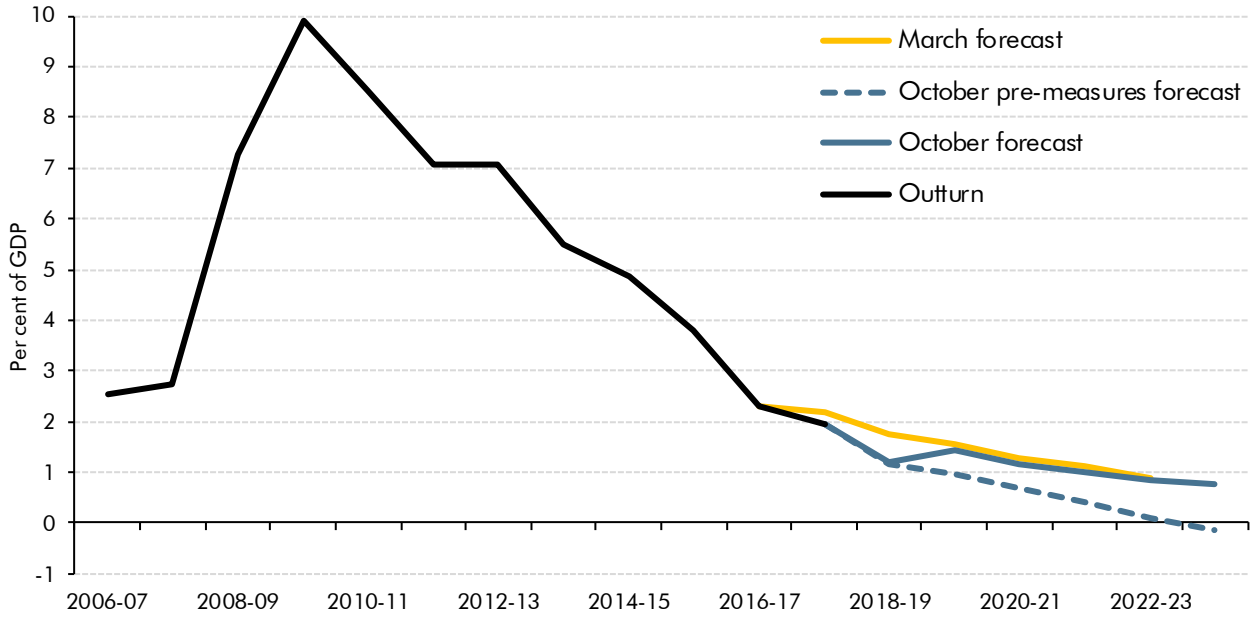
	Per cent of GDP						
	Outturn	Forecast					
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Revenue and spending							
Public sector current receipts	36.6	37.0	36.8	37.0	37.0	37.0	37.2
Total managed expenditure	38.5	38.2	38.3	38.1	38.0	37.9	37.9
Deficit: Current and previous fiscal mandate measures							
Cyclically adjusted net borrowing	1.9	1.3	1.6	1.3	1.1	0.9	0.8
Public sector net borrowing	1.9	1.2	1.4	1.2	1.0	0.9	0.8
Cyclically adjusted current budget deficit	-0.1	-0.6	-0.6	-0.9	-1.1	-1.2	-1.3
Debt: Supplementary target							
Public sector net debt	85.0	83.7	82.8	79.7	75.7	75.0	74.1
	£ billion						
Revenue and spending							
Public sector current receipts	754.0	787.3	809.8	840.4	869.6	900.8	935.5
Total managed expenditure	793.8	812.8	841.6	867.1	893.4	921.7	955.3
Deficit: Current and previous fiscal mandate measures							
Cyclically adjusted net borrowing	39.4	28.4	36.0	30.1	25.9	22.2	21.0
Public sector net borrowing	39.8	25.5	31.8	26.7	23.8	20.8	19.8
Cyclically adjusted current budget deficit	-1.8	-12.8	-12.4	-20.5	-24.9	-28.9	-33.5
Debt: Supplementary target							
Public sector net debt	1779	1810	1851	1841	1809	1856	1896

Changes in public sector net borrowing

1.33 We expect borrowing in 2018-19 to be £11.6 billion lower than we forecast in March thanks to unexpected and broadly-based strength in tax receipts, combined with lower-than-expected public spending. This downward revision would have been ever greater were it not for a £1.1 billion within-year fiscal giveaway focused on public services spending.

1.34 As Chart 1.5 shows, on a pre-measures basis the budget deficit would have fallen steadily across the forecast and moved into surplus in 2023-24. Adding in the effect of the new settlement for the NHS – financed entirely through borrowing – would have left our forecast for the deficit a little lower than March in the near term and a little higher in the medium term. Factoring in the Chancellor's further near-term giveaways and tiny medium-term takeaway has resulted in a path for the deficit that is slightly lower than March in all years bar 2022-23. The near-term giveaways mean the deficit is expected to rise year-on-year in 2019-20, before resuming a steady decline to somewhat less than 1 per cent of GDP.

Chart 1.5: Public sector net borrowing



Source: ONS, OBR

Classification and methodological changes

1.35 Five sources of change to the public finances data since March have affected our forecast, although only two feed through to net borrowing from 2018-19 onwards. These would have reduced our March forecast by £1.1 billion a year on average from 2018-19 onwards. To facilitate comparisons on a like-for-like basis, we have restated our March PSNB forecast by:

- **Removing Scottish and Welsh housing associations' own-account borrowing** from the point at which their reclassification into the private sector took effect. This results in a £0.1 billion downward revision in 2018-19 – a part-year effect – and average reductions of £0.4 billion a year from 2019-20 onwards.

- **Incorporating an estimate for HMRC-levied fines and penalties**, which are not currently being recorded in the public finances. The ONS has identified around £0.7 billion a year of these. We have anticipated their effect in our latest receipts forecast.

Underlying revisions to borrowing in 2018-19

1.36 Borrowing in 2017-18 is now estimated to have been £5.8 billion lower than our March forecast on a like-for-like basis. Borrowing in the first half of 2018-19 has also been substantially lower than would be consistent with our March forecast. Before factoring in the effect of Government decisions, we would have expected borrowing to fall from £39.8 billion in 2017-18 to £24.3 billion this year, an £11.9 billion like-for-like downward revision from March. That largely reflects two factors that both push the deficit lower:

- First, cash receipts from **the four largest tax streams** – PAYE income tax, NICs, onshore corporation tax and VAT receipts – have risen more strongly than expected this year.

This partly reflects stronger employment growth than we expected in March, although the unexplained residual strength may indicate stronger growth in nominal GDP than is currently being recorded in the National Accounts.

- Second, **central government spending** has risen less than expected over the first half of the year. Current spending by departments was weaker than expected at the end of 2017-18, which has persisted into the current year. Lower RPI inflation in the first half of 2018 has also helped to reduce spending on inflation-linked gilts.

1.37 As the Budget is taking place unusually early, we have only been able to factor in a little administrative data on central government receipts in October and no data at all on central government spending. October tends to be the fourth largest month in the year for HMRC cash receipts, and so this 'in-year' forecast is subject to greater uncertainty than usual.

Underlying revisions to borrowing from 2019-20 onwards

1.38 From 2019-20 onwards, our underlying forecast revisions would have seen the deficit fall further and move into surplus in 2023-24. The downward revision in 2022-23 is £18.1 billion relative to our March forecast. This reflects the following factors:

- The largest source of improvement by 2022-23 (around £7 billion) reflects our judgement that **the strength in tax receipts in 2018-19** will persist over the forecast. In effect, this assumes that the rise in the tax-to-GDP ratio this year is structural, though as noted it may also be the case that nominal GDP is greater than currently recorded.

- Around £3 billion of the revision reflects our assumption that the **equilibrium rate of unemployment** is lower. This boosts the level of employment across the forecast, directly raising receipts from income tax and NICs and reducing spending on out-of-work welfare benefits and tax credits. The income from higher employment also boosts nominal consumption across the forecast, raising VAT receipts.

- A further £2 billion reflects lower **debt interest** payments. This largely reflects lower cumulative borrowing in our pre-measures forecast, due to stronger receipts.

- The remaining £6 billion reflects several **smaller factors**, including the boost to North Sea revenues from higher oil prices, as well as a reduction in the expected cost of future HMRC tax litigation payouts following a Supreme Court decision in the summer.

Government decisions

1.39 The new multi-year settlement for the National Health Service raises the deficit substantially in every year. Further measures announced in the Budget raise borrowing in the near term but reduce it slightly in the medium term. Taken together they turn the £3.5 billion surplus in our pre-measures forecast for 2023-24 into a £19.8 billion deficit.

1.40 The overall discretionary fiscal giveaway rises from £10.9 billion in 2018-19 to £23.2 billion in 2023-24. The main components of the package are:

- The Prime Minister's June announcement of **a new multi-year settlement for the National Health Service** in England and its knock-on consequences for spending in Scotland, Wales and Northern Ireland (since health spending is fully devolved). This adds progressively larger amounts to public spending, rising from £7.4 billion in 2018-19 to £27.6 billion in 2023-24.

- A smaller boost to **other current departmental spending (RDEL)** of £3.6 billion a year on average between 2020-21 and 2022-23.

- A **near-term tax giveaway**, including an above-inflation rise in the income tax personal allowance and higher rate threshold and freezes to fuel and some alcohol duties.

- A **welfare spending giveaway** that focuses on making universal credit more generous by increasing work allowances by £1,000 a year in 2019-20 and by several smaller changes that ease claimants' transition to universal credit and reduce losses to some.

1.41 Partly offsetting the giveaways, the Government has decided to cut departmental capital spending from 2020-21 onwards and has announced medium-term tax rises that include the extension of reforms to off-payroll working rules (IR35) to the private sector and reversal of the previous decision to abolish Class 2 NICs. It will also impose a new tax on specific revenues of large digital businesses.

1.42 The indirect effect of this significant easing in fiscal policy relative to our pre-measures baseline offsets part of its fiscal cost, reducing borrowing by around £4 billion a year on average from 2020-21 onwards. This reflects the cyclical boost to the economy, which pushes up tax receipts, and the additional public service pension contributions that will result from the higher public services spending, which reduce the net cost of public service pensions. These positive indirect effects are partly offset by the debt interest consequences of higher borrowing and higher state pensions spending due to the triple lock on its uprating.

Table 1.3: Changes to public sector net borrowing since March

	£ billion						
	Outturn	Forecast					
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
March forecast	45.2	37.1	33.9	28.7	26.0	21.4	
Classification changes	*0.4*	*-0.8*	*-1.1*	*-1.1*	*-1.2*	*-1.2*	
March forecast restated	45.6	36.2	32.9	27.6	24.8	20.2	
October forecast	39.8	25.5	31.8	26.7	23.8	20.8	19.8
Like-for-like change	**-5.8**	**-10.8**	**-1.1**	**-1.0**	**-1.0**	**0.6**	
Underlying revisions to receipts	**-0.4**	**-7.4**	**-8.0**	**-8.0**	**-11.2**	**-14.1**	
of which:							
In-year judgements	-0.4	-6.4	-6.5	-6.6	-6.8	-7.1	
Equilibrium level of unemployment	0.0	-2.4	-2.4	-2.5	-2.6	-2.7	
Other economy effects	0.0	1.4	0.2	-0.5	-1.9	-3.6	
Other modelling changes	0.0	0.0	0.7	1.6	0.1	-0.7	
Underlying revisions to spending	**-5.3**	**-4.5**	**-4.1**	**-3.7**	**-3.5**	**-4.1**	
of which:							
Equilibrium level of unemployment	0.0	-0.3	-0.6	-0.6	-0.6	-0.5	
Debt interest	0.8	-1.9	-0.3	-1.2	-1.7	-2.2	
Departmental spending changes	-3.5	-0.2	0.2	-1.3	0.6	0.6	
Other changes	-2.6	-2.0	-3.4	-0.7	-1.8	-1.9	
Total effect of Government decisions		**1.1**	**10.9**	**10.7**	**13.7**	**18.8**	**23.2**
of which:							
Impact of NHS settlement on TME		0.0	7.4	11.1	16.1	21.4	27.6
Other RDEL policy changes[1,2]		-0.2	-1.7	4.1	3.6	3.2	-2.2
CDEL policy changes[1]		1.0	-0.7	-3.6	-1.7	-2.9	-0.8
Receipts measures		0.1	4.0	0.2	-2.0	-0.7	0.3
AME measures[2,3]		0.3	3.7	1.9	1.7	2.2	2.5
Indirect effects		-0.1	-1.8	-3.0	-3.9	-4.4	-4.2
Memo: October pre-measures forecast	*39.8*	*24.3*	*20.8*	*15.9*	*10.1*	*2.1*	*-3.5*
Memo: Overall change since March	*-5.4*	*-11.6*	*-2.1*	*-2.1*	*-2.2*	*-0.6*	

[1] The change in 2023-24 is relative to a baseline that assumes DEL would otherwise have remained constant as a share of GDP.

[2] Excluding health spending changes. Also excluding the impacts from the decision to largely fund departments for the policy to increase employer pension contributions and the supported housing measure, where these changes have offsetting effects in AME.

[3] Incorporates the net effect of the pensions contributions measure on TME, where not all departmental costs have been covered.

Note: This table uses the convention that a negative figure means a reduction in PSNB, i.e. an increase in receipts or a reduction in spending will have a negative effect on PSNB.

Changes to public sector net debt

1.43 In March we expected PSND to peak at 85.6 per cent of GDP in 2017-18, before falling to 85.5 per cent of GDP in 2018-19. Thanks to modest upward revisions to nominal GDP and a smaller-than-expected deficit last year, it now appears that PSND peaked at 85.2 per cent of GDP in 2016-17 and fell slightly to 85.0 per cent in 2017-18. We now expect it to fall to 83.7 per cent of GDP in 2018-19. This partly reflects the reclassification of Scottish and Welsh housing associations to the private sector (which lowers debt by around 0.3 per cent of GDP from 2018-19 onwards), but also the downward revision to our PSNB forecast.

1.44 Our latest PSND forecast is lower in all years than we forecast in March and by 2.9 per cent of GDP in 2022-23. Classification changes explain 0.4 per cent of GDP of this.

1.45 Changes to our pre-measures forecast reduce debt. They arise from:

- The large downward revisions to our pre-measures forecast for **public sector net borrowing**, reflecting higher expected receipts and lower expected spending.
- Higher **nominal GDP** in all years (thanks to a lower sustainable rate of unemployment and higher participation). This reduces the debt-to-GDP ratio in all years.
- **Valuation changes**, which reduce debt in the near term. The fall in the pound since March has increased the sterling value of foreign exchange reserves, but from 2019-20 onwards this is increasingly offset by lower gilt premia.
- Downward revisions to our pre-measures **financial transactions** forecast.
- **Lower-than-expected outturn debt**, which reduces PSND in 2017-18 by £5 billion and is more than explained by PSNB being £6 billion lower than we forecast in March.

Table 1.4: Changes to public sector net debt since March

	Per cent of GDP					
	Outturn	Forecast				
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
March forecast	85.6	85.5	85.1	82.1	78.3	77.9
Reclassification of Scottish and Welsh HAs	*0.0*	*-0.3*	*-0.3*	*-0.4*	*-0.4*	*-0.4*
March forecast restated	85.6	85.2	84.8	81.7	77.9	77.5
October forecast	85.0	83.7	82.8	79.7	75.7	75.0
Like-for-like change	**-0.5**	**-1.5**	**-1.9**	**-2.1**	**-2.2**	**-2.5**
of which:						
Change in nominal GDP[1]	-0.3	-0.7	-0.9	-1.2	-1.2	-1.2
Change in cash level of net debt	-0.2	-0.9	-1.0	-0.9	-1.1	-1.2
	£ billion					
March forecast restated	1784	1829	1872	1860	1831	1882
October forecast	1779	1810	1851	1841	1809	1856
Like-for-like change in cash debt	**-5**	**-19**	**-21**	**-18**	**-22**	**-25**
Underlying forecast revisions	**-5**	**-21**	**-31**	**-41**	**-55**	**-70**
of which:						
Public sector net borrowing (pre-measures)	-6	-18	-30	-41	-56	-74
Financial transactions (pre-measures)	1	-2	-5	-6	-8	-9
Valuation changes	0	-2	4	7	9	13
Effect of Government decisions	**0**	**2**	**10**	**22**	**33**	**45**
of which:						
Affecting public sector net borrowing	0	1	14	28	45	68
Affecting financial transactions	0	1	-2	1	-1	-2
Indirect effects	0	0	-2	-6	-11	-22

[1] Non-seasonally adjusted GDP centred end-March.

1.46 These are partly offset by the net impact of Budget policy measures:

- The direct impact of the measures on **borrowing** increases debt by £68 billion by 2022-23, largely thanks to higher health spending.
- Measures leading to **financial transactions** reduce debt by £2 billion by 2022-23, largely due to selling more RBS shares and student loans.
- The **indirect effects** of the measures lower debt by £22 billion in 2022-23, mostly because of the boost to tax receipts from their impact on nominal GDP.

Performance against the Government's fiscal targets

1.47 The *Charter for Budget Responsibility* requires the OBR to judge whether the Government has a greater than 50 per cent chance of hitting its fiscal targets under current policy. It has been updated several times in recent years as governments have revised their fiscal targets. The latest version was approved by Parliament in January 2017.

1.48 The *Charter* states that the Government's objective for fiscal policy is to "*return the public finances to balance at the earliest possible date in the next Parliament*". At the time, this was expected to be the period from 2020 to 2025.

1.49 The *Charter* also sets out targets for borrowing, debt and welfare spending that require:

- The **structural deficit** (cyclically adjusted public sector net borrowing) to lie below 2 per cent of GDP by 2020-21 – this is the 'fiscal mandate'.
- **Public sector net debt** to fall as a percentage of GDP in 2020-21 – this is the 'supplementary target'.
- For welfare spending (excluding the state pension and payments closely linked to the economic cycle) to lie below a '**welfare cap**'. The latest version of the cap was initially set in November 2017, to apply in 2022-23. A non-binding pathway for spending was also specified in the years leading up to the cap year. The Government set the effective cap 3 per cent above our November 2017 forecast for 2022-23, with the expected level of spending to be adjusted for subsequent changes in our inflation forecast.

1.50 Our central forecast implies that all three targets are on course to be met:

- **Fiscal mandate:** the structural deficit falls to 1.3 per cent of GDP in the target year, giving a margin against the fiscal mandate of 0.7 per cent of GDP (£15.4 billion). These margins are precisely the same as in our March forecast, thanks to the Government's decision to use the improvement in our pre-measures forecast (which would have shown a larger margin of 1.1 per cent of GDP (£26.1 billion)) to pay for the Prime Minister's June health spending announcement plus a carefully fine-tuned package of near-term net giveaways in this Budget.

- **Supplementary target:** public sector net debt falls by 3.2 per cent of GDP in 2020-21, slightly more than in our March forecast. The repayment of loans issued under the Bank's Term Funding Scheme at the end of their four-year term contributes 2.3 per cent of GDP to the year-on-year fall.

- **Welfare cap:** the relevant welfare spending is forecast to be £2.0 billion below the cap in 2022-23, and £6.0 billion below the cap-plus-margin.

1.51 Achieving the broader balanced budget fiscal objective in 2025-26, looks challenging (although this lies beyond our formal forecasting horizon). In particular this is a period in which population ageing will continue to exert upward pressure on spending, and more so than in recent years when the State Pension age has been rising. Had there been no fiscal loosening in the Budget, the objective would have been achieved in 2023-24.

1.52 The uncertainties around our central forecast reflect those regarding the outlook for the economy and those regarding the performance of revenues and spending in any given state of the economy. We assess the robustness of our judgements in three ways:

- First, by looking at **past forecast errors**. If our central forecasts are as accurate as official forecasts were in the past, then there is a roughly 65 per cent chance that the structural deficit would be below 2 per cent of GDP in 2020-21.

- Second, by looking at the **sensitivity of the deficit to key features of the economy forecast**. The 0.7 per cent of GDP margin relative to the 2 per cent structural deficit ceiling would fall to zero if potential output were 1.4 per cent lower, or if the effective tax rate were 0.7 per cent of GDP lower for structural reasons.

- Third, by looking at **alternative economic scenarios**. We have considered the implications of two alternative scenarios of rising trade tensions and global protectionism – a temporary trade skirmish scenario and a permanent return to protectionism scenario. Both see GDP growth slow, but the one with permanent tariffs hits potential output too, as firms hold cut investment and productivity growth slows. All three fiscal targets are met in both scenarios. But whereas a temporary trade skirmish leaves the public finances little changed over the longer run, a permanent return to protectionism would deliver a lasting blow to the public finances.

2 Developments since the last forecast

2.1 This chapter summarises:

- the main **economic and fiscal developments** since our previous forecast in March (from paragraph 2.2); and
- recent **external forecasts** for the UK economy (from paragraph 2.20).

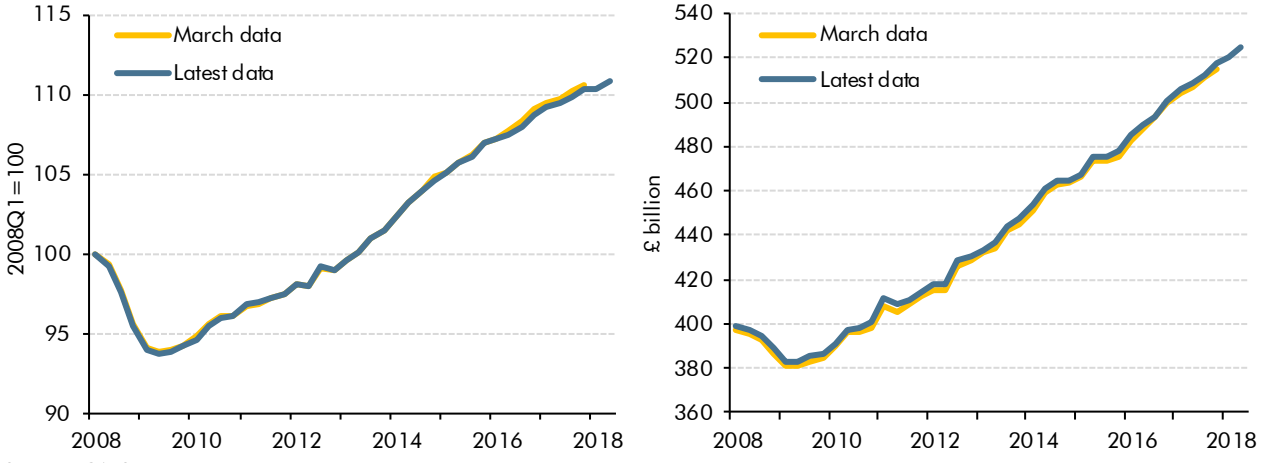
Economic developments

Blue Book 2018 changes

2.2 Each year, the publication of *The Blue Book* provides the Office for National Statistics (ONS) with an opportunity to make methodological changes to the National Accounts, on top of the normal quarterly process of incorporating new information into its estimates of economic activity. A full list of this year's changes can be found in *The Blue Book* 2018.[1]

2.3 This year's changes had little overall impact on the paths of real and nominal GDP. The cumulative effect of revisions to nominal GDP has left the level 0.5 per cent higher by the fourth quarter of 2017 than in the Quarterly National Accounts for that quarter.

Chart 2.1: Real and nominal GDP changes



Source: ONS

2.4 The most significant methodological changes this year affect trade and investment, both of which are volatile series and are often subject to revision:

[1] See Office for National Statistics, *UK National Accounts, The Blue Book: 2018*, July 2018

- A change to the method for calculating **net spread earnings** – the margin between the prices at which a financial asset is bought and sold. Most trading that generates net spread earnings is with the rest of the world, so this change has its largest impact on services exports. The overall effect has been a small upward revision to GDP.

- There has been a small adjustment to the measurement of spending on **machinery and ICT equipment** to correct for past double-counting of purchased software. This has resulted in a relatively small upward revision to investment and subsequently GDP.

- Several **other changes** have an even smaller impact on GDP. These include the treatment of public sector pensions, the reclassification of Rail for London and devolved housing associations, new methods for estimating motor vehicle duty and further changes to align the National Accounts with the public-sector finances data.

GDP growth since our March 2018 forecast

2.5 Since the last *Economic and fiscal outlook (EFO)*, the ONS has released full Quarterly National Accounts up to the second quarter of 2018 which also included revisions to GDP growth and its components in 2017. Under the new publication timetable, we also have monthly estimates of the output measure of GDP for July and August, which informs our near-term quarterly growth forecast. The first estimate for the full third quarter will be released on 9 November.

2.6 Growth between the fourth quarter of 2016 and the end of 2017 was unrevised, compared with the data in March, at 1.4 per cent (Table 2.1). Growth over this period was driven by private consumption, private investment and net trade, offset by a reduction in the pace of stock accumulation. The contribution of net trade to GDP growth has been revised upwards since our March forecast, but this was completely offset by an equal downward revision to stockbuilding. This left annual growth for 2017 unrevised at 1.7 per cent.

Table 2.1: Contributions to real GDP growth from 2016Q4 to 2017Q4

	Percentage points						
	Private consumption	Government consumption	Government investment	Private investment	Net trade	Stocks	GDP growth, per cent
March forecast	0.9	0.2	0.2	1.3	-0.8	-0.2	1.4
Latest data	1.0	0.0	0.1	1.0	0.8	-1.6	1.4
Difference[1]	0.1	-0.1	-0.2	-0.2	1.5	-1.5	0.0

[1] Difference in unrounded numbers, rounded to one decimal place.

Note: Components may not sum to total due to rounding, chain linking and the statistical discrepancy. The statistical discrepancy is 0.3 percentage points for the latest data, and 0.2 percentage points for our March forecast.

2.7 Growth in 2018 has so far been weaker than expected. In March, we forecast GDP growth of 0.4 per cent for the first and second quarters of 2018. First quarter growth was lower, at 0.1 per cent, at least partly due to adverse weather. Growth was 0.4 per cent in the second quarter, as those temporary factors abated. Overall, GDP grew by 0.5 per cent in the first half of 2018, the weakest over such a period since the second half of 2011. GDP growth in

the first half of 2018 has been driven by household consumption and stockbuilding (Table 2.2). Net trade made a negative contribution to GDP growth, against our March forecast for a positive contribution, driving the latest GDP data slightly below our March forecast.

Table 2.2: Contributions to real GDP growth from 2017Q4 to 2018Q2

	Percentage points						
	Private consumption	Government consumption	Government investment	Private investment	Net trade	Stocks	GDP growth, per cent
March forecast	0.2	0.1	-0.1	-0.2	0.8	0.0	0.8
Latest data	0.5	0.0	-0.1	0.0	-0.8	0.8	0.5
Difference[1]	0.3	-0.1	0.0	0.2	-1.6	0.9	-0.3

[1] Difference in unrounded numbers, rounded to one decimal place.
Note: Components may not sum to total due to rounding.

2.8 GDP deflator inflation was estimated at 2.1 per cent in 2017, in line with our March forecast. In the first half of 2018 the deflator rose by 0.8 per cent (Table 2.3), consistent with our March forecast due to offsetting changes to the deflators for trade and stocks.

Table 2.3: Contributions to GDP deflator inflation from 2017Q4 to 2018Q2

	Percentage points							Deflator inflation, per cent
	Private consumption	Government consumption	Government investment	Private investment	Exports	Imports	Stocks	
March forecast	0.7	0.2	-0.1	0.1	-0.6	0.3	0.1	0.8
Latest data	0.7	0.2	0.0	0.1	0.7	-0.4	-0.7	0.8
Difference[1]	-0.1	0.0	0.1	0.0	1.3	-0.7	-0.7	0.0

[1] Difference in unrounded numbers, rounded to one decimal place.
Note: Components may not sum to total due to rounding, the statistical discrepancy, and changing weights. The statistical discrepancy is 0.1 percentage points for the latest data and 0.1 percentage points for our March forecast. Contributions are calculated on a fixed weight basis, except the stocks contribution which includes the effects of price and volume changes.

2.9 Nominal GDP growth for 2017 is unrevised since March at 3.8 per cent. Growth in the first half of 2018 was 1.3 per cent – below our March forecast due to the latest data showing an unexpected negative contribution from net trade (Table 2.4). Nominal GDP growth over this period has been driven by private consumption and stockbuilding.

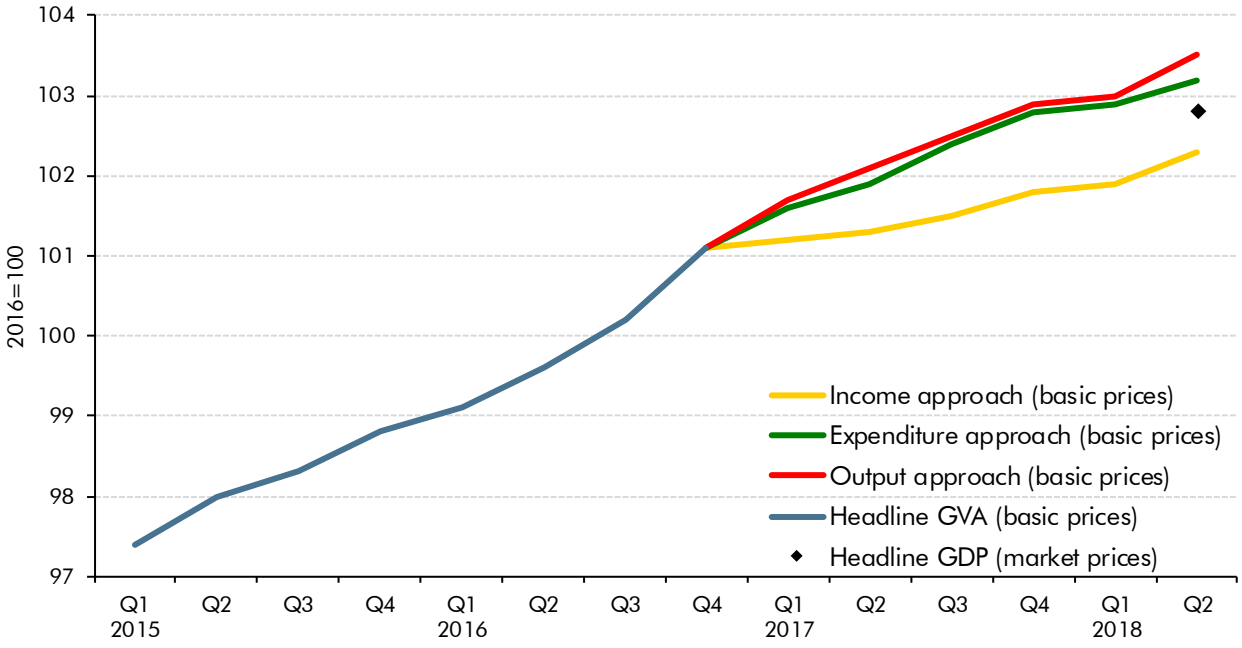
Table 2.4: Contributions to nominal GDP growth from 2017Q4 to 2018Q2

	Percentage points						
	Private consumption	Government consumption	Government investment	Private investment	Net trade	Stocks	GDP growth, per cent
March forecast	1.0	0.3	-0.2	-0.1	0.6	0.0	1.6
Latest data	1.2	0.2	-0.1	0.1	-0.5	0.3	1.3
Difference[1]	0.3	-0.1	0.1	0.2	-1.1	0.3	-0.3

[1] Difference in unrounded numbers, rounded to one decimal place.
Note: Components may not sum to total due to rounding.

2.10 GDP can be measured in three ways – by summing output ('value-added'), expenditure or incomes. In principle these three approaches should paint a consistent picture of the size and growth of the economy over time. And, after a lag of around two years, they are indeed fully balanced in *The Blue Book* publication (currently, up until 2016). But they differ when they describe more recent history. The ONS presents the income, expenditure and output methods in real terms at basic prices (abstracting the effects of indirect taxes and subsidies), then reconciles them into a single measure of gross value added (GVA) at basic prices, before adding on the basic price adjustment to get headline GDP at market prices. The ONS initially uses output as the best guide to quarterly movements, but then usually place more weight on expenditure and income – including the incorporation of tax receipts data. The income approach shows weaker growth than the other two measures from the start of 2017 (Chart 2.2). Given that data on most major tax receipt streams have been stronger than expected, this presents an upside risk to the income and headline GDP data (see Chapter 4 for details on tax receipts outturns relative to our March forecast).

Chart 2.2: Alternative measures of outturn GDP growth



Source: ONS

Conditioning assumptions

2.11 Since we finalised our March forecast, sterling oil prices have risen significantly. In the third quarter of 2018, they were 31.8 per cent higher than we assumed in March (Table 2.5). The sterling effective exchange rate was 3.0 per cent below our March assumption, largely reflecting a depreciation against the US dollar. The FTSE all-share stock market index has risen since the start of the year and, in the third quarter, was 3.7 per cent higher than anticipated in March. Mortgage interest rates in the first half of 2018 continued to fall, contrary to the rise expected in March, as lenders' implied margins have narrowed and the Bank of England rate rise occurred later than markets expected. In the latest monthly data, there has been a slight pickup in mortgage rates, driven by the increase in Bank Rate in August and a widening in funding spreads.

Table 2.5: Conditioning assumptions in 2018Q3

	Oil price (£ per barrel)	US$/£ exchange rate	€/£ exchange rate	Sterling exchange rate index	Equity prices (FTSE all-share index)	Mortgage interest rates (%)[1]
March forecast	44.1	1.43	1.14	80.3	4023	2.64
Latest assumption	58.2	1.30	1.12	77.9	4173	2.45
Per cent difference	31.8	-9.1	-1.7	-3.0	3.7	-0.19

[1] Difference is in percentage points.

The labour market

2.12 At the time of our March *EFO* the latest data showed that the unemployment rate was 4.4 per cent of the labour force at the end of 2017 and we forecast that it would remain there during the first half of 2018. Since then, unemployment has fallen by around 110,000 (Table 2.6), taking the rate down to 4.0 per cent in the second quarter of this year – the lowest since early 1975. Meanwhile, employment grew by 0.7 per cent over the first half of the year, higher than the 0.3 per cent we forecast in March.

Table 2.6: Labour market indicators from 2017Q4 to 2018Q2

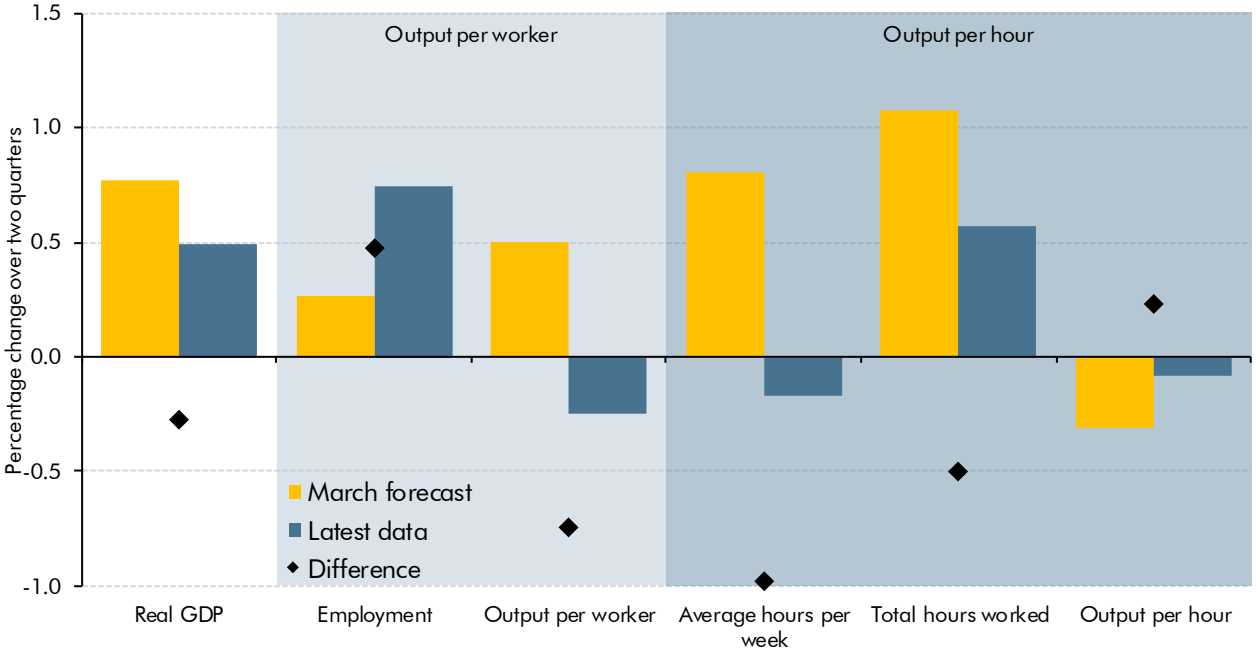
	Change in thousands			Change in rate		Percentage change
	Total employment	Unemployment	Participation	Employment rate	Unemployment rate	Average earnings
March forecast	86	11	98	0.0	0.0	1.4
Latest data	239	-110	129	0.3	-0.3	0.5
Difference[1]	153	-121	31	0.3	-0.3	-0.9

[1] Difference in unrounded numbers, rounded to one decimal place.

2.13 Rather than the official ONS measure of average weekly earnings (AWE), our forecast uses an implicit measure constructed by dividing the National Accounts measure of wages and salaries by the number of employees. This allows us to fit the earnings forecast directly into the National Accounts framework on which our economy forecast is based – in particular, the National Accounts measure of wages and salaries which is used as an important determinant of tax receipts. According to this measure, average earnings grew 2.7 per cent in 2017, slightly higher than we forecast in March. In the second quarter of this year, average earnings were 2.4 per cent up on a year earlier, slightly less than we had expected.

2.14 Average hours worked fell sharply in the second half of 2017. Given the volatility of these data, we expected that fall to be quickly reversed in the first half of 2018. But the latest data show average hours actually falling slightly. Coupled with unexpectedly-strong employment growth and output growth that was slightly weaker than expected, this means that output per hour has fallen in the first half, but by a little less than we expected.

Chart 2.3: Real GDP, labour input and productivity: 2017Q4 to 2018Q2



Source: ONS, OBR

CPI inflation

2.15 CPI inflation peaked on a monthly basis at 3.1 per cent in the year to November 2017 and has gradually fallen since, reaching 2.4 per cent in the second quarter of this year. Data released since we closed our pre-measures economic forecast shows that inflation in the third quarter was 2.5 per cent, broadly in line with our latest forecast.

The housing market

2.16 Average house prices increased by 3.6 per cent in the year to the second quarter of 2018 according to the ONS measure – slightly lower than we expected in March – continuing a trend of slowing house price inflation since the second quarter of 2016, when prices were 8.0 per cent higher than a year earlier. The most recent data, published after we closed our pre-measures forecast, show that house price inflation fell further to 3.2 per cent in the year to August. Among other indicators of house price inflation, the Nationwide and Halifax indices show annual rises – of 2.1 per cent and 2.5 per cent, respectively, in the third quarter– that are slightly lower than in the second quarter and the official data.

The global economy

2.17 World GDP is estimated to have grown by 3.7 per cent in 2017, unchanged since our March forecast. In the first half of 2018, GDP in the euro area grew by 0.8 per cent, less than the 1.4 per cent growth estimated in the second half of 2017. In contrast to the slowing growth in the euro area, US GDP grew by 1.5 per cent in the first half of 2018 – higher than the 1.3 per cent growth in the second half of 2017. Inflation in the Euro area was 1.5 per cent in 2017 but, by the third quarter of 2018, this had risen to 2.1 per cent. In the US,

inflation in 2017 was 2.1 per cent and has edged slightly higher to 2.3 per cent in the third quarter of 2018.

Fiscal developments

2.18 Since our previous forecast, the deficit over the first six months of 2018-19 has fallen faster than expected – by £10.7 billion (35 per cent) on a year earlier. This contrasts with our March forecast of a full-year fall of £8.1 billion (18 per cent) relative to the then latest estimate of borrowing in 2017-18. This reflects both higher receipts than expected and lower central government spending than expected (abstracting from the pattern of grants from central to local government).

2.19 Taxes on labour income and consumption have come in above expectations. This may reflect higher employment levels as well as the summer pick-up in consumer expenditure. But, as noted earlier, with most major receipts streams outperforming expectations, there may also be an upside risk to the nominal GDP data. Our latest fiscal forecast – which includes a large downward revision to borrowing this year – is detailed in Chapter 4.

Developments in outside forecasts

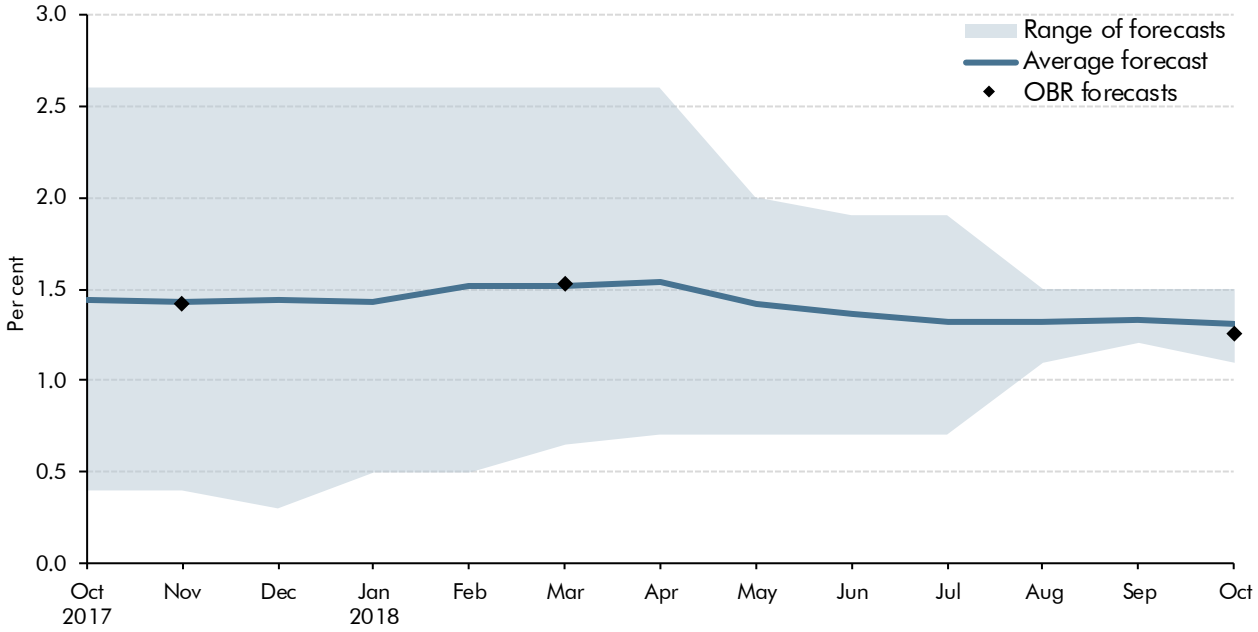
2.20 Many private sector, academic and other outside organisations produce forecasts for the UK economy.[2] This section sets out some of the movements in these forecasts since our March *EFO*. When interpreting the average of outside forecasts, it is important to bear in mind that different bodies may forecast somewhat different definitions of the indicators in question and that any average forecast need not represent an internally coherent narrative.

Real GDP growth

2.21 Average expectations for real GDP growth in 2018 have settled at around 1.3 per cent since July, slightly weaker than the rates expected late last year and early this year (Chart 2.4). The average forecast is broadly in line with our current forecast of 1.3 per cent, which has been revised down since March, from 1.5 per cent, after weak growth in the first quarter. The range of forecasts has narrowed significantly over the last 3 months as we now have GDP data up until the second quarter of 2018 and GDP outturn data for the final two quarters of the year are unlikely to have a significant impact on the annual rate. Also, quarterly growth rates have been fairly stable since the start of 2017 and this is reflected in the almost constant range for forecasts for 2019 (Chart 2.5). Our GDP forecast for 2019 has been revised up since March to 1.6 per cent. The average forecast for 2019 is below our forecast at 1.5 per cent.

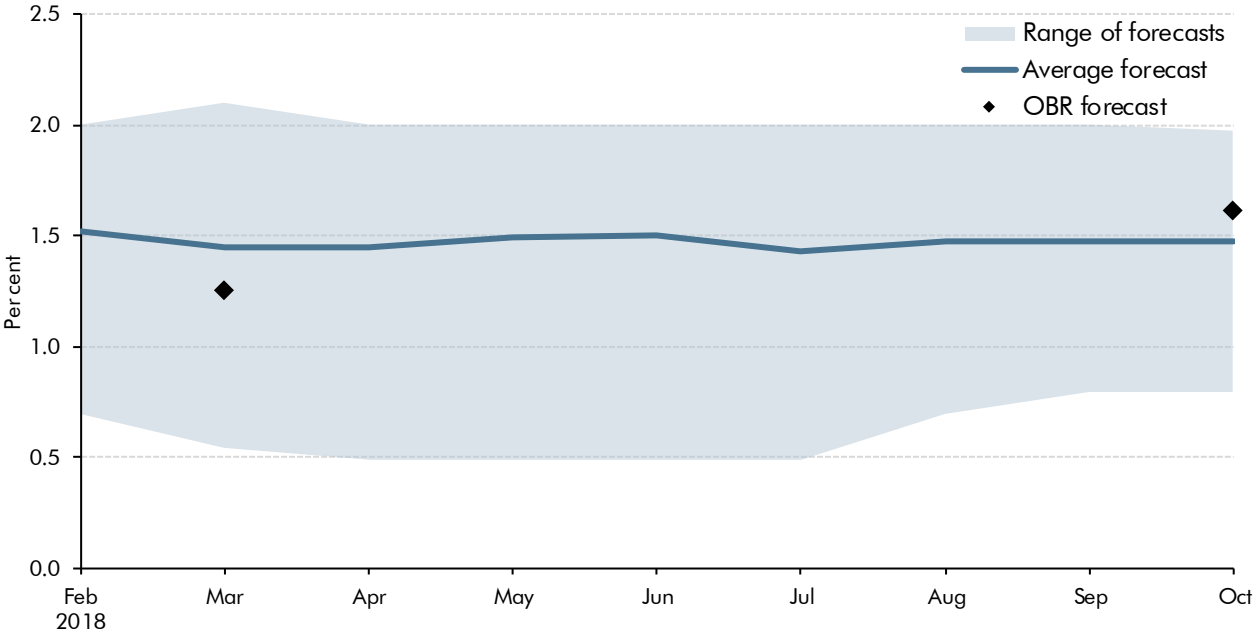
[2] See HM Treasury, *Forecasts for the UK economy: a comparison of independent forecasts*, October 2018. A full list of contributors is available at the back of the Treasury publication. Several financial reporting services also monitor average or consensus figures.

Chart 2.4: Forecasts for real GDP growth in 2018



Source: HM Treasury, OBR

Chart 2.5: Forecasts for real GDP growth in 2019



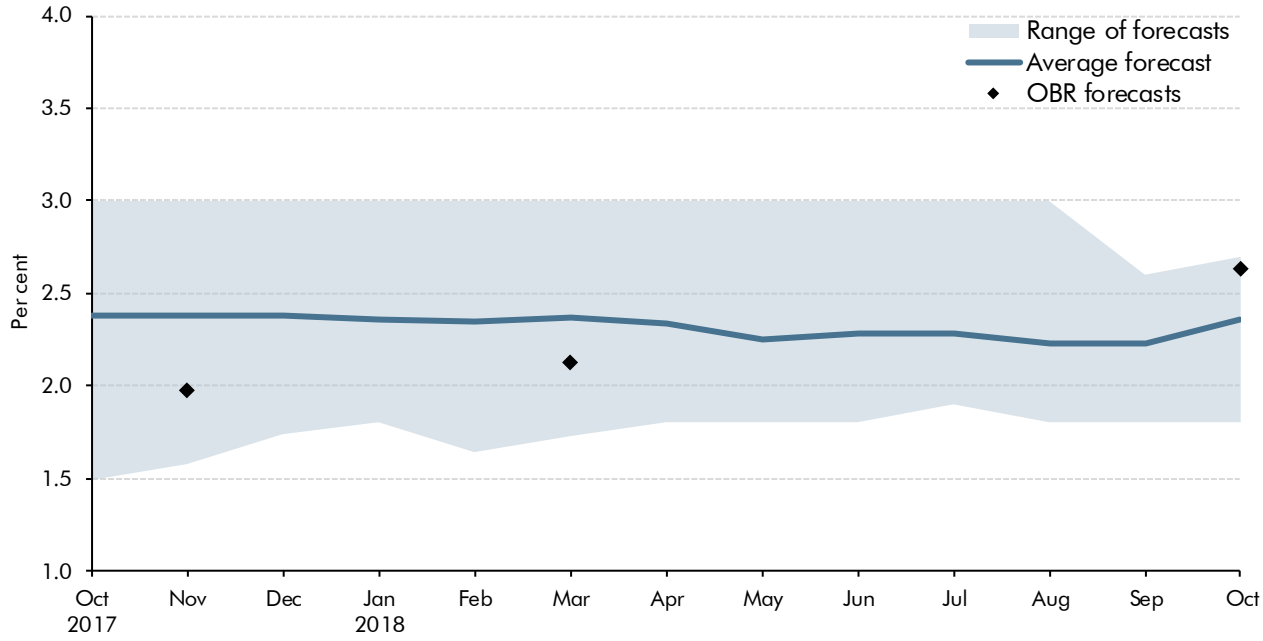
Source: HM Treasury, OBR

2.22 The average of the smaller sample of medium-term forecasts points to growth of 1.7 per cent in 2020 and 1.8 per cent in 2021. This is above our current forecast of 1.4 per cent for annual growth in 2020 and 2021. Our March forecast for 2020 was lower at 1.3 per cent. The upside revision to our March forecast has moved our forecast closer to the average, but it is still in the lower half of the swathe.

Inflation

2.23 The latest average forecast for CPI inflation in the fourth quarter of 2018 is 2.4 per cent, the same as the average forecast a year ago (Chart 2.6). A 0.3 percentage point upwards revision to our March forecast has pushed our CPI inflation forecast above the average and closer to the top of the range at 2.6 per cent.

Chart 2.6: Forecasts for CPI inflation in 2018Q4

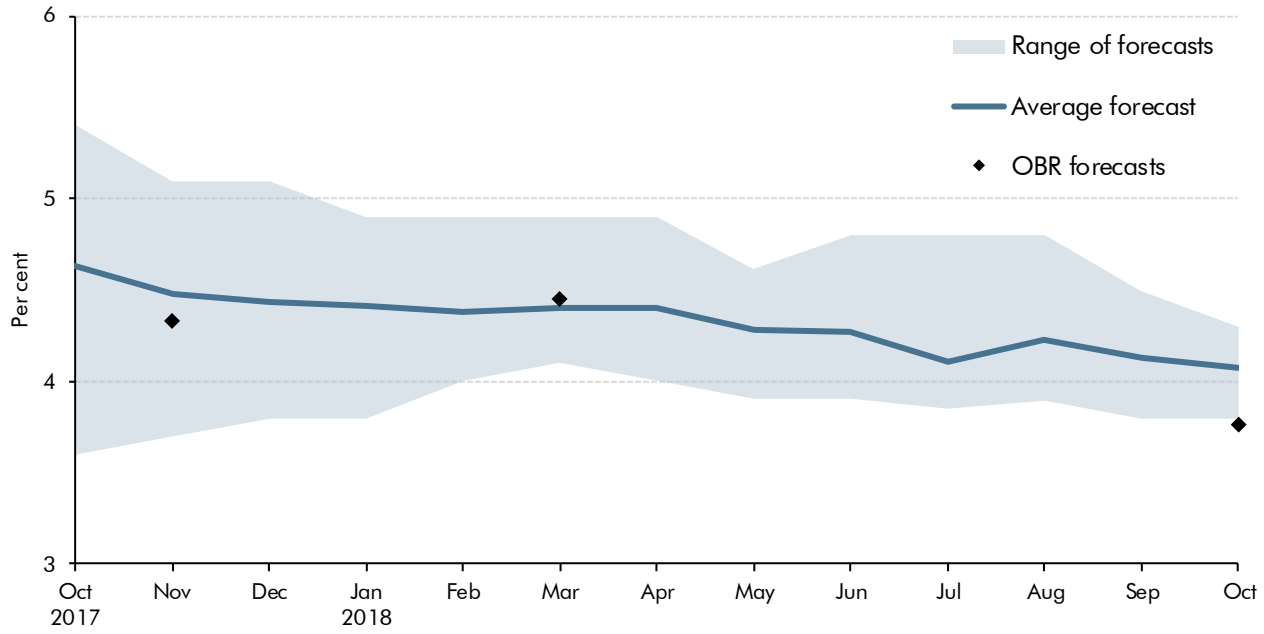


Source: HM Treasury, OBR

The labour market

2.24 The latest average forecast for the unemployment rate in the fourth quarter of 2018 is 4.1 per cent, down 0.5 percentage points from a year ago. We have revised our forecast down since March by 0.6 percentage points to lie towards the bottom of the swathe at 3.8 per cent (Chart 2.7). We expect employment growth of 1.2 per cent in 2018, up 0.6 percentage points from March. This lies above the latest average forecast of 1.0 per cent.

Chart 2.7: Forecasts for the unemployment rate in 2018Q4



Source: HM Treasury, OBR

The public finances

2.25 Public sector net borrowing has fallen more quickly than we – or indeed any other external forecaster – expected in 2018-19 and in this *EFO* we have lowered our full-year forecast by £10.8 billion to £25.5 billion (on a like-for-like basis). In March, all the external forecasters in our comparison expected borrowing in 2018-19 to be higher than our latest forecast. Indeed, the latest average outside forecast remains closer to our March forecast of £37.1 billion at £34.8 billion. On average, outside forecasters expect borrowing to continue to fall by £1.8 billion to £33.0 billion in 2019-20, whereas our forecast rises by £6.3 billion in that year, reflecting the fiscal loosening announced in this Budget.

2.26 As well as reflecting differences in views about the economic outlook, external forecasters may base their judgements on what they consider to be the most likely path of fiscal policy. In contrast, Parliament requires us to base our forecasts on the Government's current stated policies. At the current juncture, outside forecasters may also have made different assumptions about the fiscal consequences of Brexit, beyond those captured by their views on what Brexit will mean for the economy – for example, regarding contributions to the EU budget after March 2019 and any offsetting spending on other priorities.

3 Economic outlook

Introduction

3.1 This chapter:

- describes the assumptions and judgements that we have made in respect of **the UK's forthcoming exit from the EU** (from paragraph 3.2);
- sets out our estimates of the amount of **spare capacity** in the economy and our judgement regarding the **growth in the economy's productive potential** that underpin our forecasts for actual GDP growth (from paragraph 3.9);
- describes the key **conditioning assumptions** for the forecast, including credit conditions, the exchange rate and the world economy (from paragraph 3.27);
- sets out our **real GDP growth forecasts** (from paragraph 3.47) and the associated outlook for **inflation** (from paragraph 3.57) and **nominal GDP** (from paragraph 3.65);
- discusses recent developments and prospects for the household, corporate, government and external **sectors of the economy** (from paragraph 3.67); and
- outlines **risks and uncertainties** (from paragraph 3.120) and compares our central forecast with those of selected external organisations (from paragraph 3.122).

Assumptions and judgements for the UK's exit from the EU

Current assumptions and judgements

3.2 The OBR is required by legislation to produce its forecasts based on current government policy (but not necessarily assuming that particular objectives will be met). With negotiations over the UK's exit from the EU still taking place, this is not straightforward. We asked the Government if it wished to provide any additional information on post-Brexit policies in relation to trade and migration that would be relevant to our forecasts. As set out in the Foreword, it directed us to the White Paper published in July 2018. As with previous government publications and speeches on this topic, the final outcome will depend on further policy development by the UK authorities as well as the result of the continuing negotiations with the EU.

3.3 Given the current uncertainty as to how the Government will respond to the choices and trade-offs facing it during the negotiations – which may well extend beyond the near-term Withdrawal Agreement and any accompanying political declaration – we still have no

meaningful basis for predicting the post-Brexit relationship between the UK and EU upon which we could then condition our forecast. We continue to assume that the negotiations between the UK and the EU lead to an orderly transition to a new long-term relationship, whatever that relationship might be. We have therefore retained the same broad-brush assumptions regarding Brexit that underpinned our previous post-referendum forecasts. Specifically, as regards the economy forecast, we assume that:

- **The UK leaves the EU in March 2019** – two years after Article 50 was invoked.

- **The negotiation of new trading arrangements with the EU and others slows import and export growth over a 10-year period**. We calibrated this on the basis of a range of external studies of different possible trade regimes and have assumed broadly offsetting impacts from exports and imports on net trade and GDP growth.

- **The UK adopts a tighter migration regime following departure from the EU than that currently in place**, but not sufficiently restrictive to reduce net inward migration to the desired 'tens of thousands'. This lowered our forecast for potential output growth relative to a scenario where the UK remained in the EU.

3.4 Reflecting the draft Withdrawal Agreement between the UK and the EU that was published in March, we have explicitly included a transition period in our forecasts of exports and imports for the first time, consistent with our assumption of an orderly transition to the new relationship between the UK and the EU. This delays the reduction in trade intensity that we expect as a result of Brexit – which we have included in our forecasts since November 2016 – but it has no material impact on our GDP growth forecast (see paragraph 3.110).

3.5 As well as these broad-brush assumptions about the Brexit process, our recent forecasts have incorporated specific judgements regarding the short-term impact of the referendum result on the UK economy, some of which can be compared to outturns:

- We forecast that the vote to leave the EU would be associated with lower **net inward migration**, partly due to weaker 'pull factors' – such as a fall in the value of UK wages in prospective immigrants' home currencies due to the depreciation of the pound. The latest data do suggest that net inward migration has slowed – due to lower net migration from the EU – consistent with the expected weakening of pull factors. However, net migration has not slowed to the extent implied by the ONS principal migration projections (which we use as the base for our forecast), as net migration from non-EU countries has picked up as the flow from the EU has reduced.

- As we expected, the referendum result appears to have raised uncertainty surrounding future demand conditions, especially in internationally tradable sectors. This has encouraged affected businesses to postpone or cancel some **investment** projects. This should result in weaker potential productivity growth by reducing capital deepening. According to the latest data, business investment has been much weaker than our last pre-referendum forecast in March 2016 and fairly close to our subsequent November 2016 forecast (Chart 3.1). While it is difficult to know how business investment would

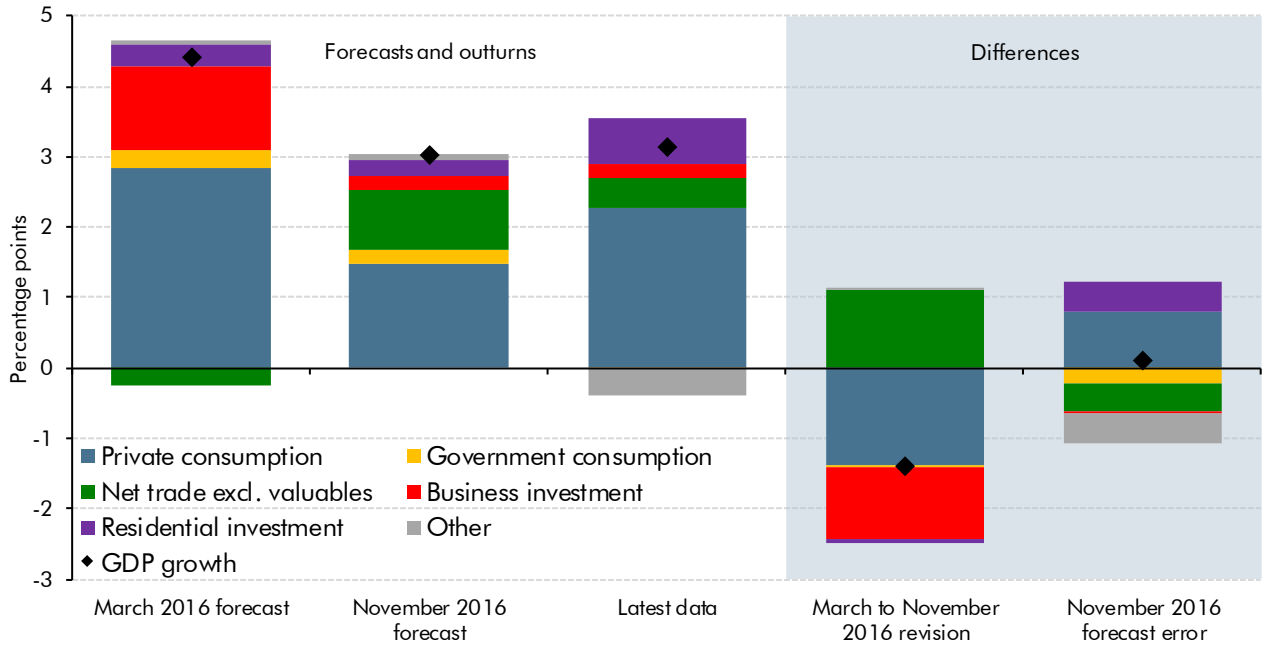
have performed in the absence of a vote to leave the EU, Bank of England analysis of its Decision Markers Panel Survey suggests that nominal business investment growth has been 3 to 4 percentage points weaker than it otherwise would have been, specifically as a result of the referendum.[1]

- The fall in the pound prompted by the vote has raised inflation, squeezing real incomes and real **consumer spending**. CPI inflation has risen well above our March 2016 forecast and has been higher even than our upwardly revised November 2016 forecast. But, real consumption has held up better than we expected as household saving has fallen back.

- The depreciation of sterling has provided a modest boost to **net trade**, but not sufficient to offset the drag on real consumption resulting from higher inflation. Indeed, the contribution to growth of net trade has been even more modest than we expected in November 2016.

- In our initial post-referendum forecast, we revised our forecast for cumulative **GDP growth** between the second quarter of 2016 and the second quarter of 2018 down from 4.4 per cent to 3.0 per cent, as we expected the weakness in consumer spending and investment to more than offset the boost to net trade. This appears to have been the case, with the ONS currently estimating that growth was 3.2 per cent over this period (Chart 3.1).

Chart 3.1: Contributions to real GDP growth between 2016Q2 and 2018Q2



Source: ONS, OBR

[1] Bank of England, *Agents' summary of business conditions and results from the Decision Maker Panel Survey*, 2018Q2.

3.6 Some studies have attempted to estimate how fast the UK would have grown in the absence of the referendum. They do this by constructing the post-referendum GDP growth path of a 'synthetic' or 'doppelganger' UK, based on a weighted average of the growth rates of countries that had similar growth and other economic features to the UK prior to the referendum. The studies then compare growth in the doppelganger with actual growth in the UK. The Centre for European Reform found that cumulative UK growth was lower by 2.5 percentage points between the second quarter of 2016 and the second quarter of 2018 than the comparator.[2] Born *et al* found that the shortfall in GDP growth was 2.0 percentage points over the same period.[3] The estimates are broadly similar, despite the composition of the doppelgangers differing significantly.

Future forecast issues

3.7 When concrete agreement on the relationship between the UK and EU is reached, we will adjust our Brexit assumptions as necessary. The judgements we have made to date have concentrated on shorter-run effects. As noted above, our November 2016 adjustment to potential output was predicated largely on the effect of weaker business investment (as a result of heightened uncertainty) on potential productivity growth, together with the effect of lower migration on labour supply. But as time passes, impediments to the exploitation of comparative advantage as a result of increased trade barriers are likely to become more salient. We will also have to assess the likely impact on both the volume and composition of migrant flows of any new migration regime.

3.8 These are static effects – one-off shifts in the potential level of output in the economy. But some studies suggest that barriers to trade, migration and foreign direct investment are also likely to have further adverse dynamic effects – persistent effects on the growth rate of potential output – for example, by impeding technology transfer and slowing innovation and technological progress. There is little consensus on the size of such effects and they are likely to interact. So, rather than quantify them individually we would probably take them into account in a broad-brush fashion in our top-down judgements on productivity and potential output. Our recent Brexit *Discussion paper* provides more detail.[4]

The output gap and potential output

3.9 Judgements about the margin by which economic activity currently exceeds or falls short of its potential or sustainable level (the 'output gap') and about the future growth rate of potential output provide the foundations of our forecast. Together they determine the scope for growth in GDP over the next five years consistent with the Bank of England meeting its inflation target over the medium term. GDP growth is in turn a key driver of the overall budget deficit and the path of public sector debt.

[2] Centre for European Reform, *Insight: The cost of Brexit to June 2018*, 30 September 2018.
[3] CEPR Policy Portal, *£350 million a week: The output cost of the Brexit vote*, 30 September 2018.
[4] OBR, *Brexit and the OBR's forecasts*, 2018.

3.10 An estimate of the output gap is also necessary for us to be able to judge the size of the structural budget deficit – in other words, the deficit that would be observed if the economy were operating at its sustainable level.[5] If the economy were running below potential, part of the headline deficit would be cyclical, and could therefore be expected to diminish as the output gap closed and above-trend growth boosted revenues and reduced spending. The opposite would be the case if the economy were running above potential. The Government has a target – the 'fiscal mandate' – for the structural deficit in 2020-21.

3.11 In this section, we first describe a change to our assessment of the degree of spare capacity in the labour market. This forms part of our assessment of the gap between the current level of economic output and the economy's potential. Next, we consider the pace at which potential output is likely to grow in the future. Then we describe our central forecast for the path that actual output is likely to take over the next five years, relative to that potential. These estimates relate to output excluding the small but volatile oil and gas sector, so to complete our GDP forecast we have to add on a forecast for oil and gas production.

Spare capacity in the labour market

3.12 In March 2017 and then again in November 2017, we reduced our estimate of the equilibrium rate of unemployment, in both cases reflecting the fact that unemployment had fallen below our previous estimate with little apparent impact on wage growth. We discussed these revisions and noted the similar experience in the US in Box 3.1 of the March 2018 *Economic and fiscal outlook* (*EFO*). The unemployment rate has fallen further since March, reaching 4 per cent in the second quarter of this year, while earnings growth remains subdued relative to productivity growth. So, in this forecast, we have revised down our estimate of the equilibrium unemployment rate further, to slightly below 4 per cent. We continue to assume that the planned increases in the National Living Wage (NLW) to 60 per cent of median hourly earnings by 2020 will raise it a little between now and 2020, and at the end of our forecast the equilibrium unemployment rate is 4 per cent. The Government has expressed its aspiration to end low pay, noting the definition used by the OECD, which corresponds to two-thirds of median earnings. Box 3.3 describes some of the potential effects if the NLW were raised to two-thirds of median earnings.

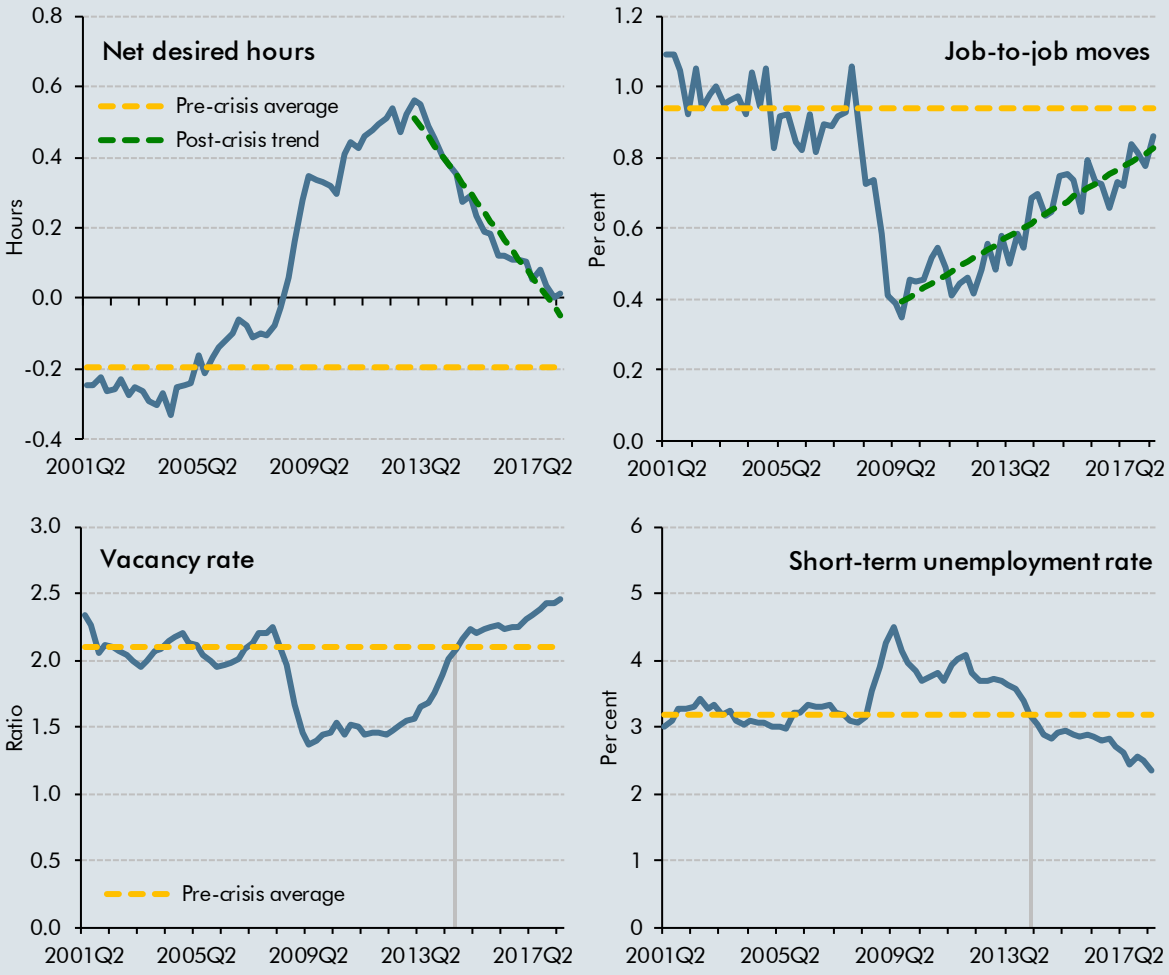
3.13 It usually takes a while for lower unemployment to feed through into higher pay growth, and it is possible that lag has become longer.[6] This would mean that while the traditional Phillips curve relationship still holds over the medium term, the full effect of recent falls in unemployment may not yet have been seen in the wage data. If so, the equilibrium unemployment rate could be higher than we currently assume. Some economists have also argued that the headline unemployment rate does not fully capture the extent of spare capacity in the labour market and that a broader measure of slack is required. Box 3.1 considers some possible measures in more detail.

[5] The methodology we use is described in Helgadottir *et al* (2012): *OBR Working Paper No.3: Cyclically adjusting the public finances*.
[6] Saunders (2018), *The outlook for jobs and pay*, speech given at the launch of the Financial Intermediary and Broker Association at BAFTA.

Box 3.1: Measuring labour market slack

When unemployment is low, employers are generally expected to offer higher wages as they compete over a smaller pool of available workers. Many models for predicting wage growth are based on some form of that 'Phillips curve' relationship, with unemployment often measured against its inferred equilibrium and wage growth often adjusted for productivity growth and (expected) inflation. In recent years, however, despite the falling unemployment rate, wage growth has been lower than many of those models would have predicted. There are several possible explanations for why this might be, some of which imply that the Phillips curve has flattened, so that tightening in the labour market generates less upward pressure on wage growth than in the past, whereas others imply that it has shifted so that a given level of unemployment is now consistent with a lower level of wage growth. We discussed some of these in our November 2017 *EFO*.

Chart A: Spare capacity in the labour market



Source: ONS, Resolution Foundation, OBR calculations

Some commentators have also argued that the unemployment rate on its own does not properly capture the extent of spare capacity in the labour market, so that when a broader concept is used, the past relationship with pay may still hold.[a] In particular, it is possible that while the unemployment rate served as a good guide to labour market slack in the past, changes to the

labour market, including more flexible working patterns and non-standard employment contracts, mean that a full assessment now requires a more complex judgement than simply counting the number of people in and out of work. Chart A shows four such indicators, two of which point to more spare capacity than is captured by the unemployment rate and two of which can be used to argue that there is less:

- Since early 2013 **net desired hours** have fallen, so that workers now report that they are roughly working the hours that they want (top-left chart). Around two-thirds of that fall has come from part-time and self-employed workers, who are now demanding fewer additional hours, with the rest coming from full-time workers, who on average want to reduce the number of hours they work by less than they did before. Simply continuing the recent downward trend in net desired hours would imply that they would reach their pre-crisis average towards the end of next year. If this is viewed as a steady state, it would suggest that there is still some spare capacity in the labour market according to this measure. One possible measure of underemployment – which takes account of these extra desired hours, as well as the number of people looking for a job – rose by more than the headline unemployment rate during and after the financial crisis, reflecting companies' decisions to cut hours as well as staff numbers in response to reduced demand. But as net desired hours have since fallen back, the two are now very similar.[b]
- Labour market flows can also be informative regarding the extent of labour market slack. Workers are less likely to move between jobs voluntarily when there is a lot of spare capacity – for example, because firms will generally be doing less hiring so that there are fewer opportunities, or because alst-in first-out employment practices mean moving often involves less job security. **Job-to-job moves** did fall after the crisis and have since started to recover, although they are still below the pre-crisis average. Again, that suggests some remaining spare capacity (top-right chart). Simply continuing the recent trend (as above) would imply that job-to-job moves would not return to their pre-crisis average until 2021. The wages of employees who remain in the same job may be less affected by the amount of spare capacity in the economy, so a persistent fall in the number of people moving jobs could also affect the nature of the relationship between unemployment and wages. Pay growth among those who have changed jobs recently has been elevated compared with those who have not, which is consistent with this interpretation.[c] Labour market flows data also show that in recent years it has been fewer people losing their jobs, rather than more unemployed people finding jobs, that has driven the unemployment rate down.
- The number of **vacancies** relative to the size of the workforce is used as a proxy for how many positions businesses would like to fill relative to the pool of available workers. The number of vacancies per person in the workforce rose above its pre-crisis average in mid-2014, earlier than the unemployment rate reached its pre-crisis average (bottom-left chart). This could have been interpreted as indicating there was less slack in the labour market. But, since then, vacancies have continued to rise, without a material pick-up in wage growth, suggesting that the steady-state number of vacancies may now be higher than in the pre-crisis period. That might, for instance, have reflected the increased ability to advertise positions cheaply though online recruitment sites. But if the number of

vacancies per worker continues to rise, that could indicate a genuine tightening in the labour market.

- Within the stock of unemployed people, the length of time that they have been without work can also have important implications for the expected path of wages, with the **short-term unemployed** on average likely to be more easily substitutable for existing workers and therefore likely to put the most downward pressure on wages. The short-term unemployment rate fell below its pre-crisis average in mid-2014 and has continued to fall since (bottom-right chart). This implies that the long-term unemployed make up a higher-than-usual proportion of total unemployment, which might point to a tighter labour market.

While all four measures show that the labour market has been steadily tightening since the trough of the recession that followed the financial crisis, they give somewhat conflicting messages about the absolute margin of slack in the labour market at the current juncture. In forming our assessment of the equilibrium unemployment rate (and with it the level of potential output in the economy), we have drawn on the signals provided by all four measures.

[a] For an example of a study that seeks to estimate a relationship between wages and a broader measure of labour market slack, see Clarke and Gregg (2018) *Count the pennies*, Resolution Foundation Report.
[b] See Bell and Blanchflower (2013), *Underemployment in the UK revisited*. National Institute Economic Review.
[c] This was discussed in the Bank of England's May 2018 *Inflation Report*.

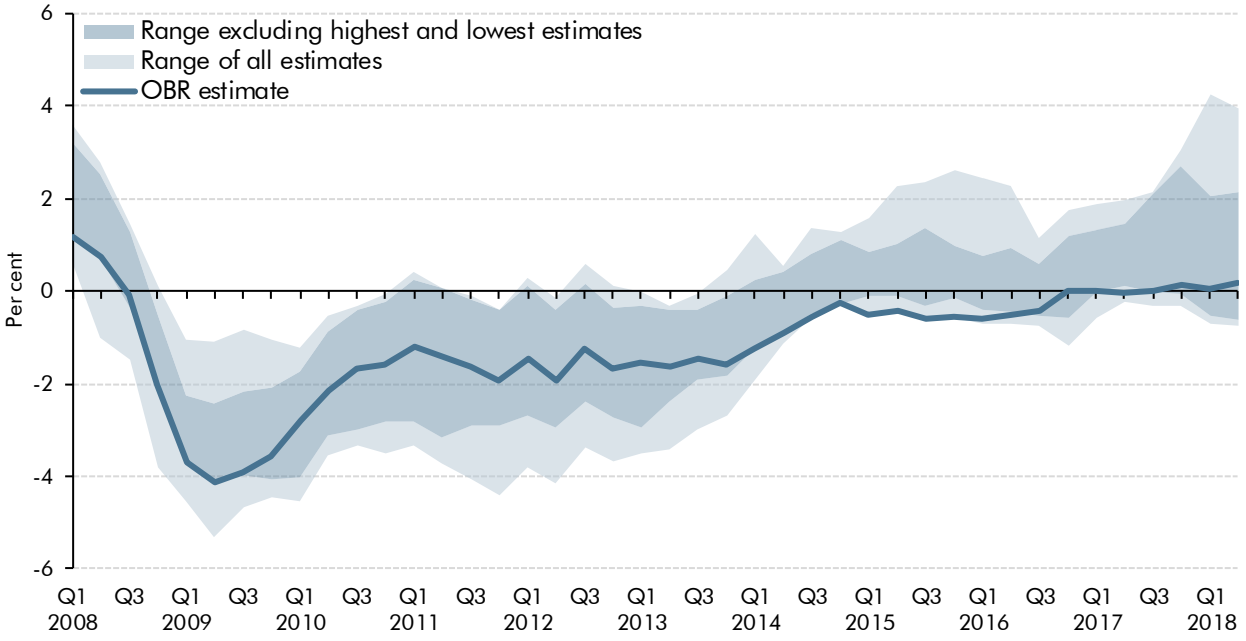
Our latest estimates of the output gap

3.14 One of the first steps in our forecast is to assess how the current level of activity compares with the level consistent with stable inflation in the long term. This level of potential output cannot be observed directly, but various techniques can be used to infer it indirectly, including survey indicators, statistical filters and production functions. Every method has its limitations and none avoids the need for judgement. We therefore consider a broad range of evidence afresh at each forecast. Specifically, our judgement is informed by estimates of the output gap implied by nine different approaches, although we place more weight on some than others and this can vary from forecast to forecast. We also sense-check our judgement by comparing the assumed profile for the output gap with the paths of output growth and the unemployment rate.

3.15 On the basis of the latest information, we judge that the economy was operating slightly above potential in the second quarter of 2018 – by 0.2 per cent. This implies fractionally less excess demand than we expected in March. This is consistent with there being more spare capacity in the labour market under our lower equilibrium unemployment rate judgement, although it should be noted that change does not have a one-for-one impact on the amount of slack because the unemployment rate itself has also fallen by more than we expected. Given the amplitude of past fluctuations, an output gap of 0.2 per cent should still be thought of as 'close to trend'.

3.16 Chart 3.2 shows the swathe implied by all our output gap models, as well as a truncated swathe that excludes the highest and lowest estimates.[7] Our current estimate lies in the bottom half of the swathe, but not too far from most of the models we look at. The principal components analysis model currently suggests a positive output gap of 4 per cent and is something of an outlier compared with the other estimates.

Chart 3.2: Range of output gap model estimates



Source: OBR

Chart 3.3: Cyclical indicators and filter-based estimates of the output gap

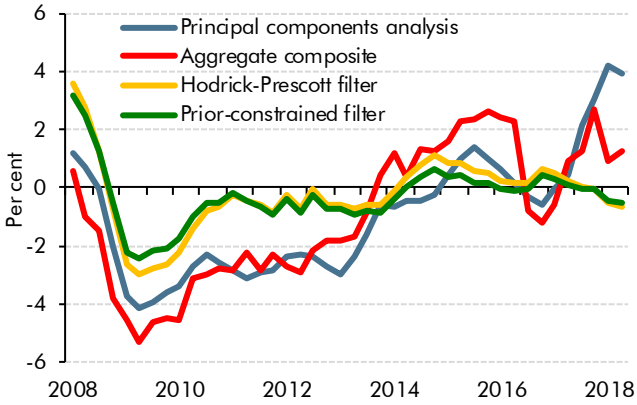
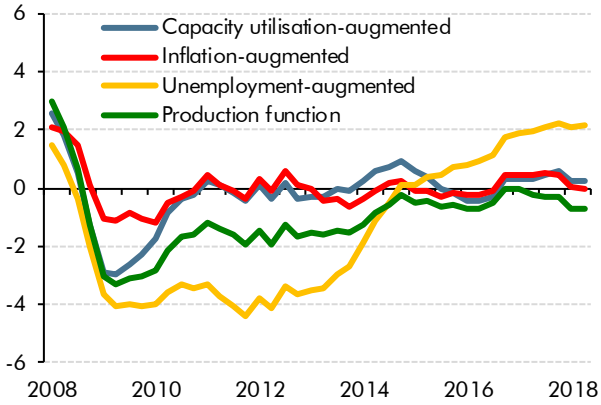


Chart 3.4: Multivariate filter-based estimates of the output gap



Notes: The production function model shown here is based on a filter-based estimate of the equilibrium unemployment rate up to 2011, which then falls towards our judgement-based central estimate by the second quarter of 2018.
The charts show eight of the nine models used to estimate the output gap. Another multivariate filter model (incorporating data on inflation, capacity utilisation and unemployment) is not shown but is included in our supplementary economy tables on our website.
Source: OBR

[7] Methodological details, along with some of the strengths and weaknesses of each approach, were set out in Murray (2014): *OBR Working Paper No.5: Output gap measurement: judgement and uncertainty*.

3.17 In the first quarter of 2018 output growth was lower than we expected in March, at least partly due to temporary factors related to the weather. Given that production was badly affected in some sectors (most notably construction), we interpreted that as reflecting a temporary hit to potential output, with little effect on the output gap. Growth was higher in the second quarter as that weakness unwound.

3.18 Some survey indicators suggest that output has now moved noticeably above potential, although we put less weight on these models in this forecast. Our output gap models reflect new information in different ways:

- Surveys by the Confederation of British Industry (CBI) and British Chambers of Commerce (BCC) show that at the end of 2017 more businesses were operating at full capacity, and reporting difficulties in recruiting new workers compared with earlier in the year. In 2018, capacity utilisation has so far fallen back slightly but is still high in historical terms. Recruitment difficulties are now slightly lower than their late-2017 peak. Within our cyclical indicator models that use these surveys, the **'principal components analysis' (PCA)** estimate moved into positive territory during 2017, reflecting the reported rise in both capacity utilisation and recruitment difficulties. It now indicates a positive output gap of around 4 per cent, the highest among all our models by some distance (Chart 3.3). The **'aggregate composite' (AC)** estimate also indicates a positive output gap, albeit less so than in late-2017, when firms reported recruitment difficulties were more elevated.[8] More generally, while recruitment difficulties remain high, those indicators only capture conditions in businesses actively trying to hire new staff. The same surveys also report that fewer firms are looking to recruit, which might mean recruitment difficulties across the whole economy are less prevalent than the indicators used in our models would suggest. In recent years the PCA and AC models have been the most volatile in our swathe. Their standard deviations over the past three years have been more than double that of the next-most-volatile model. We have therefore put less weight on these two models in this forecast.

- The two **'statistical filters'** that utilise output data alone imply that the economy is currently operating slightly below potential and a little more so than in March. We place little weight on these measures because the estimate of potential output for the most recent past can be overly influenced by movements in actual output (the so-called 'end-point problem') and can be revised substantially as new data become available.

- Of our other filter-based models, which augment output data with other information on the cyclical position, the **'inflation-augmented'** and **'capacity utilisation'** measures point to output being close to or slightly above trend (Chart 3.4). The **'unemployment-augmented'** measure points to a slightly larger positive output gap, reflecting the continued falls in unemployment. Our **'production function'** approach, which uses a filter-based estimate of the equilibrium unemployment rate that is somewhat higher

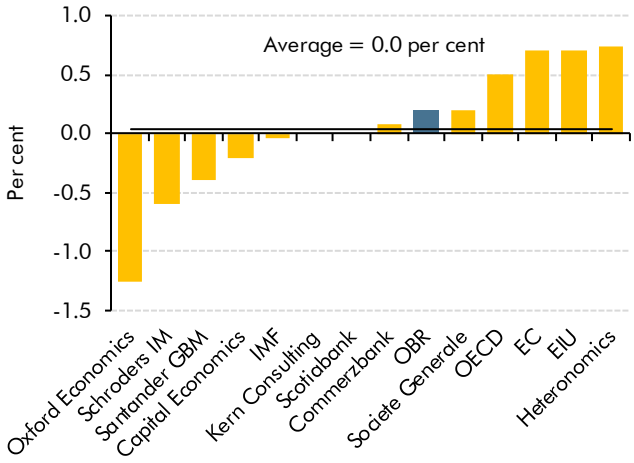
[8] More details on these methodologies are set out in our *Briefing Paper No.2: Estimating the output gap* and in Pybus (2011): *OBR Working Paper No.1: Estimating the UK's historical output gap*.

than our judgement-based central estimate, currently points to a small positive output gap. If, instead, we impose an equilibrium unemployment rate that falls towards our central estimate, this model suggests that there is some spare capacity in the economy.

3.19 Charts 3.5 and 3.6 compare our estimates of the output gap for 2018 and 2019 to those of other forecasters, as set out in the Treasury's October *Comparison of independent forecasts*. These may differ not only as a result of differences of judgement, but also because of differences in the associated concepts of potential output. The average estimate of the output gap is around zero in both 2018 and 2019, which is close to our estimates (+0.2 per cent and +0.3 per cent respectively). These are not large differences relative to previous estimates of the output gap and the uncertainty around them.

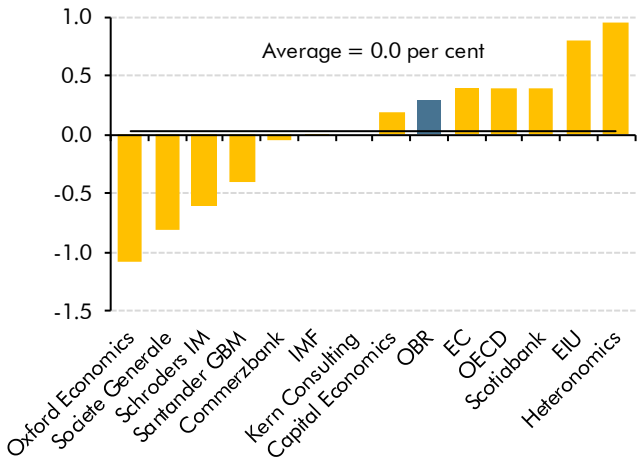
3.20 The range of external estimates of the output gap in 2018 is just 2 percentage points, with most commentators now believing that the output gap is close to zero. In March 2014, when most commentators judged that there was still some spare capacity in the economy, the difference between the highest and lowest external estimates of the output gap for 2014 was 6.6 percentage points. While that does not necessarily imply that there is more certainty about the current output gap now than then, it does suggest that most commentators hold a similar central view to ours.

Chart 3.5: Output gap estimates: 2018



Source: HM Treasury

Chart 3.6: Output gap estimates: 2019



The path of potential output

3.21 Our forecast for the size of the economy in five years' time is in large part derived from our judgement regarding the prospective path for potential output, as a persistent output gap would be incompatible with the Monetary Policy Committee (MPC) achieving and maintaining its inflation objective over the medium term. There is considerable uncertainty surrounding this judgement, which is further heightened by the UK's prospective exit from the EU.

3.22 A key judgement relates to whether the stagnation in productivity seen since the financial crisis will continue or unwind (and, if the latter, at what pace). Given that the unemployment

rate is nearing historical lows and migration inflows are falling back, it is unlikely that strong employment growth can continue to offset the weak productivity growth seen since the financial crisis. That means a revival in productivity growth is essential if even the subdued output growth rates of the past few years are to be maintained.

3.23 Brexit provides an additional source of uncertainty regarding the future path of potential output. In the near term, recent investment outturns and business surveys suggest that heightened uncertainty about the future trading and migration regime are weighing on business investment, slowing the pace of capital deepening and productivity growth with it. In the longer term, impediments to the exploitation of comparative advantage are likely to become more important. In addition, if the UK moves to a stricter immigration regime following Brexit, the static effect on our forecast would be a smaller population and labour force which would lower potential output. The dynamic effects of migration on productivity and potential output are uncertain in size, but likely to interact with those of trade and foreign direct investment. Our recent Brexit *Discussion paper* discusses this in more detail.

Growth in potential total hours worked

3.24 There are four elements to our forecast for the potential total number of hours worked in the economy: the number of adults in the country; the proportion of them participating in the labour market; the proportion of those that could find employment; and the average number of hours that they, in turn, would be willing and able to work:

- **Population.** Net inward migration in the year to the first quarter of 2018 has fallen back from the levels seen in 2015 and 2016. It was slightly higher than implied by the ONS 'principal' population projection, but given the broad downward trend in the data, we continue to base our forecast on that projection, so this part of the forecast is unchanged since March. This implies that net inward migration will fall to 165,000 a year by 2023. The ONS has highlighted unusually high uncertainty around these data recently, with different sources suggesting very different paths for net migration of students in particular.[9]

- **Participation**. We forecast the participation rate using the same cohort-based labour market model that underpins our long-term projections. By projecting age-specific participation rates, this model captures the consequences of an ageing population and the effect on labour market activity rates of the rising state pension age.[10] Overall, it implies a participation rate that rises slightly over the first half of the forecast period, but then falls in the second half as the compositional effect of population ageing outweighs the effect of rising participation by older people. Trend participation rates are slightly higher than we forecast in March as we have updated our long-term model to incorporate new data on participation rates by age. This is consistent with the *Fiscal sustainability report* we published in July and raises potential output growth by 0.4 percentage points compared with March.

[9] See the ONS August 2018 *Migration Statistics Quarterly Report* for more information.
[10] Annex A of our July 2014 *Fiscal sustainability report* discusses our longer-term approach to labour market modelling in more detail.

- **Employment**. The proportion of those active in the labour force that would be able to find employment sustainably is governed by our equilibrium unemployment rate judgement. As discussed in paragraph 3.12, we have lowered this by 0.6 percentage points since March, which raises the level of potential output by a similar amount. We continue to expect the equilibrium unemployment rate to increase slightly over the forecast, reaching 4 per cent in the medium term. This increase is due to the National Living Wage (NLW) increasing to 60 per cent of median earnings by 2020.

- **Average hours**. We continue to assume that equilibrium average hours worked will remain broadly flat. But as average hours worked were lower than we expected in the first half of 2018, we now assume the equilibrium level to be slightly lower than we did in March. This lowers the level of potential output by 0.3 per cent.

Growth in potential output per hour worked

3.25 The outlook for potential (or trend) productivity is the most important, yet most uncertain, element of potential output growth. In our November 2017 *EFO*, we significantly lowered our forecast for growth in trend output per hour, so that rather than reverting to close to its pre-crisis average by the end of the forecast period, it instead recovered rather more slowly, closing only around half of the gap. That judgement was driven by a reassessment of the various explanations of the sustained weakness in productivity growth since the financial crisis, rather than reflecting any change in our assumptions regarding the impact of Brexit.

3.26 We continue to assume that trend hourly productivity growth will rise gradually over the forecast period, reaching 1.3 per cent in 2023. There is, of course, considerable uncertainty around our central judgement. Table 3.1 summarises our potential output growth forecast.

Table 3.1: Potential output growth forecast

	Percentage change on a year earlier, unless otherwise stated					
	Potential population[1]	Equilibrium employment rate[1]	Equilibrium average hours	Potential productivity[2]	**Potential output[3]**	*memo: Equilibrium unemployment rate (per cent)*
2017	0.6	0.0	0.0	0.9	**1.6**	*3.9*
2018	0.6	0.0	0.0	0.5	**1.1**	*3.9*
2019	0.5	0.1	0.0	0.9	**1.5**	*4.0*
2020	0.5	0.0	0.0	1.0	**1.5**	*4.0*
2021	0.5	-0.1	0.0	1.1	**1.6**	*4.0*
2022	0.6	-0.2	0.0	1.2	**1.6**	*4.0*
2023	0.6	-0.2	0.0	1.3	**1.6**	*4.0*

[1] Corresponding to those aged 16 and over.

[2] Output per hour.

[3] Components may not sum to total due to rounding.

Note: Our trend growth forecast for this year is lower because we assumed that weak growth in the first quarter also lowered potential output, given that weather-related disruption reduced supply in that quarter. The first quarter has a disproportionate impact on the annual growth rate.

Key economy forecast assumptions

3.27 We condition our economic forecasts on several assumptions. Among them, we assume that domestic and international interest rates, the exchange rate and oil prices move in line with market expectations, taking the 10-day average to the 4 October. We also base our forecasts on the Government's current stated policies on taxes, public spending and financial transactions, as required by Parliament. And we continue to adopt broad-brush assumptions about the effects of Brexit, as described in paragraph 3.3. The risks to our forecasts are discussed later in the chapter.

Credit conditions

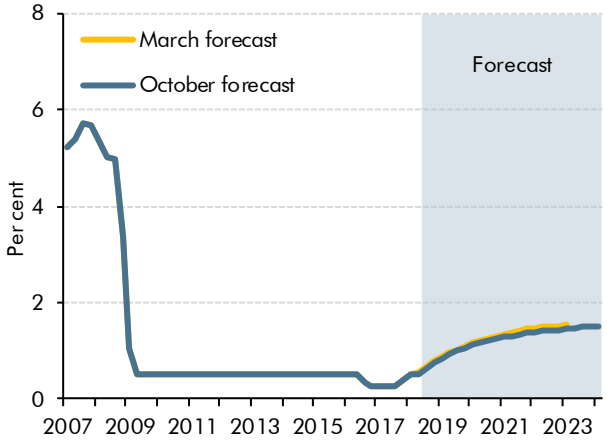
3.28 The MPC voted unanimously to raise Bank Rate to 0.75 per cent at its August meeting – the highest level since February 2009. The Committee voted unanimously to maintain the stock of corporate and UK government bond purchases. This decision reflected the view of the Committee that an "*increase in Bank Rate was warranted at this meeting to return inflation sustainably to the target*". This was based on the judgement that "*the UK economy currently had a very limited degree of slack and there were a number of signs that the labour market was continuing to tighten … [which] was expected to continue to feed through into faster growth in domestic costs*".

3.29 The market interest rates upon which our forecasts are conditioned suggest that market participants expect Bank Rate to rise gradually over the next five years (Chart 3.7). Bank Rate was expected to rise slightly faster in our March forecast than it does in this one. It reached 1.5 per cent by the end of 2022 compared with 1.5 per cent at the end of 2023. This is equivalent to a further three 25 basis point rises over the forecast period. The MPC noted in August that "*an ongoing tightening of monetary policy over the forecast period would be appropriate to return inflation sustainably to the 2% target*" and that "*any future increases in Bank Rate are likely to be at a gradual pace and to a limited extent*".

3.30 Our forecast usually assumes that the Bank of England brings CPI inflation back to the 2 per cent target over the medium term, consistent with the Chancellor's remit to the MPC. However, market participants are unlikely to have fully anticipated the discretionary fiscal loosening in this Budget and CPI inflation in our forecast is a little above 2 per cent in the medium term. Market participants may therefore conclude that Bank Rate is likely to rise somewhat faster than in our conditioning assumption in order to bring inflation fully back to target (see Box 3.2 for further discussion).

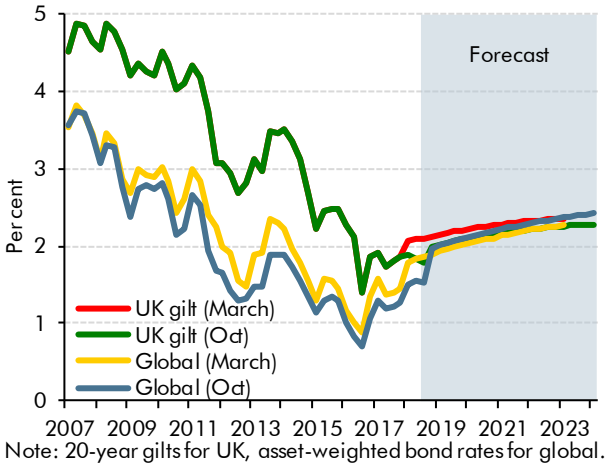
3.31 Government gilt rates have risen over the last few quarters after a dip in mid-2017, but they have not reached the levels assumed in our March forecast. The five-year gilt rate was 1.0 per cent in the third quarter of 2018, below the 1.3 per cent in our March forecast. Gilt rates are expected to continue rising, but to remain a little below the level in our March forecast. Global bond yields are similar across the forecast to March (Chart 3.8).

Chart 3.7: Bank Rate



Source: Bank of England, OBR

Chart 3.8: Global bond yields



Note: 20-year gilts for UK, asset-weighted bond rates for global.
Source: Bank of England, Bloomberg, Datastream, OBR

3.32 Mortgage rates have continued to fall in recent quarters driven by lower funding costs and margins. The Term Funding Scheme (TFS) was introduced in August 2016 to reinforce the transmission of the low Bank Rate to the interest rates facing households and businesses by providing funds to banks at rates close to Bank Rate. The scheme ended in February 2018. Since then, funding costs have risen, likely due to reductions in business confidence, lower global risk appetite, and the rise in Bank Rate. Margins on mortgage rates have been kept low as banks face strong competition, especially for fixed rate mortgages, as individuals re-mortgage to take advantage of low rates. However, in its *August Inflation Report*, the Bank noted that "*although further compression as a result of competition was unlikely, margins on lending were not expected to pick up*".

3.33 The Bank's Financial Policy Committee (FPC) has voted to maintain the countercyclical capital buffer at 1 per cent – the rate consistent with risks being neither subdued nor elevated. It judged that *"apart from those related to Brexit, domestic risks remained standard overall"*. The rate was last changed from 0.5 per cent to 1 per cent in November 2017.

Equity prices

3.34 UK equity prices were 3.7 per cent higher in the third quarter of 2018 than assumed in our March forecast. Based on outturn data at the start of October, we assume that equity prices fall in the fourth quarter and then grow in line with nominal GDP across the rest of the forecast. This means that equity prices are on average 2.3 per cent higher across the forecast than in our March forecast.

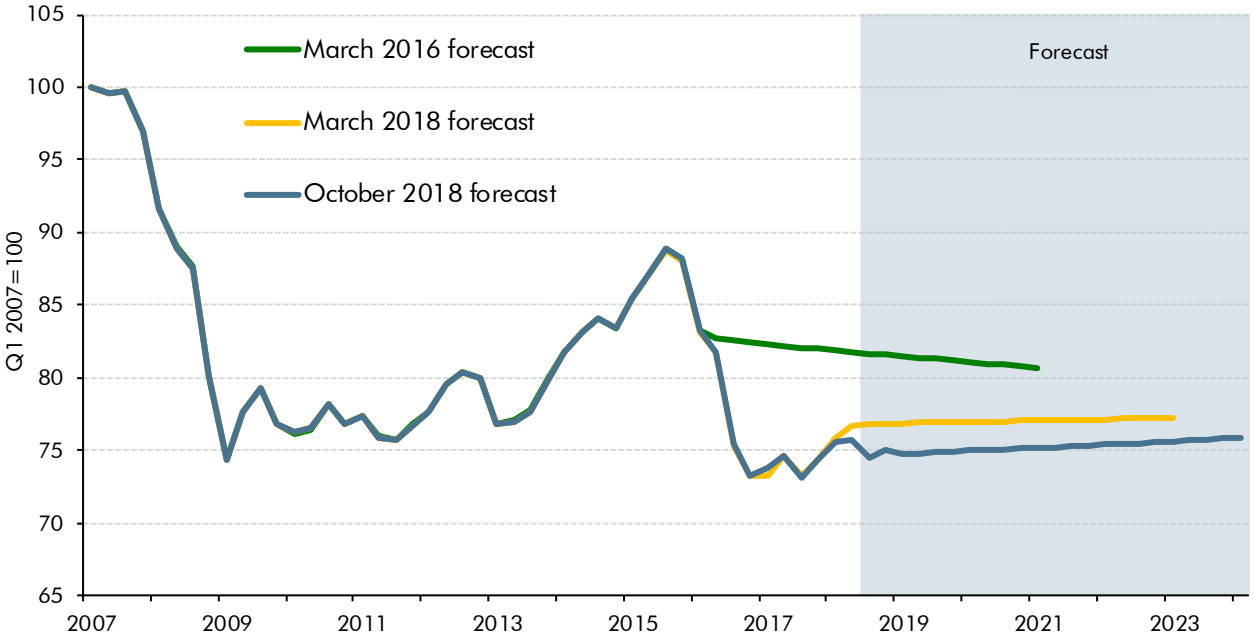
Sterling effective exchange rate

3.35 In the 15 months between its peak in late 2015 and its trough in late 2016, sterling fell by 17 per cent, with the sharpest falls occurring in the wake of the June 2016 referendum. This is likely to reflect market participants' belief that a real depreciation is necessary to compensate for the reduced competitiveness associated with a less open trading relationship between the UK and the EU. Investors may also be more pessimistic about the future returns on UK assets and/or attach a higher risk premium to them.

3.36 Although sterling rose in the first quarter of 2018, it depreciated during the third quarter of 2018, and we assume that the sterling effective exchange rate will be 2.4 per cent lower in the fourth quarter than our March assumption. A portion of this decrease can be attributed to the strengthening of the dollar, against which the pound is expected to be 9.3 per cent lower in the same quarter than assumed in March.

3.37 From its current level, we assume that the exchange rate will follow the path implied by uncovered interest parity: namely, that it will move to reflect the difference between UK and overseas interest rates to equalise the expected return to investing at home and abroad. On average, our latest assumption is around 2.4 per cent below our March 2018 assumption, and about 7.6 per cent below our March 2016 assumption (Chart 3.9).

Chart 3.9: Sterling effective exchange rate assumptions

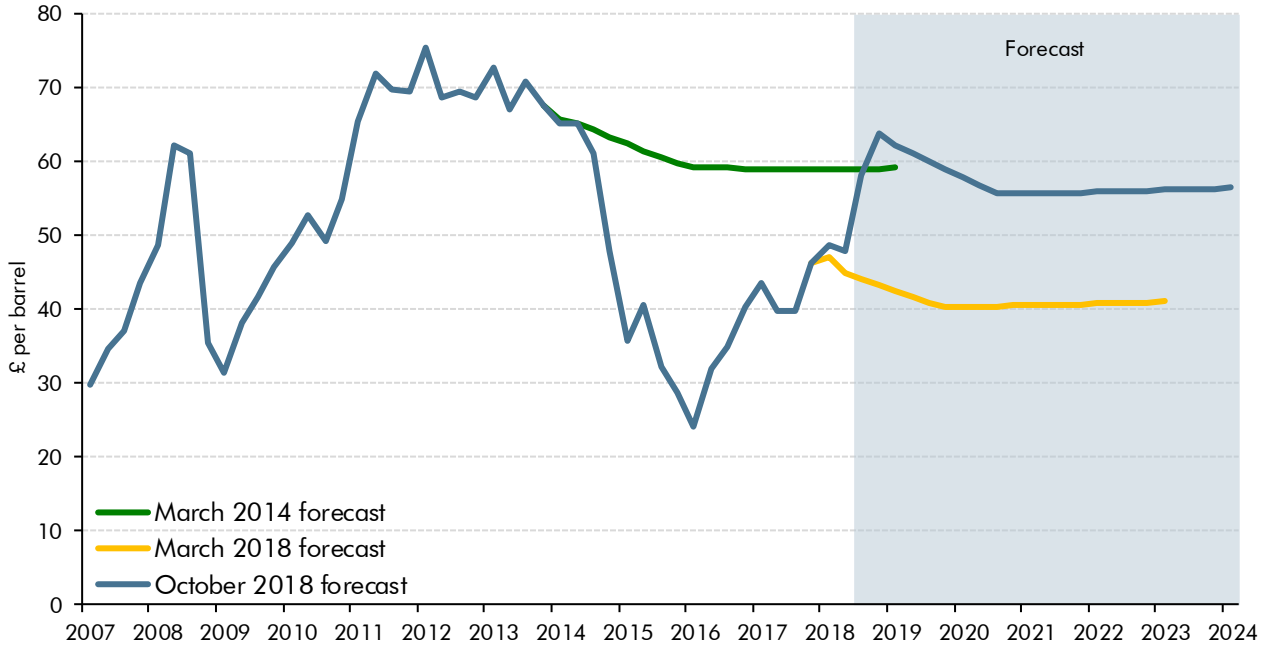


Source: Bank of England, Bloomberg, OBR

Oil prices

3.38 As Chart 3.10 shows, sterling oil prices increased steadily in the first half of 2018, and rose sharply in the third quarter. The increase in oil prices reflected both demand and supply factors. Strengthening global economic activity boosted demand, while OPEC resolved to uphold production curbs until the end of 2018, weighing on supply. In addition, the prospect of a further shortfall in supply as a result of US sanctions on Iran, a major oil producer, placed further upward pressure on oil prices. Our assumption for the fourth quarter of 2018 lies 48 per cent above our March projection (34 per cent in dollar terms). The oil price futures curve falls a little in the near term so that oil prices are around 40 per cent above our March projection over the forecast period. This level is similar to the projection in our March of 2014 forecast, before oil prices fell sharply.

Chart 3.10: Oil price assumptions



Source: Datastream, IMF, OBR

Fiscal policy and Budget measures

3.39 Our forecast is conditioned on current government policy and announced plans for spending and taxes. Relative to March, this represents a material discretionary fiscal loosening. Chapter 4 sets out our fiscal forecasts, while Box 3.2 sets out how this economy forecast has been affected by fiscal and other policy changes announced in this Budget.

Box 3.2: The economic effects of policy measures

This box considers the possible effects on the economy of the policy measures announced in this Budget and since our previous forecast in March. Further detail about each Budget measure is set out in the Treasury's documents. Our assessment of their fiscal implications can be found in Chapter 4 and Annex A.

The Government has chosen to loosen **fiscal policy** materially, largely through an increase in departmental spending. To estimate the effect of fiscal policy decisions on GDP growth we use 'multipliers' drawn from the empirical literature. The ones we use imply that a discretionary loosening of 1 per cent of GDP would increase output by between 0.3 per cent (for income tax and NICs reductions) and 1 per cent (for increases to capital spending) in the first instance.[a] We typically assume that these multipliers fall to zero over five years as the economy adjusts to the policy changes through a number of processes – including the endogenous response of wages and prices to the degree of spare capacity, as well as changes in monetary policy. As explained in the Foreword, we applied our multipliers to a set of policy measures that was then amended beyond the agreed timetable for closing the economy forecast. Our economy and fiscal forecasts are therefore not fully consistent, although we believe the effect of this inconsistency on annual GDP growth would have been less than 0.1 percentage points in any year.

The bulk of the discretionary fiscal loosening in this Budget reflects the increase in health spending announced in June, but it may not have been fully anticipated by market participants – perhaps because they would have expected the Government to announce additional policy measures to help pay for the extra health spending. This would imply that the market interest rate expectations upon which our forecast is based are lower than would be consistent with the looser path for fiscal policy. Consistent with this, we expect the near-term effect of the discretionary loosening of fiscal policy on output to only partly unwind over the forecast period. We estimate that the discretionary fiscal loosening boosts real GDP growth by around 0.3 percentage points in 2019, with growth slightly weaker thereafter as the effect of the loosening diminishes. But the effect does not fully unwind, and we expect a small positive output gap to remain by the end of the forecast period. This is expected to have a modest upward effect on inflationary pressure, leaving CPI inflation marginally above target in the medium term.

We have made a number of other adjustments to our economic forecast for measures announced in this Budget. The Government has announced measures that are expected to affect the cost of capital faced by firms, and therefore the level of **business investment**. These include: the introduction of a permanent structures and buildings allowance of 2 per cent of the value of qualifying expenditure on non-residential structures and buildings, effective from announcement; a permanent reduction in the writing down allowance for the special rate pool of assets from 8 per cent to 6 per cent from April 2019; and a temporary increase in the annual investment allowance (AIA) from £200,000 to £1,000,000 for two years from January 2019. Taken together these measures are expected to increase the level of business investment by 0.4 per cent by the end of the forecast period, largely as a result of the structures and buildings allowance.

We have adjusted our **inflation** forecast for a freeze to fuel duty and some alcohol duties in 2019-20, and a freeze in the maximum tuition fee charged in England for UK and EU students. Together, these reduce CPI inflation by just over 0.1 percentage points in 2019-20.

The Government has announced a number of measures that are likely to affect the **housing market**. These include a two-year extension to the Help to Buy equity loan scheme, but restricted only to first-time buyers and with regional property price caps. We expect this to increase house prices by 0.1 per cent in 2021-22 and to reduce house price inflation slightly in 2023-24 following the currently planned end of the scheme in 2022-23. Residential property transactions are expected to be around 0.2 per cent higher and residential investment just under 1 per cent higher in 2021-22 and 2022-23 as a result of the extension to the scheme.

The Government's announcement that it will lift the Housing Revenue Account borrowing cap with immediate effect is expected to lead to higher housebuilding by local authorities, although we have assumed that this partly crowds out some private sector housebuilding. We expect the removal of the cap to increase aggregate housebuilding by an additional 9,000 over the forecast period, as an increase in public sector housebuilding of just over 20,000 is partly offset by lower private sector housebuilding (including by housing associations).

World economy

3.40 World GDP is estimated to have risen by 3.7 per cent in 2017, up from 3.2 per cent in the preceding year. We have used the IMF's October 2018 *World Economic Outlook (WEO)* to inform our own forecasts for this *EFO*. The IMF expects world GDP growth to remain at 3.7 per cent until 2020 and to slow to 3.6 per cent after that. We have followed suit – revising down our March forecast by 0.2 percentage points in 2018 and 2019 as earlier signs of gathering momentum have faded and as trade tensions begin to weigh on global growth.

Table 3.2: Global forecast variables

	Percentage change on a year earlier						
	Outturn	Forecast					
	2017	2018	2019	2020	2021	2022	2023
GDP							
Euro Area	2.5	2.0	1.9	1.7	1.6	1.5	1.4
US	2.2	2.9	2.5	1.8	1.7	1.5	1.4
World	3.7	3.7	3.7	3.7	3.6	3.6	3.6
Trade							
UK export markets	4.6	4.1	3.7	3.9	3.8	3.5	3.4
World	5.0	4.2	4.0	4.1	3.9	3.8	3.6

3.41 Euro-area GDP is estimated to have grown by 2.5 per cent in 2017, up from 1.8 per cent in 2016 and the highest rate since 2007. Based on the IMF's forecast, we assume growth will slow across the forecast. Our forecasts for 2018 and 2019 are slightly lower than in March, while expected growth thereafter is marginally stronger.

3.42 US GDP growth also increased in 2017, rising to 2.2 per cent from the 1.6 per cent increase seen the preceding year. The latest estimates for the second quarter of 2018 show growth rising further, reaching 4.2 per cent on an annualised basis. In line with the IMF's forecast, we expect growth of 2.9 and 2.5 per cent in 2018 and 2019 respectively. This is supported by the fiscal stimulus in the US, including substantial cuts to the corporate tax rate, with some offsetting effects from recently imposed tariffs (and retaliatory responses by the US's trading partners) and monetary policy tightening. Growth is then expected to slow from 2020 onwards as the effects of the fiscal stimulus wane.

World trade and UK export market growth

3.43 The recent revival in global economic activity appears to have translated into stronger trade growth. World trade accelerated sharply in 2017 to reach its fastest pace of expansion since 2011, comfortably above world GDP growth. But there are signs that this momentum is fading and recent trade disputes are taking their toll. We have revised down our forecast for world trade growth by 0.4 percentage points in 2018 and 2019. In line with the IMF's latest forecast, we expect world trade growth to moderate to around 4 per cent a year over the next three years. Thereafter, we expect annual world trade growth to ease further to reach 3.6 per cent in 2023 – in line with world GDP growth.

3.44 We expect UK export market growth to be slightly weaker than world trade growth over the forecast, but to follow a similar profile. The downward revision to world trade growth is concentrated in advanced economies, which generally have a higher share in UK export markets. We have therefore revised down UK export market growth by more than world trade growth. Our forecast for UK export market growth averages 3.8 per cent between 2018 and 2022, 0.3 percentage points lower than in March.

Summary

3.45 The key assumptions underpinning our central forecast are that:

- **The UK leaves the EU in March 2019**, moving in due course to a less open trade regime and a tighter migration regime than would otherwise have been the case.
- **Credit conditions** remain highly accommodative, and monetary policy is slightly looser than we assumed in March.
- **Budget policy decisions loosen fiscal policy** materially relative to our March forecast.
- **Sterling** is lower than we assumed in March and on average around 7.6 per cent below the level assumed in our pre-referendum forecast in March 2016.
- Sterling **oil prices** are significantly higher than we assumed in March.
- **UK export market growth** is expected to slow after 2018, and by more than world trade growth.

3.46 Risks and uncertainties associated with these assumptions and other facets of the forecast are discussed later in the chapter.

Prospects for real GDP growth

The short-term outlook for GDP

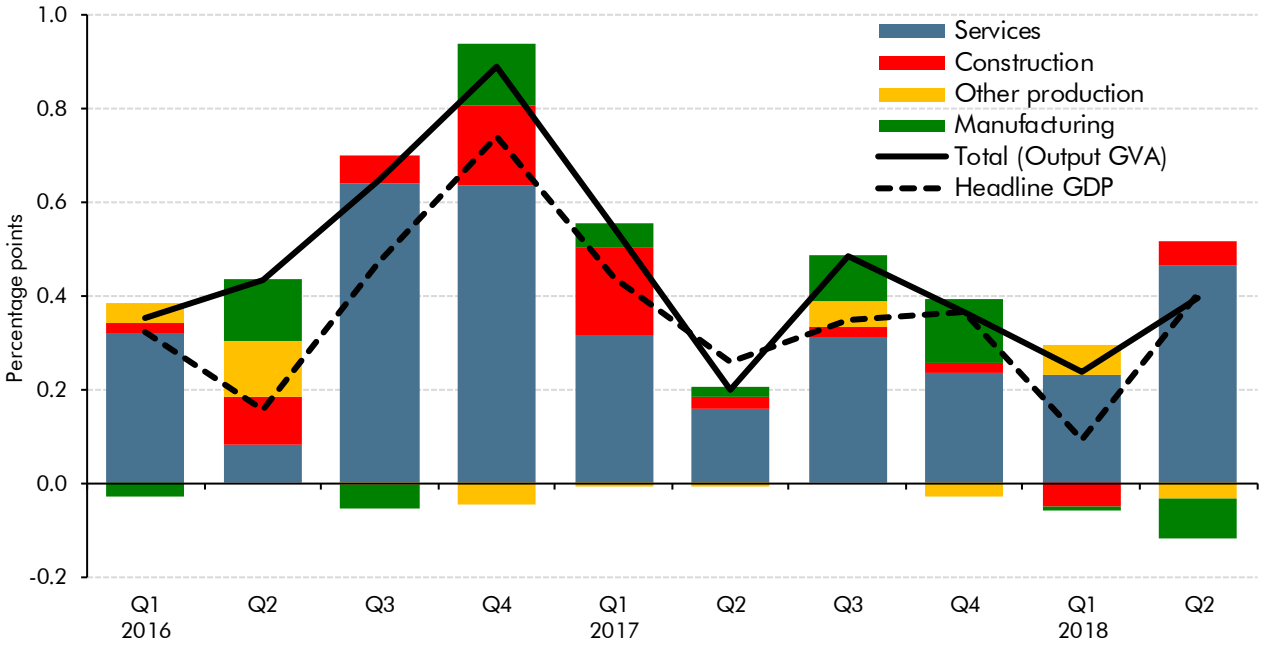
3.47 Looking at the output measure of GDP, the services sector appears to have held up well in the immediate aftermath of the EU referendum, with annualised growth of 3.2 per cent in the second half of 2016 – above the average since the start of 2012. But growth in the sector then slowed to just 1.2 per cent in the year to the first quarter of 2018, mainly as the inflationary impact of the fall in the pound around the time of the referendum hit growth in consumer-facing services. Service sector growth picked up in the second quarter of 2018, but we expect some of this to be due to temporary factors such as the unusually warm weather and a recovery from the effects of the snow earlier in the year.

3.48 The other sectors account for smaller shares of overall output, but they tend to be more volatile and so, in some cases, have had significant effects on recent quarterly GDP growth (Chart 3.11). The construction sector grew strongly at the end of 2016 and beginning of

2017. Manufacturing output has been volatile recently but underlying growth appears to have picked up significantly since the referendum – output was broadly flat over the two years before the vote but has risen 3.4 per cent since then.

3.49 That said, this sectoral breakdown should be treated with caution. As noted in Chapter 2, GDP can be measured in three different ways and the ONS reconciles these to create a headline measure. The bottom-up output measure shows stronger growth than the income and expenditure measures in 2017 and the first half of 2018. The ONS has applied a negative statistical discrepancy adjustment to output to reconcile them.

Chart 3.11: Contributions to quarterly output growth



Source: ONS

3.50 The headline measure held up in the second half of 2016. The latest data show annualised growth of 2.4 per cent – close to the average rate recorded for the preceding three and a half years. But the economy has since slowed, with real GDP in the first quarter of 2018 only 1.1 per cent higher than a year earlier – the lowest four-quarter rate of growth since the second quarter of 2012 during the worst of the euro-area periphery debt crisis – and in stark contrast to the pick-up seen in most other advanced economies.

3.51 Quarterly GDP growth on the latest estimates was 0.1 and 0.4 per cent in the first and second quarters of 2018 respectively. Snow early in the year disrupted construction but it picked up in the second quarter, along with services. Manufacturing fell in both quarters. However, the tendency for GDP growth to be revised means that one should not place too much weight on any particular vintage of the precise path of quarterly growth.

3.52 The ONS now publishes monthly estimates of GDP. The latest data when we closed our forecast suggested that GDP grew by 0.6 per cent in the three months to July. We expect quarterly GDP growth of 0.5 per cent in the third quarter of 2018, supported in part by temporary factors such as the warm weather and the FIFA World Cup, and then to slow to

0.3 per cent in the fourth quarter as these effects unwind (Table 3.3). This gives calendar year growth of 1.3 per cent in 2018, down slightly from the 1.5 per cent we forecast in March and significantly lower than the 1.7 per cent growth seen in 2017. Since we closed our forecast for new data, the ONS published GDP growth in the three months to August of 0.7 per cent and has revised up its estimate for the three months to July to 0.7 per cent. This suggests that GDP growth could be slightly higher in the third quarter than we expected, but this would not have a material impact on our five-year forecast.

Table 3.3: The quarterly GDP profile

	Percentage change on previous quarter											
	2017				2018				2019			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
March forecast[1]	0.2	0.3	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3
October forecast[2]	0.4	0.3	0.4	0.4	0.1	0.4	0.5	0.4	0.4	0.4	0.4	0.4
Change[3]	**0.2**	**0.0**	**-0.1**	**0.0**	**-0.3**	**0.1**	**0.2**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**

[1] Forecast from first quarter of 2018.
[2] Forecast from third quarter of 2018.
[3] Changes may not sum due to rounding.

The medium-term outlook for GDP

3.53 We expect GDP growth of 1.6 per cent in 2019, as the impact of the discretionary fiscal loosening in this Budget boosts activity. This effect dissipates in 2020 and growth is expected to fall back to 1.4 per cent, before edging back up to 1.6 per cent by the end of the forecast, as trend productivity growth improves. The profile for real GDP growth reflects several factors:

- **Discretionary fiscal loosening** supports growth. Real government consumption growth steps up in 2019, driven by the increase in spending on the NHS announced in June, and remains higher than we expected in March across the forecast period.

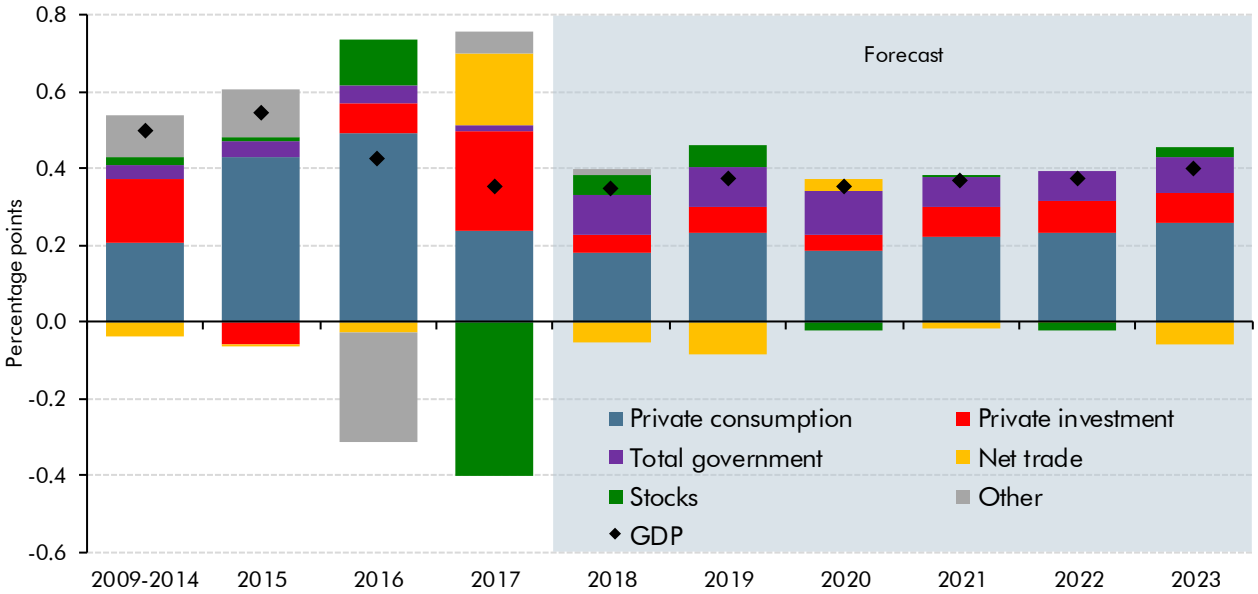
- Real **household consumption** growth is expected to remain relatively subdued in the near term. We expect a revival in real household income growth, as inflation moderates, but this is offset by levelling off in the household saving rate. From 2020, a modest acceleration in productivity leads to a slight increase in the growth of real wages and consumption.

- Brexit-related uncertainty is weighing on **investment growth**. This is despite low borrowing costs and improved profitability in the export and import-competing sectors following the fall in sterling. Offsetting this, particularly in 2019, is the introduction of a structures and buildings allowance announced at this Budget. The gradual dissipation of uncertainty as the post-Brexit regime is clarified is expected to provide a slight boost to GDP growth later in the forecast.

- The positive contribution from **net trade** seen in recent data declines over the forecast and eventually turns negative, as the effects of the weaker pound and the boost from

global demand fade. The Brexit transition period supports both exports and imports, and we assume it has a neutral effect on net trade. UK export market growth is expected to slow from 2020 onwards, weighing on exports and leading to a small negative contribution from net trade in the medium term.

Chart 3.12: Contributions to average quarterly GDP growth



Note: 'Other' category includes the statistical discrepancy and the residual between GDP and the expenditure components prior to the base year (2016).
Source: ONS, OBR

Table 3.4: Expenditure contributions to real GDP

	Percentage points, unless otherwise stated						
	Outturn	Forecast					
	2017	2018	2019	2020	2021	2022	2023
GDP growth (per cent)	**1.7**	**1.3**	**1.6**	**1.4**	**1.4**	**1.5**	**1.6**
Main contributions							
Private consumption	1.2	0.8	0.8	0.8	0.8	0.9	1.0
Business investment	0.2	0.1	0.2	0.2	0.2	0.2	0.2
Dwellings investment[1]	0.3	0.1	0.1	0.0	0.1	0.1	0.1
Government[2]	0.0	0.2	0.5	0.5	0.4	0.3	0.3
Change in inventories	-0.5	-0.2	0.1	0.0	0.0	0.0	0.0
Net trade	0.7	0.2	-0.1	-0.1	0.0	0.0	-0.1
Other[3]	-0.2	0.1	0.0	0.0	0.0	0.0	0.0

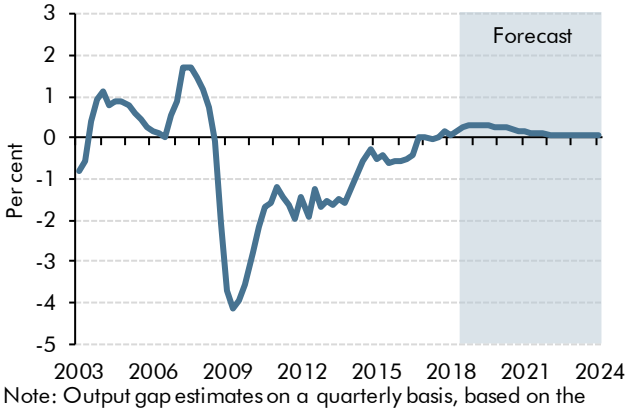
[1] The sum of public corporations and private sector investment in new dwellings, improvements to dwellings and transfer costs.
[2] The sum of government consumption and general government investment.
[3] Includes the statistical discrepancy and net acquisition of valuables.
Note: Components may not sum to total due to rounding.

3.54 GDP growth of 1.6 per cent in 2019 is slightly above potential output growth, pushing the small positive output gap slightly higher. As the 'multiplier' effects of the discretionary fiscal loosening dissipate,[11] GDP growth slows and the output gap narrows (Charts 3.13 and

[11] See Box 3.2 on policy measures for more details.

3.14). Though much of the extra money for the NHS had been pre-announced, it seems likely that the discretionary fiscal loosening in this Budget goes beyond what has been anticipated by market participants. We therefore judge that the market interest rates upon which our forecasts are conditioned would leave the output gap slightly positive, and inflation a little above target, at the end of our forecast.

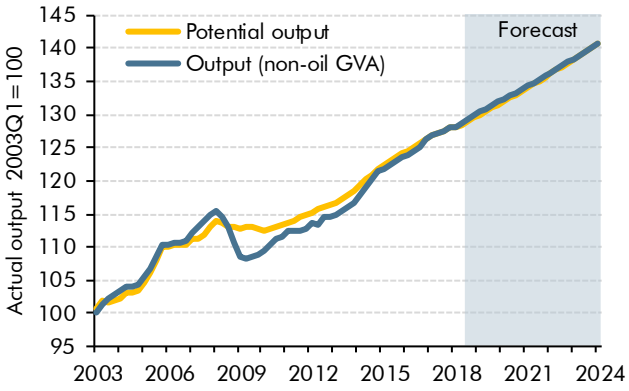
Chart 3.13: The output gap



Note: Output gap estimates on a quarterly basis, based on the latest National Accounts data and expressed as actual output less potential output as a percentage of potential output (non-oil basis).

Source: OBR

Chart 3.14: Actual and potential output

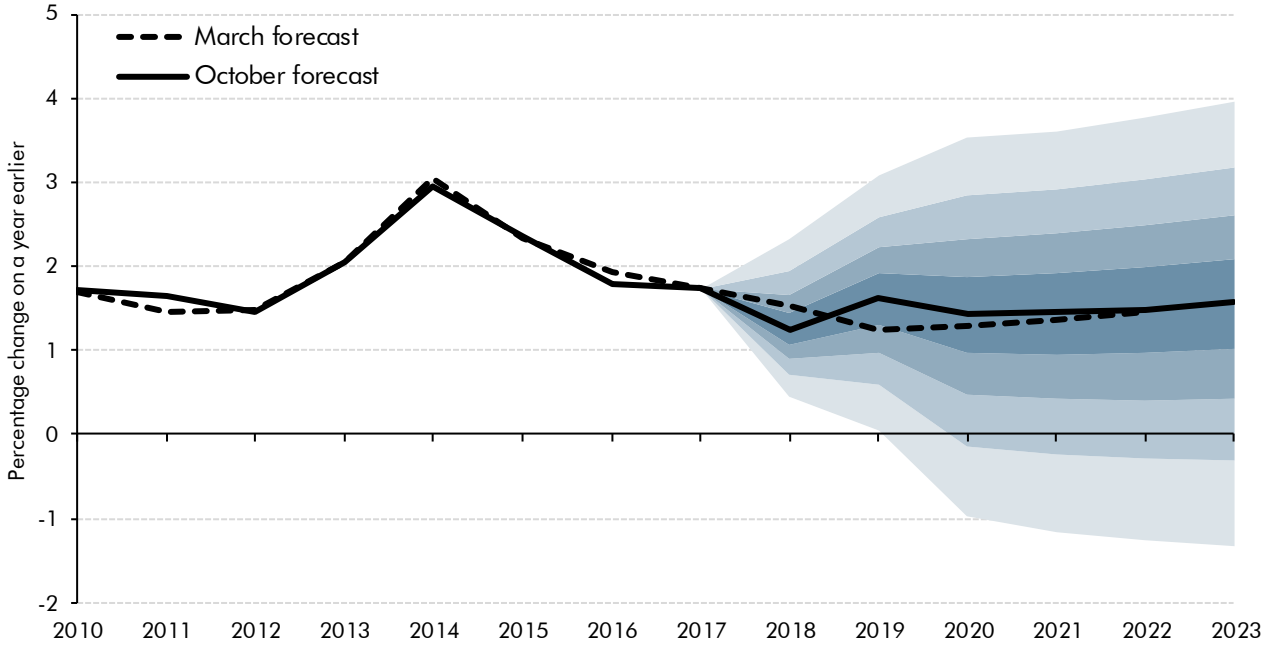


Source: ONS, OBR

3.55 Relative to March, we have revised down our forecast for GDP growth in 2018 from 1.5 to 1.3 per cent. This is entirely due to the snow-affected first quarter. Growth is stronger in 2019 at 1.6 per cent (up from 1.3 per cent in March), driven by the discretionary fiscal loosening. Growth is also slightly higher in 2020 and 2021 than in March, as stronger labour income supports consumption.

3.56 This analysis relates to our central projection for GDP growth, but there is of course significant uncertainty around this forecast. Chart 3.15 shows the probability distribution of different outcomes surrounding the central forecast based purely on past forecast performance. The solid black line shows our median forecast, with successive pairs of lighter shaded areas around it representing 20 per cent probability bands. The chart implies a 10 per cent probability that GDP will fall year-on-year in 2019. These estimates are based on the historical distribution of official forecast errors. They do not represent a subjective measure of the distribution of risks and uncertainties around our central forecast. Such risks and uncertainties are discussed at the end of the chapter.

Chart 3.15: Real GDP growth fan chart



Source: ONS, OBR

Prospects for inflation

3.57 In assessing the outlook for the economy and the public finances, we are interested in several different measures of inflation, principally the Consumer Prices Index (CPI) and the Retail Prices Index (RPI). But we also need to forecast the GDP deflator and its components, which are required to generate a projection for nominal GDP.

3.58 CPI and RPI inflation affect the public finances in several ways. The Government uses the CPI to index many allowances and thresholds, and to uprate benefits and public service pensions. The RPI is no longer a National Statistic, because it falls short of agreed international statistical standards,[12] but the Government still uses it to calculate interest payments on index-linked gilts, interest charged on student loans and to revalorise excise duties. The ONS publishes several other inflation measures – most notably CPIH, a variant of the CPI that includes housing costs and is now the ONS's preferred inflation measure. But as these do not currently affect the public finances, we do not forecast them.

CPI inflation

3.59 CPI inflation averaged 2.4 per cent in the second quarter of 2018, in line with our March forecast. CPI inflation had been on a downward trend, falling from 3.0 per cent in the fourth quarter of 2017, as the contribution from higher import prices after the 2016 sterling depreciation faded. Following recent increases in oil prices and a further modest depreciation in sterling, we expect inflation to tick up in the second half of the year, and to be 0.5 percentage points above our March forecast in the fourth quarter. CPI inflation is forecast to fall again in 2019 as the effect from higher oil prices fades and as a result of

[12] ONS, *Shortcomings of the Retail Prices Index as a measure of inflation*, March 2018.

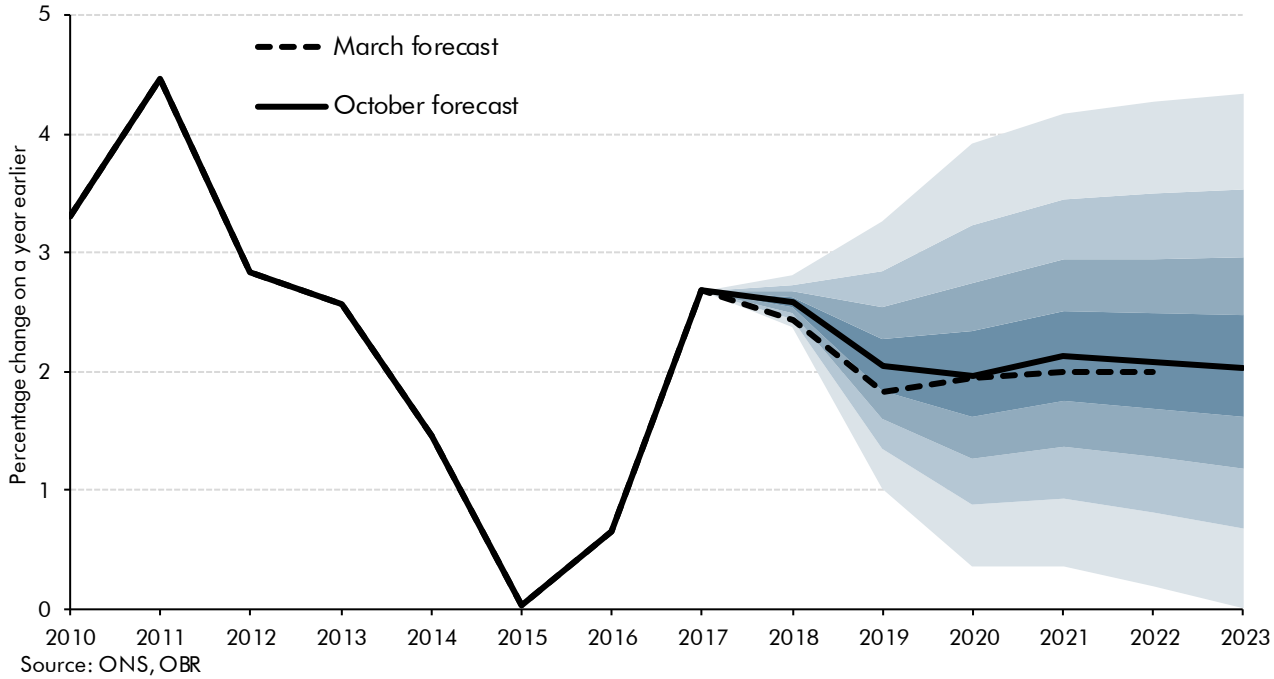
policy measures. In the medium term, CPI inflation is a little above the Bank of England's target of 2 per cent. As noted above, this is because we assume that some of the discretionary fiscal loosening would not have been anticipated by market participants, so their current interest rate expectations would not be consistent with keeping inflation exactly on target.

3.60 Since March, the main developments affecting our inflation forecast are:

- **Oil prices** in the fourth quarter of 2018 are 48 per cent higher in sterling terms than we assumed in March, raising inflation in the near term.
- Trade-weighted **sterling** is 2.5 per cent lower across the forecast then we assumed in March, increasing import prices and putting upward pressure on inflation.
- Ofgem will cap default **energy tariffs**. This reduces CPI inflation by 0.2 percentage points in the first quarter of 2019 and moderates CPI inflation across the rest of 2019.
- **Policies in this Budget**. These include freezing fuel duty and some alcohol duties in 2019-20 and a freeze in the maximum tuition fee charged in England for UK and EU students. The total effect of these policies is to lower CPI inflation in 2019-20 by over 0.1 percentage points relative to our pre-measures forecast. We have also made an adjustment for the looser fiscal policy, which modestly increases inflation.

3.61 Chart 3.16 shows our latest central CPI inflation forecast within a fan chart produced using the same methodology that underpins the GDP fan chart (Chart 3.15). It illustrates the range of possible outcomes one would expect if past official forecast errors were a reasonable guide to future ones. It shows that the revisions to our forecast since March are small in comparison to historical differences between forecasts and outturns.

Chart 3.16: CPI inflation fan chart



Source: ONS, OBR

RPI inflation

3.62 RPI inflation averaged 3.4 per cent in the second quarter of 2018, 0.4 percentage points below our March forecast. We compile our RPI inflation forecast by adding a 'wedge' to our CPI inflation forecast for differences in measurement, coverage and weights to our CPI inflation forecast. The downward surprise to our forecast was spread across the components of the wedge including lower mortgage interest payments. From the fourth quarter onwards, we expect RPI inflation to be higher than in our March forecast. The main driver is the upward revisions to our CPI forecast, but in the medium term RPI inflation is also higher than our March forecast due to:

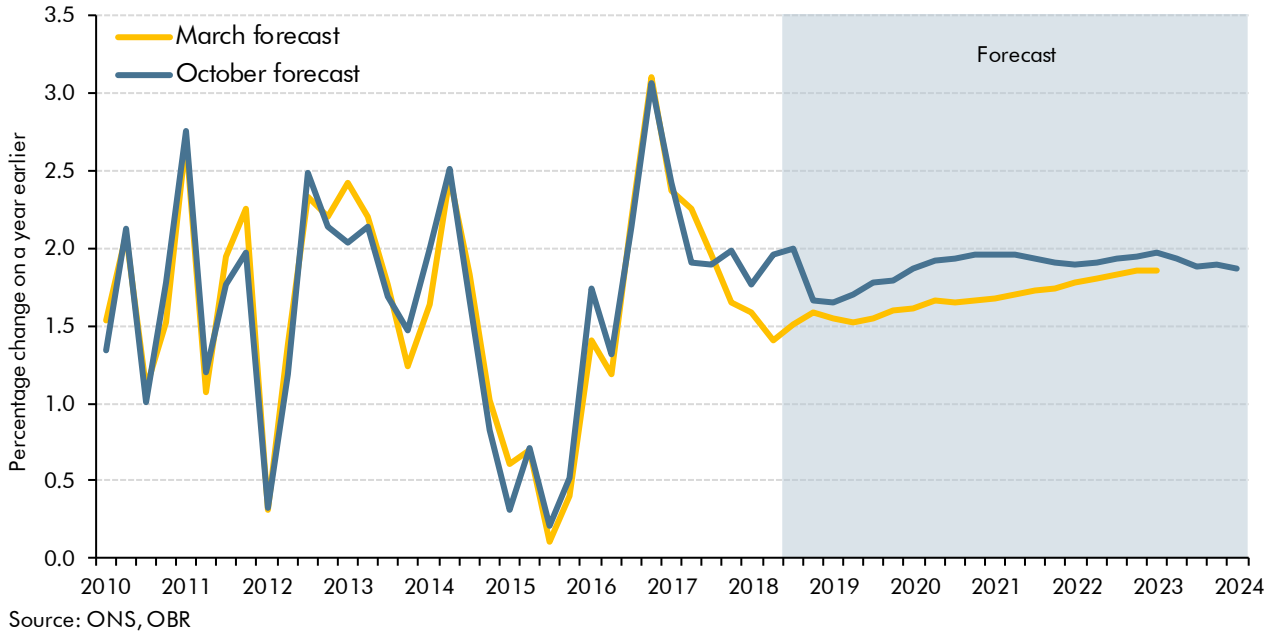
- Mortgage rates, which start the forecast below the level in March but rise more quickly. This increases growth in the **mortgage interest payments** component of RPI.
- Stronger **house price inflation**, which feeds into the housing depreciation component.

The GDP deflator

3.63 The GDP deflator is a broad measure of prices in the domestic economy. It covers all the goods and services that comprise GDP, including those relating to private and government consumption, investment and the relative price of exports to imports – the terms of trade.

3.64 Relative to the same quarter a year earlier, GDP deflator inflation was 1.8 per cent in the first quarter of 2018 and 2.0 per cent in the second. It is expected to fall to 1.6 per cent in the first quarter of 2019 before rising and staying broadly flat from 2020 onwards (Chart 3.17). GDP deflator inflation is higher than in our March forecast. In 2018, it is pushed up by the terms of trade, which partly reflects outturn data. But the largest driver thereafter is higher government deflator inflation, particularly in 2019 and 2020. Consumption deflator inflation is also a little higher in most years, consistent with our CPI forecast.

Chart 3.17: GDP deflator



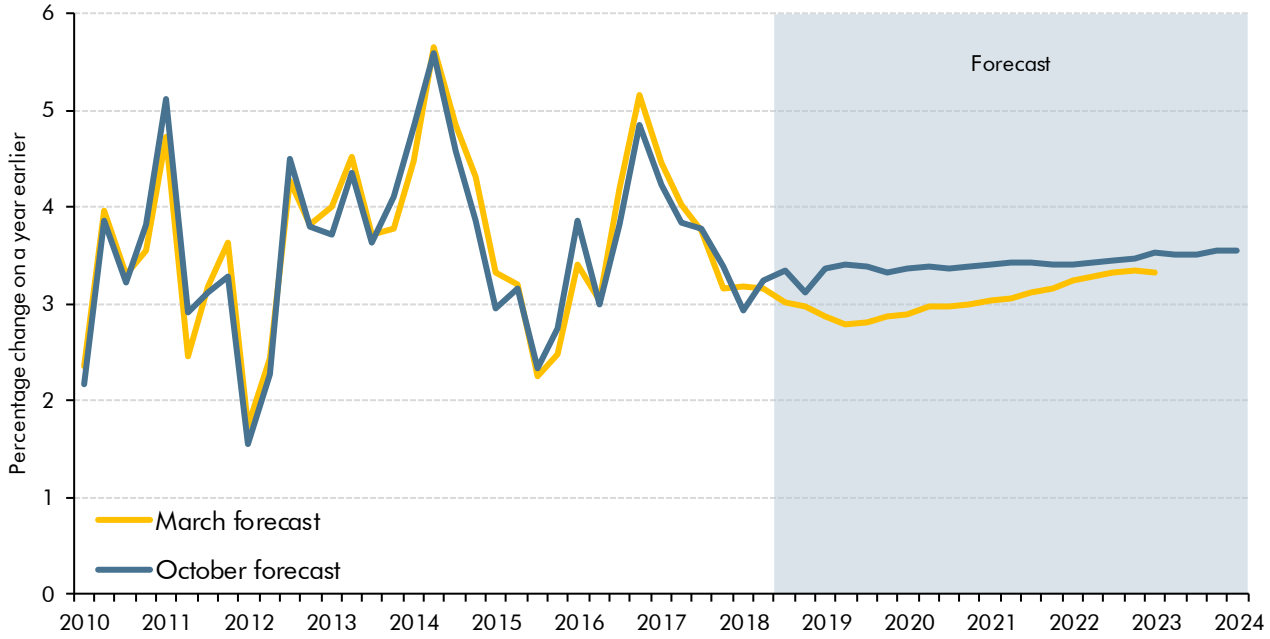
Source: ONS, OBR

Prospects for nominal GDP

3.65 Most public discussion of the economic outlook focuses on real GDP – the volume of goods and services produced in the economy. But the nominal or cash value – and its composition by income and expenditure – is more important for understanding the behaviour of the public finances. Taxes are driven more by nominal than real GDP. So too is the share of GDP devoted to public spending, as much of that spending is set out in multi-year cash plans (public services, grants and administration, and capital spending) or linked to measures of inflation (including benefits, tax credits and interest on index-linked gilts).

3.66 Nominal GDP growth slowed in the first half of 2018, averaging 3.1 per cent on a year earlier, down from 3.8 per cent in 2017. Growth is expected to remain around this level in the second half of 2018 and then pick up over the rest of the forecast. Nominal GDP growth is higher than in our March forecast, particularly in 2019 and 2020 where the discretionary fiscal loosening raises both real GDP growth and GDP deflator inflation.

Chart 3.18: Nominal GDP growth



Source: ONS, OBR

Prospects for individual sectors of the economy

3.67 This section covers our forecasts for the household sector (including the labour market), the corporate sector, the government sector and the rest of the world (including the current account balance).

The household sector

3.68 The household sector dominates income and spending in the economy. In 2017, household disposable income accounted for 66 per cent of nominal GDP by income and consumer

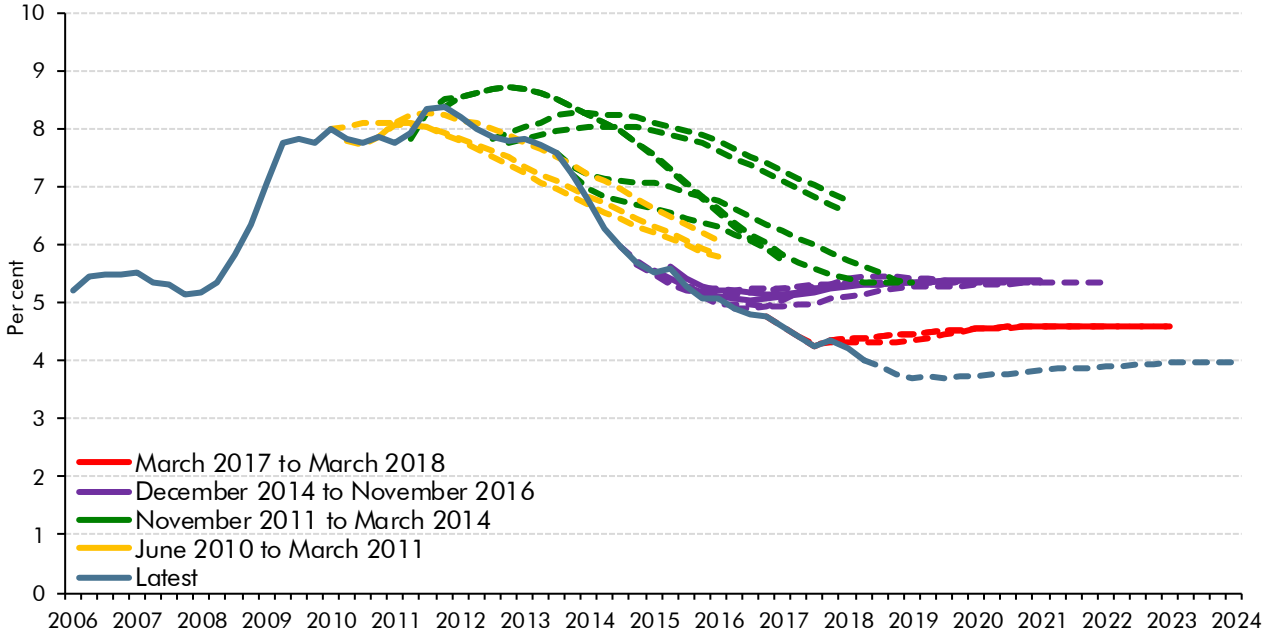
spending 66 per cent of nominal GDP by expenditure. Wages and income of the self-employed make up 70 per cent of household income, so developments in the labour market are a key driver of the household sector.

Labour market

3.69 The unemployment rate fell to 4 per cent of the labour force in the second quarter, continuing the downward trend since late 2011. That was the lowest rate since 1975. We expect it to fall a little further to 3.7 per cent by the start of next year, before stabilising and then edging up towards its equilibrium rate, reaching 4 per cent in 2023.

3.70 Chart 3.19 shows that in our first few forecasts after the OBR was created in 2010, we expected the unemployment rate to stabilise in the near term, before starting to fall the following year. It did stabilise, but then remained at a similar level until late 2013. In our forecasts between late 2011 and early 2014, when the unemployment rate was still elevated, we expected it to decline only slowly, but it fell much more quickly than we expected. Since late 2014, with the unemployment rate much lower, we have consistently forecast that it would stabilise at our estimate of its equilibrium. Between late 2014 and late 2016 we judged that the equilibrium rate was around 5½ per cent, and then in early 2017 we revised it down to around 4½ per cent, as the unemployment rate continued to fall with little acceleration in pay growth. The unemployment rate has continued to fall more than we expected and is now 4 per cent. But it cannot continue to fall indefinitely without inflationary pressures at some point. As discussed in paragraph 3.12, we have revised our estimate of the equilibrium unemployment rate down to 4 per cent in this forecast.

Chart 3.19: Successive forecasts for the unemployment rate



Source: ONS, OBR

3.71 The latest data showed a rise in the participation rate in the first quarter of 2018, which was then mostly reversed in the second quarter. This brings it broadly into line with our estimate of its underlying equilibrium. The rate is expected to remain broadly flat over the next few years, before declining over the rest of the forecast period as the share of older people in the population rises. The 0.9 million increase in employment over the forecast is therefore more than accounted for by population growth.

3.72 Since 2000, the number of self-employed workers has risen more rapidly than the number of employees, taking it from 12 to 15 per cent of total employment. This probably reflects a desire for more flexible working patterns as well as tax advantages of self-employment, although the rate of increase has slowed slightly in recent years. We expect the broad trend to continue, with the share of the self-employed in total employment rising by 0.1 percentage points a year over the forecast period.

3.73 Average hours worked per week fell back from 32.2 to 31.9 in the second half of last year. Given past volatility in the data, and the lack of economic justification for a sustained fall at this point in the economic cycle, in March we expected that to be quickly reversed. But average hours have since remained around the same level through the first half of 2018, so – while we still expect them to rise over the forecast – we now expect them to do so more slowly, and to reach a slightly lower trend level than we expected in March.

Average earnings

3.74 Rather than utilising the official ONS measure of average weekly earnings (AWE), our forecast uses an implicit measure constructed by dividing the National Accounts measure of wages and salaries by the number of employees. This allows us to fit the earnings forecast directly into the National Accounts framework on which our economy forecast is based – and, in particular, the measure of wages and salaries that is an important determinant of tax receipts. According to that measure, annual earnings growth was 2.4 per cent in the year to the second quarter. We expect earnings to grow by 2.6 per cent in 2018 as a whole.

3.75 Wage growth is then projected to ease slightly in 2019, partly reflecting the temporary effects of previously announced government policies, the most significant of which are the introduction of the apprenticeship levy and the continued rolling out of auto-enrolment into workplace pensions. We assume that the burden of these interventions is ultimately borne by workers, with wages lower than would otherwise be the case. Some of these effects will already be reflected in the outturn data, but a significant portion is assumed to occur in the second half of 2018 and 2019 as the contribution rates under auto-enrolment rise significantly. In the case of auto-enrolment, we have increased the assumed impact on earnings, because the latest estimates suggest that some employers have been making contributions below the lower earnings limit and some have contributed at fully phased in rates before they were required to. Our forecast for general government paybills reflects recent announcements by Pay Review Bodies related, for example, to NHS employees, teachers and civil servants. The increased spending on the NHS is expected to result in more workers as opposed to higher pay, which is discussed further in paragraph 3.106.

3.76 From 2020 onwards, average earnings growth rises gradually, reaching 3.2 per cent in the final year of the forecast, reflecting the modest pick-up in productivity growth in those years. Throughout the forecast period, average earnings growth remains well below the rates typical before the financial crisis.

Box 3.3: National Living Wage

Alongside the Budget the Government expressed its aspiration to end low pay, noting the definition used by the OECD, which corresponds to two-thirds of median earnings. In the coming months, it intends to consult on the remit for the Low Pay Commission, bearing in mind the potential impact on employment and economic growth. (The current policy is for it to rise to 60 per cent of median hourly earnings by 2020.) As such, this policy is not yet firm enough for us to incorporate into our central forecast. Nevertheless, we can draw on previous analysis – set out in our July 2015 *Economic and fiscal outlook*, when the National Living Wage was first introduced – to illustrate the potential effect on the economy and public finances of setting a NLW of two-thirds median earnings.

In that forecast, we assumed that those earning below the NLW in the initial earnings distribution – roughly 16 per cent of workers – would earn that amount after its implementation, but that some workers earning above the NLW would also benefit, as employers would maintain some of the initial earnings differentials to recruit and retain personnel. We assumed that this 'spillover' effect would be smaller further up the earnings distribution, becoming negligible beyond the 25th percentile or, equivalently, at a wage 40 per cent above the NLW. We also assumed a similar spillover effect for workers under 25, including those earning less than the NLW.

It is likely that some employers will respond to an increase in paybill by reducing employment. We assumed in July 2015 that total hours worked would fall by 0.4 per cent for every 1 per cent increase in employer costs, with half of that passed through to numbers in employment and the other half reflected in average hours worked.

We can use this same analytical framework to estimate the potential effects of a further increase in the NLW. In doing so, we make two adjustments to our assumptions in July 2015:

- A NLW set at two-thirds of median earnings would directly affect the wages of the bottom quarter of workers, a significantly greater proportion than previously. As before, we assume there are also **spillover effects** to those earning close to, but above, the new NLW. But the bell-shaped nature of the earnings distribution means that there will be many more such workers. If we retain our earlier assumption that spillovers apply to those with hourly earnings up to 40 per cent above the new NLW,[a] then around half of the work force would be subject to some spillover effect.
- Consistent with our earlier analysis, there is limited evidence that previous increases in the National Minimum Wage and NLW have had a significant impact on **employment**.[b] In part, that is because some low-wage workers have little choice who to work for and their employers can exploit their market power to keep wages low. This may be less relevant further up the wage distribution. In addition, firms may be more likely to change their production methods when labour costs have risen substantially. So we would expect the responsiveness of firms' demand for labour to its cost to be somewhat higher than in our

original analysis. We have therefore assumed that as the NLW increases beyond 60 per cent, the responsiveness of total hours worked rises gradually to a fall of 0.5 per cent for every 1 per cent increase in pay.

Using these assumptions, we estimate that a rise in the NLW to two-thirds of median earnings would raise the unemployment rate by 0.4 percentage points in the 'target' year. In today's terms that corresponds to a rise in unemployment of around 140,000, plus an equivalent reduction in hours for those remaining in employment. Average hours would be 0.4 per cent lower and real GDP 0.2 per cent lower than they otherwise would have been.

There is a high degree of uncertainty around these estimates, which we will revisit if and when more specific details of the policy are confirmed. But an increase to two-thirds of median earnings would put the NLW above that in most other countries, so there would be few international precedents to draw on. Moreover, while the NLW so far seems to have had only modest effects on aggregate employment, there has been clearer evidence of an impact in particular sectors, such as social care, where labour is a large share of costs and a high proportion of workers are affected.[c] Further rises in the NLW could therefore create particular pressures in specific industries.

To calculate the fiscal effects of a further increase, we would again use the same framework as in July 2015. We discussed the main channels by which the public finances would be affected in paragraph B.28 of that *EFO*. As well as effects on total hours worked, the change in the shape of the earnings distribution would be particularly important for welfare spending. Entitlement for some benefits relates to household rather than individual income, so it would be important to consider the effect on that distribution too. This is relevant because many workers on the NLW are second earners in their household. We have not estimated the potential fiscal impact of this latest intention, but the net effect is likely to be relatively modest.

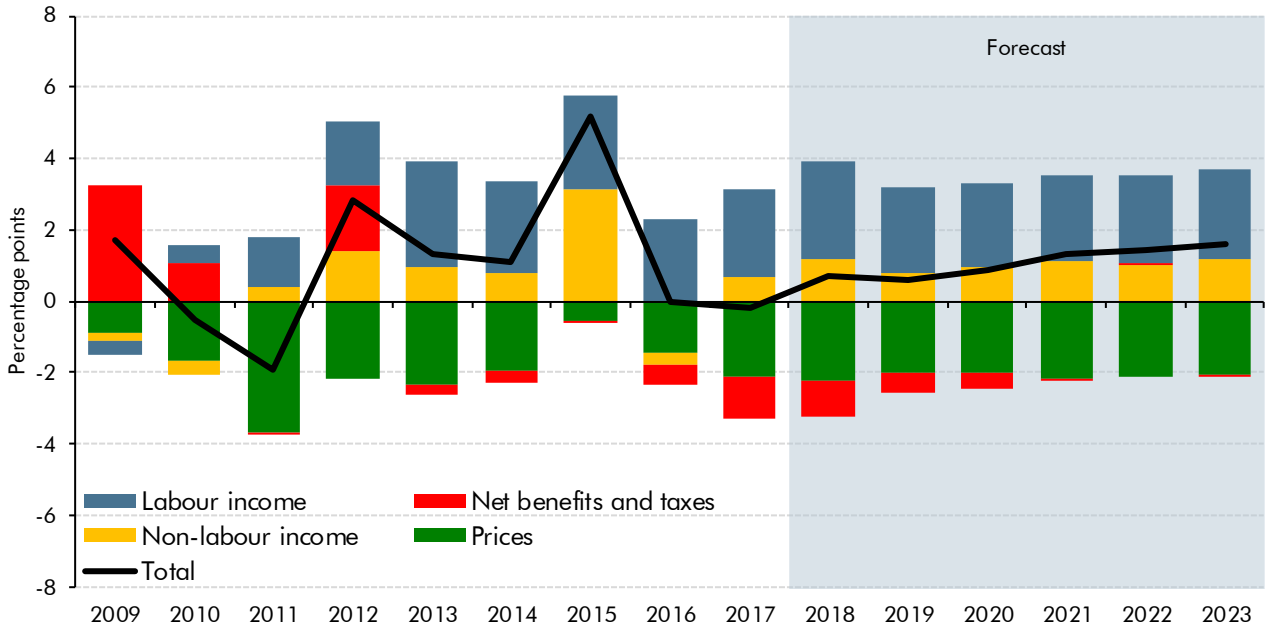
[a] This is consistent with the findings in Butcher, Dickens and Manning (2012), *Minimum wages and wage inequality: some theory and an application to the UK*, CEP discussion paper no. 1177, which we also used to calibrate the size of the spillover effects in our July 2015 *EFO*.
[b] The impact of the NLW on employment and hours is discussed in *National Miniumum Wage*, The Low Pay Commission Report 2017.
[c] For more detail see *More than a minimum: the review of the minimum wage*, Professor Sir George Bain, March 2014.

Household disposable income

3.77 Real household disposable income fell by 0.2 per cent in 2017, as the National Accounts measure of earnings growth remained below consumer price inflation. The April 2016 increase in dividend taxation acted as a further drag on household disposable income growth, as the tax is paid and recorded in the National Accounts a year in arrears.

3.78 We expect real household disposable income growth to strengthen in 2018, as average earnings growth picks up, CPI inflation eases, and unemployment continues to fall. It is expected to grow at a similar rate in 2019, as slowing employment growth is offset by a further fall in CPI inflation. Thereafter gradual increases in nominal earnings growth support a modest increase in real income growth. The freeze in most working-age benefits and tax credits, together with fiscal drag in the income tax system, weighs on household income growth in most years (Chart 3.20).

Chart 3.20: Contributions to real household income growth



Source: ONS, OBR

3.79 We expect relatively weak growth in per capita real earnings and real disposable incomes. Table 3.5 sets out our forecast of real household disposable income per person and its components. In 2019, real per capita disposable income growth is flat, despite a positive contribution from labour income, and is expected to grow by only 0.3 per cent in 2020. This largely reflects **net taxes and benefits**, which reduce household income growth, particularly up to 2020 during which most working-age welfare payments are frozen in cash terms. Fiscal drag in the income tax system also weighs on household income growth. The contribution of **other non-labour income** is boosted in 2018 by the shifting of dividend income between years in response to pre-announced changes in the dividend tax rate. Other elements of income are expected to rise gradually as nominal GDP growth picks up.

Table 3.5: Per capita real earnings and real incomes

	Forecast, annual percentage change					
	2018	2019	2020	2021	2022	2023
Real disposable income per capita	**0.1**	**0.0**	**0.3**	**0.8**	**0.9**	**1.1**
of which:						
Labour income[1,2]	0.7	0.5	0.5	0.5	0.6	0.7
Net taxes and benefits[2]	-1.1	-0.6	-0.5	-0.1	0.0	-0.1
Other non-labour income[2]	0.5	0.1	0.3	0.4	0.3	0.5

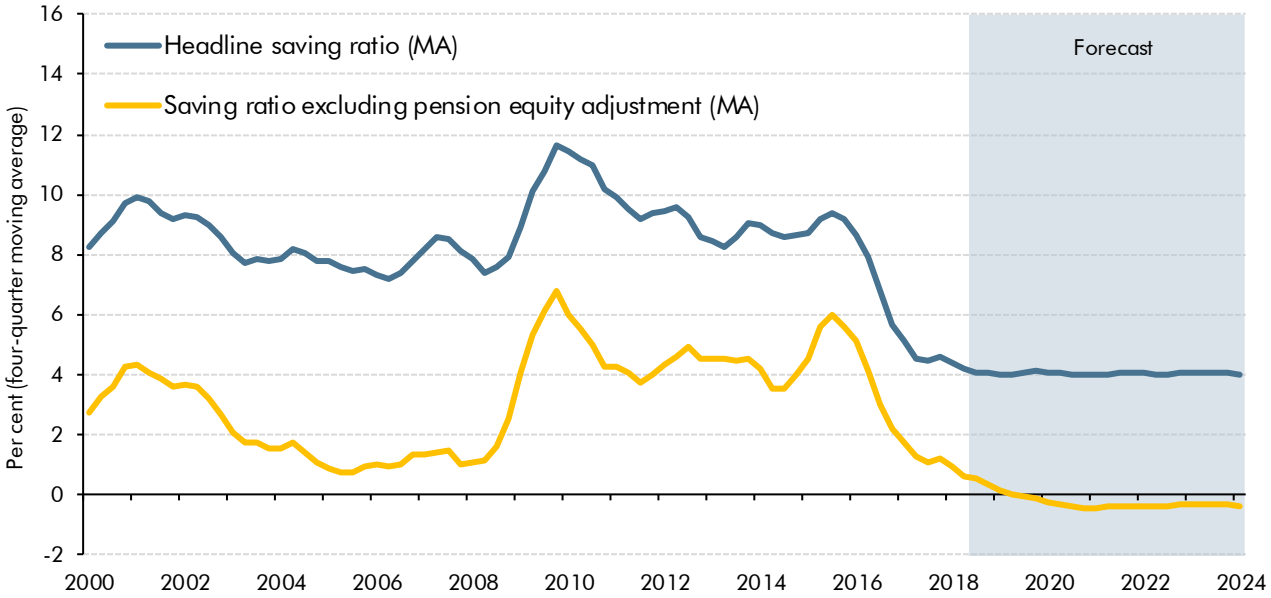
[1] Employee compensation (including net compensation from abroad) plus mixed income *less* employer social contributions.
[2] Per capita basis, deflated by consumption deflator.

Real consumer spending and saving

3.80 When forming our judgement about the prospective path of the saving ratio, we generally focus on a measure that excludes pension contributions (the yellow line in Chart 3.21), as the bulk of these – such as employers' contributions – are often largely invisible to the

employee. Auto-enrolment in workplace pensions may, however, make workers more aware of their own saving towards a pension and the contributions of their employer and of the Government. They may therefore be more likely to take them into account when making spending decisions. As the employer and government contributions are not part of household disposable income, but do contribute to the headline saving ratio, the headline ratio flattens out in the near term while the adjusted ratio continues falling until 2020.

Chart 3.21: The household saving ratio



Note: Both series show four-quarter moving averages. The estimate of the saving ratio excluding the pension equity adjustment is calculated as household disposable income less consumption, as a proportion of household disposable income.
Source: ONS, OBR

3.81 The saving ratio cannot decline indefinitely. So, over the medium term, we assume that the saving ratio stabilises and that consumption thereafter grows in line with disposable income. From 2021, we expect quarterly real consumption growth to edge higher as lower inflation and faster productivity growth boost real income growth. But alternative outcomes represent a key risk to the outlook. Our forecast of the saving ratio is around 1½ percentage points lower than our March forecast, although this revision is accounted for by the effect of the latest outturns, which serve as the starting point for our forecast. Box 3.4 discusses our forecast of the saving ratio and household debt in further detail.

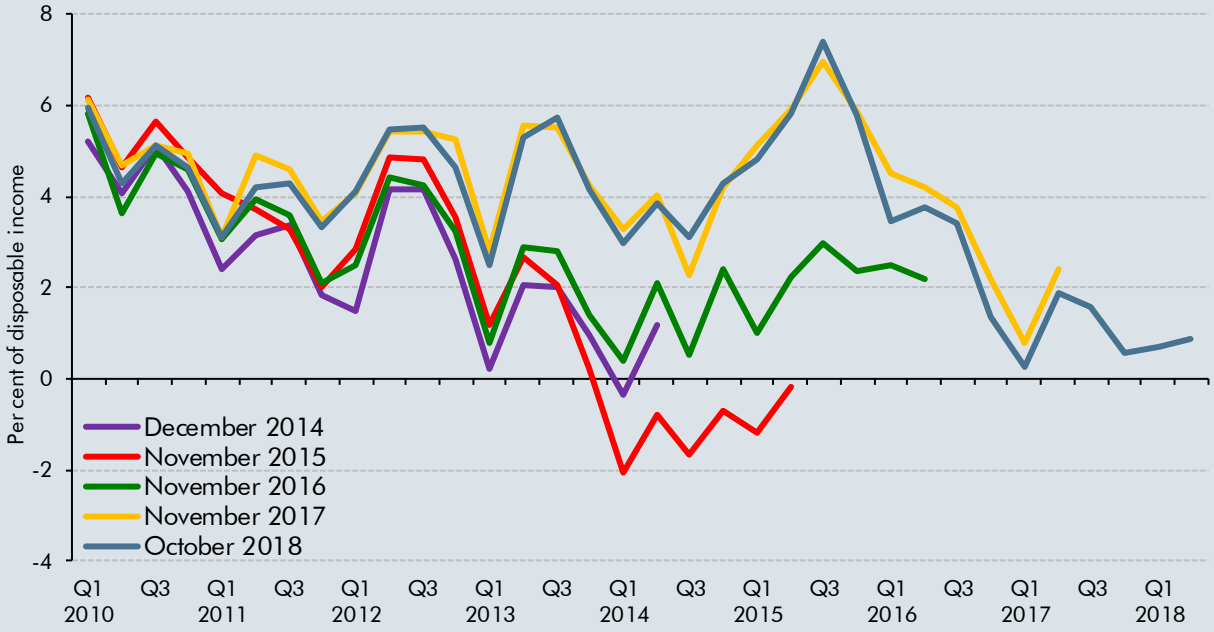
Box 3.4: Household saving and debt

The household saving ratio is forecast to reach 4 per cent per cent by 2023. This would be slightly above the quarterly low of 3.4 per cent in the first quarter of 2017, when the ratio was distorted by the temporary effects of an increase in dividend tax on household disposable income. If pension contributions – a less visible part of household income – are excluded, the adjusted household saving ratio is expected to turn negative next year (see Chart 3.21). We also expect unsecured debt to rise steadily as a share of household income.

This does not mean that our growth forecast is dependent on a large and unsustainable increase in consumption, nor that it is financed by a significant expansion in consumer credit:

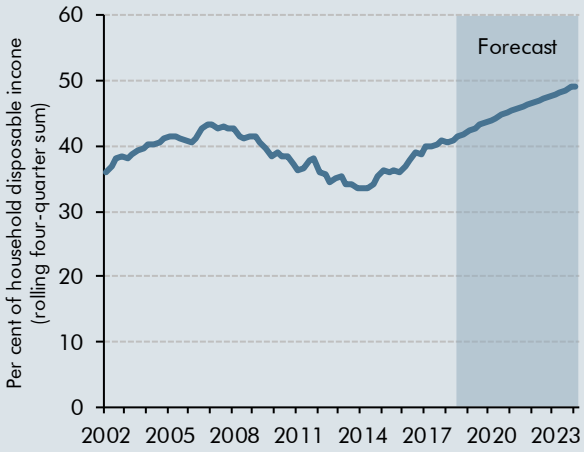
- Recent **estimates of the saving ratio have been subject to frequent revision**. Chart B shows the outturn saving ratio estimates (excluding pension contributions) available to us at the time of each of our autumn forecasts since 2014. Early estimates have been revised substantially over this period. For example, the data available to us at the time of our November 2015 forecast implied that the saving ratio was negative in 2014 and 2015 but subsequent vintages indicated a much stronger position than originally thought. The latest data show a positive saving ratio of 5.3 per cent in the first half of 2015, compared to an initial estimate of minus 0.7 per cent. Further upward revisions followed between November 2016 and November 2017, primarily due to higher estimates of household income.[a] The tendency for recent estimates of the saving ratio to be revised means that it is often more informative to look at the change in the saving ratio over the forecast, rather than the level in isolation;
- We expect unsecured debt to rise steadily as a share of household disposable income (Chart C), but **only just over a third of unsecured debt relates to consumer credit**. Credit card debt accounts for just over 10 per cent of total unsecured debt and has remained relatively stable as share of household income (Chart D). A small but growing share of unsecured debt is made up of student loan debt, with a large but stable 'other' element making up the remainder (partly the liabilities of the Non-Profit Institutions Serving Households sector). As discussed in our July 2018 *Fiscal sustainability report,* student loans are likely to continue to rise as a share of the stock of unsecured debt. Total interest payments on debt – both secured and unsecured – are expected to remain subdued over the forecast period, reaching just over 5 per cent of household disposable income by 2023. This is well below the pre-crisis peak of just under 10 per cent.

Chart B: Estimates of the saving ratio available at successive forecasts



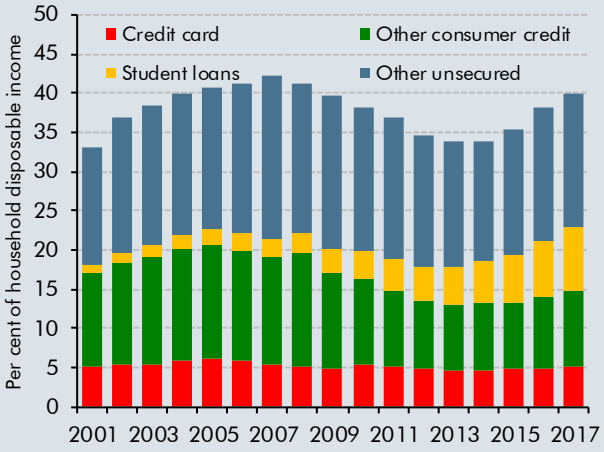
Note: Saving ratio excluding pension equity adjustment.
Source: ONS

Chart C: Unsecured debt to income



Source: ONS, OBR

Chart D: Unsecured debt by component



Source: Bank of England, ONS

[a] See Box 2.1 of our 2017 *Forecast evaluation report* for further discussion.

The housing market and residential investment

3.82 House price inflation slowed in the first half of 2018 – reaching 3.6 per cent on an annual basis in the second quarter, down from 4.7 per cent in the final quarter of 2017. This was much lower than the 7.0 per cent average recorded in 2016.

3.83 Our forecast for the second half of 2018 draws on a variety of indicators of housing market activity, including survey information from the Royal Institution of Chartered Surveyors (RICS)

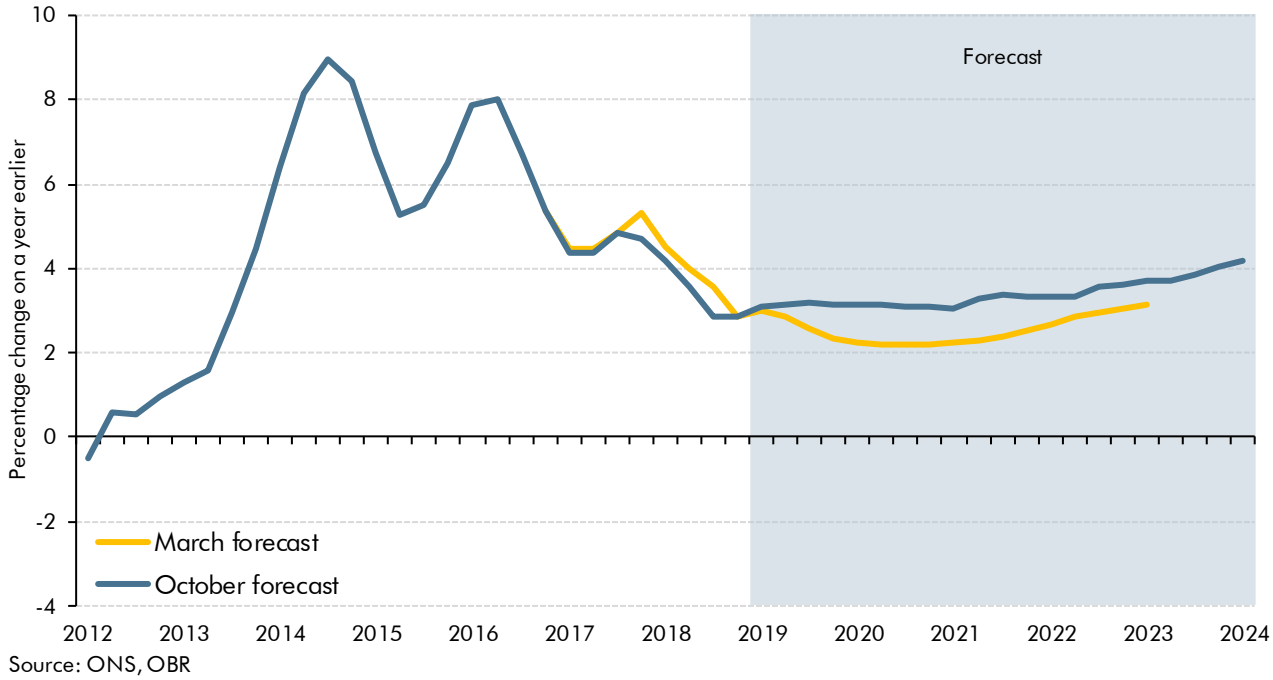
and mortgage data from the Bank of England. Most are consistent with a stabilising housing market. Moreover, the major lenders' measures – which are timelier than the ONS measure – have levelled out recently. Annual house price inflation in the three months to September was 2.0 per cent on the Halifax measure and 2.5 per cent on the Nationwide measure. Consistent with these measures, we expect annual house price inflation to slow only a little further to around 3 per cent in the second half of 2018.

3.84 Income growth is the main influence on house prices in the medium term, as this drives the demand for housing while supply generally rises only relatively slowly. We expect house price inflation to be relatively stable at around 3 per cent in 2019 and 2020, as a slight rise in real income growth is offset by a gradual pick up in interest rates (Chart 3.22). From 2021, higher real income growth drives a modest pick-up in house price inflation, reaching around 4 per cent by the end of the forecast horizon.

3.85 The slowdown in house price inflation in the first half of 2018 was slightly more marked than we expected in March. But we expect it to be somewhat higher than projected in March over the forecast period, reflecting stronger employment and average earnings growth. Overall, we expect house prices to rise by almost 17 per cent between the second quarter of 2018 and the first quarter of 2023. That compares with around 13 per cent in March.

3.86 Since the recovery in house prices began in 2012, the ratio of house prices to annual earnings has risen by about 20 per cent, returning to near its pre-crisis peak of 7.3 times annual incomes. We expect that ratio to be fairly stable over the forecast period.

Chart 3.22: House price inflation forecast



Source: ONS, OBR

3.87 Residential property transactions in the second quarter of 2018 were approximately 10,500 lower than we expected in March. Transactions have been declining gradually since the first quarter of 2017. Over the medium term, we assume that transactions will increase gradually to a level consistent with the housing stock turning over once every 22 years – the average turnover rate before the pre-crisis housing boom, adjusted for policy changes.

3.88 Real residential investment rose by 8.1 per cent in 2017, down from 9.4 per cent in 2016. Residential investment continued to slow in the first half of 2018, reaching an annual rate of 6.3 per cent. Housebuilding is expected to slow in the near term, reflecting subdued turnover in the housing market and modestly higher interest rates. Housebuilding is then expected to rise as housing market turnover picks up. Housing improvements are also expected to slow in the near term thanks to the recent weakness in real wages, before picking up as real earnings growth rises. Towards the end of our forecast period, residential investment is expected to grow slightly faster than real GDP, as interest rates remain low.

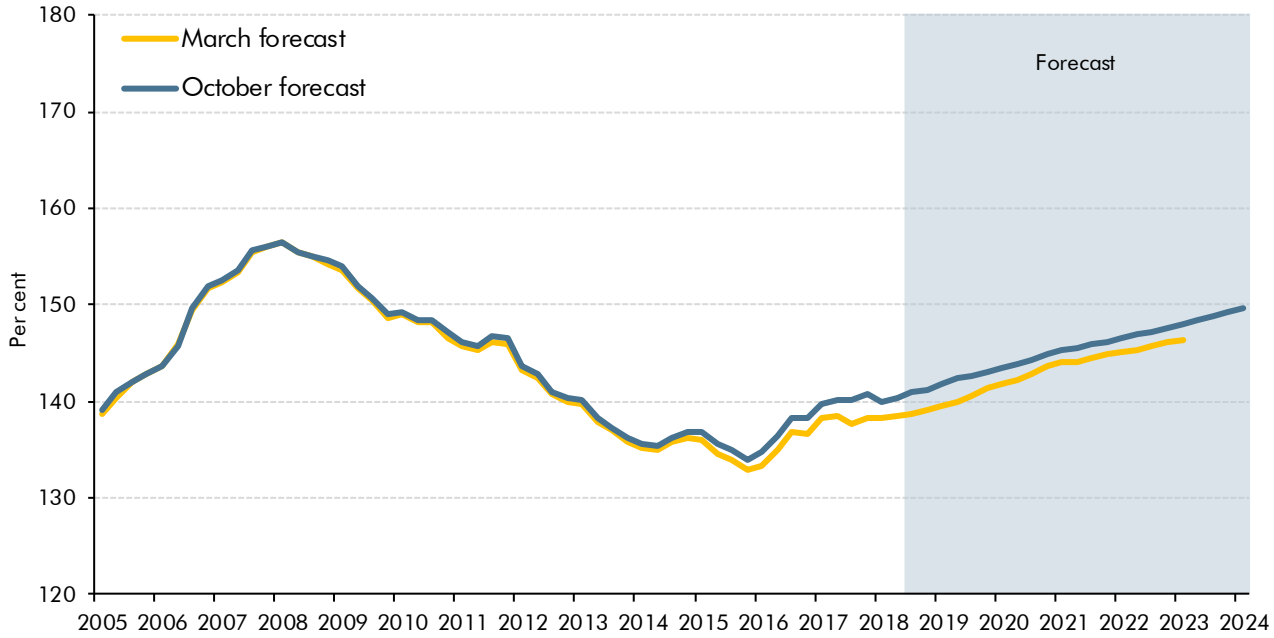
Household net lending and balance sheets

3.89 Our forecast for the household balance sheet is built up from the accumulation of assets and liabilities, constrained to be consistent with our forecast for households' net lending.

3.90 The ratio of household debt to income has risen steadily since the start of 2016, following a period of deleveraging after the financial crisis. We expect the ratio of household debt to income to continue to rise steadily but to remain below its 2008 peak, with the ratio reaching just under 150 per cent by the start of 2024. We expect the ratio of mortgage debt to income to remain roughly flat reflecting relatively weak growth in house prices and a broadly stable loan-to-value ratio. Unsecured debt is expected to rise as consumption growth outpaces that of disposable income – although it is worth noting that only a small part of unsecured debt is accounted for by consumer credit (see Box 3.4).

3.91 Our forecast for the household debt-to-income ratio is higher than in March (Chart 3.23). This partly reflects recent data releases, with the level of unsecured debt in the first half of 2018 stronger than that implied by our March forecast. We have also revised up our forecast of the accumulation of unsecured debt, consistent with a stronger outlook for consumption growth and a lower path for unemployment. The accumulation of secured debt over the forecast period is somewhat weaker than in our March forecast, consistent with a weaker path for transactions. Table 3.6 decomposes these changes.

Chart 3.23: Household gross debt to income



Source: ONS, OBR

Table 3.6: Sources of change to the household debt forecast since March

	Per cent of household disposable income[1]				
	2018	2019	2020	2021	2022
March forecast	139.1	141.3	143.6	144.9	146.0
October forecast	141.2	143.1	144.8	146.2	147.7
Change (percentage points)	**2.0**	**1.7**	**1.2**	**1.3**	**1.6**
of which:					
Change in household debt	0.5	0.6	0.6	0.9	1.3
Change in household disposable income[2]	1.5	1.2	0.6	0.4	0.3
	£ billion[3]				
March forecast	1968	2045	2129	2219	2315
October forecast	1975	2053	2139	2233	2335
Change	**7**	**8**	**10**	**14**	**20**
of which:					
Revision to starting point	21	21	21	21	21
Revision to accumulation of secured debt	-13	-21	-26	-28	-29
Revision to accumulation of unsecured debt	-1	8	15	21	29

[1] Level of household debt in fourth quarter of calendar year divided by household disposable income in calendar year.
[2] Positive values indicate a downward revision to household disposable income.
[3] Level of household debt in fourth quarter of calendar year.

The corporate sector

3.92 The corporate sector contributes to the expenditure measure of GDP through business investment and stockbuilding and to the income measure in the form of profits. In contrast to consumer spending, much corporate spending is tax-deductible, while corporate profits are also taxed less heavily than most forms of household income.

Corporate profits

3.93 Non-oil PNFC profit growth fell from 6.7 per cent in 2016 to 3.1 per cent in 2017, and the latest data shows it has remained around this slower rate, averaging 3.5 per cent on a year earlier in the first two quarters. We expect profits to grow by 2.8 per cent in 2019, down slightly from our March forecast. From 2020, we expect profits to remain broadly stable as a share of nominal GDP. Our forecast is slightly stronger than in March from 2021, consistent with upward revisions to our forecast of nominal GDP growth.

Business investment and stockbuilding

3.94 The latest data suggest business investment fell in both the first two quarters of this year. In March, business investment appeared to have held up somewhat better than might have been expected since the EU referendum. The latest data tell a rather different story – a risk we regularly flag in *EFOs* because of the volatility and revision-prone nature of the business investment data. Business investment has risen by 1.9 per cent in the two years since the referendum, compared to 2.8 per cent in the preceding two years. And, given that the investment share tends to be pro-cyclical, the dampening effect of the referendum is likely to exceed the 0.9 percentage points difference between those two figures.[13]

3.95 There was little change to our pre-measures forecast beyond the near-term effects of the revisions described above. We have adjusted our post-measures forecast to reflect three business tax measures introduced in this Budget. These increase the level of business investment by around 0.4 per cent by the end of the forecast. Some of the additional government spending announced at this Budget is expected to increase competition for resources, reducing business investment towards the end of the forecast period.

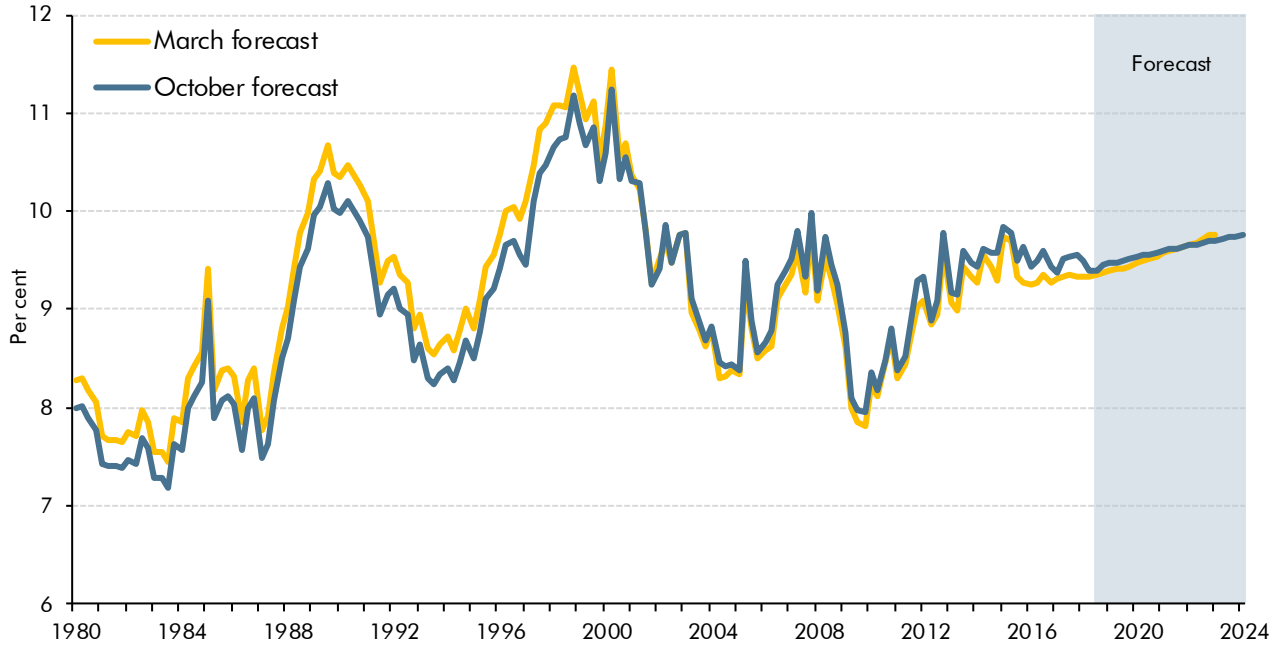
3.96 Chart 3.24 shows that we expect a modest rise in business investment as a share of real GDP over the forecast period – less than would be typical at this stage of an economic cycle. This is in part because we assume that investment will continue to be dampened by uncertainty regarding Brexit. Such uncertainty makes firms wary of investment projects that might prove difficult or expensive to reverse if outcomes disappoint. A successful deal with the EU should resolve some of the uncertainty and support investment in the near term. However, there is likely to remain a considerable degree of uncertainty for a while beyond that, so any investment pick-up is likely to be limited. We recently published a paper setting out how we expect to approach the task of making forecasts and projections in this environment.[14]

3.97 Adaptation to the post-EU trading regime will probably require some reallocation of resources within the economy. After Brexit, businesses in import-competing industries that are now more profitable may invest more. But against that, firms in some exporting industries will be likely to scrap capital that has now become unprofitable to operate. So, although gross investment may rise after Brexit, net investment may remain broadly unaffected, implying little net impact on productivity growth.

[13] Bank of England analysis of their Decision Markers Panel Survey suggested that nominal business investment growth has been 3 to 4 percentage points lower than it otherwise would have been over this period as result of the referendum. Bank of England, *Agents' summary of business conditions and results from the Decision Maker Panel Survey*, 2018Q2

[14] For more information, see OBR, *Brexit and the OBR's forecasts*, 2018.

Chart 3.24: Real business investment as a share of real GDP



Source: ONS, OBR

3.98 Stockbuilding has acted as a slight drag on growth in the last three years, after boosting it in the preceding three. We expect it to be broadly neutral across the forecast period.

The government sector

3.99 Total public spending amounted to 39 per cent of GDP in 2017-18.[15] But barely half contributes directly to GDP. Spending on welfare payments and debt interest, for example, merely transfers income from some individuals to others. And spending by public corporations is in the corporate sector. The government sector contributes directly to GDP only through its supply of goods and services. In terms of expenditure, government consumption and investment accounted for 21 per cent of GDP in 2017-18.

Government consumption

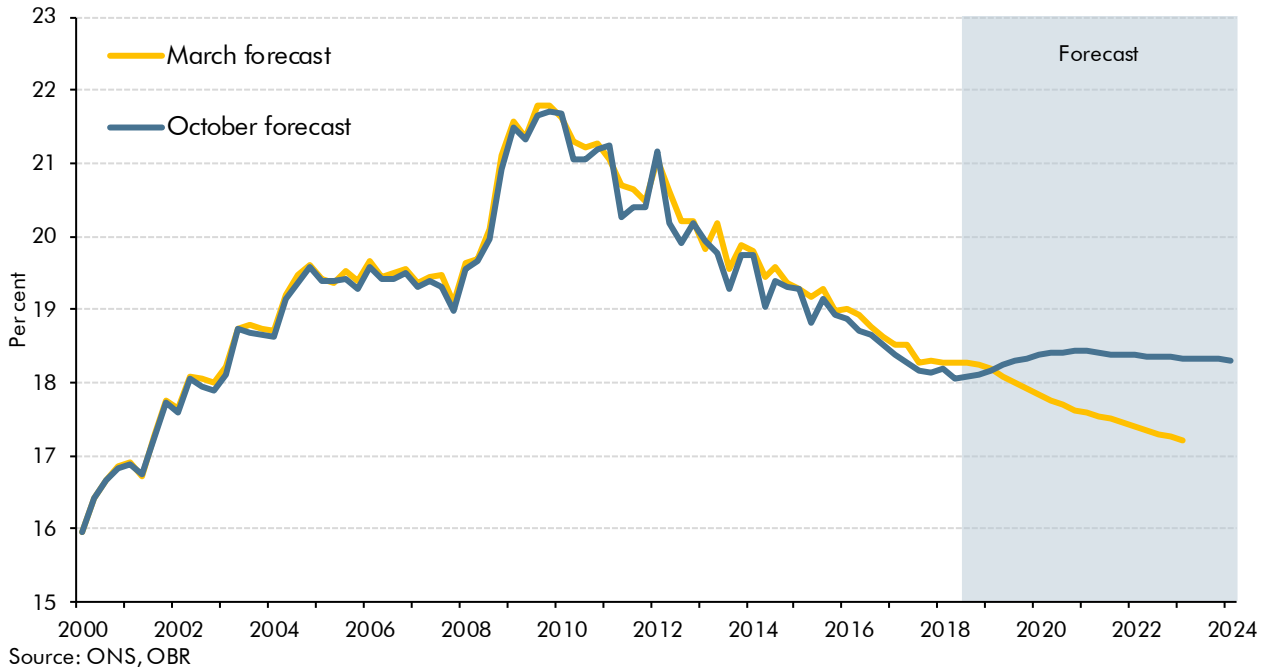
3.100 Nominal government consumption grew by 1.3 per cent in 2017, down from 1.9 per cent in 2016. Outturn data and the Government's fiscal plans imply that it should grow by around 2.4 per cent in 2018. Growth is expected to pick up in the subsequent two years, reaching over 4 per cent in 2019 and 2020, before slowing slightly to 3.3 per cent on average between 2021 and 2023.

3.101 The large increase in NHS spending in this Budget means that this path is much changed since March. We had expected nominal government consumption to fall from 18.2 per cent of GDP in 2017 to 17.3 per cent of GDP in 2022 – the lowest since 2001. Now, it is expected to end the forecast slightly higher as share of GDP than it started (Chart 3.25).

[15] Total managed expenditure (TME).

3.102 Real government consumption fell by 0.1 per cent in 2017, down from 0.8 per cent in 2016. In light of the way in which the ONS measures government consumption, for any given forecast for nominal spending growth, we assume that roughly half will be reflected in real spending growth and half in the implicit deflator.[16] On this basis, real government consumption growth is expected to be 1.0 per cent in 2018, to pick up to a little above 2 per cent in 2019 and 2020, and then to fall back to around 1.6 per cent in 2023.

Chart 3.25: Nominal general government consumption as a share of nominal GDP



Source: ONS, OBR

Government investment

3.103 Nominal government investment grew by 3.7 per cent in 2017, up from 2.2 per cent in 2016. Outturn data and the Government's fiscal plans imply that it should be broadly flat in 2018 before accelerating sharply to over 11 per cent in 2019 and 7 per cent in 2020. The fiscal plans then imply a slowdown to 2.7 per cent on average between 2021 and 2023. As with government consumption, we assume that, for any given forecast for nominal growth, roughly half will be reflected in real growth and half in the deflator.

General government employment

3.104 In the absence of specific workforce plans, we project general government employment based on some simple assumptions. We begin by assuming that the total paybill will grow in line with a relevant measure of current government spending. We then forecast government sector wage growth separately, taking account of recent data, stated government policy and whole economy earnings growth. We then combine the two to derive an implied projection for general government employment.

[16] See Box 3.3. of the March 2016 *EFO*.

3.105 Since the Government's announcement in September 2017 that the 1 per cent cap on public sector pay rises would be lifted in 2018-19, we have assumed that general government earnings growth will rise gradually from its lower starting point towards the private sector average by 2020.

3.106 In this Budget, the Government has increased Resource Department Expenditure Limit (RDEL) spending on the NHS, which we expect to lead to higher general government employment, as opposed to higher wages. As a result, we now expect general government employment to rise by a cumulative 150,000 between the second quarter of 2018 and the first quarter of 2023, compared with a fall of 250,000 in March. Despite this rise, our forecast still implies that government employment will be 140,000 lower by the end of our forecast than in early 2011, substantially less than the expected rise in market sector employment, which is just over 4 million.[17]

The external sector

3.107 The external sector contributes to the expenditure measure of GDP through net trade. Other income flows into, and out of, the UK also have fiscal implications. For example, the UK's contribution to the EU budget is partly based on gross national income, which includes an adjustment for the net income earned by the UK on overseas assets. These income flows are captured as part of the current account.

The impact of the EU referendum result on trade flows

3.108 As explained in paragraph 3.5, the sharp depreciation of sterling following the referendum appears to have provided less of a boost to net trade than even the modest amount that we expected. The depreciation has resulted in a large rise in sterling export prices which has boosted exporters' profitability. But they have been reluctant to expand production to take advantage of this, presumably due to uncertainty around the future trading relationship with the EU. Resolution of this uncertainty could boost exports in the near-term, but the effect would likely be outweighed by the effect of increased barriers on trade with the EU.

3.109 Our broad-brush assumptions regarding the size of the Brexit effect on trade flows is unchanged from our recent forecasts. We assume that leaving the EU will result in a lower trade intensity of UK economic activity. We have not made any assumptions in respect of the specific arrangements in place after the UK leaves the EU, since there is still no meaningful basis on which to predict the eventual outcome of the negotiations and the trading arrangements with other countries. Instead, we calibrated the trade effect of leaving the EU by averaging the results of three major external studies.[18] We assume that the full effect will take a decade to be felt and that it will reduce exports and imports symmetrically so that the effect on net trade will be broadly neutral.

[17] These estimates exclude a classification change introduced in the second quarter of 2012, which moved around 196,000 employees from the public to the private sector. Further details about the assumptions for public sector wages and employment can be found in the supplementary economy tables available on our website.

[18] Specifically, we have taken the average estimated effect from studies by NIESR (*The long-term economic impact of leaving the EU*, National Institute Economic Review no. 236, May 2016), the OECD (*The economic consequences of Brexit: A taxing decision*, OECD policy paper no. 16, April 2016) and LSE/CEP (*The consequences of Brexit for UK trade and living standards*, March 2016). These represent a subset of the many studies that were presented before the referendum.

3.110 One change we have made in this forecast is the inclusion of a transition period, as provided for in the draft Withdrawal Agreement published in March.[19] If confirmed, the trading relationship between the UK and the rest of the EU will remain as it is now until the end of 2020. The transition period delays the reduction in trade intensity we have assumed in our previous forecasts, but has no impact on our forecasts for net trade or GDP growth. We have made these adjustments through our forecasts for export market share – the portion of trading partner imports met by UK exports – and import penetration – the share of UK domestic demand met by imports (Chart 3.26 and 3.27).

Chart 3.26: UK export market share

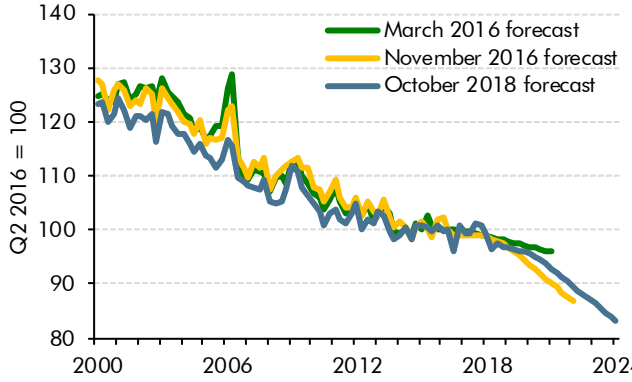
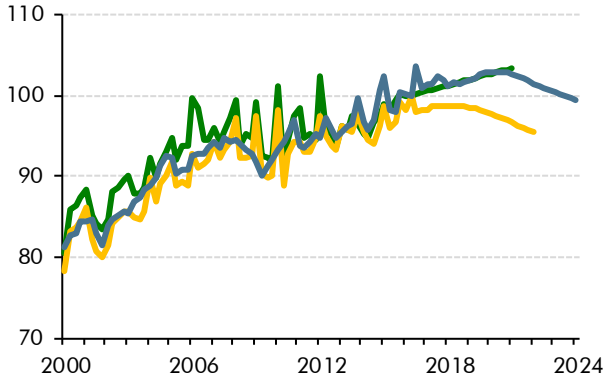


Chart 3.27: UK import penetration ratio



Note: UK export share defined as exports divided by UK export markets, where exports series have been adjusted to account for the effect of VAT Missing Trader Intra Community (MTIC) fraud, although there is uncertainty around MTIC data prior to 2007.
Source: OECD, ONS, OBR

3.111 In our analysis of the impact of Brexit on productivity and potential output, we have so far focused on short-run effects. Our November 2016 adjustment was predicated largely on heightened policy uncertainty weakening business investment. But over time, impediments to the exploitation of comparative advantage are likely to loom larger, leading to a lower path for potential output. There is general agreement in the literature about the likely broad size of this 'static' effect on GDP, although there is less agreement about the time that it will take to transition to the new path for potential output.

3.112 On top of these static effects, studies suggest that barriers to trade – and to migration and foreign direct investment – are likely to have adverse dynamic effects. These persistent effects on the growth of potential output could arise by impeding technology transfer and slowing innovation and technological progress. There is little consensus on the size of such effects and they are likely to interact. So rather than quantify them individually we would probably take them into account in a broad-brush fashion in our top-down judgements on productivity and potential output. We will make these as we get more detail about the future relationship between the UK and the EU and as our forecast horizon moves forward.[20]

[19] European Commission, *Draft Agreement on the withdrawal of the United Kingdom of Great Britain and Northern Ireland from the European Union and the European Atomic Energy Community*, 2018.
[20] For more information, see OBR, *Brexit and the OBR's forecasts*, 2018.

Net trade

3.113 Export volumes grew by 5.7 per cent in 2017, significantly more than the 1 per cent seen the previous year. The rise was partly due to faster growth in the UK's main trading partners. Import volumes increased by 3.2 per cent in 2017, down slightly from 3.3 per cent in 2016. Net trade is estimated to have increased GDP growth by 0.7 percentage points in 2017, having reduced it by the same amount in 2016. The trade data are extremely volatile, prone to large revisions and currently not accorded National Statistic status, so it is unwise to place too much weight on any particular vintage of data.

Box 3.5: UK exports as a share of GDP

UK nominal exports were 30 per cent of nominal GDP in 2017, which is high by historical standards. The exports-to-GDP ratio was relatively stable at around 25 per cent between 1995 and 2007. The ratio increased in 2008 before falling after 2011 and increasing again in 2016, reflecting exchange rate movements among other things. We forecast that the ratio will fall back again, dropping to 27 per cent by 2023 (Chart E).[a]

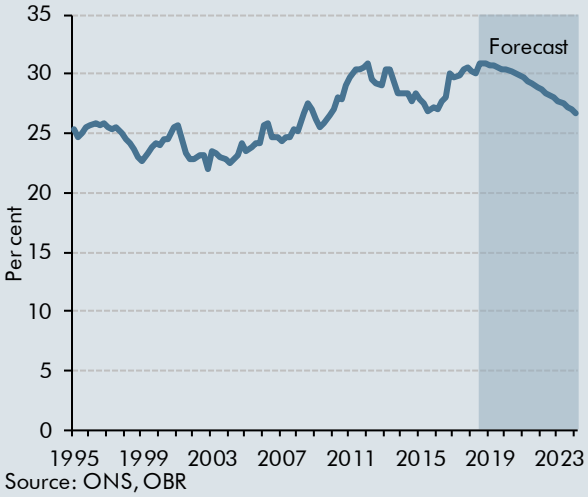
Changes in the exports-to-GDP ratio can be broken down into several components. It depends on movements in export prices relative to the GDP deflator, and on growth in real exports and real GDP growth. Real exports growth, in turn, will either be driven by trade growth in the UK's export markets or changes in the UK's share of the trade that takes place in those markets. Chart F shows how each of these components has driven changes in the ratio since 1995.

Increases in sterling export prices relative to the GDP deflator, following large depreciations in sterling, have been the key driver of the rise of the exports-to-GDP ratio in two episodes since 1995. For example, the ratio has risen by 2.8 percentage points (1.4 percentage points per year) since 2015. Around two-thirds of this (1.0 percentage point per year) was driven by an increase in export prices relative to the GDP deflator, which had in contrast reduced the ratio between 2011 and 2015 by 0.8 percentage points per year. UK export market growth has also made a positive contribution to the ratio since 2015 but this is partly offset by real GDP growth. In our forecast we expect UK export markets to grow, but the UK's share of those export markets to fall. We also expect export prices to rise less quickly than the GDP deflator. Together with our forecast for real GDP growth, this means that overall we expect the exports-to-GDP ratio to fall.

In August the Government announced an ambition to increase the UK's exports to 35 per cent of GDP, but has not specified the date by which it believes that this can be achieved. The Government's previous aspiration was to increase exports to £1 trillion by 2020 – our forecast suggests that this will be missed by £320 billion. The Government is not on course to meet its current ambition in our forecast, with exports needing to be £190 billion higher in 2023 (with GDP unchanged). The Government has only limited control over the drivers of export growth, but it could be assumed that their ambition reflects a desire to increase UK export market share. If so, that share would need to be 28 per cent higher in 2023 than in our forecast, which would be its highest level since 2006. This would require the UK's export market share, which has been on a long-term downward trend, to grow by 1.4 per cent per year on average compared to a fall of

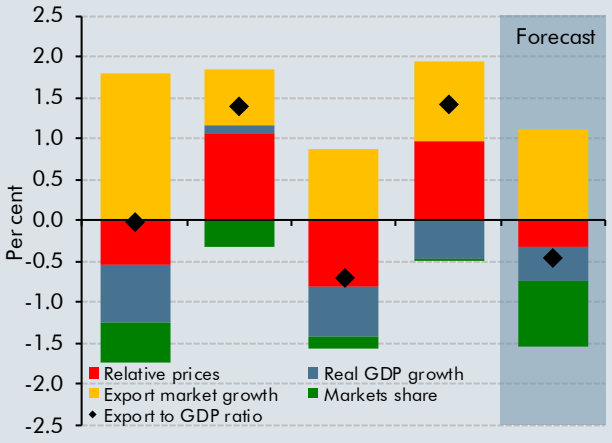
2.7 per cent in our forecast. Given historical movements, a further significant depreciation in sterling would be a more likely route by which this ambition could be met.

Chart E: Nominal exports as a share of nominal GDP



Source: ONS, OBR

Chart F: Average annual change in the ratio of nominal exports to nominal GDP



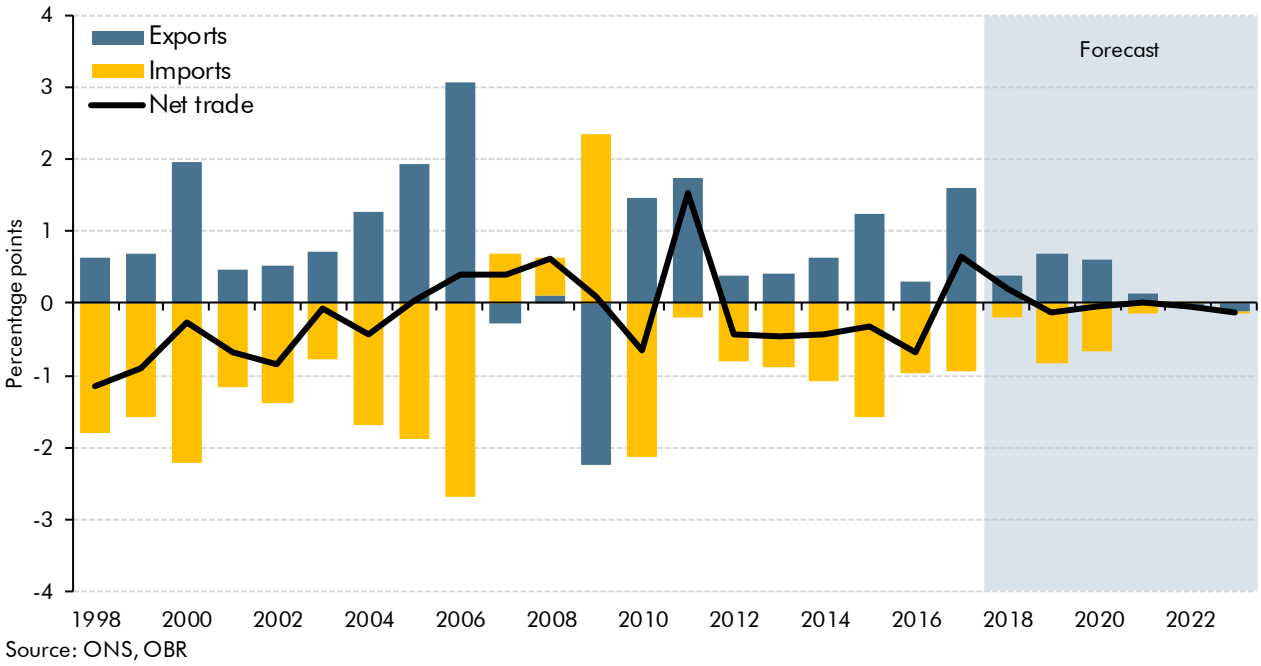
Source: OECD, ONS, OBR

[a] Export figures exclude Missing Trader Intra Community fraud

3.114 Outturn data suggest export growth will slow significantly in 2018 as a whole, as the effect of the depreciation of sterling fades. We expect growth of 1.4 per cent in 2018. As noted earlier, we now assume a Brexit transition period until the end of 2020 – which has led us to revise up exports over this period by an average of around 1 per cent. They flatten off and begin to fall slightly from 2022 as growth in UK export markets eases and Brexit weighs on the UK's export market share.

3.115 We expect import growth to slow in 2018, based on recent outturns and easing growth in import-weighted domestic demand. It then picks up, with the assumed Brexit transition period delaying the fall in import penetration, before slowing to close to zero between 2021 and 2023. With export growth slowing less sharply than import growth, we expect a small positive contribution of net trade to GDP growth of 0.2 percentage points in 2018, and a zero, or slightly negative, contribution thereafter (Chart 3.28). The net trade contribution is 0.7 percentage points lower across 2018 to 2022 than in March.

Chart 3.28: Net trade contributions to real GDP

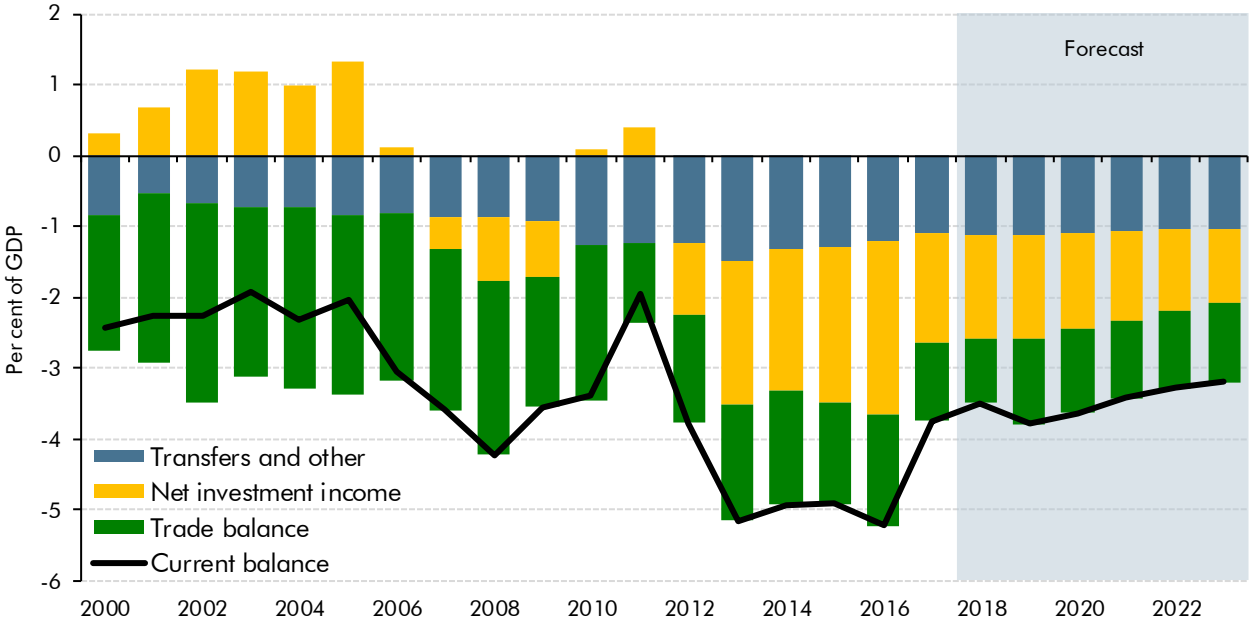


Source: ONS, OBR

The current account

3.116 The latest ONS data indicate that the trade deficit was 1.1 per cent of GDP in 2017 – a somewhat smaller deficit than the 1.7 per cent of GDP suggested by the data at the time of our March forecast. The latest quarterly estimates indicate that the trade deficit averaged 0.9 per cent in the first half of 2018. We expect the trade balance to be stable over the forecast period, consistent with a broadly neutral net trade contribution to GDP growth. Relative to our March forecast, we expect a slightly narrower trade deficit, as some of the strength in the data in the first half of 2018 is expected to persist.

Chart 3.29: Current account balance



Source: ONS, OBR

3.117 Having briefly returned to surplus in 2010 and 2011, the net investment income balance moved back into deficit in 2012 and widened steadily up to 2016. It narrowed somewhat in 2017, supported by an improvement in the rate of return and the deprecation of sterling, which increased the sterling value of income earned on the UK's foreign-currency assets. The latest data suggest that the income deficit averaged just under 1½ per cent of GDP in the first half of this year, broadly in line with 2017, although early estimates can be volatile and subject to large revisions. As GDP growth in the rest of the world outpaces the UK we expect some improvement in the income balance, although it is expected to remain in deficit throughout the forecast period. Some of the factors behind the recent deterioration in the balance should prove temporary – for example, the effects of weak euro-area growth on foreign earnings and large foreign fines and compensation paid recently by UK firms.

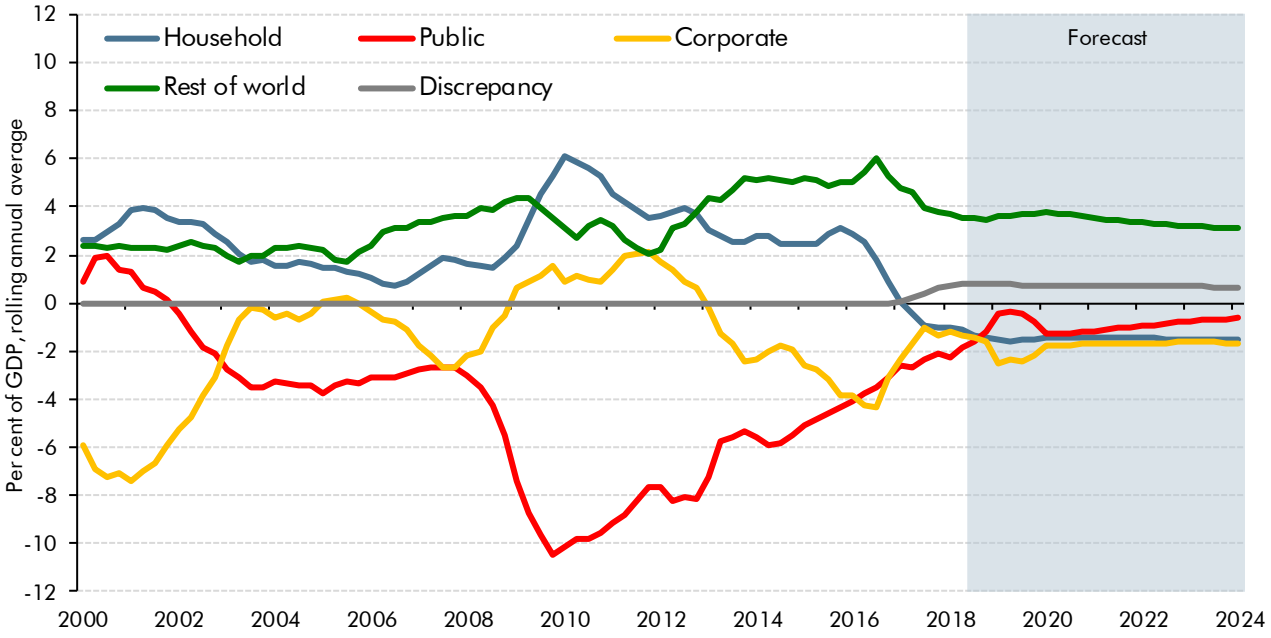
Table 3.7: Change to the current account since March

	£ billion					
	Outturn	Forecast				
	2017	2018	2019	2020	2021	2022
March forecast	-96.8	-92.5	-86.2	-82.2	-83.7	-85.2
October forecast	-76.5	-73.5	-82.5	-81.9	-79.9	-79.0
Change	**20.3**	**19.0**	**3.6**	**0.3**	**3.8**	**6.1**
of which:						
Trade balance	10.9	12.3	0.9	-0.3	1.5	2.2
Volumes	13.9	8.4	-0.7	-2.7	-1.7	-1.9
Prices	-3.0	3.9	1.6	2.4	3.2	4.1
Investment income balance	11.2	6.6	1.6	0.0	2.0	3.5
Transfers and other	-1.8	0.1	1.1	0.6	0.3	0.4

Sectoral net lending

3.118 In the National Accounts framework that underpins our economy forecast, the income and expenditure of the different sectors of the economy imply a path for each sector's net lending to, or borrowing from, the others. In principle, these sum to zero – for each pound borrowed, there must be a pound lent. In practice, ONS estimates of sector net lending do not sum precisely to zero, reflecting differences between the income and expenditure measures of GDP (the 'statistical discrepancy'). Our standard practice is to assume that this difference remains broadly flat over the forecast period.

Chart 3.30: Sectoral net lending



Source: ONS, OBR

3.119 In the first half of 2018, the public, household and corporate sectors were reported to be in deficit while the rest of the world was in surplus (Chart 3.30). We expect the public sector deficit to narrow, offset by a small narrowing in the rest of the world surplus (i.e. a narrowing current account deficit). The corporate and household sector deficits are expected to remain broadly stable. The general profile of sector net lending is broadly unchanged from our March forecast, although the household sector is in deficit, rather than close to balance. This largely reflects the effects of recent data, which indicate a wider household deficit in 2017 and early 2018 than estimates and our forecasts suggested in March.

Risks and uncertainties

3.120 As always, we emphasise the many risks and uncertainties surrounding our central forecast. Some are common to all forecasts: conditioning assumptions may prove invalid; there may be unexpected shocks; and behavioural relationships may change.

3.121 Specific risks at the present juncture include:

- The outlook for **productivity growth** remains hugely uncertain. Over the next few years, we still expect some recovery from the weak growth seen since the financial crisis. But that may not arise, or may take longer to do so, so productivity could surprise on the downside. Alternatively, productivity could surprise on the upside if, for example, business investment growth is stronger than we expect. We explored the consequences of each of these risks crystallising in chapter 5 of the November 2017 *EFO*.

- Before and after the UK's exit from the EU, **policies and regimes will evolve to supplant those associated with EU membership**. These changes, and the response of

households and businesses, are subject to great uncertainty. Our forecasts to date have assumed that the negotiations between the UK and the EU lead to an orderly transition to a new long-term relationship, whatever that relationship might be. In this forecast we have explicitly included a transition period – where the trading relationship between the UK and the rest of the EU remains as it is now – until the end of 2020. This implies reaching a Withdrawal Agreement before the UK is due to leave the EU at 11pm on 29 March 2019. But if an agreement is not reached in time, it could have a severe short-term impact on demand and supply in the economy. It is next to impossible to calibrate this sort of scenario because of the lack of precedent.[21]

- We condition our forecasts on several assumptions, including Bank Rate moving in line with market expectations. However, market participants are unlikely to have fully anticipated the extent of the discretionary fiscal loosening in this Budget. Market participants are also probably basing their expectations on a non-zero probability of a disorderly transition to the future relationship between the EU and the UK, whereas our central forecast assumes an orderly transition. As market participants receive more information about these factors, **interest rate expectations could move significantly** which would have consequences for output and inflation

- The **household saving** ratio has fallen sharply in recent years as consumption has outpaced income growth. We expect the household saving ratio to remain low but stable across our forecast. Households may instead want to increase saving by cutting back on consumption by more than we expect. If the economy were subject to an adverse shock this could trigger a significant upward adjustment to the saving ratio, greatly amplifying the extent of the slowdown.

- There may be less labour market slack than we assume, for example if the **equilibrium unemployment rate** is higher than the level we have revised it down to. In this event, **wages** might pick up more strongly than we expect. The Bank of England's wage growth forecast is stronger than ours (see paragraph 3.124).

- There has been an increase in **global trade tensions** since our last forecast, with the US imposing tariffs on aluminium, steel and other imports – mainly from China – with some retaliatory measures. More generally, the IMF believes that the medium-term risks to the global economy are increasingly skewed to the downside. It notes that the possibility of positive surprises has fallen, given receding growth momentum and tightening financial conditions. And the risks it has flagged previously have started to emerge – such as escalating trade disputes and capital flows out of emerging economies such as Argentina and Turkey. We explore the potential impact of an increase in of global protectionism in Chapter 5.

- The **current account deficit** as a share of GDP remains large by historical standards and only a modest narrowing is expected over the forecast period. Overseas investors are consequently significant net lenders to the UK, which could pose risks if their

[21] For more information, see OBR Discussion paper, *Brexit and the OBR's forecasts*, 2018.

confidence in the UK economy were to be damaged by uncertainty regarding the economic and political outlook – including if there were a disorderly Brexit. That could lead to a sharp fall in sterling, bringing about a more abrupt demand-led narrowing of the current account deficit and a subsequent spike in inflation. It is worth noting that, while the current account deficit remains large, the UK's net international investment liabilities are only modest as a share of GDP, mitigating this risk somewhat.

- In the 63 years for which the ONS has published consistent quarterly real GDP data, there have been seven recessions – suggesting that the chance of a **recession** in any five-year period is around one in two.[22] So the probability of a cyclical downturn occurring sometime over our forecast horizon is fairly high. Despite Bank Rate rising to 0.75 per cent in August, interest rates remain near their **effective lower bound**. So, if the UK were to be subject to a significant fall in demand, any monetary policy response would have to rely largely on unconventional policies, such as asset purchases, whose impact remains somewhat uncertain.

Comparison with external forecasters

3.122 In this section, we compare our latest projections with those of selected outside forecasters. The differences between our forecast and those of external forecasters are generally small compared with the uncertainty that surrounds any one of them.

Comparison with the Bank of England's *Inflation Report* forecast

3.123 Alongside its August 2018 *Inflation Report*, the Bank of England published additional information about its forecast that can be compared against our own (Table 3.8). This included the Bank staff's forecasts for the expenditure composition of GDP, consistent with the MPC's central forecasts for GDP, CPI inflation and the unemployment rate.

3.124 Broadly speaking, the Bank is more optimistic regarding the UK's near-term economic prospects, in terms of both supply and demand. The MPC's modal forecast for GDP growth is 1.6 per cent in 2018, then 1.8 per cent in 2019 and 1.7 per cent in 2020, an average of 0.2 percentage points a year higher than our central forecast, although revised down slightly from their February projection. This is largely driven by the Bank's stronger profile for growth in output per hour. The Bank expect a similar rate of unemployment but are noticeably more optimistic on average earnings growth – both in absolute terms and relative to productivity. This implies more upward pressure on unit labour costs and domestic inflation.

[22] See Chapter 3 our 2017 *Fiscal risks report* for more details.

Table 3.8: Comparison with the Bank of England's forecast and projections

	Per cent		
	2018	2019	2020
Bank of England August *Inflation Report* forecast[1]			
Household consumption	1¼	1	1¼
Business investment	1¾	3¾	4
Housing investment[2,3]	2½	1½	½
Exports	¾	2¼	1¾
Imports	½	1	1
Employment[4]	1¼	½	½
Unemployment rate[5]	3.9	3.9	3.9
Productivity[6]	1	1¼	1¼
Average weekly earnings[3,4]	2½	3¼	3½
Difference from OBR forecast			
Household consumption	0.0	-0.2	0.1
Business investment	1.2	1.5	1.9
Exports	-0.6	-0.1	-0.3
Imports	-0.1	-1.7	-1.2
Employment[4]	-0.1	-0.1	0.1
Unemployment rate[5]	0.1	0.2	0.1
Productivity[6]	0.2	0.4	0.4
Average weekly earnings[3,4]	0.5	0.7	0.6

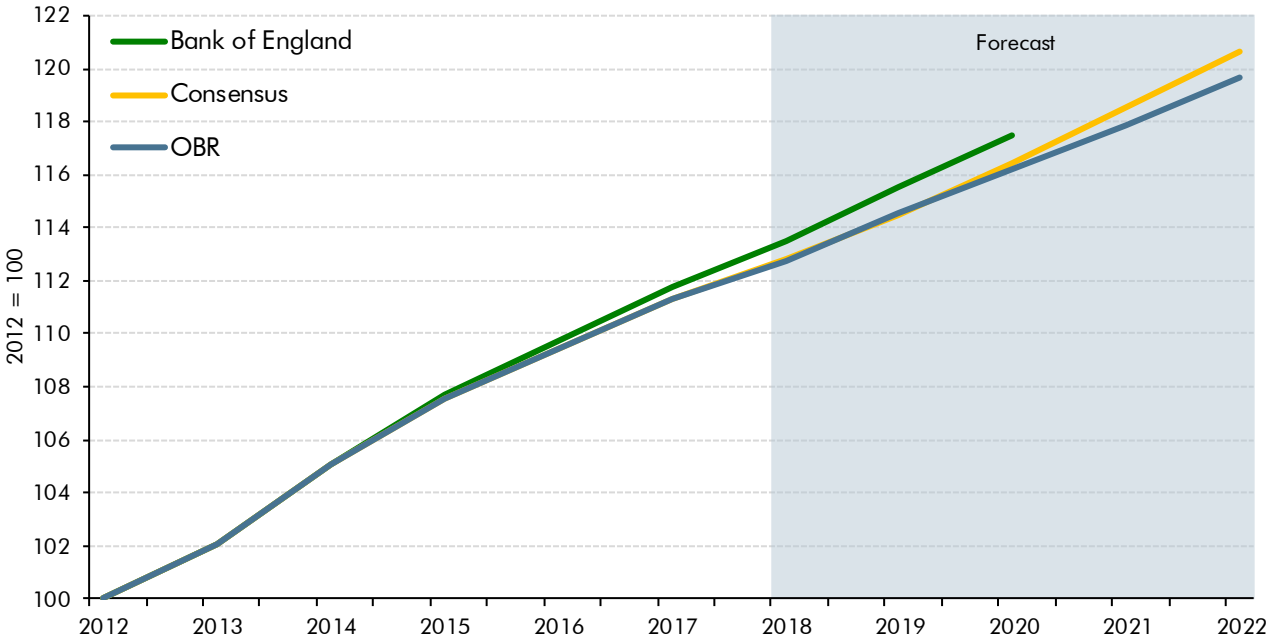
[1] Percentage change, year on year, unless otherwise stated.
[2] Whole economy measure. Includes transfer costs of non-produced assets.
[3] The housing investment and average weekly earnings measures we use are not directly comparable to the Bank of England's.
[4] Four-quarter growth rate in Q4.
[5] LFS unemployment rate in Q4.
[6] Output per hour.

3.125 In terms of the expenditure composition of GDP, the Bank expects similar growth in household consumption, but notably stronger business investment, particularly in 2019 and 2020. It also expects a slightly larger contribution from net trade to GDP growth particularly after 2018, mainly due to weaker import growth.

Comparison with other external forecasters

3.126 Chart 3.31 compares our forecast for the level of GDP with other forecasters. The Bank's forecast for the level of GDP is somewhat higher than the average external forecast. This reflects the higher starting point implied by the Bank's 'backcast' of GDP, as well as the stronger forecast. Our GDP forecast is somewhat weaker than the average external forecast over the medium term, which is likely to reflect our lower forecast for productivity growth. Table 3.9 presents a range of external forecasts.

Chart 3.31: Comparison of forecasts for the level of GDP projections



Source: Bank of England, HM Treasury, ONS, OBR

Table 3.9: Comparison with external forecasts

	Per cent				
	2018	2019	2020	2021	2022
OBR (October 2018)					
GDP growth	1.3	1.6	1.4	1.4	1.5
CPI inflation	2.6	2.0	2.0	2.1	2.1
Output gap	0.2	0.3	0.2	0.1	0.1
Oxford Economics (August 2018)					
GDP growth	1.3	1.4	2.0	2.2	2.1
CPI inflation[3]	2.4	1.8	1.6	1.7	1.8
Output gap	-1.4	-1.4	-1.2	-0.9	-0.5
Bank of England (August 2018)[1,2]					
GDP growth (mode)	1.6	1.8	1.7		
CPI inflation (mode)[3]	2.3	2.2	2.0		
European Commission (July 2018)					
GDP growth	1.3	1.2			
CPI inflation	2.6	2.0			
Output gap[4]	0.7	0.4			
NIESR (August 2018)[1]					
GDP growth	1.4	1.7	1.7	1.7	1.8
CPI inflation	2.3	1.9	2.0	2.0	2.0
OECD (May 2018)					
GDP growth[5]	1.4	1.3			
CPI inflation	2.6	2.2			
Output gap	0.5	0.4			
IMF (October 2018)					
GDP growth	1.4	1.5	1.5	1.6	1.6
CPI inflation	2.5	2.2	2.0	2.0	2.0
Output gap	0.0	0.0	0.0	0.0	0.0

[1] Output gap not published.

[2] Forecast based on market interest rates and the Bank of England's 'backcast' for GDP growth.

[3] Fourth quarter year-on-year growth rate.

[4] The European Commission did not update its output gap estimates in its Summer 2018 Interim Economic Forecast. Output gap numbers are from the Spring 2018 Economic Forecast, published in May.

[5] The OECD has since published its October 2018 Interim Economic Outlook. For the UK, GDP growth was revised down by 0.1 percentage points in both 2018 and 2019 (to 1.3 and 1.2 per cent respectively).

Table 3.10: Detailed summary of forecast

	Percentage change on a year earlier, unless otherwise stated						
	Outturn	Forecast					
	2017	2018	2019	2020	2021	2022	2023
UK economy							
Gross domestic product (GDP)	1.7	1.3	1.6	1.4	1.4	1.5	1.6
GDP per capita	1.1	0.6	1.0	0.9	0.9	1.0	1.1
GDP level (2017=100)	100.0	101.3	102.9	104.4	105.9	107.4	109.1
Nominal GDP	3.8	3.2	3.4	3.4	3.4	3.4	3.5
Output gap (per cent of potential output)	0.0	0.2	0.3	0.2	0.1	0.1	0.1
Expenditure components of GDP							
Domestic demand	1.2	1.1	1.7	1.5	1.4	1.5	1.7
Household consumption[1]	1.8	1.3	1.2	1.2	1.3	1.4	1.5
General government consumption	-0.1	1.0	2.1	2.0	1.7	1.6	1.6
Fixed investment	3.3	1.0	2.9	1.8	1.8	1.9	2.0
Business	1.8	0.5	2.3	2.1	2.1	2.1	2.2
General government[2]	1.7	-0.2	5.7	3.3	1.8	0.9	1.4
Private dwellings[2]	8.1	7.0	3.0	-0.1	0.8	2.3	1.9
Change in inventories[3]	-0.5	-0.2	0.1	0.0	0.0	0.0	0.0
Exports of goods and services	5.7	1.4	2.4	2.1	0.5	-0.2	-0.3
Imports of goods and services	3.2	0.6	2.7	2.2	0.4	-0.1	0.1
Balance of payments current account							
Per cent of GDP	-3.7	-3.5	-3.8	-3.6	-3.4	-3.3	-3.2
Inflation							
CPI	2.7	2.6	2.0	2.0	2.1	2.1	2.0
RPI	3.6	3.5	3.1	3.1	3.2	3.1	3.1
GDP deflator at market prices	2.1	1.9	1.7	1.9	1.9	1.9	1.9
Labour market							
Employment (millions)	32.1	32.4	32.7	32.9	33.0	33.1	33.2
Productivity per hour	0.8	0.8	0.8	0.9	1.0	1.1	1.2
Wages and salaries	3.9	4.1	3.2	3.2	3.2	3.3	3.4
Average earnings[4]	2.7	2.6	2.5	2.8	3.0	3.1	3.2
LFS unemployment (% rate)	4.4	4.0	3.7	3.8	3.9	3.9	4.0
Household sector							
Real household disposable income	-0.2	0.7	0.6	0.9	1.3	1.4	1.6
Saving ratio (level, per cent)	4.5	4.0	4.0	4.0	4.0	4.0	4.0
House prices	4.6	3.4	3.1	3.1	3.3	3.5	3.8
World economy							
World GDP at purchasing power parity	3.7	3.7	3.7	3.7	3.6	3.6	3.6
Euro area GDP	2.5	2.0	1.9	1.7	1.6	1.5	1.4
World trade in goods and services	5.0	4.2	4.0	4.1	3.9	3.8	3.6
UK export markets[5]	4.6	4.1	3.7	3.9	3.8	3.5	3.4

[1] Includes households and non-profit institutions serving households.

[2] Includes transfer costs of non-produced assets.

[3] Contribution to GDP growth, percentage points.

[4] Wages and salaries divided by employees.

[5] Other countries' imports of goods and services weighted according to the importance of those countries in the UK's total exports.

Table 3.11: Detailed summary of changes to the forecast

	Percentage change on a year earlier, unless otherwise stated					
	Outturn	Forecast				
	2017	2018	2019	2020	2021	2022
UK economy						
Gross domestic product (GDP)	0.0	-0.3	0.4	0.1	0.1	0.0
GDP per capita	0.0	-0.3	0.4	0.1	0.1	0.0
GDP level (2017=100)[1]	0.0	-0.3	0.1	0.2	0.3	0.3
Nominal GDP	0.0	0.1	0.5	0.4	0.3	0.1
Output gap (per cent of potential output)	-0.1	-0.1	0.2	0.2	0.1	0.1
Expenditure components of GDP						
Domestic demand	-0.3	0.0	0.8	0.2	0.0	0.1
Household consumption[2]	0.1	0.4	0.4	0.1	-0.1	0.0
General government consumption	-0.4	-0.1	1.3	1.4	0.7	0.5
Fixed investment	-0.6	-0.8	1.4	-0.6	-0.1	-0.1
Business	-0.5	-1.1	0.3	-0.1	-0.4	-0.4
General government[3]	-1.8	-2.3	3.6	-2.8	0.8	-0.3
Private dwellings[3]	0.3	4.7	2.7	-0.6	-0.5	0.5
Change in inventories[4]	-0.1	-0.2	0.1	0.0	0.0	0.0
Exports of goods and services	0.7	-1.9	0.4	1.8	0.6	-0.2
Imports of goods and services	-0.3	-0.9	1.8	2.0	0.4	-0.2
Balance of payments current account						
Per cent of GDP	1.0	0.9	0.2	0.1	0.2	0.3
Inflation						
CPI	0.0	0.1	0.2	0.0	0.1	0.1
RPI	0.0	-0.2	0.1	0.1	0.2	0.1
GDP deflator at market prices	0.0	0.3	0.2	0.3	0.2	0.1
Labour market						
Employment (millions)	0.0	0.2	0.3	0.4	0.4	0.4
Productivity per hour	0.2	0.0	-0.1	-0.2	-0.2	-0.1
Wages and salaries	0.1	0.7	0.5	0.5	0.3	0.2
Average earnings[5]	0.1	-0.2	0.1	0.3	0.2	0.2
LFS unemployment (% rate)	0.0	-0.4	-0.8	-0.8	-0.7	-0.7
Household sector						
Real household disposable income	-0.3	-0.5	0.2	0.4	0.0	0.0
Saving ratio (level, per cent)	-0.7	-1.7	-1.8	-1.5	-1.4	-1.3
House prices	-0.2	-0.4	0.5	0.9	0.9	0.6
World economy						
World GDP at purchasing power parity	0.0	-0.2	-0.2	0.0	0.0	-0.1
Euro area GDP	0.0	-0.3	-0.2	0.1	0.1	0.0
World trade in goods and services	0.1	-0.4	-0.4	0.2	0.2	0.0
UK export markets[6]	0.3	-0.4	-0.9	-0.1	0.1	-0.3

[1] Per cent change since March.

[2] Includes households and non-profit institutions serving households.

[3] Includes transfer costs of non-produced assets.

[4] Contribution to GDP growth, percentage points.

[5] Wages and salaries divided by employees.

[6] Other countries' imports of goods and services weighted according to the importance of those countries in the UK's total exports.

4 Fiscal outlook

Introduction

4.1 This chapter:

- specifies the assumptions that we have made in respect of **the UK's forthcoming exit from the EU** (from paragraph 4.4);
- sets out the key **economic and market determinants** that drive the fiscal forecast (from paragraph 4.7);
- explains the **effects of new policies** announced since March on the fiscal forecast (from paragraph 4.9);
- describes the **outlook for public sector receipts**, including a tax-by-tax analysis explaining how the forecasts have changed since March (from paragraph 4.27);
- portrays the **outlook for public sector expenditure**, focusing on spending covered by departmental expenditure limits and the components of annually managed expenditure, including those subject to the 'welfare cap' (from paragraph 4.94);
- presents the **outlook for the key fiscal deficit aggregates**, including headline and structural measures of the budget deficit (from paragraph 4.171);
- describes **the outlook for government lending to the private sector and other financial transactions**, including asset sales (from paragraph 4.189);
- shows **the outlook for key balance sheet aggregates**, such as public sector net debt (from paragraph 4.225);
- summarises **risks and uncertainties** (paragraph 4.254); and
- compares our forecasts to those of **international organisations** (from paragraph 4.257).

4.2 Further breakdowns of receipts and expenditure and other details of our forecast are provided in extensive supplementary tables on our website. The forecasts in this chapter start from the estimates of 2017-18 outturn data published by the Office for National Statistics (ONS) on 19 October. We then present an in-year estimate for 2018-19 that makes use of ONS outturn data for April 2018 to September 2018 and limited administrative tax data for

some of October. This did not extend as far as the peak days for large firms' October corporation tax payments. Finally, we present forecasts for 2019-20 to 2023-24.

4.3 As in previous *Economic and fiscal outlooks (EFOs)*, this fiscal forecast:

- **Represents our central view** of the path of the public finances, conditioned on the current policies and policy assumptions of the Government, including some broad-brush assumptions about future policy settings in respect of the UK's exit from the EU. On that basis, we believe that, in the absence of future policy or classification changes, the outturns would be as likely to be above the forecast as below it.

- Is **based on announced Government policy** on the indexation of rates, thresholds and allowances for taxes and benefits, and incorporates costings – not all of which we have been able to certify based on the information provided to us – for all new policy measures announced by the Chancellor in the Budget, along with policy changes announced since our last forecast in March and those that the Treasury chose not to include on the Budget scorecard. Thanks to the earlier than usual Budget, our pre-measures forecast was closed before the ONS had released the outturn for CPI inflation for September 2018 that will be used to uprate several tax thresholds and benefits in April 2019. The outturn was 0.2 percentage points lower than our forecast. The effect of incorporating this on our forecast would have been modest, as many benefits remain frozen in 2019-20 while next year's income tax thresholds have been set by Budget measures.

- **Focuses on official 'headline' fiscal aggregates** that exclude public sector banks.

Assumptions regarding the UK's exit from the EU

4.4 The OBR is required by legislation to produce its forecasts based on current government policy (but not necessarily assuming that particular objectives will be met). With negotiations over the UK's exit from the EU still taking place, this is not straightforward. We asked the Government if it wished to provide any additional information on its current policies that would be relevant to our forecasts. As set out in the Foreword, it directed us to its July 2018 White Paper and the Prime Minister's Florence speech from last September.

4.5 Since our previous forecast, the UK Government and the European Union published a draft Withdrawal Agreement on 19 March 2018, as well as a joint statement in June 2018 on progress. This set out in further detail the terms of the financial settlement – the so-called 'divorce bill' – to complement the joint report from December 2017. We have updated our central forecast to incorporate the latest information on the cost of the financial settlement.

4.6 Given the uncertainty as to how the Government will respond to the choices and trade-offs facing it during the negotiations, we still have no meaningful basis for predicting a precise outcome upon which we could then condition our forecast. Moreover, even if the outcome of the negotiations were predictable, its impact on the economy and the public finances would still be uncertain. Since our previous forecast, we have published a discussion paper

setting out how we came to our broad-brush assumptions on the impact of the UK exiting the EU on the economy and the public finances, and the detail that would be required for us to incorporate further developments in the negotiations between the UK Government and the EU. Specifically, as regards this fiscal forecast, we assume that:

- **The UK leaves the EU in March 2019** – two years after Article 50 was invoked.
- Any reduction in **expenditure transfers to EU institutions** – after factoring in the cost of the financial settlement – would be recycled fully into extra spending. This assumption is fiscally neutral.
- There are no changes to the structure or membership of **tax systems for which there are common EU rules** (such as VAT and the EU emissions trading scheme or the customs duties that are deemed to be collected on behalf of the EU).

Economic determinants of the fiscal forecast

4.7 Our fiscal forecasts are based on the economy forecast in Chapter 3. Most economic forecasts focus on the outlook for real GDP, but it is nominal GDP – affected by prices as well as volumes – that matters more when forecasting the public finances. Forecasts of tax receipts are particularly dependent on the profile and composition of economic activity. On the income side, labour income is generally taxed more heavily than company profits. On the expenditure side, consumer spending is subject to VAT and other taxes while business investment attracts capital allowances that reduce corporation tax receipts in the near term. And while around half of public sector spending is set out in multi-year cash plans, large elements (such as social security and debt interest payments) are linked to developments in the economy – notably inflation, interest rates and the labour market.

4.8 Table 4.1 sets out some of the key economic determinants of the fiscal forecast. Table 4.2 shows how these have changed since our March forecast. Detailed descriptions of these forecasts and changes are provided in Chapter 3. In summary:

- **Real GDP growth** has been revised down in 2018 due to weaker growth in the snowy first quarter, but has been revised up throughout the rest of the forecast. The upward revision is largest in 2019-20 thanks to the fiscal easing announced in the Budget. The upward revision to cumulative growth over the forecast partly reflects our judgement that the economy can sustain a lower equilibrium unemployment rate.
- Cumulative **nominal GDP growth** between 2018-19 and 2022-23 has been revised up by 1.5 percentage points, reflecting the upward revisions to both real GDP and whole economy prices. The latter have been influenced more significantly by the spending increases announced in the Budget, which are assumed to feed through into higher measured unit costs in government spending.

- On the income side of GDP, **wages and salaries** growth has been revised up across the forecast, by 0.4 percentage points on average relative to March, partly due to the assumption of a lower equilibrium level of unemployment.

- Revisions to our **non-oil, non-financial corporate profits** forecast are uneven across years. Growth is slightly higher in the near term, reflecting the latest ONS estimates, but is little changed over the rest of the forecast.

- On the expenditure side, **nominal consumer spending** is forecast to grow by 3.4 per cent a year on average between 2018-19 and 2022-23, up by 0.2 percentage points from our March forecast. This reflects both lower unemployment and the upward revision to wages and salaries.

- We have revised up our forecast for **CPI inflation** to 2.5 per cent in 2018-19, mainly reflecting higher-than-expected oil prices and a depreciation in sterling since March. We expect inflation to dip below 2 per cent temporarily in the near term, partly reflecting the impact of Ofgem's cap on energy prices and the latest fuel duty freeze. CPI inflation then moves a little above 2 per cent due to the inflationary effect of the Budget fiscal loosening. **RPI inflation** has been revised up slightly more than CPI inflation due to higher house price inflation and faster increases in mortgage rates.

- **House price inflation** has been revised down slightly in 2018-19, but is higher from 2019-20 onwards, reflecting stronger household income growth. **Residential property transactions** are lower throughout the forecast period compared to March, reflecting the latest outturn data.

- **Commercial property price inflation** is expected to rebound in 2018-19, after falls in both 2016-17 and 2017-18. But prices are still lower in the near term compared to March, in line with the latest consensus outlook from the IPF.[1] Our **commercial property transactions** forecast is weaker in 2018-19 compared to March.

- Market-derived assumptions for **equity prices**, **interest rates** and **oil and gas prices** reflect average prices in the 10 days to 4 October. Equity prices have been revised up across the forecast, largely due to recent market strength. Sterling oil prices have been revised up significantly in the near term in line with recent outturns, although the downward-sloping futures curve in the medium term means that prices fall slightly in 2020 compared to 2019. Sterling oil prices are more than 30 per cent higher on average across the forecast compared to March. Market expectations of interest rates are little changed from March, although Bank Rate is now expected to increase at a slightly slower rate.

- Our **oil and gas production** forecasts are informed by the central projections published by the Oil and Gas Authority (OGA). We have revised up production towards the end of the forecast, reflecting the assumed impact of higher oil prices since March. Our oil

[1] *Investment property forum UK consensus forecast*, Summer 2018.

and gas expenditure forecasts are also informed by OGA projections. We have revised overall expenditure up since March, reflecting higher oil prices and the assumed impact of that on North Sea firms' unit operating costs.

- Our forecast for **financial company profits** has been revised up slightly since March, reflecting stronger HMRC outturn data on 2016-17 taxable profits. As in March, we continue to assume that financial company profits grew faster than the rest of the economy in 2017-18 and will again in 2018-19, but that this growth will slow progressively over the next two years. From 2020-21 onwards, we assume profit growth will lag that in the wider economy, reflecting our assumption that the financial and business services sectors are likely to be more adversely affected by the UK leaving the EU in March 2019.

- We have revised up our estimate of the **output gap** relative to March. The output gap – which we use to estimate the structural health of the public finances – is now judged to be positive across the forecast period and to remain so by 2023-24. This reflects our view that the market-derived interest rates underpinning this forecast are unlikely to have fully anticipated the discretionary fiscal loosening announced in this Budget.

Table 4.1: Determinants of the fiscal forecast

	Percentage change on previous year, unless otherwise specified						
	Outturn	Forecast					
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
GDP and its components							
Real GDP	1.6	1.4	1.6	1.4	1.5	1.5	1.6
Nominal GDP[1]	3.6	3.2	3.4	3.4	3.4	3.5	3.5
Nominal GDP (£ billion)[1,2]	2060	2126	2198	2273	2350	2432	2518
Nominal GDP (centred end-March £bn)[1,3]	2092	2163	2234	2311	2390	2474	2561
Wages and salaries[4]	4.0	3.6	3.2	3.2	3.2	3.4	3.4
Non-oil PNFC profits[4,5]	3.1	2.7	2.8	3.4	3.5	3.5	3.6
Consumer spending[4,5]	4.0	3.6	3.2	3.2	3.4	3.5	3.6
Prices and earnings							
GDP deflator	1.9	1.8	1.8	1.9	1.9	1.9	1.9
RPI	3.7	3.4	3.0	3.1	3.1	3.1	3.1
CPI	2.8	2.5	1.9	2.1	2.1	2.1	2.0
Average earnings[6]	2.7	2.3	2.6	2.9	3.0	3.2	3.2
'Triple-lock' guarantee (September)	3.0	2.6	2.7	2.8	3.0	3.1	3.2
Key fiscal determinants							
Employment (millions)	32.2	32.5	32.8	32.9	33.0	33.1	33.2
Implied VAT gap (per cent)[7]	9.6	8.6	8.3	8.1	8.0	8.0	8.0
Output gap (per cent of potential output)	0.1	0.3	0.3	0.2	0.1	0.1	0.1
Financial and property sectors							
Equity prices (FTSE All-Share index)	4059	4145	4230	4373	4522	4679	4844
HMRC financial sector profits[1,5,8]	10.0	5.1	3.1	1.6	1.7	1.7	1.8
Residential property prices[9]	4.5	3.1	3.2	3.1	3.3	3.6	3.9
Residential property transactions (000s)[10]	1208	1187	1210	1244	1278	1314	1349
Commercial property prices[10]	-7.0	3.0	-1.4	-0.7	1.8	1.8	1.9
Commercial property transactions[10]	-0.8	-4.1	1.0	1.5	1.6	1.6	1.6
Oil and gas							
Oil prices ($ per barrel)[5]	54.6	73.0	80.2	76.1	76.5	78.0	79.5
Oil prices (£ per barrel)[5]	42.4	54.5	60.6	56.5	55.8	56.0	56.3
Gas prices (p/therm)[5]	44.9	60.7	69.6	62.6	63.8	65.0	66.3
Oil production (million tonnes)[5]	46.6	48.9	48.9	48.5	46.5	44.7	42.9
Gas production (billion therms)[5]	14.2	14.2	13.5	12.8	12.3	11.8	11.3
Interest rates and exchange rates							
Market short-term interest rates (%)[11]	0.4	0.8	1.2	1.4	1.6	1.6	1.7
Market gilt rates (%)[12]	1.3	1.5	1.7	1.8	1.9	2.0	2.1
Euro/Sterling exchange rate (€/£)	1.13	1.13	1.11	1.09	1.08	1.07	1.07

[1] Non-seasonally adjusted.
[2] Denominator for receipts, spending and deficit forecasts as a per cent of GDP.
[3] Denominator for net debt as a per cent of GDP.
[4] Nominal. [5] Calendar year.
[6] Wages and salaries divided by employees.
[7] Adjusted for timing effects.
[8] HMRC Gross Case 1 trading profits.
[9] Outturn data from ONS House Price Index.
[10] Outturn data from HMRC information on stamp duty land tax.
[11] 3-month sterling interbank rate (LIBOR).
[12] Weighted average interest rate on conventional gilts.

Table 4.2: Changes in the determinants of the fiscal forecast

	Percentage change on previous year, unless otherwise specified				
	Forecast				
	2018-19	2019-20	2020-21	2021-22	2022-23
GDP and its components					
Real GDP	0.0	0.3	0.1	0.1	0.0
Nominal GDP[1]	0.2	0.5	0.4	0.3	0.1
Nominal GDP (£ billion)[1,2]	10	21	32	38	43
Nominal GDP (centred end-March £bn)[1,3]	17	26	36	41	46
Wages and salaries[4]	0.5	0.5	0.4	0.3	0.2
Non-oil PNFC profits[4,5]	0.5	-0.2	-0.2	0.1	0.1
Consumer spending[4,5]	0.5	0.5	0.1	0.0	0.0
Prices and earnings					
GDP deflator	0.3	0.2	0.3	0.2	0.1
RPI	0.0	0.1	0.2	0.2	0.1
CPI	0.3	0.1	0.1	0.1	0.1
Average earnings[6]	-0.3	0.2	0.3	0.2	0.2
'Triple-lock' guarantee (September)	-0.2	0.2	0.3	0.3	0.1
Key fiscal determinants					
Employment (millions)	0.2	0.3	0.4	0.4	0.4
Implied VAT gap (per cent)[7]	-0.7	-0.6	-0.6	-0.5	-0.5
Output gap (per cent of potential output)	0.0	0.2	0.2	0.1	0.1
Financial and property sectors					
Equity prices (FTSE All-Share index)	108	79	98	113	123
HMRC financial sector profits[1,5,8]	0.1	0.3	0.1	0.1	0.1
Residential property prices[9]	-0.3	0.7	0.9	0.9	0.6
Residential property transactions (000s)[10]	-49	-49	-41	-34	-29
Commercial property prices[10]	3.6	-3.0	-2.3	0.0	0.0
Commercial property transactions[10]	-5.5	-0.2	0.1	0.2	0.2
Oil and gas					
Oil prices ($ per barrel)[5]	9.0	20.1	16.5	15.9	16.2
Oil prices (£ per barrel)[5]	9.6	19.3	16.1	15.2	15.1
Gas prices (p/therm)[5]	15.1	25.8	17.9	18.4	18.7
Oil production (million tonnes)[5]	0.0	0.0	0.0	0.5	0.9
Gas production (billion therms)[5]	0.0	0.0	0.0	0.1	0.2
Interest rates and exchange rates					
Market short-term interest rates[11]	0.0	0.0	-0.1	-0.1	-0.1
Market gilt rates[12]	-0.2	-0.1	-0.1	-0.1	-0.1
Euro/Sterling exchange rate (€/£)	-0.01	-0.02	-0.02	-0.02	-0.02

[1] Non-seasonally adjusted.
[2] Denominator for receipts, spending and deficit forecasts as a per cent of GDP.
[3] Denominator for net debt as a per cent of GDP.
[4] Nominal. [5] Calendar year.
[6] Wages and salaries divided by employees.
[7] Adjusted for timing effects.
[8] HMRC Gross Case 1 trading profits.
[9] Outturn data from ONS House Price Index.
[10] Outturn data from HMRC information on stamp duty land tax.
[11] 3-month sterling interbank rate (LIBOR) (percentage points).
[12] Weighted average interest rate on conventional gilts (ppts).

Policy announcements, risks and classification changes

4.9 The Government publishes estimates of the direct impact on the public finances of selected tax and spending policy decisions in its 'scorecard'. It also shows some changes within departmental spending. We discuss the costing of each measure in detail with officials and suggest amendments. If we were to disagree with any of the final numbers that the Government chooses to publish, we would state this and use our own estimates in our forecast. We do not scrutinise individual changes within departmental spending, but rather make a judgement on the extent to which the Government's overall resource and capital spending limits will be over- or underspent. We are also responsible for assessing any indirect effects of policy measures on our economy forecast.[2] These are discussed in Box 3.2 in Chapter 3. We note as risks to the fiscal forecast any significant policy commitments that are not quantifiable, as well as any potential statistical classification changes.

The effect of new policy announcements on the public finances

4.10 We consider the effects of all policy announcements that affect the public finances, so long as they can be quantified with reasonable accuracy and assigned to specific years. This includes the direct effects of policies presented on the Treasury's scorecard and other policies that it chooses not to present that way. It also includes our estimate of their indirect effects on the public finances – for example, changing the rate of VAT would affect inflation, which would have knock-on effects on the cost of servicing index-linked gilts.

4.11 All these are summarised in Table 4.3, which follows the Treasury convention of showing costs that raise borrowing as negative and savings that reduce it as positive. Overall, the Budget announces a significant discretionary fiscal giveaway, driven mainly by higher departmental spending across the forecast period. Tax cuts add to the near-term easing.

4.12 They key features of the Budget policy package include:

- **Higher health spending**, which increases spending in 2023-24 by £27.6 billion, following the Prime Minister's June announcement of a new NHS settlement.
- **Higher non-health current departmental spending** from 2020-21 to 2022-23.
- **Near-term tax cuts and medium-term tax rises**. In the near term, this includes freezes to fuel and some alcohol duties, and raising the income tax personal allowance. In the medium term, it includes extending off-payroll working rules (IR35) to the private sector and cancelling the previous decision to abolish Class 2 NICs.
- **Higher welfare spending**, largely increases to the generosity of universal credit.

[2] In March 2014, we published a briefing paper on our approach to scrutinising and certifying policy costings, and how they are fed into our forecasts, which is available on our website: *Briefing paper No 6: Policy costings and our forecast*.

4.13 Partly offsetting the giveaways, the Government has decided to cut departmental capital spending (CDEL) by over £2 billion a year on average from 2020-21 onwards. The indirect effects of Government decisions also partly offset the cost of the Budget package thanks to the modest boost it gives to the economy and tax receipts and the fact that higher departmental current spending increases public service pension contributions.

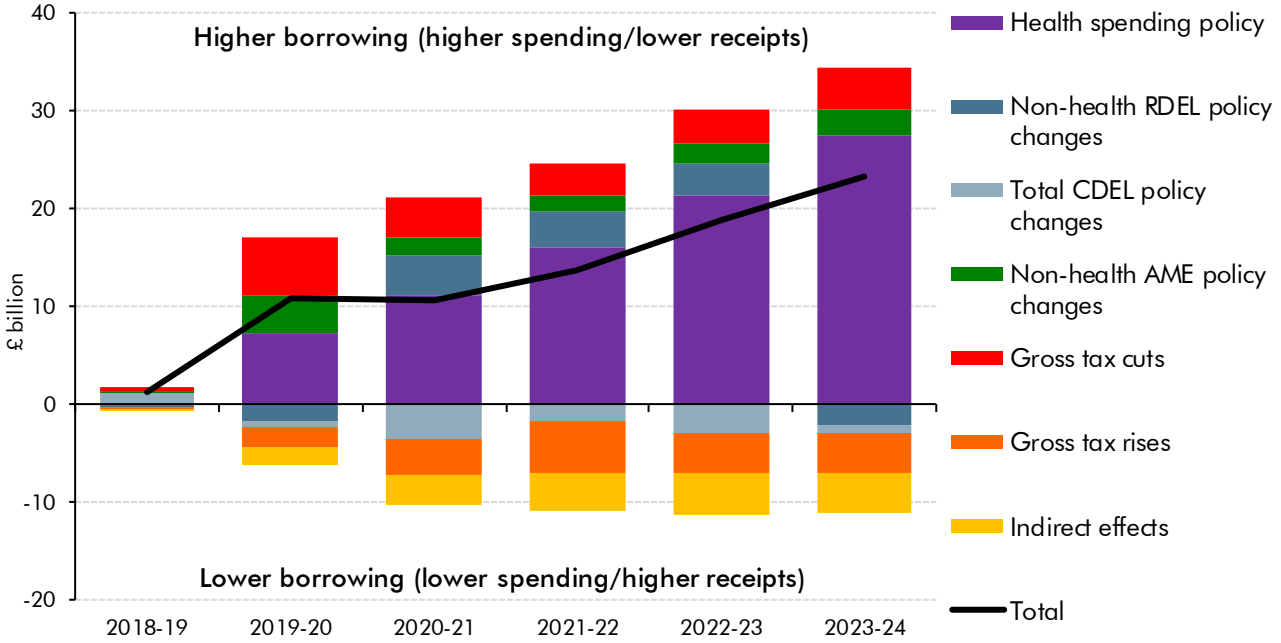
4.14 We discuss the effect of policy decisions in more detail in Annex A, where we also set out our assessment of the degree of uncertainty associated with each costing that we have certified. Annex A also provides an update on various previous measures.

Table 4.3: Summary of the effect of Government decisions on the budget balance

	£ billion					
	Forecast					
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Total effect of Government decisions	**-1.1**	**-10.9**	**-10.7**	**-13.7**	**-18.8**	**-23.2**
Direct effect of policies on the scorecard	**-2.3**	**-15.1**	**-14.4**	**-17.6**	**-23.5**	**-30.6**
of which:						
Receipts	-0.3	-4.2	-1.0	0.3	0.1	0.0
AME	-0.3	-1.9	-2.5	-2.8	-3.8	-5.0
RDEL	-0.7	-8.0	-10.7	-14.9	-19.7	-25.4
CDEL	-1.0	-0.9	-0.2	-0.1	-0.1	-0.1
Direct effect of non-scorecard policies	**1.1**	**2.4**	**0.6**	**-0.1**	**0.4**	**3.2**
of which:						
Receipts	0.2	0.2	0.8	1.7	0.6	-0.3
AME	0.0	3.0	4.2	4.4	4.5	5.0
RDEL[1]	0.9	-2.4	-8.1	-8.0	-7.7	-2.5
CDEL[1]	0.0	1.6	3.8	1.9	3.0	0.9
Indirect effect of Government decisions	**0.1**	**1.8**	**3.0**	**3.9**	**4.4**	**4.2**
Total effect of Government decisions	**-1.1**	**-10.9**	**-10.7**	**-13.7**	**-18.8**	**-23.2**
of which:						
Gross tax increases	0.2	2.0	3.8	5.3	4.1	4.0
Gross tax cuts	-0.3	-6.0	-4.0	-3.3	-3.4	-4.4
Total RDEL policy changes[1]	0.2	-10.4	-18.8	-22.9	-27.4	-27.9
Total CDEL policy changes[1]	-1.0	0.7	3.6	1.7	2.9	0.8
Total AME policy changes	-0.3	1.0	1.7	1.6	0.7	0.0
Indirect effects	0.1	1.8	3.0	3.9	4.4	4.2

[1] The change in 2023-24 is relative to a baseline that assumes DEL would otherwise have remained constant as a share of GDP.
Note: The full breakdown of this table can be found in Annex A. This table uses the Treasury scorecard convention that a positive figure means an improvement in PSNB, PSNCR and PSND.

Chart 4.1: The effect of Budget decisions on public sector net borrowing



Source: OBR

Policy risks

4.15 Parliament requires that our forecasts only reflect current Government policy. As such, when the Government or governing party sets out 'ambitions' or 'intentions' we ask the Treasury to confirm whether they represent firm policy. We use that information to determine what should be reflected in our forecast. Where they are not yet firm policy, we note them as a source of risk to our central forecast. Abstracting from the wider policy uncertainty associated with the negotiations on leaving the EU, we note:

- The intention to **localise all business rates** and to provide some additional discretion to local authorities in setting them, while also shifting some spending responsibilities to local authorities. In October 2015 the Government pledged that *"by the end of the Parliament, local government should retain all taxes raised locally, including 100% of locally collected business rates"*. This ambition was restated in the 2019-20 local government finance settlement technical consultation, but the precise timetable remains unclear. The Government has been running pilot schemes in selected authorities since 2017-18, with further extensions announced since March.

- The **intention to expand right-to-buy to tenants of housing associations**. An initial pilot scheme ran from January 2016 to July 2017 and an expanded pilot was launched in August 2018. The Housing and Planning Act was passed in May 2016, but the Government has again informed us that the secondary legislation detailing how the full right-to-buy policy will work remains ongoing. Until these details are specified and the implementation timetable is sufficiently clear, we cannot estimate the effects of this policy on a year-by-year basis.

- The **intention to ban additional fees charged by private letting agents**, announced in Autumn Statement 2016. A bill was published in November 2017 and is currently undergoing parliamentary scrutiny, but we have been told that the policy design is not yet complete. Neither the implementation date nor the types of fees to be included have yet been established and the Government is awaiting the findings of an inquiry by the Housing, Communities and Local Government Select Committee. Without clarity on the legislative timetable we have not adjusted our forecast. Nevertheless, it is possible that a ban on fees would be passed through to higher private rents. If this was the case, it could affect our housing benefit and universal credit spending forecasts.

- The **incentives for landlords that offer tenancies of at least 12 months**. In Autumn Budget 2017 the Government announced that it "*will consult on the barriers to landlords offering longer, more secure tenancies to those tenants who want them*". The consultation closed on 26 August, but the Government has not yet issued a response. We have been told that this remains a policy intention.

- DWP's December 2017 **review of automatic enrolment into workplace pensions** made several new proposals including reducing the age threshold from 22 to 18 and calculating pension contributions from the first pound earned rather than from the lower earnings limit. The Treasury has told us that these remain policy ambitions so we have not included their effects in our economy or fiscal forecasts. Auto-enrolment in its present form is factored into our economy forecast as a wedge between total employee compensation and wages, while tax relief on the employee pension contributions features in our income tax forecast. These proposals would increase both adjustments.

- The **devolution of corporation tax to Northern Ireland**. The Corporation Tax (Northern Ireland) Act received Royal Assent in March 2015, with devolution originally due to have begun in April 2018. The Northern Ireland Executive has previously announced its intention to set a 12.5 per cent rate to match that in the Republic of Ireland. While primary legislation has been passed, final devolution is subject to agreement between the UK Government and the Northern Ireland Executive. This has yet to be reached, so we have not included the effect of the proposed tax cut in our central forecast.

- The **devolution of air passenger duty (APD) to the Scottish Government**. The Scotland Act 2016 included provisions for the devolution of APD and the Scottish Government initially announced this would be replaced by an air departure tax (ADT) from April 2018. But the devolution of APD has been delayed pending clarity over the Highlands and Islands exemption. Both Governments have confirmed that devolution remains on hold. The Scottish Government has previously said it intends to set ADT rates at half of those of APD. As the precise timing of the devolution of APD has not yet been finalised we have not included it, or the effect of the proposed rate cut, in our central forecast.

- The **devolution of welfare benefits to the Scottish Government**. The Scotland Act also allows for devolution of several welfare benefits to the Scottish Government, including carer's allowance, disability benefits, maternity payments and funeral payments. The Scottish Government set up a new executive agency, Social Security Scotland, in April

2018, and started making carer's allowance supplement payments in September 2018. A detailed timeline for introducing the remaining devolved benefits has yet to be settled, so we have not included the effect of their devolution in our central forecast.

- Prospective reforms to **adult social care**. Having postponed implementation of reforms underpinned by the 2011 independent Commission on Funding of Care and Support (the 'Dilnot Commission'), the Government announced in December 2017 that it would publish a green paper on the future of adult social care in the summer of 2018. This has been delayed to later this year. The Government has told us that the final package and timeline for implementation will depend on the consultation, and so we removed all fiscal effects of these reforms from our central forecast.

- The **setting of higher maximum fee limits and fee loan limits for new students starting full-time accelerated degree courses in 2019-20**. A Government consultation on this closed in February. We have been told that the policy is still under development.

- The **UK's participation in the EU emissions trading system beyond 2020**. The draft Withdrawal Agreement between the UK Government and the EU sets out that the UK will remain in the scheme until the end of the transition period, but that no decision has been made on what will happen beyond 2020.

- The **review to post-18 education funding** was launched in February 2018 and is still ongoing. It covers the level, terms and duration of students' financial contribution to their post-18 education. We have not been given a timeline for when it will conclude and any policy decisions taken.

- The **surcharge on stamp duty for non-residential property buyers** announced by the Prime Minister in September 2018 will be consulted on. We will only be able to reflect it in our central forecast once there is enough detail on implementation and policy parameters for us to quantify its effects in specific years.

- The **ruling on widowed parent's allowance** by the Supreme Court in August 2018. The ruling deemed that the exclusion of unmarried couples was incompatible with the principles of the European Convention on Human Rights. If the Government responds by changing the entitlement of unmarried couples, we will include it in our forecast.

- The **'worldwide harmonised light vehicle test' (WLTP)** for testing the emission levels of new passenger cars is set to replace the previous 'new European driving cycle' test for VED banding from 2020-21. The new test is more rigorous and likely to result in higher emission scores, moving some vehicles into higher VED bands. The magnitude of this increase is uncertain, but our latest estimate is that it will boost VED receipts by around £0.2 billion a year on average from 2020-21 onwards. We have also incorporated an effect into our income tax and NICs forecast, to reflect the impact of this change on company car tax (CCT) receipts. Despite CCT receipts being less than half the level of VED receipts, WLTP is assumed to have a larger impact on CCT receipts in the near term, as the turnover in the company car stock is much higher than

in the overall VED stock. The impact raises CCT receipts by £0.1 billion in 2020-21, rising to £0.4 billion in 2023-24. The Government has announced that it will review the impact of this new test on VED and CCT receipts next year. We will review any further evidence on the impact of this change, and any policy response, in our next forecast.

Contingent liabilities

4.16 We have asked the Treasury to identify any changes to future contingent liabilities since our March forecast. Thanks to the Treasury's new reporting procedures for new contingent liabilities, it could readily identify the 23 contingent liabilities entered into over that period, with a total maximum exposure of £38.3 billion for those that can be quantified. Having reviewed these, we do not consider any to represent a significant increase in fiscal risk:

- Central government has recorded an additional £0.8 billion to the existing £8.5 billion liability relating to the net present value of unitary payments on **PFI contracts for schools that have converted to academy status**. This is a transfer of the liability from local to central government rather than a new exposure.

- The Government has assumed a liability under the **Bank of England's new capital framework**, which commits the Treasury to inject capital if the Bank's loss-absorbing capital were to drop below a floor level of £500 million. This liability is internal to the public sector and so, of itself, does not increase fiscal risk.

- The Government has increased paid-in capital to the **International Bank for Reconstruction and Development (IBRD)** by $0.3 billion and committed to a callable capital facility that represents a contingent liability estimated at up to £1.5 billion.

4.17 The Treasury's 2017-18 departmental accounts continue to disclose an unquantifiable remote contingent liability in respect of the UK's decision to leave the European Union and the Article 50 process. The Treasury has informed us that there has been no change to this since our March forecast, with no new Brexit contingent liabilities laid in Parliament, or any new Brexit contingent liabilities recorded in the Whole of Government Accounts.

4.18 The Department for Work and Pensions (DWP) is subject to ongoing legal challenges. We asked the Government whether there is a detailed central list of ongoing DWP legal challenges and the likelihood of losing them, and why it takes a different approach to recording these DWP contingent liabilities than it does to tax-related legal challenges recorded in HMRC's departmental accounts. The Treasury stated that it is working to improve the reporting and managing of DWP's legal cases in accordance with steps set out in its 2018 *Managing Fiscal Risks* report. [3]

[3] HM Treasury, *Managing Fiscal Risks*, July 2018.

ONS/HMT classification and methodological changes

4.19 Changes between our March and October forecasts have been affected by several large classification and methodological changes. Many of these relate to the Treasury's choices about the control totals under which different elements of public spending are managed, while others relate to ONS decisions on the classification of different organisations as public or private sector providers, or methodological changes in the ONS public sector finances data. The nature of these changes is that they do not directly reflect any change in activity in the economy, although some may occur in response to real world events. Such changes can give a misleading impression of changes in the public finances, in either direction, so we have restated our March forecasts on the current classification. On occasion we need to pre-empt an ONS decision, drawing on advice from the Treasury's classification experts.

4.20 Two ONS changes affect the recorded level of public sector net borrowing (PSNB), public sector net debt (PSND), receipts and spending:

- Legislation on **Welsh and Scottish housing associations** has now progressed sufficiently for the ONS to reclassify them to the private sector, reducing PSNB and PSND in all years of the forecast, and also reducing receipts and spending. This means that only housing associations in Northern Ireland remain in the public sector.

- The ONS is also investigating its recording of **fines and penalties** for the late payment of taxes to HMRC. Additional revenue identified and recorded by the inclusion of such payments will increase receipts and reduce PSNB. The ONS expects this change to reduce borrowing by around £0.7 billion in 2017-18 when it is implemented.[4] We have anticipated this change in our forecasts for 2018-19 onwards.

4.21 One ONS methodological change affects receipts and spending in equal measure, so is neutral for PSNB. It expands coverage of **VAT refunds** data to include the refunds to several public sector organisations such as the BBC, the NHS, Police and Crime Commissioners, and Academies. We abstract from this change when discussing revisions to our receipts and spending forecasts since March.

4.22 The Treasury has changed the control totals under which several spending items are managed. These changes have not affected total spending, but have moved large sums between categories, obscuring underlying changes in our spending forecasts since March. In these cases we have restated our March forecast in line with the current treatment:

- To date most **Scottish Government expenditure** had been classified as central government DEL, with the exception of public sector pensions and student loans that were classified as AME. At this Budget the Treasury and the Scottish Government have agreed that all other Scottish Government spending should be classified as AME. As with other spending, this is split into current and capital components. Separately, the devolution of carer's allowance from DWP to the Scottish Government that took effect in September 2018 is treated as a non-scorecard policy measure.

[4] *Public sector finances, UK: September 2018*

- From 2019-20 onwards, the Treasury has chosen to move **Network Rail spending** in England and Wales from AME to DEL. The Scottish element of Network Rail spending will be recorded as part of Scottish Government AME from 2019-20 onwards.

4.23 Table 4.4 sets out how we have restated our March forecast to account for these changes. We also have also adjusted our March forecast for items which were not included in the 2017-18 ONS outturn data. These largely reflect environmental levies which the ONS have announced they will incorporate into the data, but have not yet done so. Our supplementary tables online set these items out in detail.

Table 4.4: Classification and methodological changes incorporated in our forecast

	£ billion					
	Outturn	Forecast				
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Receipts	**1.4**	**4.0**	**3.9**	**3.9**	**4.0**	**4.0**
March 2018 items not included in ONS outturns	-2.0	-	-	-	-	-
Scottish and Welsh housing associations	-	-0.3	-0.5	-0.6	-0.7	-0.7
HMRC fines and penalties	-	0.7	0.7	0.7	0.8	0.8
VAT refunds	3.4	3.7	3.7	3.8	3.9	3.9
Spending	**1.8**	**3.2**	**2.9**	**2.8**	**2.8**	**2.8**
March 2018 items not included in ONS outturns	-1.6	-	-	-	-	-
Scottish and Welsh housing associations	-	-0.4	-0.9	-1.0	-1.0	-1.1
VAT refunds	3.4	3.7	3.7	3.8	3.9	3.9
DEL-AME switches	0.0	0.0	0.0	0.0	0.0	0.0
of which:						
DEL	-29.8	-30.1	-23.9	-24.3	-24.4	-24.3
AME	29.8	30.1	23.9	24.3	24.4	24.3
Public sector net borrowing	**0.4**	**-0.8**	**-1.1**	**-1.1**	**-1.2**	**-1.2**
March 2018 items not included in ONS outturns	0.4	-	-	-	-	-
Scottish and Welsh housing associations	-	-0.1	-0.3	-0.4	-0.4	-0.4
VAT refunds	0.0	0.0	0.0	0.0	0.0	0.0
HMRC fines and penalties	-	-0.7	-0.7	-0.7	-0.8	-0.8
Network Rail and Scottish Government DEL-AME switches	0.0	0.0	0.0	0.0	0.0	0.0

4.24 One ONS decision that we have not been able to reflect in this forecast is the classification of London North Eastern Railway to the public sector following the Government taking control of the East Coast Main Line rail franchise. The ONS is investigating the statistical implications of this decision and we will reflect it in our forecasts once figures are available.

4.25 There are four areas where the ONS is considering issues that could affect future forecasts:

- It is currently working with Eurostat on potential updated guidance for income contingent loans that would affect how **student loans** are recorded in the deficit. As discussed in Box 4.3 a different treatment could have very large implications for the deficit. The ONS aim to provide an update on progress in December. Depending on progress made we may update our student loans methodology at the next forecast.

- It has consulted on the treatment of **pensions within the public finances** and will publish a response in November. This will address whether the balance sheets of public sector pension schemes should be included in public finance aggregates. This change could reduce PSND by around £20 billion as the public sector debt securities and cash assets held by these funds would be consolidated out or net off PSND respectively. The end of the consultation will hopefully mean that the ONS can finally include the Pension Protection Fund within the public finances for the first time.

- It is considering the public finance treatment of the **sale of Network Rail's commercial estate**, the majority of the properties being in railway arches. In this forecast we have included proceeds from the sale of railway arches as a financial rather than fixed asset sale, which means that they affect debt but not the deficit.

- It is investigating the various effects of the **liquidation of Carillion** on the public sector finances, including in relation to the public-private partnership projects in which Carillion was involved. We have not recorded any effects from Carillion except where these have already involved changes to government spending.

4.26 The Government has announced a new digital services tax in this Budget that the ONS will in due course need to classify. Pending a decision, it is treated as a tax on production in this forecast reflecting advice from the Treasury's statistical classification experts.

Public sector receipts

4.27 Table 4.5 summarises our receipts forecast as a share of GDP. On a like-for-like basis (excluding items that are included in our forecasts, but not yet incorporated into ONS outturns)[5], the ratio rises by 0.3 percentage points in 2018-19. Strong growth in income tax and VAT receipts more than offsets the year-on-year effect associated with the reclassification of English, Scottish and Welsh housing associations to the private sector.

4.28 The ratio drops back in 2019-20, reflecting measures announced in the Budget, including an above-inflation rise in the income tax personal allowance and a freeze to fuel and some alcohol duties. The ratio rises in 2020-21, despite a cut in the headline rate of onshore corporation tax from 19 to 17 per cent that year. This again reflects policy changes announced in this Budget, including reforming rules to increase the income tax and NICs paid by some who work through their own company (known as 'IR35'). Capital taxes are also boosted in that year by the Budget 2017 measure to bring forward CGT payments for gains made on residential property. The ratio is flat in 2021-22 and 2022-23 before rising slightly in 2023-24.

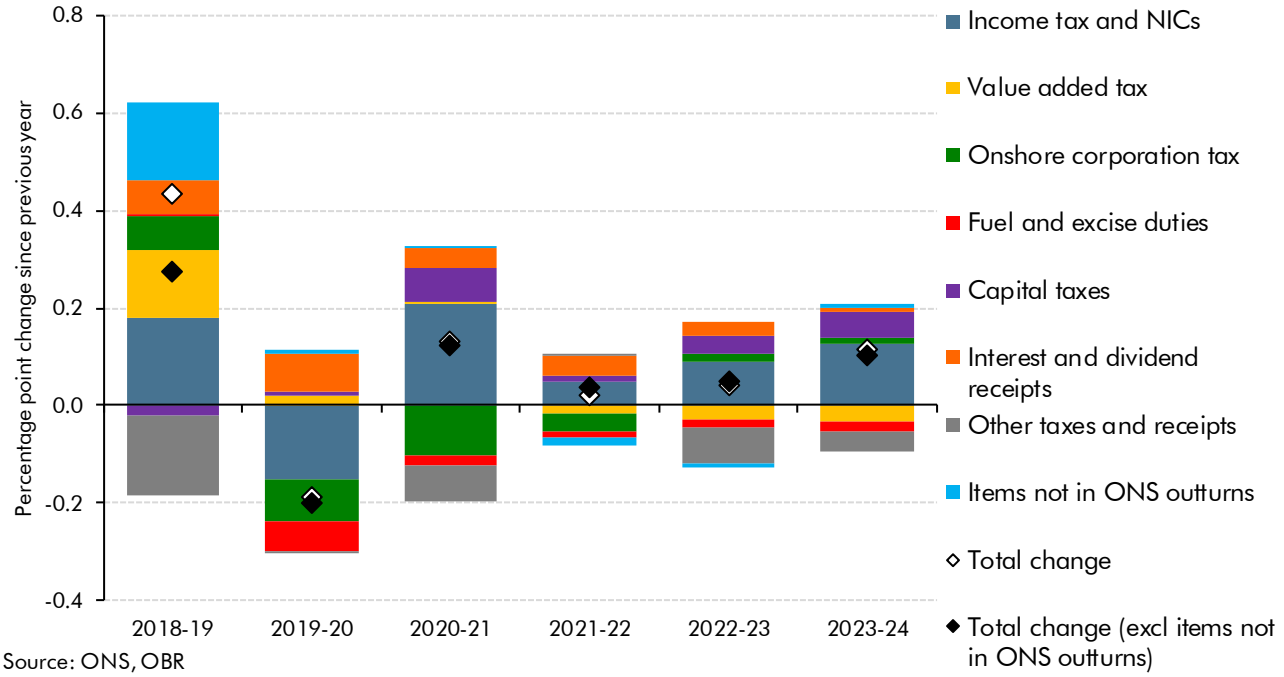
[5] See the supplementary tables on our website for more information on these differences.

Table 4.5: Major receipts as a share of GDP

	Per cent of GDP						
	Outturn	Forecast					
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Income tax	8.8	8.9	8.8	8.9	9.0	9.0	9.1
NICs	6.4	6.4	6.5	6.5	6.5	6.5	6.6
Value added tax	6.1	6.2	6.2	6.2	6.2	6.2	6.2
Onshore corporation tax	2.6	2.7	2.6	2.5	2.5	2.5	2.5
Fuel duties	1.4	1.3	1.3	1.3	1.3	1.3	1.3
Business rates	1.5	1.4	1.4	1.4	1.4	1.4	1.4
Council tax	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Alcohol and tobacco duties	1.0	1.0	1.0	1.0	1.0	1.0	0.9
Capital taxes[1]	1.5	1.4	1.4	1.5	1.5	1.6	1.6
UK oil and gas receipts	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other taxes	3.2	3.4	3.4	3.4	3.3	3.3	3.3
National Accounts taxes	**34.0**	**34.6**	**34.4**	**34.5**	**34.4**	**34.5**	**34.6**
Interest and dividend receipts	0.3	0.4	0.5	0.5	0.6	0.6	0.6
Other receipts	2.2	2.0	2.0	2.0	2.0	1.9	1.9
Current receipts	**36.6**	**37.0**	**36.8**	**37.0**	**37.0**	**37.0**	**37.2**
Memo: Items included in OBR forecast but not yet incorporated into ONS outturns	-	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*

[1] Includes capital gains tax, inheritance tax, property transaction taxes and stamp taxes on shares.

Chart 4.2: Year-on-year changes in the receipts-to-GDP ratio



Source: ONS, OBR

Sources of changes in the tax-to-GDP ratio

4.29 Movements in the tax-to-GDP ratio arise from two sources:

- changes in the **composition of GDP** can lead to specific tax bases growing more or less quickly than GDP as a whole; and
- the **effective tax rate paid on each tax base** can change due to policy or other factors.

Change in the tax-to-GDP ratio over the forecast period

4.30 The tax-to-GDP ratio ends the forecast unchanged from its 2018-19 level at 34.6 per cent, having dipped then risen again in between. Chart 4.3 shows that overall the composition of the economy becomes less tax rich between 2018-19 and 2023-24, but this is compensated for by effective tax rates rising due to policy measures and fiscal drag.

4.31 The main positive contributions to the change in the tax-to-GDP ratio are:

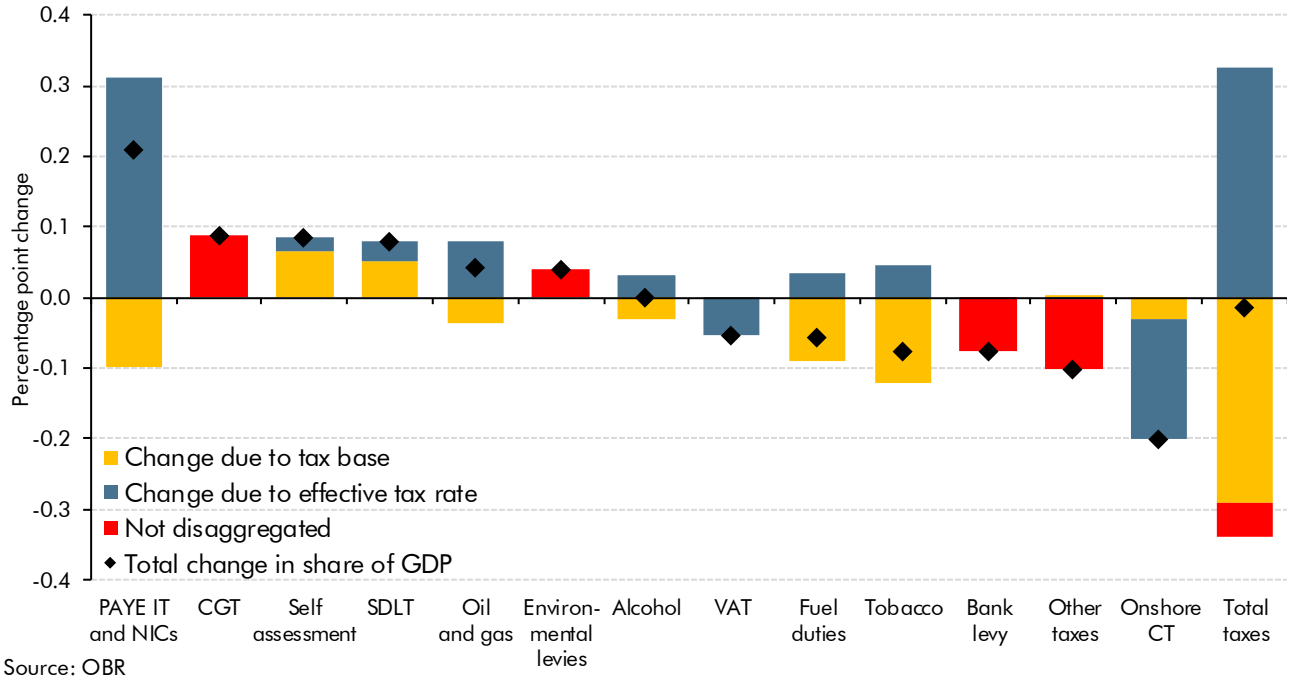
- A 0.2 per cent of GDP rise in **PAYE income tax and NICs** receipts. With total wages and salaries set to fall slightly as a share of GDP over the forecast, this is more than explained by a rise in the effective tax rate. This reflects fiscal drag as productivity and real earnings growth pick up (albeit to still historically subdued rates), dragging more income into higher tax brackets.
- A 0.1 per cent of GDP rise in **capital gains tax (CGT)** receipts. CGT receipts are geared to changes in asset prices, as the tax is paid on the gain rather than the value of the asset when sold. Despite the fall in CGT receipts in 2017-18, we still expect CGT receipts to grow faster than the economy as a whole due to these gearing effects. Based on the past 26 years' data, we assume that a 1 per cent rise in equity prices will result in a 2.9 per cent rise in CGT receipts from financial assets.
- A 0.1 per cent of GDP rise in **self-assessment (SA) income tax** receipts. This largely reflects a rising tax base, reflecting our assumption that the share of self-employment in total employment will rise over the forecast. The impact of tax measures in 2019-20 also boosts the effective tax rate. The largest contribution comes from the reduction in the tax-free 'dividend allowance' from £5,000 to £2,000 from April 2018 (which will feed into cash receipts with a one-year lag).

4.32 The main negative contributions to the change in the ratio are:

- A 0.2 per cent of GDP fall in **onshore corporation tax** receipts. This is dominated by a fall in the effective tax rate – partly as the main rate will be cut to 17 per cent in 2020.
- A 0.1 per cent of GDP fall in **excise duties**. This is explained by declining tax bases, due to falling alcohol and tobacco consumption and the rising fuel economy of the vehicle stock. These are only partly offset by rises in duty rates based on the Government's stated policy assumptions, which raise the effective tax rate.

- A 0.1 per cent of GDP fall in **bank levy** receipts. This reflects both a declining tax base and successive cuts to the headline tax rate over the forecast. It also partly reflects the scope of the levy being narrowed to cover only UK liabilities from January 2021.

Chart 4.3: Sources of changes in the tax-to-GDP ratio (2018-19 to 2023-24)



Source: OBR

Detailed current receipts forecasts

4.33 Our detailed receipts forecasts and changes since March are presented in Tables 4.6 and 4.7. Further detailed breakdowns are available in supplementary fiscal tables on our website. Our forecasts for Scottish and Welsh devolved taxes are discussed in our separate *Devolved tax and spending forecasts* publication.

Table 4.6: Current receipts

	£ billion						
	Outturn	Forecast					
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Income tax[1]	180.7	190.2	192.9	203.2	210.7	219.7	229.9
of which: Pay as you earn	154.9	161.7	162.0	170.8	177.3	184.9	193.4
Self assessment	28.3	30.5	32.9	33.6	34.8	36.4	38.3
National insurance contributions	132.5	136.9	141.9	147.8	153.4	159.2	165.5
Value added tax	125.3	132.2	137.2	141.9	146.4	150.8	155.3
Corporation tax[2]	55.9	59.5	60.0	59.6	60.9	63.6	66.0
of which: Onshore	54.1	57.3	57.4	57.0	58.0	60.5	62.9
Offshore	1.8	2.1	2.6	2.5	2.9	3.1	3.1
Petroleum revenue tax	-0.6	-0.6	-0.7	-0.7	-0.5	-0.4	-0.3
Fuel duties	27.9	28.3	28.3	29.2	30.2	31.1	32.0
Business rates	30.2	30.7	30.9	31.4	33.2	33.9	34.5
Council tax	32.1	34.2	35.9	37.0	38.1	39.2	40.4
VAT refunds	17.1	17.8	18.4	19.1	19.6	20.1	20.7
Capital gains tax	7.8	8.7	9.1	10.6	10.8	11.6	12.5
Inheritance tax	5.2	5.5	5.7	5.9	6.2	6.5	6.9
Property transaction taxes[3]	13.6	12.8	13.3	14.1	14.9	15.8	17.2
Stamp taxes on shares	3.5	3.7	3.8	3.9	4.0	4.2	4.3
Tobacco duties	8.8	9.3	9.2	9.2	9.2	9.1	9.1
Alcohol duties	11.6	12.3	12.7	13.0	13.6	14.1	14.6
Air passenger duty	3.4	3.7	3.8	4.0	4.2	4.4	4.6
Insurance premium tax	5.9	6.3	6.3	6.3	6.3	6.3	6.3
Climate change levy	1.9	2.0	2.2	2.2	2.2	2.2	2.5
Bank levy	2.6	2.5	2.3	1.9	1.1	1.1	1.1
Bank surcharge	1.9	1.9	2.0	2.0	2.0	2.1	2.1
Apprenticeship levy	2.7	2.8	2.9	3.0	3.1	3.2	3.4
Diverted profits tax	0.2	0.1	0.1	0.0	0.0	0.0	0.0
Soft drinks industry levy	0.0	0.3	0.3	0.3	0.3	0.3	0.3
Digital services tax	0.0	0.0	0.0	0.3	0.4	0.4	0.5
Other HMRC taxes[4]	7.5	7.4	7.4	7.6	7.7	7.8	7.8
Vehicle excise duties	6.2	6.4	6.4	6.7	6.9	7.2	7.5
Licence fee receipts	3.2	3.3	3.3	3.4	3.5	3.6	3.7
Environmental levies	6.5	10.2	11.2	11.8	12.2	12.4	13.1
EU ETS auction receipts	0.4	0.6	1.6	1.2	1.2	1.4	1.5
Other taxes	6.9	7.2	7.5	7.7	7.9	8.2	8.4
National Accounts taxes	**700.7**	**736.1**	**755.8**	**783.6**	**809.6**	**839.0**	**871.3**
Less own resources contribution to EU	-3.4	-3.3	-3.3	-3.4	-3.4	-3.5	-3.5
Interest and dividends	7.1	8.8	10.7	12.0	13.4	14.5	15.2
Gross operating surplus	46.4	42.1	42.9	44.5	46.4	47.8	49.5
Other receipts	3.2	3.6	3.7	3.8	3.6	2.9	3.0
Current receipts	**754.0**	**787.3**	**809.8**	**840.4**	**869.6**	**900.8**	**935.5**
Memo: UK oil and gas revenues [5]	*1.2*	*1.5*	*1.9*	*1.8*	*2.4*	*2.7*	*2.9*

[1] Includes PAYE, self assessment, tax on savings income and other minor components, such as income tax repayments.

[2] National Accounts measure, gross of reduced liability tax credits.

[3] Includes SDLT, ATED and devolved property transaction taxes.

[4] Consists of landfill tax (excluding Scotland and Wales, from 2018-19), aggregates levy, betting and gaming duties and customs duties.

[5] Consists of offshore corporation tax and petroleum revenue tax.

Table 4.7: Changes to current receipts since March

	£ billion					
	Outturn	Forecast				
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Income tax[1]	-0.8	1.7	-2.3	0.7	1.1	1.1
of which: Pay as you earn	0.0	2.6	-1.2	1.9	2.6	3.2
Self assessment	-0.1	0.2	0.1	-0.8	-0.9	-1.5
National insurance contributions	0.2	0.4	1.3	2.8	3.7	4.3
Value added tax	-0.4	1.8	2.6	3.1	3.4	3.4
Corporation tax[2]	0.8	2.5	3.3	3.2	4.4	5.1
of which: Onshore	0.7	1.8	2.1	2.1	2.8	3.4
Offshore	0.1	0.7	1.2	1.1	1.6	1.8
Petroleum revenue tax	0.0	-0.1	-0.1	-0.2	0.0	0.0
Fuel duties	-0.2	0.1	-0.6	-0.4	-0.1	0.1
Business rates	0.6	-0.1	-0.7	-0.6	0.8	0.1
Council tax	0.1	0.1	0.1	0.1	0.1	0.1
VAT refunds	3.1	3.6	3.9	4.2	4.5	4.7
Capital gains tax	0.0	-0.2	0.1	-0.3	0.2	0.6
Inheritance tax	-0.1	0.0	0.0	0.1	0.1	0.2
Property transaction taxes[3]	-0.1	-1.0	-0.9	-0.8	-0.6	-0.5
Stamp taxes on shares	0.0	0.2	0.2	0.2	0.2	0.2
Tobacco duties	-0.1	0.2	0.2	0.3	0.3	0.3
Alcohol duties	0.0	0.7	0.8	0.8	1.0	1.1
Air passenger duty	0.0	0.1	0.2	0.2	0.2	0.3
Insurance premium tax	0.0	0.3	0.2	0.2	0.2	0.2
Climate change levy	0.1	0.1	0.0	0.0	-0.1	0.0
Bank levy	0.2	0.2	0.2	0.2	0.1	0.2
Bank surcharge	0.1	0.1	0.1	0.1	0.1	0.1
Apprenticeship levy	0.1	0.2	0.2	0.2	0.3	0.3
Diverted profits tax	0.0	-0.2	-0.2	-0.1	0.0	0.0
Soft drinks industry levy	0.0	0.0	0.0	0.0	0.0	0.0
Digital services tax	0.0	0.0	0.0	0.3	0.4	0.4
Other HMRC taxes[4]	0.1	-0.1	0.0	0.0	0.0	0.0
Vehicle excise duties	0.1	0.2	0.2	0.3	0.3	0.2
Licence fee receipts	0.0	0.0	0.0	0.0	0.0	0.0
Environmental levies	-2.1	-0.2	-0.4	-0.4	-0.3	-0.3
EU ETS auction receipts	-0.1	-0.1	0.9	0.7	0.7	0.8
Other taxes	-0.4	0.4	0.5	0.5	0.6	0.6
National Accounts taxes	**1.5**	**11.1**	**9.6**	**15.4**	**21.5**	**23.7**
Less own resources contribution to EU	0.0	0.2	0.1	0.0	0.0	0.0
Interest and dividends	-0.2	-0.2	0.4	0.6	0.8	0.7
Gross operating surplus	0.6	-0.1	-0.8	-1.1	-0.7	-0.7
Other receipts	-0.2	0.5	0.5	0.6	0.6	0.6
Current receipts	**1.8**	**11.5**	**9.7**	**15.5**	**22.1**	**24.2**
Memo: UK oil and gas revenues [5]	*0.1*	*0.6*	*1.1*	*0.8*	*1.5*	*1.8*

[1] Includes PAYE, self assessment, tax on savings income and other minor components, such as income tax repayments.

[2] National Accounts measure, gross of reduced liability tax credits.

[3] Includes SDLT, ATED and devolved property transaction taxes.

[4] Consists of landfill tax (excluding Scotland and Wales, from 2018-19), aggregates levy, betting and gaming duties and customs duties.

[5] Consists of offshore corporation tax and petroleum revenue tax.

Changes in the receipts forecast since March

4.34 We present changes in this section on a like-for-like basis, adjusting for three changes: the reclassification of Scottish and Welsh housing associations into the private sector; the ONS correction to the VAT refunds data (which is neutral for borrowing as the effect offsets in spending); and the ONS's intention to capture the effect of HMRC fines and penalties in the outturn data (see paragraph 4.20). These changes would have increased our March forecast by £4.0 billion a year on average across the forecast.

4.35 On a like-for-like basis, we have revised our pre-measures forecast up in all years, rising from a £7.4 billion increase in 2018-19 to a £14.1 billion increase in 2022-23. The largest sources of upward revision reflect:

- **Higher 2018-19 receipts** explain the bulk of the upward revision. National Accounts taxes in the first six months of 2018-19 are up 4.5 per cent on the same period a year earlier, higher than our full-year March forecast of 3.6 per cent (on a like-for-like basis). The largest upward revisions are to onshore corporation tax, PAYE income tax and VAT receipts.

- **Higher employment** boosts receipts by progressively larger amounts, mostly reflecting our judgement that the sustainable rate of unemployment is lower than we assumed in March. This boosts income tax and NICs receipts by £4.7 billion by 2022-23 and has knock-on effects to household consumption, boosting VAT receipts and excise duties.

- Higher **oil and gas prices** in sterling terms boost oil and gas revenues by £2.4 billion by 2022-23, partly offset by correspondingly higher costs that increase tax-deductible expenditure. But higher oil prices also dampen growth in fuel consumption and fuel duty receipts.

4.36 Our weaker pre-measures earnings growth forecast partly offsets these upward revisions, as does the lower expected path of interest rates (which reduces revenues from the public sector's stock of assets, but by less than it reduces the cost of servicing government debt).

4.37 The direct effect of Government decisions in this Budget reduces receipts by £4.0 in 2019-20, but boosts them by £0.7 billion in 2022-23. The largest near-term giveaways are raising the income tax personal allowance and the traditional freeze in fuel duties. The largest medium-term takeaways reflect reforms to off-payroll working in the private sector (boosting income tax and NICs receipts) and the decision not to abolish Class 2 NICs.

4.38 The indirect effect of the Budget's discretionary fiscal loosening increases receipts significantly by boosting nominal GDP growth (see Box 3.2), which raises receipts from the major tax bases. The resulting higher inflation also raises the assumed path of excise duty rates (under the Government's professed – but rarely implemented – default uprating assumptions), business rates multipliers and the interest rate on student loans.

Table 4.8: Sources of change to the receipts forecast since March

	£ billion				
	Forecast				
	2018-19	2019-20	2020-21	2021-22	2022-23
March forecast	775.8	800.1	824.9	847.5	876.6
Classification changes	*4.0*	*3.9*	*3.9*	*4.0*	*4.0*
March forecast restated	779.9	804.0	828.9	851.4	880.6
October forecast	787.3	809.8	840.4	869.6	900.8
Change	**7.5**	**5.8**	**11.6**	**18.1**	**20.2**
	Underlying forecast changes				
Total	**7.4**	**8.0**	**8.0**	**11.2**	**14.1**
of which:					
Income and expenditure	**1.8**	**2.6**	**3.5**	**4.5**	**5.6**
Average earnings	-1.0	-1.1	-1.3	-1.3	-1.1
Employee numbers	2.2	2.9	3.6	4.2	4.7
Non-financial company profits	0.0	-0.1	-0.2	-0.2	0.0
Consumer expenditure	0.6	1.0	1.0	1.2	1.5
Self-assessment income streams	-0.1	-0.5	-0.6	-0.6	-0.5
Other	0.1	0.4	1.0	1.1	1.0
North Sea	**1.0**	**1.8**	**1.7**	**1.7**	**2.0**
Oil and gas prices	1.2	2.2	2.2	2.2	2.4
Production and expenditure	-0.2	-0.4	-0.5	-0.5	-0.4
Property markets	**-0.6**	**-0.8**	**-0.8**	**-0.5**	**-0.3**
Market-derived assumptions	**-0.8**	**-0.9**	**-0.9**	**-0.7**	**-0.5**
Oil prices	-0.2	-0.4	-0.4	-0.4	-0.4
Equity prices	0.1	0.5	0.4	0.5	0.6
Interest rates	-0.7	-0.8	-0.7	-0.6	-0.6
Exchange rates	-0.1	-0.1	-0.1	-0.1	-0.1
Prices	**0.0**	**-0.1**	**-0.2**	**-0.3**	**-0.3**
Other economic determinants	**-0.3**	**-0.4**	**-0.3**	**-0.2**	**-0.2**
Other assumptions	**6.4**	**5.8**	**5.0**	**6.8**	**7.8**
IT and NICs receipts and modelling	1.1	-1.0	-1.0	-1.1	-1.5
Corporation tax receipts and modelling	2.0	2.6	2.7	3.0	3.5
VAT receipts and modelling	1.1	0.9	0.9	0.8	0.7
Excise receipts and modelling	1.0	1.0	1.1	1.2	1.2
Fuel receipts and modelling	0.2	0.4	0.5	0.7	0.9
EU ETS	-0.1	0.9	0.7	0.7	0.8
Interest and dividend receipts and modelling	0.0	0.2	0.1	0.2	0.2
CGT modelling	-0.1	-0.2	-0.6	-0.4	-0.1
North Sea modelling	-0.3	-0.7	-0.9	-0.1	-0.2
Other judgements and modelling	1.5	1.7	1.5	1.8	2.3
	Changes due to Government decisions				
Effect of Government decisions	**0.1**	**-2.1**	**3.5**	**6.9**	**6.2**
Scorecard measures	-0.3	-4.2	-1.0	0.3	0.1
Non-scorecard measures	0.2	0.2	0.8	1.7	0.6
Indirect effects	0.1	1.8	3.7	5.0	5.5
Memo: October pre-measures forecast	*787.2*	*812.0*	*836.9*	*862.6*	*894.7*

Receipts in 2018-19

4.39 Over the first six months of the year, tax receipts were 4.5 per cent higher than in the first half of 2017-18. We expect receipts growth to be stronger in the second half of 2018-19.

4.40 This expected pick-up is more than explained by onshore corporation tax. As we set out in *Working paper No.13: In-year fiscal forecasting and monitoring*, the ONS methodology for time-shifting some cash receipts streams in the recorded data means that outturn data will often reflect a forecast for several months after initial publication. In cash terms, onshore corporation tax receipts over the first six months of the year are up 3.3 per cent on a year earlier, compared to our March forecast of a 0.4 per cent fall over the whole year. The £2.3 billion upward revision to our forecast for cash receipts in 2018-19 is likely to generate a significant upward revision to the recorded ONS data over the first half of this year.

4.41 Faster growth in other tax streams generally reflects base effects in 2017-18, including fuel duty (where receipts at the end of 2017-18 were depressed by heavy snows), tobacco duty (where changes to the timing of duty uprating announced in last year's Budget have affected forestalling patterns) and inheritance tax (where receipts were front-loaded in 2017-18 in anticipation of a probate fee rise that in the event was not implemented).

4.42 Partly offsetting the faster growth in onshore corporation tax is fractionally slower growth in VAT, PAYE income tax and NICs. This largely reflects base effects, where receipts in 2017-18 were more end-loaded than is usual. Self-assessment (SA) income tax receipts are also expected to be weaker. Receipts in July and August reflect an instalment payment on 2017-18 liabilities that largely reflects a mechanical calculation based on 2016-17 liabilities. So they provide no new information on which to base our forecast. The balancing payment on 2017-18 liabilities is due by 31 January 2019.

Table 4.9: Receipts in 2018-19

	£ billion			Percentage change on 2017-18		
	Outturn	Forecast		Outturn	Forecast	
	Apr-Sep	Oct-Mar	Full year	Apr-Sep	Oct-Mar	Full year
Income tax and NICs	151.9	175.2	327.1	5.3	3.7	4.4
of which:						
PAYE and NICs	143.3	155.3	298.6	4.4	3.4	3.9
Self assessment	10.6	19.9	30.5	13.4	5.2	7.9
Value added tax	65.7	66.5	132.2	6.5	4.6	5.5
Onshore corporation tax[1]	29.4	29.9	59.4	1.7	9.9	5.5
Fuel duties	14.3	14.0	28.3	0.6	2.1	1.3
Capital gains tax	0.0	8.6	8.7	n/m	11.0	11.0
Inheritance tax	2.8	2.6	5.5	-0.1	9.3	4.2
Property transaction taxes[2]	6.5	6.3	12.8	-7.7	-3.5	-5.7
Tobacco duties	4.8	4.5	9.3	8.0	3.2	5.6
Alcohol duties	6.1	6.3	12.3	7.6	5.2	6.4
Business rates	15.4	15.4	30.7	1.8	3.8	1.9
Council tax	17.2	16.9	34.2	7.3	5.3	6.3
Other[3]	36.0	37.0	73.1	3.3	8.2	6.3
National Accounts taxes[3]	**350.1**	**383.3**	**733.4**	**4.5**	**4.8**	**4.7**

[1] Includes onshore corporation tax, diverted profits tax and the bank surcharge.

[2] Includes SDLT for England, Wales and Northern Ireland, Scottish LBTT and ATED.

[3] We have adjusted these figures for differences between our forecasts and ONS outturns that stem from classification decisions the ONS has taken but not yet implemented, which we anticipate in our forecasts. These items include feed-in tariffs, the warm home discount and a number of other items. Full details are available in a supplementary fiscal table on our website.

Tax-by-tax analysis

PAYE income tax and NICs

4.43 Income tax and NICs receipts are expected to be £2.1 billion higher in 2018-19 than we assumed in March. This is more than explained by a £3.0 billion upward revision to PAYE and NICs receipts on employee salaries. Self-assessment receipts are also expected to be £0.2 billion higher. Higher income tax repayments and lower receipts from smaller income tax and NICs streams partly offset the higher PAYE receipts.

4.44 The £3.0 billion upward revision to PAYE and NICs receipts in 2018-19 reflects:

- **Unexpectedly strong employment growth** so far in 2018-19. We now expect the number of employees to rise by 1.3 per cent in 2018-19, compared with a forecast of 0.5 per cent in March. That alone adds £2.2 billion to 2018-19 receipts.

- **Higher tax paid on pension flexibility withdrawals**. We have revised up 2018-19 yield by £0.4 billion, as earlier cohorts are drawing down their pensions for longer.

- The effect from **'PAYE refresh'**, an HMRC operational scheme to implement more in-year coding changes when PAYE taxpayers' circumstances change. This came into effect in July 2017 and brings forward the collection of underpayments. It therefore boosts PAYE receipts initially, but reduces them subsequently. New information

suggests a small boost to receipts in 2018-19 from the scheme rather than the hit assumed in March. This adds £0.8 billion to 2018-19 receipts.

- **A higher effective tax rate on employee salaries**, reflecting the residual upside surprise in receipts not explained by other factors. This is pushed through to future years.

4.45 Growth in PAYE and NICs receipts is then expected to slow from 3.9 per cent to just 1.8 per cent in 2019-20. Several factors that have boosted receipts this year will do so by less in 2019-20. Employee growth is expected to slow to 0.6 per cent, while pensions flexibility yield is expected to fall back as initial cohorts are assumed to have finished drawing down their pensions. The effect of PAYE refresh is expected to turn negative. But the main driver is the decision to raise the personal allowance in 2019-20 to £12,500 and the higher rate threshold to £50,000. This reduces PAYE and NICs receipts by £2.6 billion in 2019-20.

4.46 Compared with March, PAYE and NICs receipts are down £1.1 billion in 2019-20, largely reflecting policy changes. They are then £4.3 billion higher in 2020-21, rising to £6.9 billion higher in 2022-23. Higher receipts in the final years of the forecast reflect:

- **Stronger growth in employment** than assumed in March, reflecting our downward revision to the equilibrium unemployment rate. Higher employment raises receipts by £4.7 billion in 2022-23 relative to our March forecast.

- The **indirect effect of the discretionary fiscal easing** announced in the Budget boosts receipts by progressively larger amounts thanks to both the near-term increase in real GDP and the knock-on consequences for prices and nominal earnings growth.

Table 4.10: Key changes to the non-SA income tax and NICs forecast since March

	£ billion				
	Forecast				
	2018-19	2019-20	2020-21	2021-22	2022-23
March forecast	294.7	303.0	313.1	323.4	335.5
October forecast	296.6	301.9	317.4	329.2	342.4
Change	**1.9**	**-1.1**	**4.3**	**5.8**	**6.9**
	Underlying OBR forecast changes				
Total	**2.0**	**0.2**	**0.6**	**1.6**	**2.4**
of which:					
Economic determinants					
Average earnings	-1.0	-1.1	-1.3	-1.3	-1.1
Employee numbers	2.2	2.9	3.6	4.2	4.7
Inflation	0.0	-0.2	-0.4	-0.3	-0.2
Other economic determinants	-0.1	0.2	0.2	0.2	0.2
Other					
Pension flexibility costing	0.4	0.0	0.0	0.0	0.0
Recostings	0.0	-0.5	-0.6	-0.4	-0.4
Other modelling and receipts changes	0.5	-1.1	-0.9	-0.9	-0.8
	Effect of Government decisions				
Scorecard measures	-0.1	-2.5	1.1	1.2	1.2
Indirect effects	0.0	1.2	2.5	3.0	3.4

Self-assessment (SA) income tax

4.47 Receipts from SA income tax are expected to rise by 7.9 per cent in 2018-19. This primarily reflects further unwinding of dividend income shifting that occurred ahead of the dividend tax rise that took effect in April 2016. As noted in March, we assumed that taxpayers shifted £13.2 billion of dividend income into 2015-16 liabilities (paid with the usual SA lag in 2016-17). HMRC analysis of SA returns suggested that around 60 per cent of the income shifting was unwound in 2016-17 liabilities (depressing receipts in 2017-18). Further unwinding will have a much smaller effect on 2017-18 liabilities, so will boost growth in 2018-19 receipts relative to last year. The income shifting has masked the fact that the dividend tax rise is expected to raise around £2.5 billion in both 2018-19 and 2019-20.

4.48 Policy measures announced at this Budget and at previous fiscal events will continue to affect the year-on-year profile of SA income tax receipts over the forecast period. The April 2018 reduction in the dividend allowance to £2,000 will boost receipts from 2019-20, whereas policies announced in this Budget will reduce receipts from 2020-21 onwards. This includes the personal allowance and higher-rate threshold measures, which will reduce SA receipts in 2020-21 due to the usual payment lag. The reforms to off-payroll working are expected to reduce the use of dividends by company owner-managers, but with a more than offsetting boost to PAYE receipts as those workers are moved onto payrolls.

4.49 Compared with March, our forecast is down from 2020-21 onwards. The revision reaches £1.5 billion in 2022-23. Around half of the change is the result of policy measures, but weaker self-employment income and modelling changes have also lowered receipts. The number of self-employed people has dropped in the past year reversing the strong upward trend in recent years. We assume that this effect is temporary and that the share of self-employment in total employment will rise over the forecast period. The main modelling change is to forecast the average effective tax rate using more detailed information on taxpayers' liabilities, taking account of reliefs, allowances and our inflation assumptions, compared with the less disaggregated approach used previously.

Table 4.11: Key changes to the SA income tax forecast since March

	£ billion				
	Forecast				
	2018-19	2019-20	2020-21	2021-22	2022-23
March forecast	30.3	32.8	34.4	35.8	38.0
October forecast	30.5	32.9	33.6	34.8	36.4
Change	**0.2**	**0.1**	**-0.8**	**-0.9**	**-1.5**
	Underlying OBR forecast changes				
Total	**0.2**	**0.1**	**-0.2**	**-0.5**	**-0.8**
of which:					
Self employment income	-0.2	-0.4	-0.3	-0.3	-0.3
Dividend income	0.2	0.1	0.1	0.1	0.1
Savings income	0.0	-0.1	-0.1	-0.1	-0.1
Other economic determinants	-0.1	-0.2	-0.3	-0.3	-0.3
New AETR modelling	-0.4	-0.5	-0.5	-0.5	-0.7
Other modelling and receipts changes	0.7	1.1	1.0	0.7	0.4
	Effect of Government decisions				
Scorecard measures	0.0	0.0	-0.7	-0.7	-0.9
Indirect effects	0.0	0.1	0.1	0.2	0.2

VAT

4.50 In our pre-measures forecast, we have revised VAT receipts up by £2.4 billion a year on average since March. Table 4.12 breaks down the key drivers of the change. It shows that:

- We have revised up our **forecast for 2018-19** by £1.8 billion. This reflects the stronger-than-expected performance of cash receipts since our March forecast.
- We have also revised up **nominal household spending growth** across the forecast. This partly reflects our judgment that the economy can sustain a lower rate of unemployment, boosting overall labour income. This raises receipts in all years.
- Revisions to **other components of nominal GDP** boost VAT receipts over the forecast, largely reflecting the higher real GDP growth in our pre-measures forecast.

4.51 Budget measures boost receipts by £0.4 billion a year on average from 2019-20 onwards, the largest of which reflects a freeze in the VAT registration threshold in 2020-21 and 2021-22. The indirect effect of the discretionary fiscal easing boosts growth in the VAT tax base, raising receipts by £0.2 billion a year on average from 2019-20.

Table 4.12: Key changes to the VAT forecast since March

	£ billion				
	Forecast				
	2018-19	2019-20	2020-21	2021-22	2022-23
March forecast	130.4	134.6	138.7	142.9	147.4
October forecast	132.2	137.2	141.9	146.4	150.8
Change	**1.8**	**2.6**	**3.1**	**3.4**	**3.4**
	Underlying forecast changes				
Total	**1.8**	**2.2**	**2.5**	**2.7**	**2.7**
of which:					
Household spending	0.5	0.8	0.9	1.1	1.4
Standard rated share	0.0	0.0	0.0	0.0	-0.2
Other economic determinants	0.2	0.5	0.8	0.9	0.9
Outturn receipts and modelling	1.1	0.9	0.9	0.8	0.7
	Effect of Government decisions				
Budget measures	0.0	0.2	0.4	0.5	0.6
Indirect effects	0.0	0.1	0.2	0.2	0.1

4.52 The 'implied VAT gap' in Table 4.1 at the start of this chapter is the difference between the theoretical total VAT receipts produced by the HMRC forecast model we use and actual VAT receipts. It is adjusted for timing factors where they can be estimated. Changes in this estimate may reflect real-world changes in non-compliance or measurement errors in estimating the theoretical total.

4.53 The implied VAT gap in 2018-19 falls by 1.0 percentage points relative to the 2017-18 estimate. This large fall follows a 0.7 percentage point rise between 2016-17 and 2017-18, indicating that timing effects may explain some of the year-on-year changes. HMRC analysis suggests that part of the rise in the VAT gap last year reflects a rise in VAT debt. Part of the strength in cash receipts so far this year may indicate that this increase in debt is reversing. The fall in the VAT gap over the rest of the forecast reflects the expected impact of HMRC operational and compliance measures from past Budgets and Autumn Statements.

4.54 Our forecast does not assume any changes to the structure or membership of tax systems for which there are common EU rules, including VAT. There is significant uncertainty regarding the eventual outcome of the continuing Brexit negotiations. We have noted the uncertainty surrounding the implications of any changes to import VAT rules, which provide a cashflow benefit to UK companies importing goods from the EU. Any changes could alter the timing of VAT payments reaching the Exchequer, while any cashflow effects on importing businesses could have wider implications. Our recent discussion paper on Brexit provides for a more detailed discussion of our assumptions.

Onshore corporation tax

4.55 Receipts from onshore corporation tax in 2018-19 have been revised up by £1.8 billion since our March forecast. All the upward revision reflects stronger receipts from larger industrial and commercial companies. Instalment payments by such companies have continued to show strong year-on-year growth in the first half of 2018-19, despite the

slowdown in the ONS profit growth figures for the sector. Due to the early Budget this year, we have been unable to incorporate October's quarterly instalment payment, adding to the uncertainty around the forecast.

4.56 We have pushed the higher instalment payments by industrial and commercial companies in 2018-19 through to future years. This is the key factor raising the forecast relative to March. In contrast, cash receipts from the financial sector in the first half of 2018-19 have been broadly flat, after a 48 per cent rise between 2015-16 and 2017-18. The strong rise in previous years reflected a combination of: lower funding costs for banks; fewer misconduct fines; and restrictions in the use of past bank losses that could be set against profits. The effect from these factors is now diminishing.

4.57 We have assumed that financial company profit growth will be weaker than the whole economy average from 2020-21 onwards since the sector is likely to be disproportionately affected by the UK's exit from the EU. This, along with the cut in the main rate of corporation tax, means that accrued receipts from the sector peak in 2019-20. In contrast, corporation tax from small companies is expected to grow strongly over the forecast period. This reflects the rising trend in incorporations, although the reform to off-payroll working in the private sector is expected to temper this rise. The reforms will reduce onshore corporation tax receipts but should be more than offset by a rise in PAYE and NICs receipts.

4.58 We expect accrued receipts from onshore corporation tax to increase by just £0.1 billion in 2019-20 and to fall in 2020-21, before rising over the rest of the forecast. Subdued receipts growth in 2019-20 reflects the temporary increase to the annual investment allowance to £1 million from January 2019 announced in the Budget and subdued profit growth. The reduction in the main rate of corporation tax from 19 to 17 per cent in April 2020 reduces accrued receipts from 2020-21 onwards, and by £5.3 billion in 2022-23.

4.59 From April 2019, medium and large companies will have to make their instalment payments four months earlier than under the current regime. Firms will start making their quarterly instalment payments three months (rather than seven months) after the start of their accounting period. This will provide a one-off boost to cash receipts, particularly in 2019-20 and to a lesser extent in 2020-21, without any change in underlying liabilities. Cash receipts are therefore expected to rise by 16 per cent in 2019-20, with many firms in effect paying five rather than four instalment payments during the year. The ONS will change its time-shifted cash methodology for accrued CT to ensure that this change does not affect the path of accrued receipts recorded in the National Accounts.

Table 4.13: Key changes to the onshore corporation tax forecast since March

	£ billion				
	Forecast				
	2018-19	2019-20	2020-21	2021-22	2022-23
March forecast	55.5	55.3	54.9	55.2	57.1
October forecast	57.3	57.4	57.0	58.0	60.5
Change	**1.8**	**2.1**	**2.1**	**2.8**	**3.4**
	Underlying forecast changes				
Total	**2.0**	**2.5**	**2.6**	**2.9**	**3.7**
of which:					
Industrial and commercial company profits	0.0	-0.1	-0.2	-0.2	0.0
Other economic determinants	0.0	0.0	0.0	0.1	0.1
Recostings	-0.4	-0.7	-0.3	-0.1	0.1
Modelling	0.0	0.9	0.7	0.7	0.9
Outturn receipts	2.4	2.4	2.4	2.4	2.5
	Effect of Government decisions				
Scorecard measures	-0.2	-0.5	-0.6	-0.3	-0.3
Indirect effects	0.0	0.1	0.2	0.2	0.0

UK oil and gas revenues

4.60 We have revised our forecast for UK oil and gas revenues up in all years and by an average of £1.2 billion a year. Table 4.14 breaks down the sources of this revision:

- Higher **sterling oil and gas prices** in the near term (reflecting significantly higher dollar prices and a weaker pound-dollar exchange rate) increase receipts by £1.2 billion in 2018-19 and £2.2 billion a year on average across the rest of the forecast.

- We have revised up **oil and gas production** marginally by the end of the forecast, boosting revenues by £0.1 billion in 2022-23. We assume that higher oil prices will induce some production increases. The strength of this effect is highly uncertain, as it depends on the long-term price expectations of firms operating in the North Sea, as well as the feasibility of new production projects in a mature basin. We will review this assumption alongside the OGA's next 'Stewardship Survey' in 2019.

- Consistent with higher prices and their likely effect on North Sea unit costs, and modestly higher production, we have revised up our forecast for overall **expenditure**. This change reduces receipts by £0.4 billion a year on average compared to March.

- The rest of the revision mainly reflects a downward adjustment to **receipts in 2018-19**, reflecting cash receipts in the year to date. The effect of modelling changes is uneven across the forecast, reflecting updated survey data used by HMRC. This suggests that the composition of production and expenditure in 2019-20 and 2020-21 will be more concentrated in newer fields and so output will be less tax-rich than assumed in March.

Table 4.14: Key changes to the oil and gas revenues forecast since March

	£ billion				
	Forecast				
	2018-19	2019-20	2020-21	2021-22	2022-23
March forecast	0.9	0.8	1.0	0.8	0.9
October forecast	1.5	1.9	1.8	2.4	2.7
Change	**0.6**	**1.1**	**0.8**	**1.5**	**1.8**
	Underlying forecast changes				
Total	**0.6**	**1.1**	**0.8**	**1.5**	**1.8**
of which:					
Oil and gas prices	1.2	2.2	2.2	2.2	2.4
Production	0.0	0.0	0.0	0.0	0.1
Expenditure	-0.2	-0.4	-0.5	-0.5	-0.5
Outturn receipts and modelling	-0.3	-0.7	-0.9	-0.1	-0.2

Property transaction taxes

4.61 The UK Government has devolved powers over property transactions taxes to Scotland and Wales. In Scotland, stamp duty land tax (SDLT) was replaced by the land and buildings transaction tax (LBTT) in April 2015. In Wales, it was replaced by the land transaction tax (LTT) in April 2018. As these taxes are similar in design to stamp duty land tax, we combine them in this section. More information on our LBTT and LTT forecasts is included in our *Devolved tax and spending forecasts* publication on our website.

4.62 Relative to March, we have revised our forecast for property transactions taxes down by £0.8 billion a year on average. This reflects several factors:

- **Property transactions** are lower, with the largest effects in the near term. This reduces receipts by £0.3 billion a year on average from 2018-19 to 2022-23.
- **Outturn receipts** in recent months have been weaker than expected. This may reflect both the recent broad-based weakness in property transactions and the composition of the tax base, as more expensive properties pay a proportionately higher effective tax rate. We assume that this weakness will persist across the forecast.
- We have slightly revised down **house price inflation** in 2018-19, but revised it up in later forecast years, increasing receipts by £0.4 billion in 2022-23.
- We have updated the micro-simulation **model base data**. The net effect of this is relatively small, but the composition of overall SDLT receipts changes. Now, relatively more tax is being raised from commercial property and less from residential property, with a small negative net effect that lowers receipts in all years. We have remodelled the cost of the first-time buyers' relief using outturn administrative data. This has reduced the estimated cost of the relief slightly, thereby boosting the forecast. We discuss the effects of the relief in more detail in Annex A.

Table 4.15: Key changes to the property transactions taxes forecast since March

	£ billion				
	Forecast				
	2018-19	2019-20	2020-21	2021-22	2022-23
March forecast	13.8	14.3	14.9	15.5	16.3
October forecast	12.8	13.3	14.1	14.9	15.8
Change	**-1.0**	**-0.9**	**-0.8**	**-0.6**	**-0.5**
	Underlying forecast changes				
Total	**-1.0**	**-0.9**	**-0.8**	**-0.6**	**-0.5**
of which:					
House prices	-0.1	0.0	0.2	0.3	0.4
Residential property transactions	-0.4	-0.4	-0.3	-0.3	-0.2
Commercial property market	-0.1	-0.2	-0.3	-0.3	-0.3
Outturn receipts and modelling	-0.4	-0.3	-0.4	-0.4	-0.4

Note: Includes SDLT for England and Northern Ireland, Scottish LBTT, Welsh LTT and the Annual Tax on Enveloped Dwellings (ATED). More detail on LBTT and LTT can be found in the *Devolved tax and spending forecasts* publication on our website.

Taxes on capital

4.63 The revisions to our **capital gains tax (CGT)** forecast are uneven across years. Receipts have been revised down in 2018-19 and 2020-21, but up in other forecast years. This reflects several offsetting factors:

- **Higher equity prices** boost receipts by £0.5 billion in 2022-23. Our weaker forecast for the residential property market has partially offset this.

- We have worked with analysts in HMRC to review and update the **forecasting model**. The new model is more transparent and includes timelier data. We have also updated the gearing coefficient used to forecast financial gains, raising it slightly. CGT receipts are geared to changes in asset prices, as the tax is paid on the gain rather than the value of the asset when sold. Based on the past 26 years' data, our model now assumes that a 1 per cent rise in equity prices will result in a 2.9 per cent rise in CGT receipts from shares. Incorporating these modelling changes lowers forecast receipts, most notably in 2020-21 due to the interaction with the Budget 2017 measure to reduce the payment window for gains made on residential property.

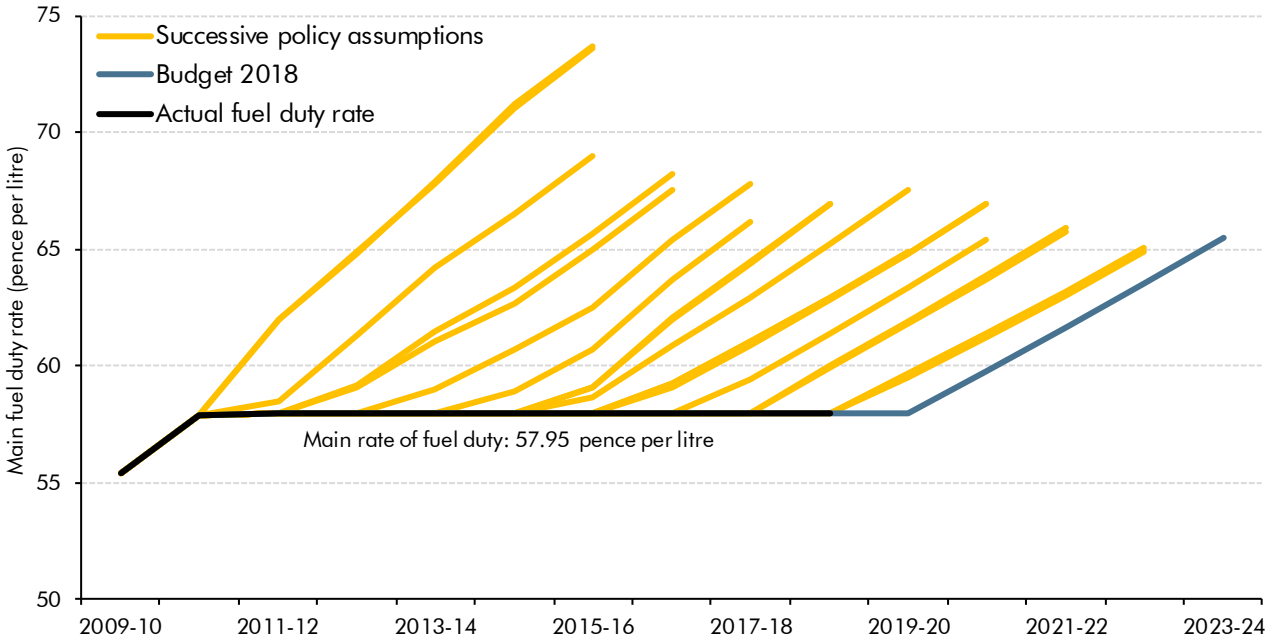
4.64 We have revised up **inheritance tax** receipts a little relative to March. This largely reflects higher equity prices, although receipts in 2018-19 have also come in slightly higher than expected. Since inheritance tax is typically received by HMRC with a long lag, this is likely to reflect higher liabilities from previous years.

4.65 We have revised up receipts from **stamp duty on shares** relative to March. This reflects strength in receipts in recent months prompting an upward revision to our forecast for 2018-19. Higher equity prices across the forecast also boosts receipts.

Fuel duties

4.66 Relative to our March forecast, fuel duty receipts are lower by £0.2 billion a year on average. We revised up our pre-measures forecast having reviewed the assumptions that underpin it, but the effect of this was more than offset by the traditional announcement of a one-year freeze in the duty rate in this Budget. Our forecast for fuel duties is subject to the clear policy risk that the Government continues not to implement its stated policy assumption to increase the headline duty rate in line with RPI inflation. Since our June 2010 forecast, the policy to increase duties in line with RPI inflation has been delayed three times and cancelled eight times. Chart 4.4 shows the successive policy assumptions for fuel duty uprating across our previous forecasts.

Chart 4.4: Successive fuel duty uprating assumptions



Source: HMRC, OBR

4.67 In this Budget, the Government has again cancelled the planned increase in April 2019, reducing receipts by £0.8 billion in 2018-19. But it has retained its stated default RPI indexation policy in later forecast years. Table 4.15 shows the contributions to cumulative receipts growth over the forecast. Of the £3.8 billion increase in receipts between 2018-19 and 2023-24, £3.6 billion is due to the Government's stated uprating policy.

Table 4.16: Cumulative growth in fuel duty receipts since 2018-19

	£ billion					
	Forecast					
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
October forecast	28.3	28.3	29.2	30.2	31.1	32.0
	Cumulative receipts growth since 2018-19					
Total	**-**	**0.1**	**1.0**	**1.9**	**2.9**	**3.8**
of which:						
Distance travelled	-	0.3	0.7	1.0	1.3	1.6
Fuel economy of the vehicle stock[1]	-	-0.2	-0.5	-0.8	-1.1	-1.4
Government duty uprating policy[2]	-	0.0	0.8	1.7	2.7	3.6

[1] This reflects several factors including the efficiency of each individual vehicle, the composition of the vehicle stock, the nature of trips taken and congestion.

[2] This represents the estimated static contribution of the Government's duty uprating policy. The actual impact will differ slightly due to behaviour.

4.68 Aside from the duty rate freeze, the remaining revisions reflect several offsetting factors:

- **Stronger-than-expected growth in fuel clearances** has boosted receipts in recent months, and we assume this will persist over the forecast.
- **Higher sterling oil prices** put upward pressure on pump prices, reducing receipts by an average of £0.2 billion a year. The negative effect of this on fuel consumption is only partially offset by the upward revision to GDP growth in the medium term.
- The remaining change in our forecast reflects **modelling changes**. Since March, we have worked with analysts in both HMRC and the Department for Transport to create a new forecasting model that better reflects recent trends in distances travelled and the fuel economy of the vehicle stock. The new model is better at reflecting compositional changes in the vehicle stock, which have been a key driver of the improvement in aggregate fuel economy over the past few decades – in particular, the trend away from petrol to diesel cars, which tend to be more fuel efficient. Given the recent trend in new car sales back towards petrol cars, we assume that aggregate fuel economy improves at a slower pace over the near term, although the rising popularity of alternatively fuelled vehicles offsets this to some extent by the end of the forecast.

Alcohol and tobacco duties

4.69 We have revised up **alcohol duties** by £0.7 billion this year, which largely reflects unexpectedly strong clearances since March. Those may have been supported in part by temporary factors, such as the warm summer and the football World Cup. But the consistent strength in receipts over the past six months suggests higher underlying growth, so we have assumed that the bulk of the strength persists through the forecast. The Budget announced that duties on beer, cider and spirits will be frozen in 2019, reducing receipts by £0.2 billion a year on average.

4.70 We have revised up **tobacco duties** by £0.3 billion a year on average relative to our March forecast, reflecting stronger clearances in recent months. Monthly receipts have been more

volatile than usual in recent years, reflecting several regulatory changes and the new timetable of duty uprating announced in last year's Autumn Budget. These generate significant uncertainty around our forecast, although we expect this volatility to subside once the new uprating timetable beds in. The impact of a weaker pound relative to our March forecast (which we assume reduces the incentive for cross-border shopping, increasing UK duty-paid consumption) and our higher RPI inflation forecast also boost receipts.

Business rates

4.71 Business rates are calculated by multiplying the rateable value of non-domestic property by the multiplier, which is uprated by inflation. With CPI inflation around 0.1 percentage points a year higher over the forecast period, this pushes up business rates by around £0.2 billion by the end of the forecast period. But the main changes to business rates receipts since March reflect Budget measures.

4.72 The Government has announced a business rates discount of one third for retailers with a rateable property value of less than £51,000 for 2019-20 and 2020-21. This reduces receipts by around £450 million in each of these years. The Government also announced in the Spring Statement that the business rates revaluation would be brought forward a year to 2021. We were informed too late to include this in our forecast then, so have factored it in now. The Government is obliged to design the revaluation and transitional relief to be fiscally neutral. At revaluation, the multiplier is set to include headroom for future changes to the rating list (e.g. from successful appeals) so that the yield remains constant in real terms after the estimated loss of rateable value from these changes. With the revaluation brought forward a year, the initial boost to yield (before appeals erode the yield) occurs a year earlier than in our March forecast. This adds £0.9 billion to receipts in 2021-22.

4.73 We have assumed that the transitional relief scheme for the 2021 revaluation will be fiscally neutral ahead of details of the scheme. Although the aim is always for schemes to be fiscally neutral, the initial evidence from the 2017 scheme suggests that it will produce a surplus, in contrast to the 2010 scheme that produced a deficit.

Other taxes

4.74 **Council tax** receipts have been revised up by £0.1 billion a year over the forecast. This largely reflects a higher forecast for receipts in 2018-19, which serves as the jump-off point. This is discussed in more detail in the local authority expenditure section of this chapter. We assume that council tax receipts are spent by local government, so they are neutral for borrowing in our forecast.

4.75 Our forecast for **VAT refunds** is significantly higher than in March. These refunds exist so that approved public sector organisations can recover the VAT incurred on some types of expenditure, so they do not face additional costs. Our forecast largely reflects the path of government procurement and investment. Since our March forecast, the ONS has incorporated a correction into the VAT refunds data, which now include the refunds to several public sector organisations such as the BBC, the NHS, Police and Crime Commissioners, and academies, that were previously not covered. This correction has

increased both receipts and spending by around £3.4 billion in 2017-18. On top of this, higher government procurement spending due to the boost to public spending announced in the Budget will also boost VAT refunds.

4.76 **Air passenger duty** (APD) receipts are expected to rise slightly as a share of GDP over the forecast, reflecting continued growth in passenger numbers and RPI-linked duty rate rises. We have revised our forecast up in 2018-19, reflecting strong growth in passenger numbers in recent months. This effect is assumed to persist over the rest of the forecast. We have also adjusted our model to reflect the rising trend in Band B premium economy passengers, who are charged at the standard, as opposed to the reduced, rate. This increases receipts, adding £65 million to the forecast in 2022-23.

4.77 Our forecast for **insurance premium tax** (IPT) receipts is £6.3 billion this year, more than twice the level four years ago. This reflects the doubling of the standard rate from 6 per cent in October 2015 to 12 per cent in June 2017. Our forecast is £0.2 billion higher on average relative to March, reflecting stronger in-year receipts.

4.78 The **climate change levy** (CCL) is charged on the energy generated by fossil fuels used by non-domestic consumers. Different rates are charged depending on the type of energy used, with some businesses qualifying for discounted rates if they enter into a Climate Change Agreement (CCA) with the Environment Agency. Receipts in the near term are little changed since March, but they are boosted in 2023-24 when the current CCA scheme comes to an end. Receipts from the **carbon price floor** (CPF) are also little changed, with the rise in electricity generation from renewables and natural gas at the expense of coal continuing to reduce the tax base.

4.79 **Bank levy** receipts are forecast to be £2.5 billion in 2018-19, £0.2 billion higher than we forecast in March. This reflects stronger-than-expected cash receipts from July's quarterly payment, which we assume will persist across the forecast. We have also revised up the trend in chargeable liabilities across the forecast, reflecting revisions to cash receipts in previous years. We now expect chargeable liabilities to fall more slowly across the forecast than we did in March.

4.80 We have revised up **bank surcharge** receipts by an average of £0.1 billion a year from 2018-19 onwards, reflecting stronger cash receipts this year. Financial sector profit growth is assumed to slow over the forecast (see above).

4.81 We have revised up receipts from the **apprenticeship levy** by £0.2 billion a year on average relative to March, largely due to unexpectedly strong receipts so far in 2018-19. Receipts are also expected to grow at a slightly faster rate, reflecting an upward revision to the growth of employers' paybills across the forecast and the pace of assumed fiscal drag.

4.82 Receipts from the **soft drinks industry levy** have been revised up slightly since March. Introduced in April this year, the first instalment of receipts in July this year was a little stronger than would be implied by our March forecast. This may be due to less forestalling than anticipated, an underestimated tax base or the warm summer weather temporarily

boosting receipts. As we do not know how transitory the strength in receipts will prove, we assume that half persists over the forecast. The levy is now forecast to raise around £250 million a year on average from 2019-20 onwards, around half the Government's original target of £500 million in 2019-20 when the levy was first announced in Budget 2016.

4.83 **Customs duties** comprise the majority of 'traditional own resources' or TOR-based UK contributions to the EU. Box 4.4 of our March 2017 *EFO* set out the treatment of customs duties in the public finances and the approach we have taken in our forecast in the absence of firm details about policy in this area after the UK leaves the EU. Our forecast is a little lower by 2022-23. This reflects weakness of receipts in recent months and the changing composition of imported goods, which has reduced the average tariff rate. The upward revision to our imports forecast partly offsets this.

4.84 Our forecast for **betting and gaming** receipts is little changed since March, but this hides the impact of two large, and largely offsetting, policy measures announced in the Budget. The Government has cut the maximum permitted stakes in certain machines liable to machine gaming duty from £100 to £2 from October 2019.[6] This reduces receipts by nearly £0.3 billion a year on average across the forecast. Offsetting this, the Government will increase the main rate of remote gaming duty by 6 percentage points, taking the rate to 21 per cent of a gaming provider's profits.

4.85 **Vehicle excise duty** (VED) is levied annually on road vehicles and is expected to rise from £6.4 billion in 2018-19 to £7.5 billion in 2023-24. Our forecast is up by an average of £0.2 billion a year since March, mainly due to an upward revision to the taxable vehicle stock, where outturns have surprised on the upside. This appears to be more to do with unexpectedly low scrappage rates as new car sales have disappointed over the past year.

4.86 Our forecast for **aggregates levy** receipts is broadly unchanged since March. We have worked with analysts in HMRC to create a new forecasting model that better reflects recent trends in tonnages subject to the levy. This new model relates liable tonnages to real GDP and the duty rate. The Budget announces the traditional duty rate freeze, which partly offsets the impact of this modelling change.

4.87 **Environmental levies** include levy-funded spending policies such as the renewables obligation (RO), contracts for difference (CfD), feed-in tariffs, the capacity market scheme and the warm homes discount. We also include receipts from the 'CRC energy efficiency scheme' (formerly known as the carbon reduction commitment) until its abolition from the 2018-19 compliance year. Receipts rise from £10.2 billion in 2018-19 to £13.1 billion in 2023-24. This relates mainly to the CfD scheme, which is designed to boost renewable energy, and the capacity market scheme that focuses on the security of electricity supply. Other schemes remain broadly flat in real terms.

[6] Box 4.2 in our March 2018 *EFO* described our machine games duty forecast in more detail, and explained the drivers of the relative strength in receipts in recent years.

4.88 Our forecast for environmental levies is down by an average of £0.3 billion a year relative to March. This primarily reflects lower RO and CfD spending. Lower RO spending reflects a lower projection for electricity generation under the scheme, while higher wholesale energy prices will reduce CfD spending. Higher energy prices mean less subsidy because the wholesale price will be closer to the guaranteed strike price. Since these effects apply equally to receipts and spending, they do not pose a risk to our forecast for net borrowing.

4.89 The **EU emissions trading scheme** (EU ETS) is an EU wide 'cap-and-trade' scheme for carbon emissions. Our EU ETS forecast multiplies the expected number of carbon permits being auctioned in each year by the carbon price. Our forecast for the carbon price is derived using market expectations via the futures price for each scheduled auction. Our forecast for receipts is significantly higher than in March, by £0.8 billion a year on average from 2019-20. This is largely due to the recent rise in expected carbon prices, which have more than doubled since our March forecast. As set out at the start of this chapter, we have not assumed any change to the UK's membership of the EU ETS after the UK leaves the EU.

4.90 The Budget announced the introduction of a new **digital services tax**, which will be introduced in April 2020. This will be levied on large businesses which provide certain internet-based services to the UK population, including social media platforms, search engines, online marketplaces and collaborative sharing platforms. These businesses typically generate revenue from the provision of targeted online advertising, the commission charged for facilitating transactions or the subscription fees charged for access to the services they offer. Only those revenues attributable to UK users would be liable, charged at a single rate of 2 per cent. Only large companies will fall within the scope of the tax. As described in Annex A, we expect this new tax to raise £0.4 billion a year on average from its implementation, but judge these estimates to be subject to high uncertainty due to the data, modelling and behavioural complexities involved.

Other receipts

4.91 **Interest and dividend receipts** include interest income on the government's financial assets, including student loans and mortgages related to the financial crisis interventions. We have revised receipts down by £0.2 billion in 2018-19, but up from 2020-21 onwards. This largely reflects the inclusion of RBS dividend payments. In October, RBS paid its first dividend since the crisis, with the Government receiving £150 million. Over the forecast, RBS dividends add to receipts by uneven amounts, peaking at £0.6 billion in 2021-22. Our forecast of dividends per share is based on outside analysts' expectations up to 2020, while the number of shares the Government owns in each year is determined by the path of RBS share sales consistent with the Government's plans to sell all its remaining holdings by 2023-24.

4.92 Interest and dividend receipts rise rapidly over the forecast, from £7.1 billion in 2017-18 to £15.2 billion in 2023-24. Accrued interest on student loans explains around £4.9 billion of the £7.1 billion rise over the forecast period. Box 4.3 outlines the issues around the scoring of student loans in the National Accounts. A prospective change in ONS methodology is likely to affect the scoring of this accrued interest at some point.

4.93 We have revised our public sector **gross operating surplus (GOS)** forecast down by £0.7 billion a year on average over the forecast. This largely reflects the reclassification of Scottish and Welsh housing associations into the private sector, which means that their rental and other income (net of non-interest running costs) no longer add to GOS. Other changes reflect a variety of factors, including ONS outturns for 2017-18, our latest forecast for TfL income and changes in our forecast for general government depreciation (which is neutral for borrowing, being directly offset in the spending forecast).

Public sector expenditure

Definitions and approach

4.94 This section explains our forecast for public sector expenditure, which is based on the National Accounts aggregates for public sector current expenditure (PSCE), public sector gross investment (PSGI) and total managed expenditure (TME), which is the sum of PSCE and PSGI. In our forecast, we combine these National Accounts aggregates with the two administrative aggregates used by the Treasury to manage public spending:

- **Departmental expenditure limits (DELs)**[7] – mostly covering spending on public services, grants, administration and capital investment, which can be planned over extended periods. Our fiscal forecast therefore shows PSCE in resource DEL and PSGI in capital DEL. We typically assume (in line with historical experience) that departments will underspend the limits that the Treasury sets for them, so – unless otherwise stated – when we refer to PSCE in RDEL and PSGI in CDEL (or RDEL and CDEL for simplicity) we are referring to the net amount that we assume is actually spent.

- **Annually managed expenditure (AME)** – categories of spending less amenable to multi-year planning, such as social security spending and debt interest. Again, our fiscal forecast shows PSCE in current AME and PSGI in capital AME.

Summary of the expenditure forecast

4.95 Table 4.17 summarises our latest forecast for public spending. TME is expressed as a percentage of GDP, but not all public spending contributes directly to GDP – benefit payments, debt interest and other cash transfers merely transfer income from some individuals to others. TME is expected to fall by 0.3 per cent of GDP over the forecast period – a far shallower decline than the 1.1 per cent of GDP forecast in March.

[7] Our presentation of expenditure only shows those components of RDEL, CDEL and AME that are included in the fiscal aggregates of PSCE and PSGI. For budgeting purposes, the Treasury also includes other components in DEL and AME such as non-cash items and financial transactions, which are discussed later in this chapter.

Table 4.17: TME split between DEL and AME

	Per cent of GDP						
	Outturn	Forecast					
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
TME	**38.5**	**38.2**	**38.3**	**38.1**	**38.0**	**37.9**	**37.9**
of which:							
TME in DEL	**16.2**	**16.3**	**17.0**	**17.1**	**17.1**	**17.0**	**17.1**
of which:							
PSCE in RDEL	14.0	13.9	14.2	14.2	14.2	14.1	14.1
PSGI in CDEL	2.2	2.4	2.8	2.9	3.0	2.9	3.0
TME in AME	**22.4**	**22.0**	**21.3**	**21.0**	**20.9**	**20.9**	**20.8**
of which:							
Welfare spending	10.6	10.5	10.3	10.2	10.2	10.2	10.3
Debt interest net of APF	2.0	1.9	1.9	1.9	1.9	1.9	1.9
Locally financed current expenditure	2.4	2.4	2.3	2.3	2.3	2.3	2.3
Net public service pension payments	0.6	0.6	0.3	0.3	0.3	0.4	0.4
Other PSCE in AME	5.0	5.1	5.2	5.2	5.1	5.1	5.0
PSGI in AME	1.8	1.5	1.3	1.2	1.1	1.1	1.0

4.96 Table 4.18 shows our latest forecast of public spending in cash terms. TME is forecast to increase by 17.5 per cent over the forecast (7.0 per cent in real terms).

Table 4.18: Total managed expenditure

	£ billion						
	Outturn	Forecast					
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Public sector current expenditure (PSCE)							
PSCE in RDEL	288.6	295.6	311.5	323.2	332.9	343.1	354.7
PSCE in AME	422.9	435.9	440.4	450.4	465.3	481.4	498.4
of which:							
Welfare spending	218.8	223.0	227.4	231.6	239.1	248.2	258.4
of which:							
Inside welfare cap	118.2	119.6	121.7	123.6	126.1	129.3	132.7
Outside welfare cap	100.6	103.4	105.7	108.0	113.0	118.9	125.7
Locally financed current expenditure	48.7	51.1	50.7	51.8	53.8	55.5	57.0
Central government debt interest, net of APF[1]	41.5	39.8	42.1	43.0	44.4	45.7	46.8
Scottish Government's current expenditure	26.5	27.6	28.1	29.3	30.2	31.1	32.2
Expenditure transfers to EU institutions[2]	9.5	11.7	13.5	10.5	10.8	7.9	4.2
Assumed spending in lieu of EU transfers[2]	-	-	-	3.0	2.8	5.6	9.4
Net public service pension payments	11.8	12.6	6.7	6.7	7.6	8.7	9.2
Company and other tax credits	3.6	4.6	4.6	4.7	4.7	4.8	5.0
BBC current expenditure	3.7	3.9	3.8	3.8	3.6	3.9	3.9
National lottery current grants	1.2	1.3	1.3	1.2	1.2	1.2	1.2
General government imputed pensions	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Public corporations' debt interest	2.6	0.5	0.4	0.4	0.5	0.5	0.5
Network Rail other current expenditure[3]	1.1	0.8	-	-	-	-	-
General government depreciation	30.5	31.1	32.3	33.7	35.1	36.6	38.1
Current VAT refunds	15.3	15.7	16.2	17.0	17.5	18.0	18.5
Environmental levies	6.8	10.6	11.7	12.9	13.3	13.5	14.2
Other PSCE items in departmental AME	1.5	0.9	0.8	0.7	0.8	0.8	0.8
Other National Accounts adjustments	-1.6	-0.5	-0.6	-1.1	-1.4	-2.0	-2.2
Total public sector current expenditure	**711.5**	**731.5**	**751.9**	**773.6**	**798.1**	**824.4**	**853.1**
Public sector gross investment (PSGI)							
PSGI in CDEL	44.3	50.2	61.6	65.5	69.4	71.1	75.8
PSGI in AME	38.0	31.1	28.1	27.9	25.9	26.1	26.4
of which:							
Locally financed capital expenditure	12.4	11.5	11.6	10.0	9.6	9.6	9.8
Public corporations' capital expenditure	17.2	10.8	10.8	10.3	10.2	10.7	10.7
Network Rail capital expenditure	6.7	5.2	-	-	-	-	-
Scottish Government's capital expenditure	3.0	3.4	4.1	4.5	4.3	4.4	4.3
Tax litigation	0.0	0.0	1.3	2.4	0.4	0.4	0.4
Other PSGI items in departmental AME	0.8	0.8	1.0	1.4	1.6	1.6	1.7
Other National Accounts adjustments	-2.1	-0.7	-0.7	-0.6	-0.3	-0.6	-0.5
Total public sector gross investment	**82.3**	**81.3**	**89.7**	**93.5**	**95.2**	**97.2**	**102.2**
Less public sector depreciation	-41.1	-40.1	-41.3	-42.9	-44.5	-46.0	-47.7
Public sector net investment	41.2	41.2	48.4	50.6	50.8	51.2	54.5
Total managed expenditure	**793.8**	**812.8**	**841.6**	**867.1**	**893.4**	**921.7**	**955.3**

[1] Includes reductions in debt interest payments due to the APF. For further detail, see Table 4.34.

[2] From 2019-20 onwards, the expenditure transfers to EU institutions reflect the estimated cost of the financial settlement that the UK will pay the EU after Brexit. See Annex B of our March *EFO* for further details. Overall, post-Brexit, we have still retained our fiscally neutral assumption that total spending will be unchanged from the 'no-referendum' counterfactual, but we now split our post-Brexit forecast between financial settlement payments to the EU and other spending in lieu of transfers to EU institutions. For further detail, see Table 4.30.

[3] Other than debt interest and depreciation, which are included in totals shown separately in this table.

4.97 Table 4.19 shows how we have restated our March forecast to reflect both ONS classification decisions and the Treasury's decisions to move spending between the DEL and AME control totals, where these DEL-AME switches are neutral for TME. This allows us to make like-for-like comparisons against March. The largest changes are:

- The ONS correction to the coverage of **VAT refunds** adds £3.8 billion on average to AME. This is offset by higher VAT receipts, so is neutral for PSNB but adds to TME.
- The ONS reclassification of Welsh and Scottish housing associations to the private sector reduces **public corporations' debt interest** by £0.3 billion a year and **capital spending** by £1.1 billion a year on average from 2018-19 onwards.
- The Treasury's decision to switch **Scottish Government expenditure from DEL to AME**. This shifts £27.3 billion of current and £4.0 billion of capital spending from DEL to Scottish Government AME, but this is neutral in terms of TME.
- The Treasury has also decided to **reclassify Network Rail spending from AME to DEL** with effect from 2019-20. This switches £0.7 billion of current and £6.0 billion of capital spending from AME to DEL. This is also neutral for TME. A small amount of spending has also moved from Network Rail AME to Scottish AME as part of the Scotland DEL to AME switch (averaging £0.7 billion a year in total).

4.98 Table 4.19 shows how we have restated each component of DEL and AME for these changes.

Table 4.19: Restatements to March forecast to show like-for-like changes

	£ billion					
	Outturn	Forecast				
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Public sector current expenditure (PSCE)						
PSCE in RDEL[1]	-26.7	-26.9	-26.3	-26.5	-26.9	-27.1
PSCE in AME	29.9	30.2	29.6	29.7	30.2	30.5
of which:						
Public corporations' debt interest[2]	-	-0.2	-0.3	-0.3	-0.3	-0.3
Current VAT refunds	3.2	3.5	3.5	3.6	3.6	3.7
RDEL-AME switches	26.7	26.9	26.3	26.5	26.9	27.1
of which:						
Scottish Government	26.7	26.9	26.9	27.1	27.6	28.0
Network Rail	-	-	-0.6	-0.7	-0.7	-0.9
Total public sector current expenditure	**3.2**	**3.3**	**3.2**	**3.3**	**3.3**	**3.4**
Public sector gross investment (PSGI)						
PSGI in CDEL	-3.1	-2.8	2.9	2.6	2.9	3.4
of which:						
Scottish and Welsh housing associations	-	0.4	0.5	0.5	0.5	0.5
CDEL-AME switches	-3.1	-3.2	2.5	2.2	2.5	2.9
PSGI in AME	3.3	2.8	-3.3	-3.1	-3.5	-4.0
of which:						
Public corporations' capital expenditure[2]	-	-0.6	-1.0	-1.1	-1.2	-1.3
Other National Accounts adjustments[3]	0.2	0.2	0.2	0.2	0.2	0.2
CDEL-AME switches	3.1	3.2	-2.5	-2.2	-2.5	-2.9
of which:						
Network Rail	-	-	-6.5	-6.4	-6.7	-7.1
Scottish Government	3.1	3.2	4.0	4.2	4.2	4.3
Total public sector gross investment	**0.2**	**0.0**	**-0.3**	**-0.4**	**-0.5**	**-0.6**
Less public sector depreciation[2]	-	0.2	0.3	0.3	0.3	0.3
Public sector net investment	0.2	0.1	0.0	-0.1	-0.2	-0.3
Total managed expenditure	**3.4**	**3.2**	**2.9**	**2.8**	**2.8**	**2.8**

[1] Reflects RDEL-AME switches.

[2] These changes reflect the reclassification of Scottish and Welsh housing associations.

[3] Includes capital VAT refunds.

4.99 Table 4.20 shows changes in our forecast of public spending against the restated March forecast. TME is £3.3 billion lower this year than in March (thanks largely to lower debt interest and welfare spending), but £20.9 billion higher by the end of the forecast (primarily as a result of the new settlement for the NHS announced by the Prime Minister in June).

Table 4.20: Like-for-like changes to total managed expenditure since March

	£ billion					
	Outturn	Forecast				
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Public sector current expenditure (PSCE)						
PSCE in RDEL	-1.3	0.0	11.0	19.4	23.5	28.0
PSCE in AME	-3.3	-4.8	-7.6	-5.0	-3.9	-3.1
of which:						
Welfare spending	-0.5	-1.5	-1.0	0.0	0.3	1.1
of which:						
Inside welfare cap	-0.4	-1.1	-0.2	0.5	0.5	0.8
Outside welfare cap	-0.1	-0.4	-0.8	-0.5	-0.2	0.3
Locally financed current expenditure	-0.2	-1.4	-0.9	-0.5	0.2	0.3
Central government debt interest, net of APF[1]	0.8	-1.9	-0.1	0.0	-0.5	-1.0
Scottish Government's current expenditure	-0.1	0.6	1.1	2.1	2.6	3.1
Expenditure transfers to EU institutions[2]	0.1	-0.7	-0.9	0.0	0.7	0.4
Assumed spending in lieu of EU transfers[2]	-	-	-	0.0	-0.5	-0.2
Net public service pension payments	0.1	-0.7	-5.9	-7.1	-7.4	-7.9
Company and other tax credits	-0.1	0.8	0.6	0.6	0.6	0.5
BBC current expenditure	-0.2	0.1	0.0	-0.1	0.0	0.1
National lottery current grants	-0.1	0.0	0.0	0.0	0.0	0.0
General government imputed pensions	0.0	0.0	0.0	0.0	0.0	0.0
Public corporations' debt interest	-0.2	0.0	0.0	0.0	0.0	0.0
Network Rail other current expenditure[3]	0.5	0.4	-	-	-	-
General government depreciation	0.4	-0.2	-0.1	0.1	0.4	0.6
Current VAT refunds	0.0	-0.1	0.1	0.6	0.8	1.0
Environmental levies	-1.9	-0.2	-0.5	-0.4	-0.4	-0.4
Other PSCE items in departmental AME	0.4	0.1	0.1	0.1	0.1	0.1
Other National Accounts adjustments	-2.0	-0.1	-0.3	-0.5	-0.6	-0.8
Total public sector current expenditure	**-4.6**	**-4.8**	**3.4**	**14.4**	**19.6**	**25.0**
Public sector gross investment (PSGI)						
PSGI in CDEL	-2.2	0.6	-1.0	-5.4	-1.7	-2.9
PSGI in AME	-0.2	0.9	2.3	1.6	-0.8	-1.2
of which:						
Locally financed capital expenditure	1.4	0.8	2.3	0.4	0.2	-0.3
Public corporations' capital expenditure	0.6	1.0	1.2	1.2	1.0	1.3
Network Rail capital expenditure	0.5	-0.7	-	-	-	-
Scottish Government's capital expenditure	-0.1	0.2	0.1	0.3	0.1	0.1
Tax litigation	0.0	0.0	-0.8	0.2	-1.7	-1.7
Other PSGI items in departmental AME	-0.4	-0.4	-0.2	-0.1	0.0	-0.1
Other National Accounts adjustments	-2.2	0.1	-0.3	-0.4	-0.4	-0.5
Total public sector gross investment	**-2.3**	**1.5**	**1.3**	**-3.8**	**-2.5**	**-4.1**
Less public sector depreciation	-0.2	0.6	0.6	0.3	0.1	0.0
Public sector net investment	-2.5	2.1	1.9	-3.5	-2.4	-4.1
Total managed expenditure	**-7.0**	**-3.3**	**4.7**	**10.6**	**17.1**	**20.9**

[1] Includes reductions in debt interest payments due to the APF. For further detail, see Table 4.34.

[2] From 2019-20 onwards, the expenditure transfers to EU institutions reflect the estimated cost of the financial settlement that the UK will pay the EU after Brexit. See Annex B of our March *EFO* for further details. Overall, post-Brexit, we have still retained our fiscally neutral assumption that total spending will be unchanged from the 'no-referendum' counterfactual, but we now split our post-Brexit forecast between financial settlement payments to the EU and other spending in lieu of transfers to EU institutions. For further detail, see Table 4.30.

[3] Other than debt interest and depreciation, which are included in totals shown separately in this table.

4.100 Table 4.21 summarises the main sources of changes to our forecast since March on a like-for-like basis, after restating for the changes above. It shows that:

- **Government policy decisions** increase RDEL spending by amounts rising to £27.9 billion in 2023-24. This mainly reflects the new NHS settlement. Much this higher spending will take the form of public sector pay, so there is a partially offsetting rise in in expenditure in the form of increased contributions to public service pensions.

- **Economy forecast changes** reduce in-year spending by £1.1 billion, due to lower RPI inflation and unemployment. From 2019-20 onwards, the effect of higher RPI and CPI inflation more than offsets the effect of lower unemployment, netting to around £0.6 billion a year higher spending on average.

- **Departmental spending** has also been revised to reflect our latest assumptions on how much central government departments will underspend their budgets by.

- **Public service pension payments** (abstracting from government policy decisions) are down £0.8 billion a year on average, reflecting a forecast for both lower expenditure and increased receipts.

- **Debt interest payments** (abstracting from changes due to economic determinants and government policy decisions) are down by an average of £1.2 billion a year, mainly due to our lower in-year borrowing forecast.

- Non-determinant or policy-driven **welfare spending** is down by an average of £1.1 billion a year, largely reflecting modelling changes to incapacity and disability benefits.

- **Local authority self-financed current expenditure** has been revised down by £0.6 billion a year on average, with larger downward revisions in 2018-19 (£1.4 billion) and 2019-20 (£1.5 billion), mostly reflecting higher assumed additions to reserves.

- **Local authority self-financed and public corporations' capital expenditure** has been revised up in most years – and by particularly large amounts in 2018-19 and 2019-20 – to reflect the much higher spending financed by prudential borrowing last year.

- Spending associated with the costs of **tax litigation** has been revised down following a Supreme Court judgement in the summer that is expected to reduce the interest cost to HMRC of repaying historical tax payments that have been deemed unlawful.

Table 4.21: Sources of changes to the spending forecast since March

	£ billion				
	Forecast				
	2018-19	2019-20	2020-21	2021-22	2022-23
March forecast	812.9	834.0	853.6	873.4	898.0
Classification changes	*3.2*	*2.9*	*2.8*	*2.8*	*2.8*
March forecast, restated	816.1	836.9	856.5	876.3	900.8
October forecast	812.8	841.6	867.1	893.4	921.7
Like-for-like change	**-3.3**	**4.7**	**10.6**	**17.1**	**20.9**
	Underlying forecast changes				
Total forecast changes	**-4.5**	**-4.1**	**-3.7**	**-3.5**	**-4.1**
of which:					
Economic determinants	**-1.1**	**0.4**	**0.7**	**0.6**	**0.7**
Inflation changes	-0.8	0.9	0.9	0.7	0.7
Average earnings	0.0	0.1	0.1	0.1	0.1
Unemployment	-0.3	-0.6	-0.6	-0.6	-0.5
Exchange rate	0.0	0.0	0.1	0.1	0.2
Other	0.1	0.0	0.2	0.2	0.3
Market assumptions: interest rates	**-0.4**	**-0.5**	**-0.3**	**-0.6**	**-0.8**
Other assumptions and changes	**-3.1**	**-4.0**	**-4.1**	**-3.5**	**-4.0**
DEL forecast changes	-0.2	0.2	-1.3	0.6	0.6
Other changes to the welfare forecast	-1.0	-0.9	-1.4	-1.1	-1.2
Other forecast changes to public service net pensions	-0.7	-1.0	-0.9	-0.6	-0.5
Other changes to expenditure transfers to the EU[1]	-0.8	-1.0	-0.2	-0.1	-0.1
Locally financed current expenditure	-1.4	-1.5	-0.2	0.2	0.3
Locally financed capital expenditure and public corporations' capital expenditure	1.6	1.9	0.5	0.2	-0.3
Other changes to central government debt interest, net of APF	-0.8	-0.5	-1.3	-1.5	-1.7
Tax litigation	0.0	-0.8	0.2	-1.7	-1.7
Other	0.2	-0.3	0.5	0.6	0.7
	Effect of Government decisions				
Total effect of Government decisions	**1.2**	**8.8**	**14.3**	**20.6**	**24.9**
Impact of health spending changes on TME	0.0	7.4	11.1	16.1	21.4
of which:					
RDEL	0.0	6.7	10.2	14.8	19.6
Scottish Government PSCE in AME	0.0	0.6	0.9	1.3	1.8
Other RDEL policy changes[2]	-0.2	-1.7	4.1	3.6	3.2
CDEL policy changes	1.0	-0.7	-3.6	-1.7	-2.9
AME scorecard measures	0.3	1.9	2.5	2.8	3.8
Other AME non-scorecard measures[2,3]	0.0	1.8	-0.6	-1.2	-1.6
Indirect effects	0.1	0.0	0.7	1.0	1.1

[1] This shows changes in our forecast on a 'no referendum' basis, which has been produced as a baseline forecast. We have then made the fiscally neutral assumption that any reduction in these transfers after the UK leaves the EU will be recycled into higher domestic spending. As a result, only changes to the baseline forecast contribute to the revision to our spending forecast since March, even though the split between settlement payments to the EU and other spending in lieu of transfers to EU institutions has changed in this forecast.

[2] Excluding health spending changes. Also excluding the impact from the decision to largely fund departments for the policy to increase employer contributions and the supported housing measure, where these changes have offsetting effects in AME.

[3] Incorporates the net effect of pensions contributions measure on TME, where most departmental costs have been covered.

Expenditure in 2018-19

4.101 On a like-for-like basis, we have revised spending in 2018-19 down by £3.3 billion relative to our March forecast. The largest contributions come from lower debt interest payments (£1.9 billion), lower welfare spending (£1.5 billion), lower EU contributions (£0.7 billion) and lower public service pensions spending (£0.7 billion), partly offset by higher R&D tax credits (£0.8 billion) and public corporations' capital expenditure (£1.0 billion).

4.102 Monthly spending data are only available for central government. Table 4.22 compares the growth in central government spending over the first half of 2018-19 with our latest forecast for the full year. The official data for April to September that underpin this forecast show spending up 1.9 per cent on the same period last year. Our forecast implies faster spending growth (3.5 per cent) in the second half of the year.

4.103 The differences in growth rates between the two halves of the year reflect several timing effects. The monthly profile of spending is neither smooth through the year nor consistently uneven across years, which makes it difficult to distinguish news from noise in year-on-year comparisons. Abstracting from the usual variable timing of central government grants to local authorities (which are in any case intra public sector flows and therefore neutral for borrowing overall), the expected pick up in the second half of 2018-19 largely reflects:

- **Higher spending by departments**. Current spending in particular was weaker than expected at the end of 2017-18 and this appears to have persisted in the current year. We expect both current and capital spending to pick up in the second half of 2018-19.

- Lower RPI inflation in the first half of 2018 has also helped to reduce spending on inflation-linked gilts, reducing **debt interest payments**. We expect the rate of decline attributable to lower RPI to ease in the second half of the year, although payments continue to fall relative to 2017-18.

4.104 As the Budget is unusually early, we have not been able to factor in administrative data on central government spending in October as we would usually do.

Table 4.22: Central government expenditure in 2018-19

	Spending in 2018-19 (£ billion)			Percentage change on 2017-18		
	Outturn	Forecast[1]		Outturn	Forecast[1]	
	Apr-Sep	Oct-March	Full Year	Apr-Sep	Oct-March	Full Year
Total current expenditure	**349.6**	**348.7**	**698.4**	**1.8**	**3.0**	**2.4**
of which:						
Net social benefits	106.6	108.3	215.0	2.3	4.0	3.1
Debt interest	26.5	25.1	51.6	-10.5	-1.2	-6.2
Current grants to local authorities	61.0	52.1	113.1	2.8	-4.8	-0.9
VAT and GNI based EU contributions net of EU abatement	5.4	7.0	12.4	-1.5	49.4	21.8
Other	150.1	156.2	306.2	6.3	7.5	6.9
Total (gross) capital spending	**27.6**	**33.7**	**61.3**	**2.4**	**8.5**	**5.7**
of which:						
Capital grants to local authorities	5.6	5.7	11.3	-3.2	20.8	7.6
Other	22.0	28.0	50.0	3.9	6.3	5.2
Total central government expenditure in TME	**377.2**	**382.4**	**759.7**	**1.9**	**3.5**	**2.7**

[1] Forecast data has been adjusted to be consistent with the latest National Accounts definitions of central government spending. One of our supplementary fiscal tables, available on our website, shows the items included in our forecasts that ONS have not yet included in outturn. The items shown in that table have been excluded from our forecast above, so that the above table compares outturn to date and our forecast for the full year on a comparable basis.

Spending within departmental expenditure limits

DEL spending and changes since March

4.105 In this section, we use 'RDEL spending' and 'CDEL spending' to refer to PSCE in RDEL and PSGI in CDEL. Our forecasts reflect:

- **Departments' 'forecast outturns' for 2018-19** (that were sent to the Treasury in October), Budget policy changes, plus our assumptions regarding any further underspending relative to them.

- **Departments' final plans for 2019-20 as published in *Public expenditure statistical analyses* (PESA) 2018**, plus Budget policy changes and our assumptions regarding likely underspending against the new plans.

- **The Government's latest provisional total DELs for 2020-21 to 2023-24**, which are higher as a result of Budget announcements. Although some of these DELs have already been allocated to departments, most will not be finalised until next year's Spending Review. DELs already allocated include NHS RDEL to 2023-24, which has been increased significantly, and those allocated for 2020-21 in Spending Review 2015, which set CDELs for all departments and RDELs for the Ministry of Defence and the Security Intelligence Agencies.

4.106 Table 4.23 shows our forecasts for RDEL and CDEL spending and overall changes relative to our March forecast. (These changes are decomposed in Table 4.24.) We present plans, underspends and actual spending in every year. For the Spending Review years, plans have been set by the Treasury and our forecasts for actual spending are generated by subtracting underspends from them. For years beyond the current Spending Review, the Treasury states how much it intends to spend in total. We then show the implied plans and underspends that we think would be consistent with that level of actual spending.

4.107 As at every fiscal event we ask the Government to set out its policy on RDEL and CDEL spending in years beyond the Spending Review period. Following the Prime Minister's 18 June announcement that "*by 2023/24 the NHS England budget will increase by £20.5 billion in real terms compared to today*", we also asked for specific paths of spending for both NHS and non-NHS spending. The Government told us that NHS RDELs would rise in line with the Prime Minister's announcement and that the overall DEL envelope would rise by even more to accommodate this and other non-health spending. In 2023-24 the NHS settlement on the Budget scorecard is worth £27.6 billion. This includes an additional £23.2 billion for NHS England (including £1.25 billion funding in respect of the changes to public service pension costs) and £4.4 billion in 'Barnett consequentials' for Scotland, Wales and Northern Ireland (with the Scottish Government portion treated as AME).

4.108 We have assumed that the difference between the overall effects of the NHS settlement and the total RDEL path set by the Treasury represents Government policy on non-health RDEL spending for this Budget. We asked the Treasury to confirm this and were told that "*From 2019-20 to 2023-24 RDEL spending, including the NHS settlement, will grow at an average of 1.2% annually in real terms… These figures imply no further real terms reductions in aggregate spending outside the NHS over this period.*" But that "*These figures do not represent the final RDEL... spending envelopes for next year's Spending Review, and the government will revisit these assumptions in light of fiscal forecasts at the time.*"

4.109 Table 4.23 shows that:

- Actual **resource spending** has not changed in 2018-19. Underlying forecast changes increase spending, but this is offset by Budget decisions. In 2019-20 actual spending is up £11.0 billion, largely due to the NHS settlement. Beyond the Spending Review period, higher NHS and other spending leads to more significant upward revisions.

- Actual **capital spending** has been revised up by £0.6 billion in 2018-19 thanks to Budget measures. But spending is down £1.0 billion in 2019-20 and more substantially thereafter. The largest change is in 2020-21, where the Government has removed a significant amount of unallocated CDEL from its plans. Beyond the Spending Review period, the Government has revised down how much it plans to allocate to departmental capital spending.

Table 4.23: RDEL and CDEL spending and total changes since March

	£ billion					
	Forecast					
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
PSCE in RDEL						
March forecast			Implied, post-Spending Review			
Limits	297.3	302.3	305.5	311.1	316.8	
Assumed underspend	-1.8	-1.8	-1.8	-1.8	-1.8	
Actual spending	295.6	300.5	303.8	309.4	315.0	
October forecast						
Limits	297.8	313.2	324.8	334.5	344.7	356.3
Assumed underspend	-2.2	-1.7	-1.7	-1.7	-1.7	-1.7
Actual spending	295.6	311.5	323.2	332.9	343.1	354.7
Changes						
Limits	0.5	10.9	19.3	23.4	27.9	
Assumed underspend	-0.4	0.1	0.1	0.1	0.1	
Actual spending	0.0	11.0	19.4	23.5	28.0	
PSGI in CDEL						
March forecast				Implied, post-Spending Review		
Limits	51.4	64.9	76.4	75.1	78.0	
Assumed underspend	-1.8	-2.3	-5.4	-4.0	-4.0	
Actual spending	49.6	62.6	71.0	71.1	74.0	
October forecast						
Limits	52.4	64.3	68.0	73.4	75.1	79.8
Assumed underspend	-2.2	-2.7	-2.5	-4.0	-4.0	-4.0
Actual spending	50.2	61.6	65.5	69.4	71.1	75.8
Changes						
Limits	1.0	-0.7	-8.4	-1.7	-2.9	
Assumed underspend	-0.5	-0.4	2.9	0.0	0.0	
Actual spending	0.6	-1.0	-5.4	-1.7	-2.9	
	Per cent of GDP					
PSCE in RDEL (actual spending)						
March forecast	14.0	13.8	13.6	13.4	13.2	
October forecast	13.9	14.2	14.2	14.2	14.1	14.1
Change	**-0.1**	**0.4**	**0.7**	**0.8**	**0.9**	
PSGI in CDEL (actual spending)						
March forecast	2.3	2.9	3.2	3.1	3.1	
October forecast	2.4	2.8	2.9	3.0	2.9	3.0
Change	**0.0**	**-0.1**	**-0.3**	**-0.1**	**-0.2**	

4.110 Table 4.24 details the changes we have included in our latest forecast, and breaks them down between our underlying forecast judgements (which mostly relate to the current year) and the Government's decisions (which have large effects in most years).

4.111 In 2018-19 we have increased our assumption for RDEL underspending by £0.4 billion (thereby reducing actual spending) to reflect underspends against the £1.5 billion Brexit funding pot and our judgement that not all the additional 2018-19 RDEL spending announced in the Budget will be spent. These outweigh additional departmental pressures

from pay settlements now that the 1 per cent cap on public sector pay has been removed. We revised up our estimate of CDEL underspending by £0.5 billion, reducing spending.

4.112 We have reduced assumed RDEL underspends by £0.1 billion in later years. This reflects a pre-measures reduction of £0.6 billion a year to reflect additional pay pressures that is nearly offset by an assumption that £0.5 billion a year of the large increase in RDEL spending announced in this Budget will be underspent.

4.113 From 2019-20 onwards, the NHS settlement and other spending increases result in progressively higher RDEL spending, reaching £27.9 billion in 2023-24. Virtually all this change is reported on the Treasury scorecard. By contrast, the cuts to CDEL spending from 2020-21 onwards are not. Indeed, the Government has chosen to report a £0.2 billion increase in CDEL on the scorecard. The Government has decided to cut CDEL limits by £7 billion in 2020-21 and move an additional £1 billion to later years. Since a large portion of the 2020-21 CDEL limits remains unallocated to departments, despite the start of that year being only 17 months away, we had assumed that much of it would be underspent in the absence of any policy change, so have reduced our underspend assumption by £4.8 billion to reflect the removal of this unallocated sum. The net effect of these changes removes the spike in year-on-year growth in capital spending that has been a feature of our forecasts since the Government introduced the unallocated sum in the Spending Review 2015.

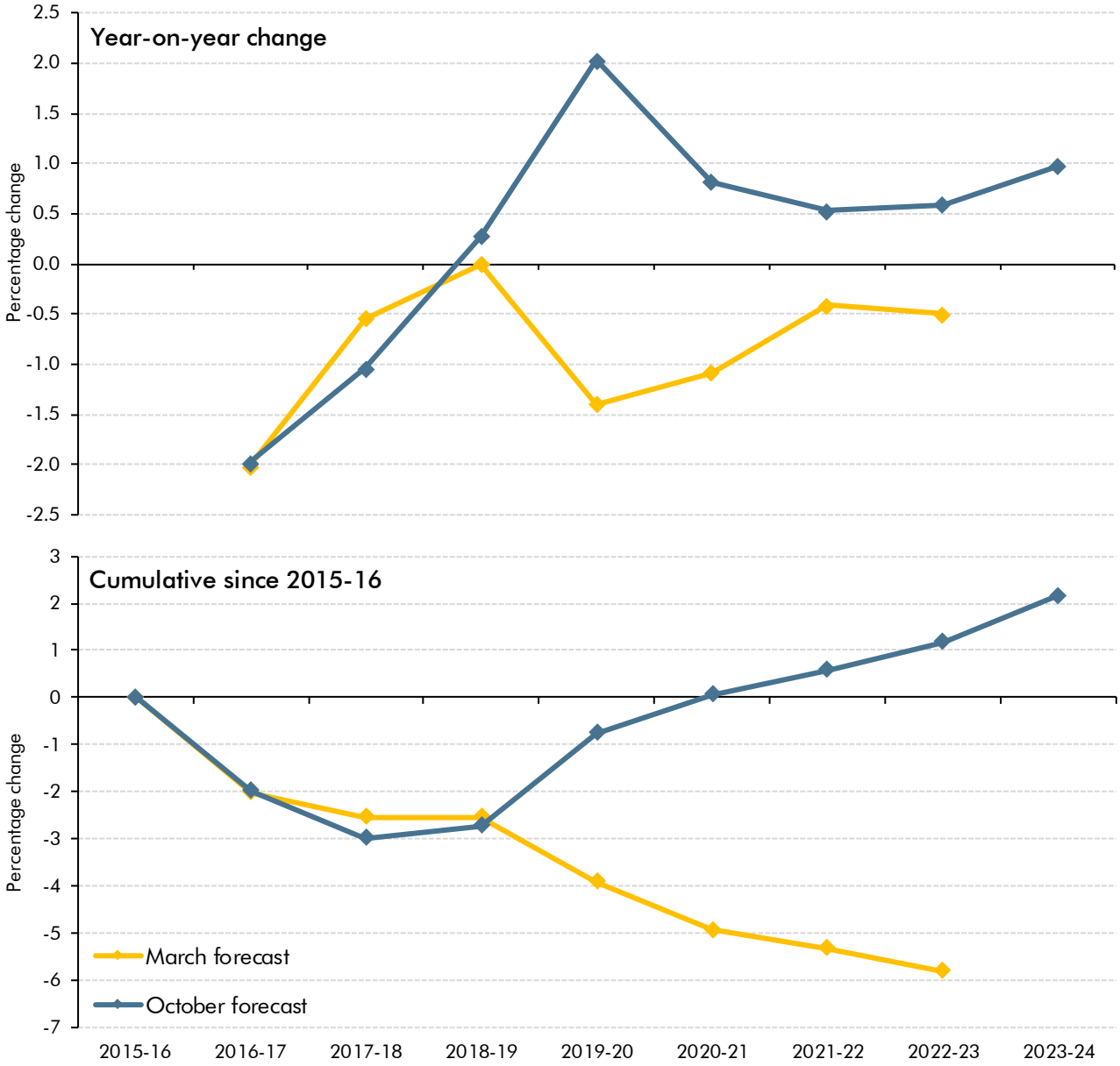
Table 4.24: Sources of changes to DELs since March

	£ billion					
	Forecast					
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
PSCE in RDEL						
March forecast, restated	295.6	300.5	303.8	309.4	315.0	-
October forecast	295.6	311.5	323.2	332.9	343.1	354.7
Change	**0.0**	**11.0**	**19.4**	**23.5**	**28.0**	-
of which:						
Forecast changes	**0.2**	**0.6**	**0.6**	**0.6**	**0.6**	-
Assumed underspend	-0.2	0.6	0.6	0.6	0.6	-
Other	0.4	0.0	-	-	-	-
Effect of UK Government decisions	**-0.2**	**10.4**	**18.8**	**22.9**	**27.4**	-
Scorecard measures	0.7	8.0	10.7	14.9	19.7	-
Non-scorecard measures	-0.7	2.9	8.6	8.5	8.2	-
Assumed underspend	-0.3	-0.5	-0.5	-0.5	-0.5	-
PSGI in CDEL						
March forecast, restated	49.6	62.6	71.0	71.1	74.0	-
October forecast	50.2	61.6	65.5	69.4	71.1	75.8
Change	**0.6**	**-1.0**	**-5.4**	**-1.7**	**-2.9**	-
of which:						
Forecast changes	**-0.5**	**-0.4**	**-1.9**	-	-	-
Assumed underspend	-0.5	-0.4	-1.9	-	-	-
Effect of UK Government decisions	**1.0**	**-0.7**	**-3.6**	**-1.7**	**-2.9**	-
Scorecard measures	1.0	0.9	0.2	0.1	0.1	-
Non-scorecard measures	0.0	-1.6	-8.6	-1.9	-3.0	-
Assumed underspend	0.0	0.0	4.8	0.0	0.0	

The path of resource and capital DEL spending over the forecast period

4.114 Chart 4.5 shows the real terms path of resource spending by central government departments on a per person basis. The profile has changed significantly relative to the plans the Government set out in March, reflecting the boost to health spending announced in June and the further increase to other resource spending announced in the Budget. Rather than falling almost 6 per cent from its 2015-16 level by 2022-23, real RDEL spending per capita now rises to over 2 per cent above that level by 2023-24.

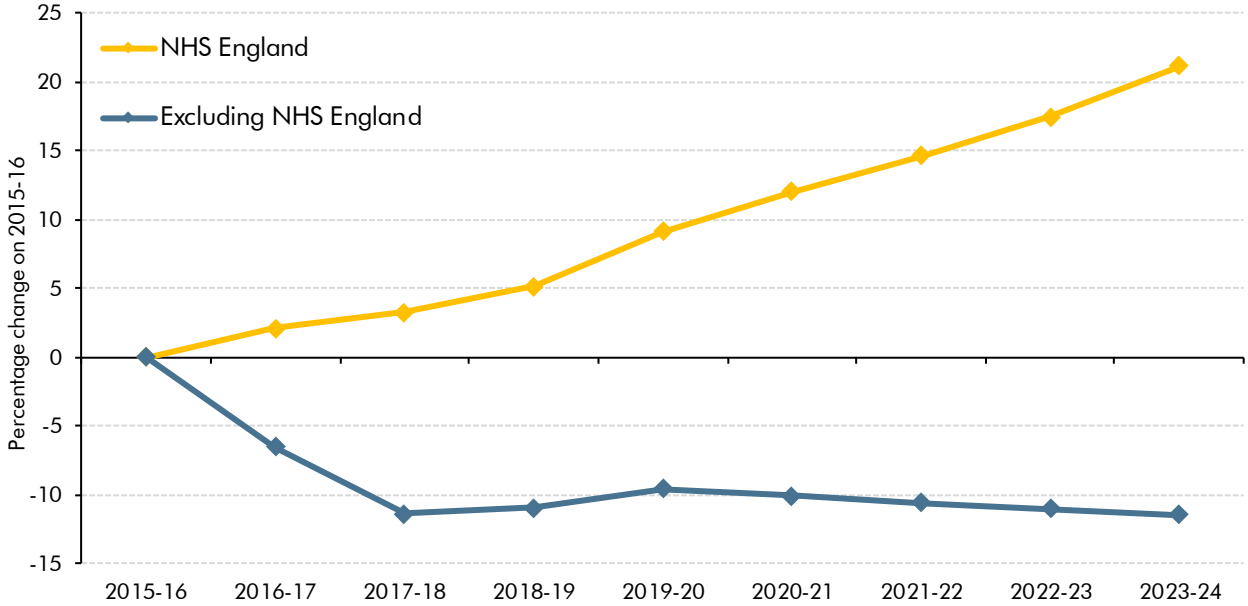
Chart 4.5: Change in real RDEL spending per capita from 2015-16



Note: 2017-18 and 2018-19 exclude the effects of business rates pilots. All other figures adjusted as far as possible for consistency with the latest forecast. See source table in the supplementary expenditure tables on our website.
Source: OBR

4.115 The profile is different for the NHS and other spending, with NHS spending rising steadily over the forecast while other spending is broadly flat from 2018-19 onwards (Chart 4.6). (We do not break down our underspend assumptions between different categories of RDEL, so this chart shows the Treasury limits rather than forecasts of what will actually be spent.)

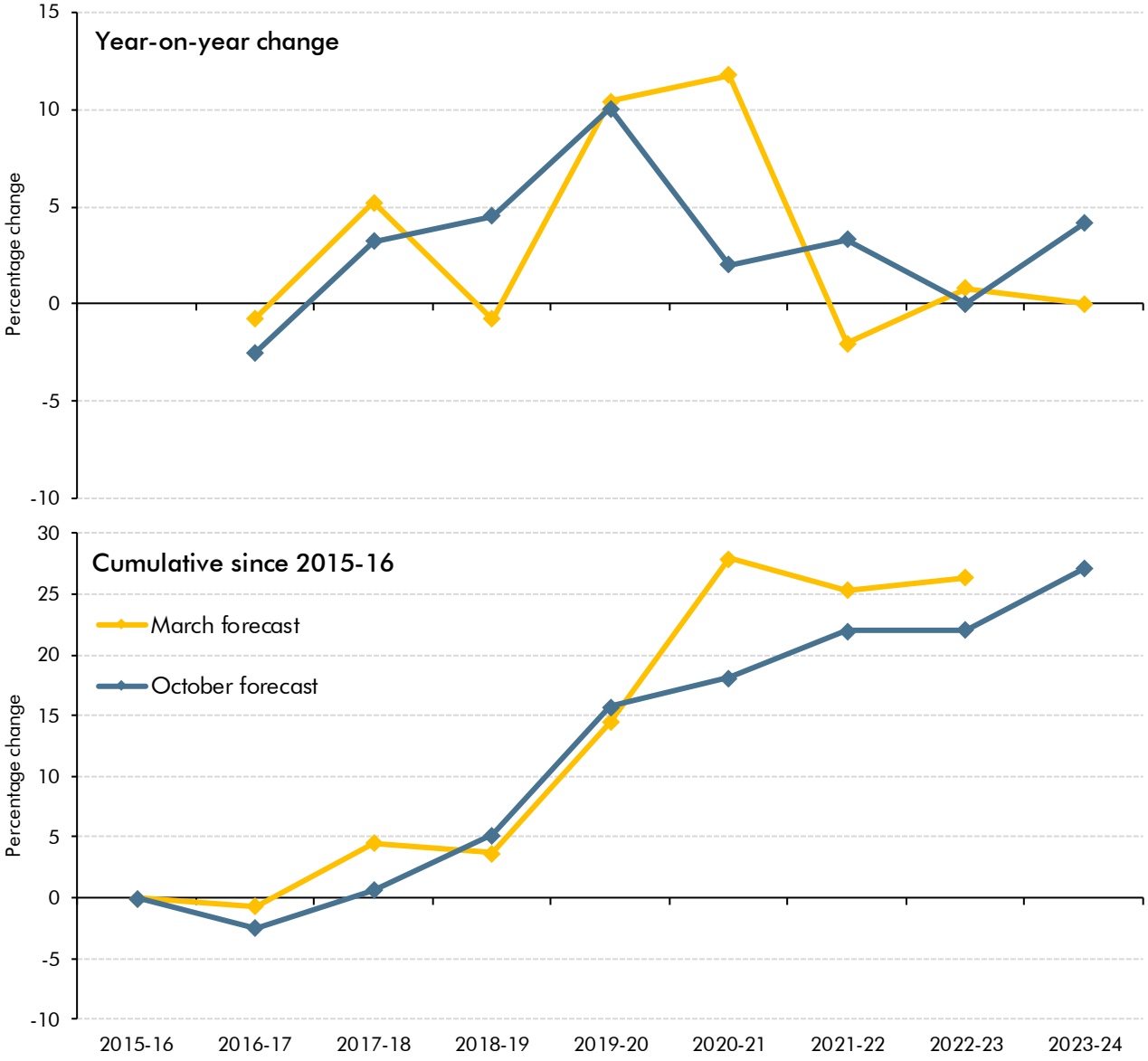
Chart 4.6: Change in real RDEL limits per capita from 2015-16: NHS and other



Note: RDEL ex - the basis on which HM Treasury sets Departmental plans - rather than PSCE in RDEL
Source: OBR

4.116 Chart 4.7 presents our projections for departmental capital spending (based on the new limits the Government has pencilled in, but adjusting for our underspend assumptions). The difference with our March forecast is less than the raw change in CDEL limits, because we were already assuming that much of the jump in spending pencilled in for 2020-21 would not be delivered. But there is still a smoother profile in 2019-20 and 2020-21.

Chart 4.7: Change in real CDEL spending per capita from 2015-16



Note: 2017-18 and 2018-19 exclude the effects of business rates pilots. All other figures adjusted as far as possible for consistency with the latest forecast. See source table in the supplementary expenditure tables on our website.
Source: OBR

Annually managed expenditure

Scottish Government AME

4.117 Following the Scotland Act 2016 and the adoption of the associated fiscal framework, the Scottish Government's expenditure on public services, administration and capital investment will now mostly be funded by Scottish-specific taxation, with the remainder covered by a residual block grant, borrowing and use of reserves. The Scottish Government will also be responsible for some welfare expenditure that is currently classified as AME.

4.118 To date most Scottish Government expenditure had been classified as central government DEL, with the exception of public service pensions that were already classified as AME. At

this Budget the Treasury and the Scottish Government have agreed that all other Scottish Government spending should now be classified as AME (current and capital).

4.119 We have not tried to forecast Scottish Government spending on public services by function – for example, we have not tried to forecast education spending by forecasting how many school pupils there will be and the average cost of teaching them. Despite its reclassification as AME, we assume that this spending still remains largely under the control and discretion of the Scottish Government. So, to forecast it, we start with the Scottish Government's spending plans at its most recent budget and adjust for any changes since then and changes that flow from UK Government policy decisions. We then judge what this will mean for the Scottish Government's use of reserves and borrowing.[8]

4.120 Our forecast adjusts for Scottish Government expenditure in two stages. First, we have started with the spending recorded in our March forecast and switched the Scottish Government element from DEL to AME, which is fiscally neutral. Second, we adjust for forecast and policy changes since March. These include a substantial increase due to the 'Barnett consequentials' of the UK Government's decision to increase NHS RDEL spending, which add progressively larger amounts that rise to £2.3 billion in 2023-24.

Welfare spending

4.121 Total welfare spending in our forecast refers to AME spending on social security and tax credits. Just over half is subject to the Government's 'welfare cap', which excludes the state pension and payments that are most sensitive to the economic cycle. We provide an update on performance against the cap in Chapter 5.

4.122 As detailed in our 2018 *Welfare trends report (WTR)*, much of our working-age welfare spending forecast is constructed by estimating a counterfactual in which the 'legacy' benefits system continues as though universal credit (UC) did not exist, and then adding to it an estimate of the marginal cost or a saving associated with rolling UC out. This allows us to base the forecast on as much administrative data as possible, but it does not directly reflect the real-world change in spending on legacy benefits as spending on UC rises. As the UC rollout proceeds, the real world and marginal approaches are likely to diverge. For the year in progress, we forecast on an 'actual cost' basis, since the counterfactual and marginal effects cannot be observed in the monthly flow of administrative data. As soon as is practical, we will switch to forecasting UC on this actual cost basis in all years.

4.123 Table 4.25 shows that welfare spending is forecast to increase by 16 per cent in cash terms between 2018-19 and 2023-24, reaching £258 billion. Spending on items subject to the cap is expected to rise by 10.9 per cent, or 0.3 per cent in real terms (relative to CPI inflation). Spending on items outside of the cap – which is dominated by state pensions – is projected to increase by 21.6 per cent, or 11.0 per cent in real terms.

[8] For more information see our website's *forecast in depth* pages on departmental and locally financed expenditure. For more information on the self-financed tax components of Scottish Government expenditure see our *Devolved tax and spending forecasts* publication.

4.124 Welfare spending is forecast to fall by 0.2 per cent of GDP between 2018-19 and 2023-24. Spending on items inside the cap falls by 0.4 per cent of GDP, as working-age benefit freezes and CPI inflation uprating reduce the value of benefits relative to earnings. Spending on items outside the cap rises by 0.1 per cent of GDP, thanks largely to the ageing population, the effects of which are concentrated in the final years of the forecast once the rise in the state pension age to 66 has been completed.

Table 4.25: Welfare spending forecast overview

	£ billion						
	Outturn	Forecast					
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Total welfare spending	**218.8**	**223.0**	**227.4**	**231.6**	**239.1**	**248.2**	**258.4**
of which:							
Inside welfare cap	118.2	119.6	121.7	123.6	126.1	129.3	132.7
Outside welfare cap	100.6	103.4	105.7	108.0	113.0	118.9	125.7
	Per cent of GDP						
Total welfare spending	**10.6**	**10.5**	**10.3**	**10.2**	**10.2**	**10.2**	**10.3**
of which:							
Inside welfare cap	5.7	5.6	5.5	5.4	5.4	5.3	5.3
Outside welfare cap	4.9	4.9	4.8	4.8	4.8	4.9	5.0

4.125 Table 4.26 sets out our detailed welfare spending forecasts and Table 4.27 sets out the changes since March. To facilitate the comparison between forecasts for 2018-19, we have restated the March 2018 forecast in Table 4.27 to be on an actual cost basis for UC. Excluding the effect of Budget measures, we have revised total spending down by £1.3 billion on average between 2018-19 and 2022-23, with spending subject to the cap down by an average of £0.7 billion and spending outside the cap down £0.6 billion.

4.126 Our pre-measures economy forecast has reduced welfare spending, largely due to the substantial downward revision to our unemployment forecast discussed in Chapter 3. Revisions to the path of CPI inflation and earnings growth (which affects eligibility for means-tested benefits and uprating of the state pension) have had modest effects overall.[9]

4.127 The largest pre-measures modelling and other changes to our welfare forecast relate to:

- **Incapacity benefits**. Spending has been revised down by progressively larger amounts, reaching £1.4 billion in 2022-23. This is largely explained by a lower personal independence payment (PIP) caseload forecast combined with corrections to modelling of the interaction between PIP and disability premia in employment and support allowance (ESA). These corrections were informed by new DWP administrative data on the disability premia paid in ESA, which have only just become available despite ESA being introduced in 2008. These downward revisions are partly offset by larger payments of arrears relating to the transfer of cases from incapacity benefit to ESA, as

[9] Given the early Budget, our pre-measures forecast was closed before the ONS had released its outturn estimate of CPI inflation for September 2018 that will be used to uprate some benefits in April 2019 (those not subject to the freeze). The outturn was 0.2 percentage points lower than our forecast (and the average external forecast compiled by Bloomberg). If we had known the outturn figure, our welfare spending forecast would be £125 million lower in 2019-20.

announced by the Minister for Disabled People, Health and Work in October.[10] This adds £0.7 billion to spending, spread across 2018-19 and 2019-20.

- **PIP and DLA**. We have revised disability benefits spending down across the forecast, with spending in 2022-23 £0.9 billion lower than in March. This is largely due to changes in our approach to forecasting PIP caseloads, where the weight we had previously been placing on experience in the early years of disability living allowance (DLA) had led us to over-forecast near-term spending. Changes to how we model claim success rates, average awards and the operational aspects of the continued PIP rollout contribute more modestly to the downward revision to spending. We will detail these modelling changes in our next *WTR*, which will be published in January 2019.

- **Universal credit**. On a pre-measures basis, the marginal cost of UC (relative to the legacy system it replaces) has been revised up by £0.9 billion on average between 2018-19 and 2022-23. This means that on a pre-measures basis UC is now projected to be more expensive than the legacy system would have been from 2019-20 to 2022-23, having been less expensive (i.e. generating a net saving to the Exchequer) in our March forecast. This reflects many changes, some down to revising key assumptions that can now be tested against outturn data relating to the 1 million or so cases now on UC. We discuss the UC forecast and Budget measures in detail below.

- **Housing benefit inside the welfare cap**. Spending has been revised down by £0.3 billion a year on average, abstracting from the reversal of the Autumn Budget 2017 measure that transfers support for short-term housing from AME to DEL (which adds £0.8 billion to housing benefit but is neutral for spending overall). This reflects updated analysis of the trends in housing support caseloads, which suggests that relatively large falls in in-work claims are likely to continue.

4.128 Other forecast revisions have been relatively small:

- Spending on **tax credits** is down £0.2 billion a year on average. Lower PIP caseloads feed through to lower numbers claiming disability premia in tax credits and lower out-of-work benefit caseloads mean fewer out-of-work claims for child tax credit.

- **Child benefit** spending is higher by £0.2 billion a year on average. This reflects fewer children than assumed not being registered for child benefit, largely due to the 'high-income child benefit charge'. We have also added an assumption about the extent to which children not registered for child benefit at birth will be registered at a later age.

- **Carer's allowance** spending is £0.1 billion lower on average (abstracting from the devolution of Scottish carer's allowance spending). This reflects offsetting changes. First, lower PIP and DLA caseloads reduce spending as the number of qualifying claims is forecast to be lower. Second, we now assume an increase in claims caused by the

[10] See House of Commons written statement HCWS1017, 'Employment and Support Allowance', Department for Work and Pensions, 17 October 2018.

removal of disability premia in UC. Under the legacy benefits, the carers of claimants receiving severe disability premia cannot claim carer's allowance. By removing disability premia, UC removes this restriction and we expect this to result in higher inflows to carer's allowance. The devolution of Scottish carer's allowance moves £0.3 billion a year on average from welfare spending to Scottish Government AME.

4.129 The Government's Budget measures have increased welfare spending. The largest effect comes from a package of measures to increase the generosity of UC, discussed below. The wider effects of the fiscal loosening in the Budget raise spending too, because higher average earnings growth feeding through to higher state pensions spending via the triple lock dominates the cyclical reduction in spending on out-of-work and means-tested benefits.

Table 4.26: Welfare spending

	£ billion						
	Outturn	Forecast					
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Welfare cap							
DWP social security	77.3	81.4	80.0	80.6	82.5	84.5	86.3
of which:							
Housing benefit (not on JSA)[1]	20.3	19.0	20.7	20.4	20.8	21.3	21.7
Disability living allowance and personal	17.5	18.7	20.2	20.7	21.5	22.5	23.6
Incapacity benefits[2]	15.0	14.9	15.6	15.6	15.6	15.6	15.8
Attendance allowance	5.5	5.7	5.9	6.1	6.3	6.6	6.8
Pension credit	5.4	5.2	5.0	4.9	4.8	4.9	4.9
Carer's allowance	2.8	3.0	3.3	3.5	3.8	4.0	4.1
Statutory maternity pay	2.4	2.5	2.6	2.6	2.7	2.8	2.9
Income support (non-incapacity)	2.2	1.8	2.1	2.1	2.1	2.2	2.2
Winter fuel payments	2.0	2.0	1.9	1.9	2.0	2.0	2.0
Universal credit[3]	1.9	6.3	0.4	0.5	0.7	0.4	-0.1
Other DWP in welfare cap	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Personal tax credits	25.9	22.8	25.3	25.4	25.5	25.8	26.0
Child benefit	11.7	11.7	11.7	12.0	12.2	12.5	12.8
Tax free childcare	0.0	0.1	0.3	0.5	0.7	0.9	1.0
NI social security in welfare cap	3.5	3.7	3.8	3.9	3.9	4.0	4.1
Paternity pay	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Scorecard policy measures	0.0	0.0	0.7	0.7	0.5	0.9	1.6
Non-scorecard policy measures	0.0	-0.2	-0.3	0.5	0.5	0.5	0.5
Indirect effects of Government decisions	0.0	0.0	0.0	-0.1	0.0	0.1	0.3
Total welfare inside the welfare cap[4]	**118.2**	**119.6**	**121.7**	**123.6**	**126.1**	**129.3**	**132.7**
Welfare spending outside the welfare cap							
DWP social security	98.2	100.9	103.2	105.1	109.7	115.1	121.5
of which:							
State pension	93.8	96.7	98.9	100.8	105.2	110.4	116.7
Jobseeker's allowance	1.7	1.4	2.3	2.4	2.5	2.5	2.6
Housing benefit (on JSA)	1.4	1.1	2.1	2.0	2.1	2.2	2.3
Universal credit[3]	1.3	1.8					
NI social security outside welfare cap	2.4	2.5	2.6	2.7	2.8	3.0	3.2
Scorecard policy measures	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-scorecard policy measures	0.0	0.0	0.0	0.2	0.2	0.2	0.2
Indirect effects of Government decisions	0.0	0.0	-0.1	0.0	0.3	0.6	0.8
Total welfare outside the welfare cap[4]	**100.6**	**103.4**	**105.7**	**108.0**	**113.0**	**118.9**	**125.7**
Total welfare[4]	**218.8**	**223.0**	**227.4**	**231.6**	**239.1**	**248.2**	**258.4**
Memo: spending inside the welfare cap as a proportion of total welfare spending	*54.0*	*53.6*	*53.5*	*53.4*	*52.7*	*52.1*	*51.4*

[1] Housing benefit (not on jobseeker's allowance) is made up of a number of claimant groups. The main claimant groups are pensioners, those on incapacity benefits, lone parents, and housing benefit only claimants.
[2] Incapacity benefits includes incapacity benefit, employment and support allowance, severe disablement allowance and income support (incapacity part).
[3] Universal credit actual spending for 2017-18 and 2018-19. Spending from 2019-20 onwards represents universal credit additional costs not already included against other benefits (i.e. UC payments that do not exist under current benefit structure).
[4] Total welfare outturn inside and outside of the welfare cap in 2017-18 is sourced from OSCAR, consistent with PESA 2018. For 2017-18 only, the components reflect departments' own outturns, which may not be on a consistent basis to OSCAR. For this year the components may not sum to the total for this reason.

Table 4.27: Sources of changes in welfare spending since March

	£ billion					
	Outturn	Forecast				
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Total welfare spending						
March forecast	219.3	224.5	228.4	231.6	238.8	247.1
October forecast	218.8	223.0	227.4	231.6	239.1	248.2
Change	**-0.5**	**-1.5**	**-1.0**	**0.0**	**0.3**	**1.1**
Welfare spending inside the welfare cap						
March forecast	118.6	120.7	121.9	123.1	125.6	128.5
October forecast	118.2	119.6	121.7	123.6	126.1	129.3
Change	**-0.4**	**-1.0**	**-0.2**	**0.5**	**0.5**	**0.8**
of which:						
Economic determinants	0.0	0.0	0.2	0.5	0.3	0.4
Estimating/modelling changes	-0.1	-0.9	-0.8	-1.1	-0.9	-1.1
of which:						
Personal tax credits	0.1	-0.7	0.0	-0.1	-0.1	-0.1
Universal credit	0.0	0.1	0.8	1.0	1.4	1.3
Housing benefit	-0.2	0.0	-0.5	-0.4	-0.3	-0.3
Incapacity benefits[1]	0.0	0.3	-0.3	-0.8	-1.1	-1.4
Disability benefits[2]	0.0	-0.4	-0.6	-0.8	-0.8	-0.9
Child benefit	0.1	0.1	0.2	0.2	0.2	0.3
Carer's allowance	0.0	-0.2	-0.2	-0.1	-0.1	0.0
Other	-0.1	-0.1	-0.2	-0.2	-0.1	0.0
Scorecard policy measures	0.0	0.0	0.7	0.7	0.5	0.9
Non-scorecard policy measures	0.0	-0.2	-0.3	0.5	0.5	0.5
Indirect effects	0.0	0.0	0.0	-0.1	0.0	0.1
Other	-0.3	0.0	0.0	0.0	0.0	0.0
Welfare spending outside the welfare cap						
March forecast	100.7	103.8	106.5	108.5	113.2	118.6
October forecast	100.6	103.4	105.7	108.0	113.0	118.9
Change	**-0.1**	**-0.4**	**-0.8**	**-0.5**	**-0.2**	**0.3**
of which:						
Economic determinants	0.0	-0.3	-0.6	-0.5	-0.5	-0.4
of which:						
CPI inflation	0.0	0.0	0.1	0.1	0.1	0.1
Unemployment	0.0	-0.3	-0.6	-0.6	-0.6	-0.5
Average Earnings	0.0	0.0	-0.2	-0.1	-0.1	-0.1
Other	0.0	0.0	0.1	0.1	0.1	0.1
Estimating/modelling changes	-0.1	-0.1	-0.1	-0.3	-0.2	-0.1
of which:						
State pension	0.0	0.1	0.1	0.0	0.0	0.1
Jobseeker's allowance	0.0	0.0	-0.1	-0.2	-0.2	-0.2
Housing benefit	-0.1	-0.2	-0.1	-0.2	-0.2	-0.2
Other	0.0	0.1	0.1	0.1	0.1	0.1
Non-scorecard policy measures	0.0	0.0	0.0	0.2	0.2	0.2
Indirect effects	0.0	0.0	-0.1	0.0	0.3	0.6
Other	0.1	0.0	0.0	0.0	0.0	0.0

[1] Incapacity benefits includes incapacity benefit, employment and support allowance, severe disablement allowance and income support (incapacity part).

[2] Disability benefits refers to disability living allowance and personal independence payment.

[3] We have restated the March 2018 forecast for 2018-19 to be on an actual cost basis for UC and the legacy benefits. This allows for a direct comaprison of forecasts for this year.

Universal credit

4.130 On a pre-measures basis, we have revised up the marginal cost of UC relative to our March forecast. The combined effect of these changes on each source of gross cost and saving that makes up our UC marginal cost estimates is shown in Table 4.28.

4.131 The sensitivity of these estimates to the underlying survey data on which they are based has been illustrated in this forecast. Moving from the 2015-16 Family Resources Survey to the 2016-17 edition has added £0.7 billion a year on average to spending. The latest survey suggests there are more cases with unclaimed legacy benefit entitlement that will receive higher awards under UC as the single claim acts to increase take-up automatically. Other routine updates and modelling changes added a further £0.4 billion a year on average.

4.132 In last year's *WTR* we highlighted the need for better use of administrative data in informing our modelling assumptions on UC. DWP analysts have made progress in this area, which has informed our in-year forecast and the assumptions underpinning our forecasts for savings from the minimum income floor (MIF) and fraud and error. But we face growing challenges in ensuring consistency between our actual cost in-year forecast, which can be tested against outturn data, and the marginal cost forecast, where it is much more difficult to do so. Scrutinising the effect on spending of the transition from one methodology to the other proved particularly challenging in this forecast round.

4.133 The areas where outturn data have led to material pre-measures forecast changes include:

- **Lower proportions of the self-employed caseload are subject to the MIF**. Between January 2017 and April 2018, the proportion of self-employed claimants subject to the MIF was 25 percentage points lower than we assumed in March, as a lower proportion of cases were found to be gainfully self-employed, more were benefiting from the one-year start-up period and fewer had incomes below the MIF levels set by their work coaches. We have set our near-term assumptions at outturn levels, but have assumed that our original steady-state assumptions remain appropriate for later years when the more of the self-employed UC caseload will be made up of former tax credits cases. The changes we have made reduce MIF savings by an average of £0.3 billion a year.

- **Higher rates of fraud and error.** Early analysis of UC live service cases suggests that the rate of fraud and error in UC in 2017-18 was higher than expected. We have reflected this in the early years of our forecast, but as with the MIF we have not assumed that fraud and error rates remain permanently higher. This has lowered the savings arising from reductions in fraud and error by £0.1 billion a year on average.

4.134 UC policy changes announced in June 2018 by the Secretary of State for Work and Pensions and further changes announced in the Budget have added rising amounts to the cost of UC relative to our March forecast – reaching £2.1 billion in 2023-24. They include:

- **Raising UC work allowances**: the Government has reversed half the savings associated with the Summer Budget 2015 cuts to UC work allowances by raising them by £1,000

from April 2019. This increases the amount that eligible claimants can earn before their UC award is tapered. The estimated cost rises to £1.7 billion in 2023-24.

- **Reversals and relaxations of various policies**: housing support will no longer be withheld from 18 to 21-year olds, all self-employed claimants will be afforded a 12-month grace period from the MIF and surplus earnings rules (akin to income disregards in tax credits, but on a monthly basis) will be relaxed in 2019-20. The large increase in the latter means that they will effectively not apply for most claimants. Accurate assessment of earnings changes has proved to be an early challenge for other benefits – for example, there were large increases to the disregards in tax credits in the mid-2000s when the practical implications of the new system became apparent.

- **Policies to ease the transition from legacy benefits to UC**: 'run-ons' will be available for claimants moving from jobseeker's allowance, income support and ESA, matching those already available for those moving from housing benefit. These provide two weeks' extra legacy benefit income at the start of a new UC claim. The Government will also ensure that no disabled claimants in receipt of severe disability premia (SDP) in the legacy system will migrate naturally to UC following a change of circumstances, so that they do not lose out due to UC's lack of an equivalent to SDP. The cost of both changes is temporary, as they will fall to zero once UC is fully rolled out.

4.135 These costs are partly offset by savings associated with delaying the managed migration phase of the UC rollout and the attendant costs of transitional protection for claimants whose benefit entitlement was higher in the legacy system than under UC. These latest delays mean that DWP now plans to complete the rollout of UC in December 2023. We continue to assume it will take six months longer than DWP plans. This means the rollout of UC is now assumed to finish 21 months later than was assumed in March (Chart 4.8). This saves around £1 billion over the forecast period relative to our March rollout assumption.

4.136 We have not certified the Government's estimates of the cost of the UC package announced in this Budget. We were notified of many elements of it too late to consider the underlying analysis, which should reflect various complex interactions. In the absence of an alternative, we have used the Government's figures in this forecast, since it is not clear in advance whether they are likely to be biased in either direction. We discuss these issues in Annex A.

Table 4.28: UC marginal cost forecast and changes since March

	£ billion				
	Forecast				
	2019-20	2020-21	2021-22	2022-23	2023-24
Marginal effect on welfare spending	**1.1**	**1.2**	**1.3**	**1.5**	**2.0**
of which:					
Pre-measures gross cost	**2.6**	**4.7**	**7.4**	**9.3**	**8.9**
of which:					
Gross cost of higher take-up[1]	0.9	1.7	2.5	3.2	3.2
Gross cost where entitlement is higher[2]	1.3	2.1	3.0	3.6	3.8
Transitional protection where entitlement is lower	0.0	0.4	1.3	1.7	1.0
Gross costs from other factors	0.4	0.5	0.7	0.8	0.9
Pre-measures gross saving	**-2.2**	**-4.2**	**-6.8**	**-8.9**	**-9.0**
of which:					
Gross saving where entitlement is lower[3]	-1.4	-2.6	-4.1	-5.3	-5.3
Gross saving of abolishing the disregards	-0.2	-0.4	-0.6	-0.8	-0.8
Gross saving from reductions in fraud and error	-0.3	-0.7	-1.1	-1.5	-1.6
Gross saving from the minimum income floor	0.0	-0.2	-0.5	-0.9	-1.0
Gross saving from other factors	-0.3	-0.4	-0.4	-0.5	-0.4
Budget scorecard measures	0.7	0.6	0.6	1.2	2.1
	Changes since March				
Change on March 2018[4]	**1.6**	**1.7**	**2.0**	**2.5**	
of which:					
Pre-measures gross cost	**0.3**	**0.4**	**0.7**	**0.9**	
of which:					
Gross cost of higher take-up[1]	0.2	0.4	0.6	0.7	
Gross cost where entitlement is higher[2]	0.1	-0.1	-0.1	-0.2	
Transitional protection where entitlement is lower	0.0	0.0	0.1	0.2	
Gross costs from other factors	0.1	0.1	0.1	0.2	
Pre-measures gross saving	**0.5**	**0.6**	**0.7**	**0.5**	
of which:					
Gross saving where entitlement is lower[3]	0.2	0.2	0.3	0.1	
Gross saving of abolishing the disregards	0.0	0.0	0.0	0.0	
Gross saving from reductions in fraud and error	0.1	0.1	0.2	0.2	
Gross saving from the minimum income floor	0.3	0.4	0.3	0.3	
Gross saving from other factors	0.0	-0.1	-0.1	-0.1	
Budget scorecard measures	**0.7**	**0.6**	**0.6**	**1.2**	

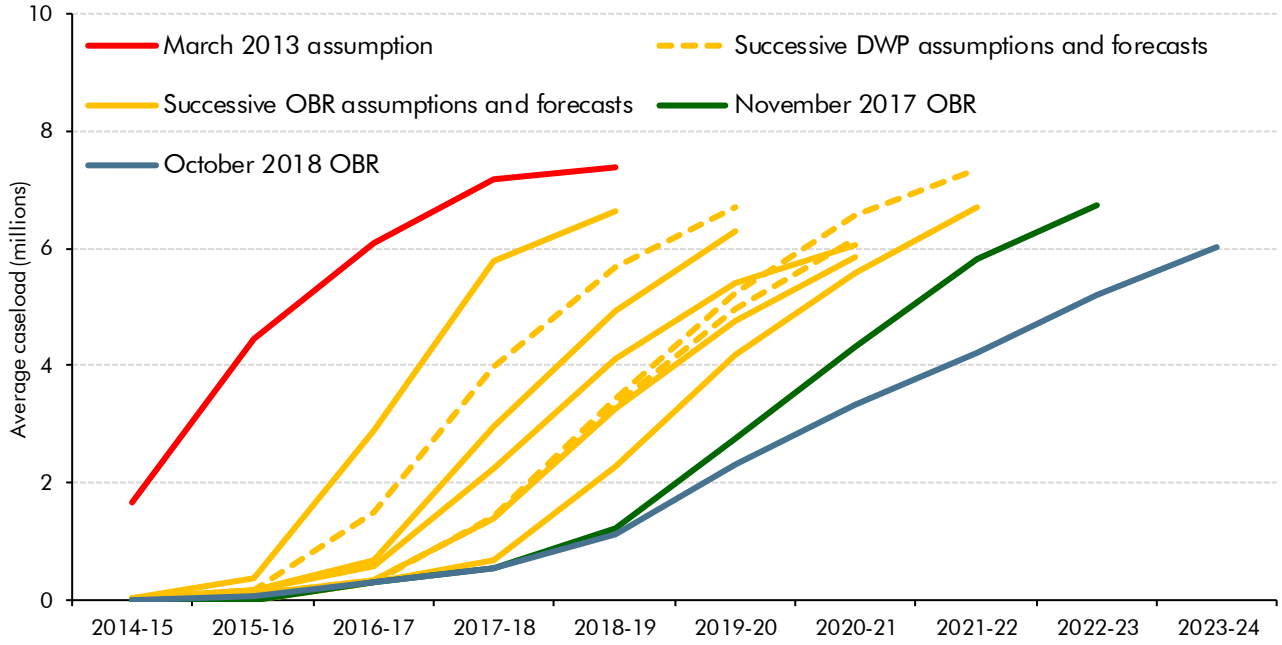
[1] Includes both the change in entitlement and take-up for groups where take-up has increased.

[2] Entitlement for those who fully take-up their entitlement in the legacy system.

[3] Net entitlement and take-up impacts from those households who have lower entitlements.

[4] The change in this table relates to re-stated version of our Mach 2018 marginal cost forecast, which corrects for a classification error.

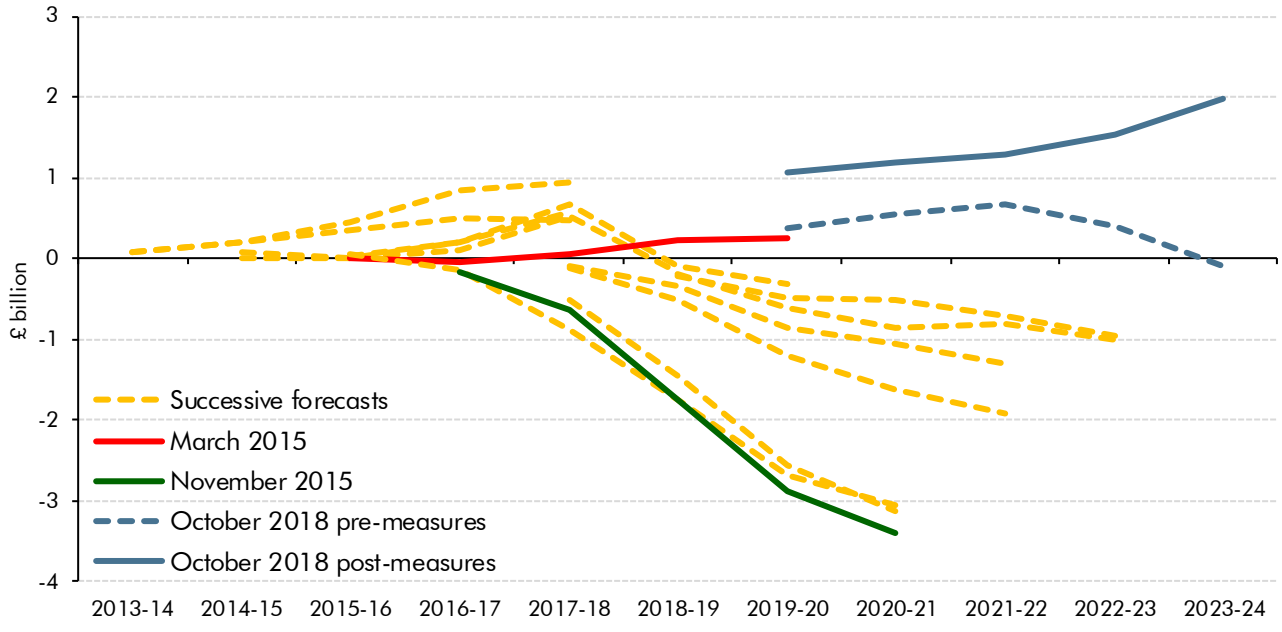
Chart 4.8: Successive revisions to the universal credit rollout assumption



Source: DWP, OBR

4.137 As Chart 4.9 shows, our pre-measures forecast revisions were sufficiently large to push our estimate of the effect of UC on welfare spending from a net saving to a net cost in most years – the first time that it has been shown as a net cost on average since our March 2015 forecast. Once Budget measures are factored in, the marginal cost moves significantly higher. This crystallises (at least in part) a policy risk that we flagged in our 2018 *WTR*, where we noted that "*Some of the gross savings from UC imply relatively large costs for relatively large numbers of families, which Ministers may come under pressure to reduce.*"

Chart 4.9: Successive forecasts for the marginal cost of UC



Source: DWP, OBR

Public service pensions

4.138 Our public service pensions forecast covers net expenditure on benefits paid less employer and employee contributions received. (The corresponding spending by departments on employer contributions is included within RDEL.) It includes central government pay-as-you-go schemes and locally-administered police and firefighters' schemes.[11] A breakdown of spending and income for the major schemes we cover is included in the supplementary fiscal tables on our website.

4.139 Table 4.29 details the changes to our forecast since March. Net spending across the forecast has fallen by significant amounts, largely reflecting government decisions affecting contributions income. Abstracting from the effects of government decisions, gross spending is down by an average of £0.5 billion a year and income is down by £0.1 billion a year.

4.140 The main pre-measures revisions to gross expenditure reflect:

- Lower spending across several schemes, largely relating to the outcome of the recent actuarial scheme valuations. These incorporated the **higher mortality rates** included in the ONS's 2016-based population projections.
- **Fewer people drawing lump sums** than previously assumed in the teachers' pension scheme (TPS).
- A partial offset to these decreases caused by slightly **higher CPI inflation**.

4.141 Abstracting from the impact of government decisions, the relatively small changes to our receipts forecast largely reflect higher contributions received by the Civil Service Pension scheme (CSPS) due to the recent civil service pay award in the forecast, along with increased workforce growth following the additional funding for departments for Brexit preparations. This has increased contributions by an average of £0.4 billion a year from 2019-20 onwards. The reduction in receipts seen in 2022-23 reflects lower income across a number of schemes. Beyond the current Spending Review period, we link our forecast for scheme pensionable paybill growth to the Government's policy assumption for the path of departmental spending.

4.142 The largest changes to the forecast come from government decisions, including:

- The **direct effect of changes to employer contribution rates**. This is in part down to the completion of the scheme valuations process, but the largest effect results from the Government's decision to again reduce the discount rate used in setting employer contribution rates. It had already done this once, in March 2016, when it scored the estimated effect on contributions from 2019-20 onwards. At the time, this increased contributions and reduced AME by around £2 billion a year. Departments were not compensated for this additional DEL cost at the time (although the NHS has

[11] The police and firefighters' pension schemes are administered at a local level, but pensions in payment are funded from AME, along with other public service pension schemes. They are therefore included in our pensions forecast.

subsequently been compensated), so the initial policy reduced borrowing by the amount of the estimated AME saving in our forecast. Before the latest further reduction in the discount rate, the outcome of the scheme valuations process was that employer contribution rates should decrease to reflect both the latest membership and demographic data, as well as changes to address breaches of the Government's employer cost cap mechanism. The effect of further reducing the discount rate has been to offset these effects, increasing employer contribution rates for all schemes. Abstracting from the paybill effects of higher RDEL spending, this measure on its own would increase employer contributions by amounts rising from £4.7 billion in 2019-20 to £6.3 billion in 2023-24. The Government has decided to fund departments for most of these additional costs, but only to the extent that they exceed those estimated in March 2016 (although the NHS has been compensated in full), so there is a corresponding (but not fully offsetting) increase to RDEL spending.

- The **indirect effect on pension contributions of the Government's decision to increase RDEL spending**. We link our forecast for pensionable paybill growth to the path of departmental spending, so the boost to departmental spending plans (excluding the increases that compensate departments for changes in employer contribution rates) has added rising amounts to pension contributions from 2019-20 onwards. By 2023-24, contributions are £1.7 billion higher than they otherwise would have been thanks to the higher departmental spending. The largest effect is on the NHS scheme, where contributions are estimated to be £1.3 billion higher in 2023-24.

Table 4.29: Key changes to public service pensions since March

	£ billion				
	Forecast				
	2018-19	2019-20	2020-21	2021-22	2022-23
Net public service pensions					
March forecast	13.3	12.6	13.8	15.1	16.6
October forecast	12.6	6.7	6.7	7.6	8.7
Change	**-0.7**	**-5.9**	**-7.1**	**-7.4**	**-7.9**
Expenditure					
March forecast	43.3	45.2	47.0	49.0	51.1
October forecast	42.6	44.6	46.5	48.7	50.6
Change	**-0.7**	**-0.6**	**-0.5**	**-0.3**	**-0.6**
of which:					
Forecast changes	**-0.7**	**-0.6**	**-0.5**	**-0.3**	**-0.6**
Civil Service pension scheme	-0.2	-0.1	-0.1	-0.2	-0.3
Teachers' pension scheme	-0.3	-0.2	-0.2	-0.1	-0.1
NHS pension scheme	-0.1	-0.2	-0.2	-0.2	-0.2
CPI inflation	0.0	0.1	0.1	0.2	0.2
Other	-0.1	-0.2	-0.1	0.1	-0.1
Income					
March forecast	-29.9	-32.6	-33.2	-33.9	-34.5
October forecast	-30.0	-37.9	-39.9	-41.0	-41.8
Change	**0.0**	**-5.3**	**-6.6**	**-7.2**	**-7.3**
of which:					
Forecast changes	**0.0**	**-0.4**	**-0.3**	**-0.2**	**0.3**
CSPS paybill growth	-0.1	-0.4	-0.4	-0.4	-0.4
Other	0.0	0.0	0.1	0.2	0.6
Effect of Government decisions	**-**	**-5.0**	**-6.3**	**-7.0**	**-7.6**
Non-scorecard measure	-	-4.7	-5.7	-5.9	-6.1
Indirect effect of Government decisions	-	-0.2	-0.6	-1.1	-1.5

Net expenditure transfers to EU institutions and possible substitute spending

4.143 In Annex B of our November 2017 *EFO* we detailed the UK's contributions to the EU's finances and how we forecast them, then in Annex B of our March 2018 *EFO*, we detailed how we arrived at our estimate of the UK's financial settlement with the EU – the so-called 'divorce bill'. In this forecast, we have continued to take a fiscally neutral approach to our post-Brexit spending forecast, assuming that, when the UK leaves the EU, any reductions in the UK's net expenditure transfers to the EU would be fully recycled into extra spending, for example on farm support, industrial strategy and science programmes. We have updated our estimate of the financial settlement for the latest information (see Box 4.1).

Table 4.30: Expenditure transfers to EU institutions and possible substitute spending

	£ billion						
	Outturn	Forecast					
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
'No-referendum' counterfactual	**9.5**	**11.7**	**13.5**	**13.5**	**13.6**	**13.5**	**13.6**
Which is reflected in our forecast as:							
Expenditure transfers to EU institutions	9.5	11.7	-	-	-	-	-
Financial settlement transfers	-	-	13.5	10.5	10.8	7.9	4.2
Assumed spending in lieu of EU transfers	-	-	-	3.0	2.8	5.6	9.4

4.144 Table 4.31 summarises the main changes to our forecast since March:

- A **weaker sterling-euro exchange rate** increases the sterling value of euro-denominated contributions by more than it reduces the UK's share in the euro-denominated bases used to calculate those contributions, thereby increasing spending a little each year.

- Slower-than-expected **implementation of the EU budget** in the current Multiannual Financial Framework (MFF), reflecting slow progress in structural funds spending, reduces transfers. We have incorporated new data on 2017 budget implementation and the 2019 EU draft budget, but have assumed that expenditure increases at a slower rate than implied in our March 2018 forecast, which would require an unprecedented pick-up in implementation in 2020. These judgements reduce the UK's contributions by £0.5 billion in 2018-19 and by £1.2 billion in 2019-20. Our forecast therefore assumes that more of the 2014-2020 MFF goes into the *reste à liquider* (RAL) – the amount of committed expenditure that remains outstanding at the end of the MFF. As our assumption about the post-2020 MFF is that it will be similar to the current MFF as a share of EU GDP, a lower assumption about implementation of the current budget leads to lower assumed expenditure in 2021 and beyond.

- Revisions to the **VAT and gross national income contribution bases** agreed with the Commission in May have uneven effects across years. These include a higher than forecast rebate in 2018 and lower-than-forecast bases for the same year, which together reduce the UK's contributions to the EU budget in 2018-19 by £0.3 billion. Revisions to the estimate of the effect of these revisions on both gross contributions and the rebate lead to slightly higher contributions from 2020-21 onwards.

- Upward **revisions to historical UK gross national income** estimates in Blue Book 2018 are expected to result in a one-off net surcharge of £0.2 billion in 2019-20. We are not able to anticipate any additional or offsetting effects from revisions to other Member States' gross national income, so this estimate is uncertain at this stage.

- **Other factors**, including revisions to UK and other Member States' growth forecasts, incorporating outturn receipts data and using the latest forecasts for VAT and customs duties receipts, lead to a small increase across the forecast period.

Table 4.31: Key changes to expenditure transfers to EU institutions on a 'no-referendum' counterfactual basis

	£ billion				
	Forecast				
	2018-19	2019-20	2020-21	2021-22	2022-23
March forecast	12.5	14.4	13.6	13.4	13.3
October forecast	11.7	13.5	13.5	13.6	13.5
Change	**-0.7**	**-0.9**	**-0.1**	**0.1**	**0.2**
of which:					
Sterling-euro exchange rate	0.0	0.0	0.1	0.1	0.2
EU budget implementation	-0.5	-1.2	-0.3	-0.3	-0.3
Revisions to contribution bases	-0.3	0.0	0.1	0.1	0.1
Surcharge from historical UK national income revisions	0.0	0.2	0.0	0.0	0.0
Other factors	0.0	0.1	0.1	0.1	0.1

Note: The supplementary fiscal tables on our website show details of our latest forecasts for our GNI and VAT payments and the rebate, and the various annual adjustments to those transactions that are assumed within our forecast. They also include a table that shows our assumptions about the EU annual budgets, and the adjustments to budget ceilings under the various flexibilities allowed in the 2014-2020 Multiannual Financial Framework, and our assumptions about implementation rates against the adjusted ceilings.

Box 4.1: The financial settlement with the European Union: an update

In Annex B of our March 2018 *EFO*, we set out how we estimated the cost of the EU financial settlement, as well as the year-by-year payment profile and future developments and uncertainties. The financial settlement is part of the draft Withdrawal Agreement between the UK Government and the EU.

There are three main components of the settlement:

- **the period up to 2020**, in which the UK will continue to contribute to the EU budget as if it had remained in the Union;
- **outstanding commitments at the end of 2020**, which have been agreed but not yet paid by the time the current Multiannual Financial Framework (2014-2020) ends; and
- **other actual and contingent liabilities and corresponding assets**, which includes pension liabilities, fines, and financial assets.

Table A shows the breakdown of the components of the EU financial settlement. The Treasury estimated that the total cost of the settlement would be between €40 billion and €45 billion, equivalent to £35 billion to £39 billion at the then exchange rate of €1.13 per pound.[a] In March, we estimated that the total cost of the settlement would be €41.4 billion (£37.1 billion). Our current estimate is that the cost will be €42.2 billion (£38.7 billion) – a 1.9 per cent increase in euro terms, but a 4.2 per cent increase in sterling terms thanks to a drop in the pound.

Table A: Settlement components and time periods

	£ billion			
	UK participation in EU annual budgets to 2020	Reste à liquider	Other net liabilities	Total
	2019-2020	2021-2028	2019-2064	2019-2064
March forecast	16.4	18.2	2.5	37.1
October forecast	16.3	19.8	2.6	38.7
Change	**-0.1**	**1.5**	**0.1**	**1.6**
		€ billion		
March forecast	18.5	20.2	2.7	41.4
October forecast	18.1	21.3	2.8	42.2
Change	**-0.4**	**1.1**	**0.0**	**0.8**

Table B decomposes the change in our estimate of the cost of the financial settlement since March. The total change in euro-denominated liabilities is €0.8 billion, which is mostly due to the slower implementation of the EU budget in the 2014-20 MFF, pushing more projects into the RAL (i.e. the amount of committed expenditure that is outstanding at the end of the MFF). The UK's share of the EU budget has fallen due to sterling weakening relative to the euro, but when the settlement is converted into sterling, this is more than offset by the increase in liabilities from the weaker exchange rate. There is only a small effect from other net liabilities.

Table B: Changes in the cost of the EU financial settlement since March

	€ billion	£ billion
Exchange rates	-	0.6
UK's share of EU financing	-0.3	-0.3
Budget implementation inside the 2014-20 MFF	-0.4	-0.1
Projects pushed into RAL	1.4	1.3
Assets and liabilities	0.1	0.1
Total	**0.8**	**1.6**

[a] See *Chancellor's letter to the Treasury select committee regarding the financial settlement in relation to UK withdrawal from the European Union*, 24 January 2018.

Locally financed current expenditure

4.145 We forecast local authority spending by forecasting the sources of income that finance it – including grants from central government and local sources – and the extent to which authorities will spend more or less than that through use of their reserves or by borrowing. Our forecast therefore encompasses spending financed by grants, which are mostly in DELs, and local authority self-financed expenditure (LASFE), which is in AME. Tables 4.32 and 4.33 focus on LASFE. Further detail is available in supplementary tables on our website.

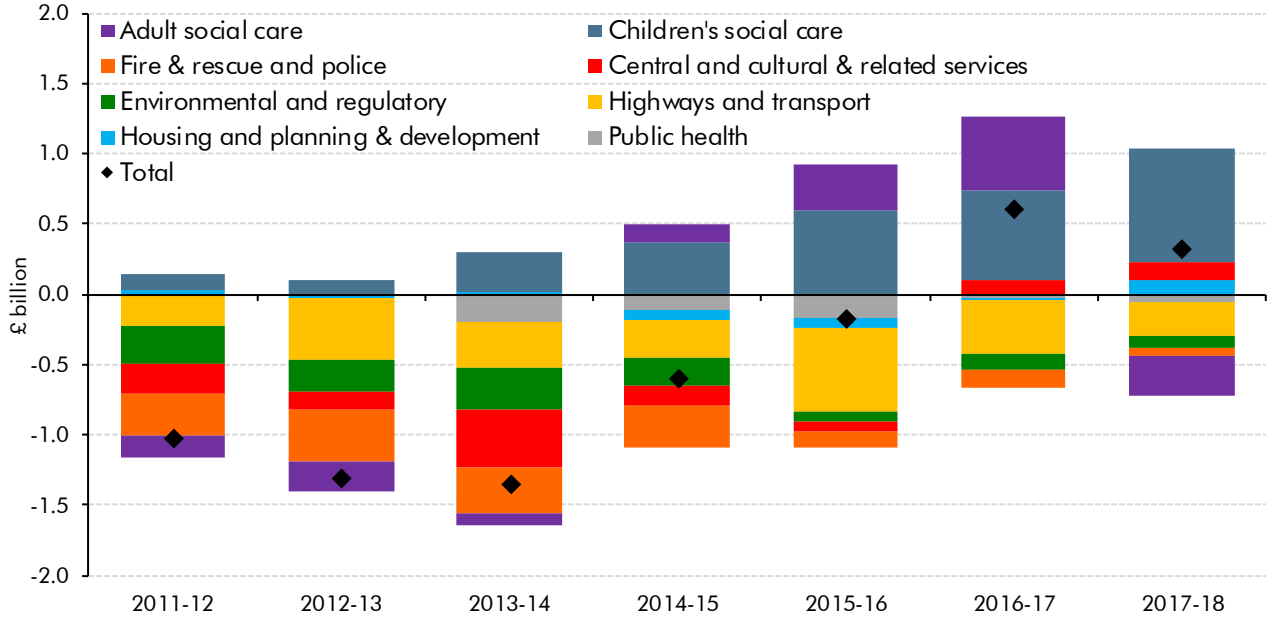
4.146 Table 4.32 summarises the main changes to our current LASFE forecast since March. When looking at these changes, it is important to distinguish between those related to council tax and business rates – which also affect our receipts forecast and are therefore neutral for borrowing – and those related to the net use of current reserves or changes in the amounts

set aside to repay debt, which reflect authorities spending more or less than their income and therefore affect our borrowing forecast.

4.147 In March, we assumed that English local authorities would underspend against their current budgets by £1.1 billion in 2017-18, which would require them to draw down £1.5 billion from their reserves to finance some spending. In the event, English authorities underspent their budgets by £2.1 billion and *added* £0.5 billion to their stock of reserves. The £2.0 billion difference on reserves was partly offset by higher spending financed by other sources that were not reflected in authorities' budgets, particularly retained business rates. Our current forecast assumes that authorities will underspend their current budgets by £1.7 billion in 2018-19. Given the significant error on our 2017-18 reserves assumption in March, we have reviewed our assumptions about this and future years and now assume that English authorities will add £1.3 billion to reserves in 2018-19 (versus drawing down £0.3 billion in our March forecast). We also assume additions of £0.1 billion across Scottish and Welsh authorities (versus a total drawdown of £0.2 billion in March).

4.148 Chart 4.10 updates the analysis we presented last November of another trend that informs our forecast judgement on local authorities' use of reserves. It shows local authorities' under- and over-spending against specific budget areas. Comparing 2017-18 with 2016-17, the trend towards overspending on children's social services has continued, but in respect of adult social care it has reversed. This is likely to reflect the additional funding made available for adult social care in 2017-18, which allowed spending to rise without exceeding budgets and may be the factor that we underestimated when making our judgement about overall spending and use of reserves in 2017-18. The overall overspend against total non-education budgets in 2017-18 was also smaller than in 2016-17.

Chart 4.10: English local authorities' under- and over-spends against revenue budgets by service area



Note: Excludes spending on education and 'other' spending (which has not been allocated to one of the service areas listed). Housing services covers general fund revenue account (GFRA) spending only. Responsibility for spending on public health was transferred to local authorities from 2013-14, so numbers in previous years are not directly comparable.
Source: MHCLG, OBR

4.149 Our latest judgements on the net use of reserves have reduced current LASFE (and borrowing) by an average of £1.8 billion a year in 2018-19 and 2019-20, and by a smaller £0.3 billion in 2020-21. As well as analysis of 2017-18 outturns, the judgements underpinning these changes were informed by in-year quarterly spending data, the continuing additional funding for adult social care and the likely response of authorities' finance departments to uncertainty over funding beyond 2019-20 and the problems revealed at Northamptonshire County Council earlier this year. We discussed these issues with sector experts as well as relevant government officials. Our forecast is also affected by reprofiling of reserves use in Transport for London's (TfL) latest plans.

4.150 This assumed profile of reserves drawdowns would leave local authorities in England with £25.7 billion of reserves at the end of 2019-20. This is £9.2 billion (56.5 per cent) more than they held at the end of 2010-11. The extent to which reserves are used over the forecast period is therefore an important source of uncertainty. Box 4.4 of our March 2018 *EFO* demonstrated that although the aggregate picture for the level of reserves held by English authorities appears healthy, this masks considerable variation across individual authorities, with pressures most significant for those with social care responsibilities.

4.151 Other sources of change to our forecast since March include:

- A slightly higher forecast for **council tax** receipts, mostly related to a higher forecast for receipts in 2018-19, which serves as the jump-off point.
- An upward revision of £0.6 billion to the **locally retained share of business rates** in 2018-19 and downward revisions averaging £0.3 billion a year in subsequent years. The change in 2018-19 mostly relates to higher retained rates as a result of business rates pilots. Other changes reflect aligning our forecast methodology more closely with outturn reporting and overall changes to our business rates forecast.
- Decreases in current income and spending due to greater use of **capital expenditure from revenue account (CERA)** in 2018-19 – that is, current income used to finance capital spending projects. This change increases capital spending and reduces current spending by offsetting amounts (so is neutral for spending and borrowing overall). These changes mostly relate to TfL's latest plans.
- Increases in **other spending**, averaging £0.3 billion a year, mostly the result of higher 2017-18 outturns increasing our forecast for future years.
- The **effect of Government decisions**. Scorecard measures have had a small effect on the forecast, reducing spending in 2019-20 and 2020-21 by an average of £0.3 billion. The Government has also extended the initial wave of 100 per cent business rates retention pilots (first incorporated in our March 2017 forecast) to 2019-20. This adds £0.9 billion to spending in 2019-20. (These are discussed further in Box 4.2.)

Table 4.32: Key changes to locally financed current expenditure since March

	£ billion				
	Forecast				
	2018-19	2019-20	2020-21	2021-22	2022-23
March forecast	52.5	51.6	52.3	53.6	55.2
October forecast	51.1	50.7	51.8	53.8	55.5
Change	**-1.4**	**-0.9**	**-0.5**	**0.2**	**0.3**
of which, changes in sources of local finance:					
Forecast changes	**-1.4**	**-1.5**	**-0.2**	**0.2**	**0.3**
of which:					
Council tax	0.1	0.1	0.1	0.1	0.1
Retained business rates	0.6	-0.3	-0.4	-0.3	-0.2
Net use of current reserves	-1.9	-1.7	-0.3	0.0	0.0
CERA	-0.6	0.0	0.1	0.1	0.1
Other	0.4	0.4	0.3	0.3	0.2
Effect of Government decisions	**0.0**	**0.6**	**-0.3**	**0.0**	**0.0**
of which:					
Scorecard measures	0.0	-0.3	-0.2	0.0	0.0
Non-scorecard measures	0.0	0.9	0.0	0.0	0.0
of which:					
Business rates pilots extension	0.0	0.9	-0.1	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0

4.152 There are several sources of uncertainty around our local authority spending forecast that we discussed in our March *EFO* (in paragraph 4.129) and that remain relevant to this forecast. They include continuing budget pressures, the sectoral shifts that result from converting schools into academies and housing benefit to universal credit, and policy risks associated with future changes to business rates retention by local authorities.

Box 4.2: Business rates retention pilots

The Government has been piloting full business rates retention since 2017-18. These pilots have featured in our forecasts since March 2017, but were incorrectly incorporated as being fiscally neutral by definition, as they straightforwardly transferred spending from central government to local authorities. A reduction in central government DEL grants was assumed to offset an equivalent amount of locally retained business rates that financed higher LASFE.

A paper published in April by the Institute for Fiscal Studies (IFS) argued that the pilot schemes would in fact not be spending- or borrowing-neutral, but would instead result in a financial gain to local authorities and higher public sector net borrowing.[a] In light of this, we engaged with the Ministry of Housing, Communities and Local Government (MHCLG) and the Treasury to understand the significant differences between its conclusions and the estimates we had used in our forecasts. We established that the information that we had been provided regarding the way the pilots would operate and their potential fiscal effects was incomplete and in part incorrect. As a result, the fiscal costs of the pilots have been re-estimated and included in this forecast.

Table C summarises the estimated gains to authorities from the pilots that have been announced so far. The overwhelming majority of pilot authorities are expected to receive a net financial gain. Relative to a situation in which they had continued to retain 50 per cent of business rates, we expect pilot authorities to gain £0.8 billion in 2018-19, which aligns to the IFS estimate. The loss in 2020-21 reflects the fact that authorities tend to over-forecast business rates revenues in their budgets and we assume that this will result in larger deficits on collection in future years.)

Table C: Estimated financial gain to business rates retention pilot authorities

	£ billion				
	2017-18	2018-19	2019-20	2020-21	2021-22
Net gain to 2017-18 tranche local authorities (two-year deal)	**0.2**	**0.3**	**-0.1**	**0.0**	**-**
of which:					
Additional section 31 grant	0.1	0.1	-	-	-
Additional retained rates that can be used to finance spending	0.1	0.1	-0.1	0.0	
Net gain to 2018-19 tranche (two rounds) local authorities	**-**	**0.6**	**0.0**	**-0.1**	
of which:					
Additional section 31 grant	-	0.2	-	-	-
Additional retained rates that can be used to finance spending	-	0.3	0.0	-0.1	-
Net gain to 2017-18 tranche local authorities (policy extension to 2019-20)	**-**	**-**	**0.3**	**-0.1**	**0.0**
of which:					
Additional section 31 grant	-	-	0.2	-	-
Additional retained rates that can be used to finance spending	-	-	0.1	-0.1	0.0
Total	**0.2**	**0.8**	**0.2**	**-0.2**	**0.0**

[a] Amin-Smith, N. *et al.*, *100 per cent business rate retention pilots: what can be learnt and at what cost?*, Institute for Fiscal Studies Briefing note BN233, April 2018.

Locally financed and public corporations' capital expenditure

4.153 Our latest forecasts for locally financed capital expenditure (capital LASFE) and public corporations' capital spending are shown in Table 4.33. These are net of asset sales, forecasts for which are shown in the supplementary tables on our website. Capital LASFE is measured net of capital spending by local authorities' Housing Revenue Accounts (HRAs) and the Transport for London (TfL) subsidiaries that are treated as public corporations in the National Accounts.[12] We switch these items from capital LASFE to public corporations' capital expenditure in our forecast to ensure it is consistent with the National Accounts.

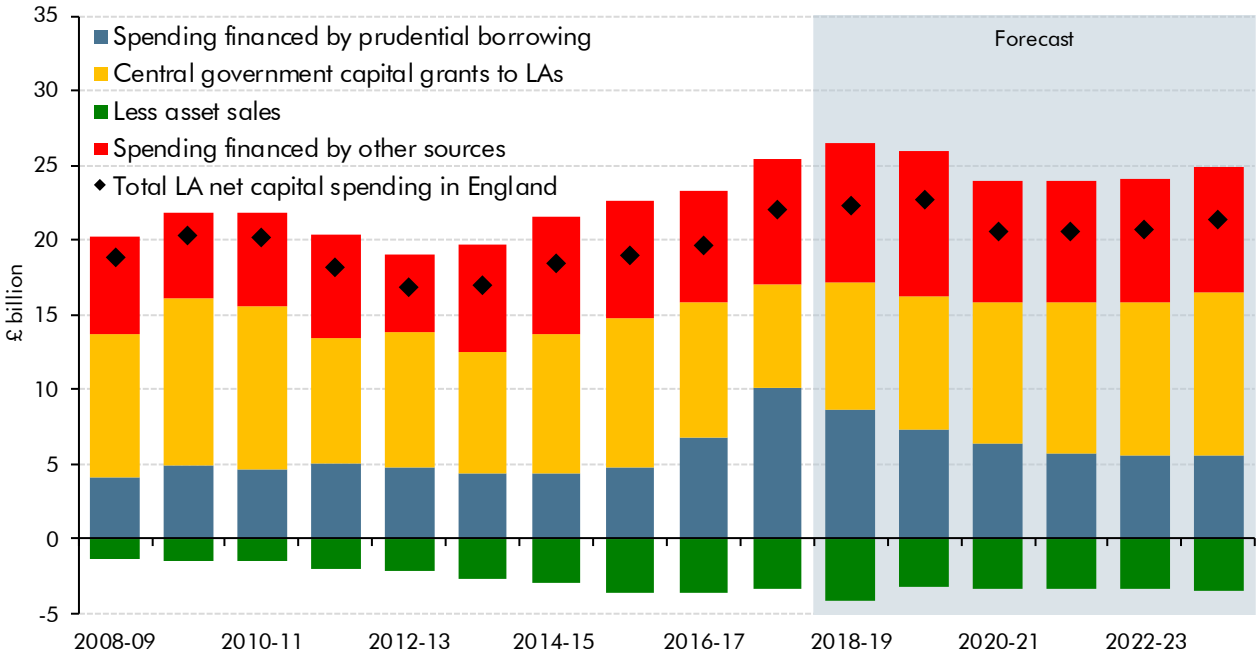
4.154 We present changes to capital LASFE and public corporations' capital spending together so that any switches between them net out and do not obscure the changes that affect TME. We have restated our March forecast for the ONS reclassification of Scottish and Welsh housing associations back to the private sector. On a like-for-like basis, spending has been revised up by an average of £1.8 billion a year, although the profile is uneven.

4.155 The largest change to the forecast reflects upward revisions to local authorities' capital spending financed by prudential borrowing (excluding TfL). We expect English authorities' use of prudential borrowing to persist at even higher levels than assumed in our upwardly-revised March forecast. This adds £1.8 billion a year on average to spending across 2018-19 and 2019-20. Despite previous upward revisions, the almost 50 per cent rise reported in 2017-18 to £10.1 billion was far higher than our March forecast of £7.1 billion. The 2017-18 data were released just before we closed our forecast, so we were only able to consider provisional analysis of what might have driven the large upside surprise. We have assumed that most of this additional spending will take place on standard capital projects, rather than commercial ventures that aim to generate revenue. But we have noted the continued commercial activity by authorities this year, despite recent updates to the *Prudential Code* and MHCLG guidance on local authority investments, both of which are were designed to curb commercial activity by authorities. We assume that some borrowing for commercial activity will persist over the forecast. These judgements are particularly uncertain.

4.156 Chart 4.11 shows that spending financed by prudential borrowing increased significantly in both 2016-17 and 2017-18, in cash terms and as a share of total net capital spending by English local authorities. The year-on-year rises of £2.0 billion and £3.3 billion, respectively, represent 34.4 per cent and 45.5 per cent of total net capital spending in these two years. Over the period covered by the chart, the previous peak was £5.1 billion of spending financed by borrowing in 2011-12 (27.9 per cent of the total).

[12] These TfL transport subsidiaries trade under the company name 'Transport Trading Ltd' (TTL). The ONS currently classifies all the large TTL subsidiaries as public corporations apart from Crossrail, which is classified as part of the local authority sector.

Chart 4.11: Local authority net capital expenditure in England by sources of finance



Source: OBR

4.157 The other main changes to our forecast relative to March reflect:

- A higher in-year forecast for **asset sales**, which reduces spending in 2018-19 by £0.5 billion. This reflects the latest in-year data. Our asset sales forecast is then down by £0.5 billion a year from 2019-20 onwards, largely because of lower fixed asset sales, reflecting our latest property transactions and prices forecasts. Right to Buy receipts have also been revised down, reflecting a methodological change.

- Our forecast for spending financed by **useable capital receipts** follows a similar, inverse pattern to the asset sales forecast, as we would expect. For similar reasons, it is up by £0.3 billion in-year but down by an average of £0.2 billion a year from 2020-21 onwards.

- Reprofiling **TfL capital spending** to reflect TfL's latest plans and our assumption of a 12-month delay to the full opening of Crossrail, as we assume that the announced delay knocks through to later stages of the project. This increases spending by an average of £0.1 billion a year over the forecast, with the largest effect (£0.3 billion) in 2019-20. We assume that the additional capital spending on Crossrail is financed from the capital reserves that were built up when spending was delayed in the earlier stages of construction. The changes to TfL plans also account for most of the change to CERA in 2018-19 discussed above.

- Changes to our adjustments to remove **capital grants to TfL's public corporation subsidiaries** (where our forecast includes the capital spending by the subsidiaries themselves). The largest effect is in 2018-19, reducing spending by £0.6 billion.

- Decreases in **other spending**, averaging £0. billion a year, mostly as a result of lower 2017-18 outturns reducing our forecast for future years.
- **Budget measures**. Scorecard measures have added an average of £0.8 billion a year to the forecast, largely due to the decision to lift HRA borrowing caps, which raises borrowing by progressively larger amounts over the next five years. The Government has also extended the initial wave of business rates retention pilots to 2019-20. This adds £1.1 billion to locally financed spending in 2019-20, as pilot authorities are assumed to use the additional income to finance capital spending (reducing current spending and increasing capital spending by directly offsetting amounts, via CERA).

4.158 The effect on spending of abolishing the HRA caps that previously constrained local authorities' borrowing for housebuilding is assumed to build up progressively. It adds amounts rising from £0.4 billion in 2019-20 to £1.2 billion in 2023-24 to our public corporations' capital spending forecast. These estimates are subject to considerable uncertainty, as they depend entirely on how local authorities choose to respond to the greater freedoms. Among other things, this will depend on local preferences, the availability of land and the financial consequences for HRAs weighing up prospects for rental income against borrowing costs. These will be influenced by interest rates charged on Public Works Loan Board borrowing and government policy on social sector rents. New borrowing for housebuilding could also displace other activity. The estimated cost of the policy drew on the detailed submissions local authorities made to a previous £1 billion pot for additional borrowing that has been subsumed by this announcement, so reflects some actual plans.

Table 4.33: Key changes to locally financed capital expenditure and public corporations' capital expenditure since March

	£ billion				
	Forecast				
	2018-19	2019-20	2020-21	2021-22	2022-23
March forecast, restated	20.6	18.9	18.7	18.6	19.3
October forecast	22.4	22.4	20.3	19.8	20.3
Change	**1.8**	**3.5**	**1.6**	**1.3**	**1.0**
of which:					
Forecast changes	**1.6**	**1.9**	**0.5**	**0.2**	**-0.3**
of which:					
Prudential borrowing (non-TfL)	2.2	1.5	0.5	0.3	0.3
Less asset sales	-0.5	0.5	0.5	0.5	0.5
Useable capital receipts	0.3	0.0	-0.2	-0.2	-0.3
TfL capital spending	0.1	0.3	0.0	0.1	0.0
Capital grants from local authorities to public corporations	-0.6	0.0	0.0	0.0	-0.2
CERA	0.6	0.0	-0.1	-0.1	-0.1
Other	-0.5	-0.3	-0.3	-0.3	-0.4
Effect of Government decisions	**0.1**	**1.6**	**1.1**	**1.1**	**1.3**
of which:					
Scorecard measures	0.1	0.5	1.1	1.1	1.3
Business rates pilots extension	0.0	1.1	0.0	0.0	0.0

Public sector debt interest

4.159 Debt interest payments are forecast by applying appropriate interest rates to the stocks of conventional and index-linked gilts outstanding at different maturities and other debt, such as NS&I products and Treasury bills. The assumptions we use to forecast the levels of debt instruments are described later in this chapter. Financial market expectations are used to derive relevant interest rates (for example, coupons on newly issued conventional gilts), while our inflation forecast is used for index-linked gilts and other index-linked debt. Flows associated with the Bank of England's Asset Purchase Facility (APF) similarly apply appropriate market-derived interest rates to the stocks of the APF's loan liability and to its gilt, corporate bond and loan assets.[13]

4.160 Debt interest payments are expected to fall in 2018-19, thanks to lower RPI inflation this year than in 2017-18, but then to rise over the rest of the forecast period. Central government interest payments are fairly stable from 2018-19 onwards as the costs of financing new borrowing are offset by the impacts of rolling over existing debt at lower interest rates than it was issued at. The APF continues to reduce public sector debt interest payments over the forecast but by decreasing amounts each year as the gap between the interest earned on its largely gilt assets and Bank Rate narrows. There is a sharper drop in this saving in 2023-24 due to the assumption that APF assets will be reduced in that year as Bank Rate passes 1.5 per cent. This is consistent with the latest guidance from the Bank's Monetary Policy Committee.

4.161 In Table 4.34 we have restated our March forecast to take account of the reclassification of Scottish and Welsh housing associations to the private sector. Like-for-like changes to our forecast before considering the effects of Budget policy measures reflect:

- **Market interest rate expectations** have fallen slightly. This reduces the costs of financing government borrowing and increases the profitability of the APF.
- Lower **RPI inflation** in in 2018-19 reduces spending by £0.8 billion, but increases spending in all other years.
- Lower **pre-measures borrowing** would have reduced the financing requirement significantly, reducing spending in all years and by increasing amounts.
- The **reduction in the size of the APF** reduces its profitability in 2023-24.

4.162 Budget policy measures have added significantly to debt interest spending:

- The Government has changed the interest rate of **NS&I index-linked savings certificates** from RPI to CPI inflation, with effect from May 2019. As CPI inflation is generally lower than RPI inflation, this saves up to £0.2 billion a year.

[13] Our forecasting approach was explained in Box 4.4 of our March 2015 *EFO* and is discussed in the 'in depth' section of our website. A supplementary fiscal table on our website that presents the different stocks, flows and effective interest rates that make up this forecast.

- The Treasury has reduced the proportion of **index-linked gilts** in its overall financing plans. This increases interest spending by amounts rising to £0.2 billion in 2023-24.

- Most significantly, the **debt interest consequences of the large discretionary fiscal easing announced** in the Budget, reflecting both higher borrowing and its inflationary consequences, increase spending by over £1 billion a year from 2020-21 onwards.

Table 4.34: Key changes to debt interest since March

	Forecast				
	2018-19	2019-20	2020-21	2021-22	2022-23
Public sector debt interest					
March forecast, restated	43.0	43.5	44.4	46.3	48.2
October forecast	41.2	43.5	44.4	45.8	47.2
Change	**-1.9**	**-0.1**	**0.0**	**-0.5**	**-1.0**
Central government debt interest					
March forecast	53.3	52.0	51.4	52.4	53.2
October forecast	51.6	52.0	51.4	52.0	52.0
Change	**-1.7**	**0.0**	**0.0**	**-0.5**	**-1.2**
of which:					
Forecast changes	**-1.7**	**-0.2**	**-1.1**	**-1.7**	**-2.3**
Interest rates	-0.2	-0.5	-0.2	-0.5	-0.8
Inflation	-0.8	0.7	0.4	0.4	0.3
Financing	-0.5	-0.5	-1.2	-1.6	-2.1
Other factors (including outturn)	-0.3	0.0	0.0	0.1	0.2
Effect of Government decisions	**0.1**	**0.2**	**1.2**	**1.2**	**1.2**
Scorecard measures	0.0	0.0	-0.1	-0.2	-0.2
New Government financing remit	0.0	0.0	0.0	0.1	0.2
Indirect effects	0.1	0.2	1.2	1.3	1.2
Asset Purchase Facility					
March forecast	-11.6	-9.8	-8.3	-7.5	-6.5
October forecast	-11.8	-9.8	-8.4	-7.5	-6.3
Change	**-0.2**	**-0.1**	**0.0**	**0.0**	**0.1**
of which:					
Forecast changes	**-0.2**	**-0.1**	**0.0**	**0.0**	**0.1**
Interest rates	-0.2	-0.1	0.0	0.0	0.0
Other changes	0.0	0.0	0.0	0.0	0.2
Local authority and public corporation debt interest					
March forecast, restated	1.4	1.3	1.4	1.4	1.5
October forecast	1.4	1.3	1.4	1.4	1.5
Change	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Other AME

4.163 Spending on **company tax credits** has been revised up by an average of £0.6 billion a year over the forecast, reflecting higher-than-expected outturn spending in 2016. This is largely related to R&D tax credits, where the increased generosity of the scheme appears to have generated significantly higher take-up than previously assumed among smaller firms.

4.164 Our forecasts for **BBC licence fee income** and **BBC current spending** are little changed from March. Spending has been reprofiled across years, but not increased in aggregate.

4.165 Our forecast for **Network Rail current and capital spending** is down by a net £0.3 billion in 2018-19 relative to March. The changes include a switch between current and capital spending, but capital spending is also lower than we forecast in March. With effect from 2019-20, the Treasury has chosen to switch Network Rail spending in England and Wales from AME to DEL, while the Scottish element of Network Rail spending will be recorded within Scottish Government AME.

4.166 We have applied a new methodology for **general government depreciation**, resulting in a new profile of initial declines, offset by rises later in the forecast. Relative to March, this reduces depreciation in the first two years of the forecast but increases it thereafter, resulting in an average growth of £0.2 billion a year. The new methodology reflects falling R&D depreciation in outturn, while maintaining a stable trend for other asset classes. The cause of the decline in R&D depreciation remains unclear, so we intend to work with the ONS and Treasury to explore the underlying causes. Depreciation affects spending, receipts and the current budget deficit but is neutral for net borrowing, so this change does not have implications for the Government's fiscal targets.

4.167 Spending on **other PSCE in AME** has been revised up by small amounts since March. **Other PSGI in AME** is lower in all years, mainly reflecting the fact that pensions transfers that affect the forecast (i.e. that are not intra-public sector) are now recorded as capital spending, rather than being included in the public service pensions AME forecast.

4.168 We have revised down the expected cost of **tax litigation** payouts over the forecast period, following the Supreme Court's ruling on 25 July 2018 on the claim in restitution for compound interest, in respect of past tax payments. These were held to be unlawful. This ruling changes the costs associated with HMRC's July 2018 Trust Statement provision of £5.9 billion, which we would normally use as the basis for this forecast, and which was already lower than we allowed for in our March forecast. In the absence of an updated HMRC estimate for this provision, we have asked HMRC to estimate the effect of calculating interest-related payments on cases in its published provision on a simple interest basis, following the latest Supreme Court judgement. This remains subject to considerable uncertainty, including around HMRC's chances of success in allied litigation, as further Supreme Court decisions are pending. This revision also reduces the corporation tax we expect to be paid on the restitution interest element of tax litigation payouts.

4.169 Some elements of our spending forecast are largely or entirely neutral for borrowing, because they are directly offset in receipts. Changes since March for these forecasts are explained in the corresponding receipts sections. These include **environmental levies** – levy-funded spending policies such as the renewables obligation (RO), contracts for difference (CfD), feed-in tariffs (FITs), the capacity market scheme and the warm home discount – and **VAT refunds** to central and local government, which have been revised heavily in outturn.

4.170 Our AME forecast includes several **National Accounts adjustments** that are included in the definitions of PSCE and PSGI.[14] Table 4.20 shows that we have revised the PSCE-related adjustments down by £0.5 billion a year on average across the forecast period and the PSGI-related adjustments down by £0.3 billion a year on average. These changes mostly reflect lower outturn data pertaining to several of the adjustments included in our forecast, with the decrease on capital more than offset in 2018-19 by higher forecast spending on local authority capital VAT refunds (which are offset in receipts).

Deficit aggregates

4.171 Our central forecast for the key measures of the budget deficit incorporates the forecasts for receipts and expenditure set out in the previous sections of this chapter. In this section we explain the changes in the following aggregate measures of the deficit:

- **Public sector net borrowing:** the differences between total public sector receipts and expenditure on an accrued basis each year. As the widest measure of borrowing, PSNB is a key indicator of the fiscal position. It was the fiscal mandate measure early in the last Parliament. We focus on it when explaining changes since our previous forecast.

- **Cyclically adjusted net borrowing**: public sector net borrowing adjusted to reflect the estimated impact of the economic cycle. It is an estimate of underlying or 'structural' net borrowing, in other words the borrowing we would expect to see if the output gap were zero. It is the target measure for the Government's fiscal mandate.

- The **current budget deficit**: the difference between receipts and public sector current expenditure each year. In effect, this is public sector net borrowing excluding borrowing to finance investment that boosts the public sector capital stock.

- The **cyclically adjusted current budget deficit**: the current budget adjusted to reflect the estimated impact of the economic cycle. It was the target measure for the Coalition Government's fiscal mandate between 2010 and 2015.

Public sector net borrowing

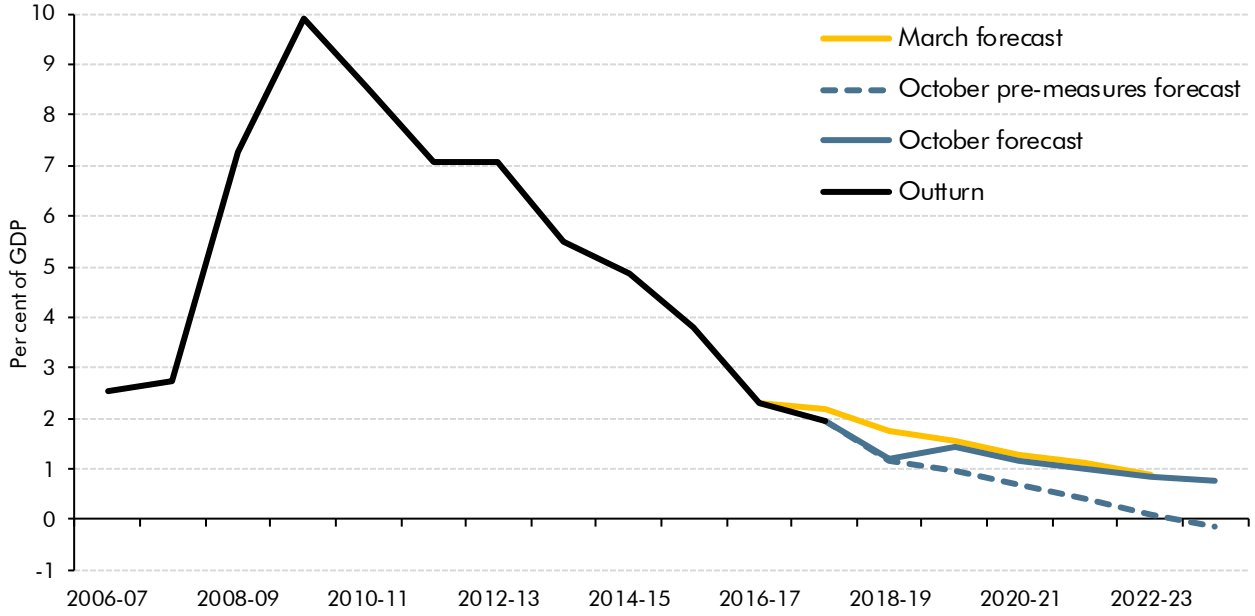
4.172 We expect borrowing in 2018-19 to be £11.6 billion lower than we forecast in March thanks to unexpected and broadly-based strength in tax receipts, combined with lower-than-expected public spending. This downward revision would have been ever greater were it not for a £1.1 billion within-year fiscal giveaway focused on public services spending.

4.173 As Chart 4.12 shows, on a pre-measures basis the budget deficit would have fallen steadily across the forecast and moved into surplus in 2023-24. Adding in the effect of the new settlement for the NHS – financed entirely through borrowing – would have left our forecast for the deficit a little lower than March in the near term and a little higher in the medium

[14] Further details of our forecasts for all our National Accounts adjustments are included in the supplementary spending tables on our website. Explanations and the background to National Accounts adjustments are given in Annex D to PESA 2018.

term. Factoring in the Chancellor's further near-term giveaways and tiny medium-term takeaway has resulted in a path for the deficit that is slightly lower than March in all years bar 2022-23. The near-term giveaways mean the deficit is expected to rise year-on-year in 2019-20, before resuming a steady decline to somewhat less than 1 per cent of GDP.

Chart 4.12: Changes to public sector net borrowing since March



Source: ONS, OBR

4.174 Table 4.35 breaks down the changes in our borrowing forecast since March. First, it restates our March forecast consistent with current and prospective classification and methodological changes affecting the public finances data. Second, it breaks down our underlying forecast revisions into those due to recent public finances data and those that flow from our updated economy forecast and other factors. And third, it summarises the effect of Government decisions on borrowing, including those reported on the Treasury's Budget scorecard and other decisions that the Treasury chooses not to present that way. It is dominated by the within-year strength in receipts and the cost of the new settlement for the NHS.

Classification and methodological changes

4.175 Five sources of change to the public finances data since March have affected our forecast, although only two feed through to net borrowing from 2018-19 onwards. These would have reduced our March forecast by £1.1 billion a year on average from 2018-19 onwards. To facilitate comparisons on a like-for-like basis, we have restated our March PSNB forecast by:

- **Removing Scottish and Welsh housing associations' own-account borrowing** from the point at which their reclassification into the private sector took effect. This results in a £0.1 billion downward revision in 2018-19 – a part-year effect – and average reductions of £0.4 billion a year from 2019-20 onwards.

- **Incorporating an estimate for HMRC-levied fines and penalties**, which are not currently being recorded in the public finances. The ONS has identified around £0.7 billion a year of these. We have anticipated their effect in our latest receipts forecast.

Underlying revisions to borrowing in 2018-19

4.176 Borrowing in 2017-18 is now estimated to have been £5.8 billion lower than our March forecast on a like-for-like basis. Borrowing in the first half of 2018-19 has also been substantially lower than would be consistent with our March forecast. Before factoring in the effect of Government decisions, we would have expected borrowing to fall from £39.8 billion in 2017-18 to £24.3 billion this year, an £11.9 billion like-for-like downward revision from March. That largely reflects two factors that both push the deficit lower:

- First, cash receipts from **the four largest tax streams** – PAYE income tax, NICs, onshore corporation tax and VAT receipts – have risen more strongly than expected this year. This partly reflects stronger employment growth than we expected in March, although the unexplained residual strength may indicate stronger growth in nominal GDP than is currently being recorded in the National Accounts.

- Second, **central government spending** has risen less than expected over the first half of the year. Current spending by departments was weaker than expected at the end of 2017-18, which has persisted into the current year. Lower RPI inflation in the first half of 2018 has also helped to reduce spending on inflation-linked gilts.

4.177 As the Budget is taking place unusually early, we have only been able to factor in a little administrative data on central government receipts in October and no data at all on central government spending. October tends to be the fourth largest month in the year for HMRC cash receipts, and so this 'in-year' forecast is subject to greater uncertainty than usual.

Underlying revisions to borrowing from 2019-20 onwards

4.178 From 2019-20 onwards, our underlying forecast revisions would have seen the deficit fall further and move into surplus in 2023-24. The downward revision in 2022-23 is £18.1 billion relative to our March forecast. This reflects the following factors:

- The largest source of improvement by 2022-23 (around £7 billion) reflects our judgement that **the strength in tax receipts in 2018-19** will persist over the forecast. In effect, this assumes that the rise in the tax-to-GDP ratio this year is structural, though as noted it may also be the case that nominal GDP is greater than currently recorded.

- Around £3 billion of the revision reflects our assumption that the **equilibrium rate of unemployment** is lower. This boosts the level of employment across the forecast, directly raising receipts from income tax and NICs and reducing spending on out-of-work welfare benefits and tax credits. The income from higher employment also boosts nominal consumption across the forecast, raising VAT receipts.

- A further £2 billion reflects lower **debt interest** payments. This largely reflects lower cumulative borrowing in our pre-measures forecast, due to stronger receipts.

- The remaining £6 billion reflects several **smaller factors**, including the boost to North Sea revenues from higher oil prices, as well as a reduction in the expected cost of future HMRC tax litigation payouts following a Supreme Court decision in the summer.

Government decisions

4.179 The new multi-year settlement for the National Health Service raises the deficit substantially in every year. Further measures announced in the Budget raise borrowing in the near term but reduce it slightly in the medium term. Taken together they turn the £3.5 billion surplus in our pre-measures forecast for 2023-24 into a £19.8 billion deficit.

4.180 The overall discretionary fiscal giveaway rises from £10.9 billion in 2018-19 to £23.2 billion 2023-24. The main components of the package are:

- The Prime Minister's June announcement of **a new multi-year settlement for the National Health Service** in England and its knock-on consequences for spending in Scotland, Wales and Northern Ireland (since health spending is fully devolved). This adds progressively larger amounts to public spending, rising from £7.4 billion in 2018-19 to £27.6 billion in 2023-24.

- A smaller boost to **other current departmental spending (RDEL)** of £3.6 billion a year on average between 2020-21 and 2022-23.

- A **near-term tax giveaway**, including an above-inflation rise in the income tax personal allowance and higher rate threshold and freezes to fuel and some alcohol duties.

- A **welfare spending giveaway** that focuses on making universal credit more generous by increasing work allowances by £1,000 a year in 2019-20 and by several smaller changes that ease claimants' transition to universal credit and reduce losses to some.

4.181 Partly offsetting the giveaways, the Government has decided to cut departmental capital spending from 2020-21 onwards and has announced medium-term tax rises that include the extension of reforms to off-payroll working rules (IR35) to the private sector and reversal of the previous decision to abolish Class 2 NICs. It will also impose a new tax on specific revenues of large digital businesses.

4.182 The indirect effect of this significant easing in fiscal policy relative to our pre-measures baseline offsets part of its fiscal cost, reducing borrowing by around £4 billion a year on average from 2020-21 onwards. This reflects the cyclical boost to the economy, which pushes up tax receipts, and the additional public service pension contributions that will result from the higher public services spending, which reduce the net cost of public service pensions. These positive indirect effects are partly offset by the debt interest consequences of higher borrowing and higher state pensions spending due to the triple lock on its uprating.

Table 4.35: Changes to public sector net borrowing

	£ billion						
	Outturn	Forecast					
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
March forecast	45.2	37.1	33.9	28.7	26.0	21.4	
Classification changes	*0.4*	*-0.8*	*-1.1*	*-1.1*	*-1.2*	*-1.2*	
March forecast restated	45.6	36.2	32.9	27.6	24.8	20.2	
October forecast	39.8	25.5	31.8	26.7	23.8	20.8	19.8
Like-for-like change	**-5.8**	**-10.8**	**-1.1**	**-1.0**	**-1.0**	**0.6**	
Underlying revisions to receipts	**-0.4**	**-7.4**	**-8.0**	**-8.0**	**-11.2**	**-14.1**	
of which:							
In-year judgements	-0.4	-6.4	-6.5	-6.6	-6.8	-7.1	
Equilibrium level of unemployment	0.0	-2.4	-2.4	-2.5	-2.6	-2.7	
Other economy effects	0.0	1.4	0.2	-0.5	-1.9	-3.6	
Other modelling changes	0.0	0.0	0.7	1.6	0.1	-0.7	
Underlying revisions to spending	**-5.3**	**-4.5**	**-4.1**	**-3.7**	**-3.5**	**-4.1**	
of which:							
Equilibrium level of unemployment	0.0	-0.3	-0.6	-0.6	-0.6	-0.5	
Debt interest	0.8	-1.9	-0.3	-1.2	-1.7	-2.2	
Departmental spending changes	-3.5	-0.2	0.2	-1.3	0.6	0.6	
Other changes	-2.6	-2.0	-3.4	-0.7	-1.8	-1.9	
Total effect of Government decisions		**1.1**	**10.9**	**10.7**	**13.7**	**18.8**	**23.2**
of which:							
Impact of NHS settlement on TME		0.0	7.4	11.1	16.1	21.4	27.6
Other RDEL policy changes[1,2]		-0.2	-1.7	4.1	3.6	3.2	-2.2
CDEL policy changes[1]		1.0	-0.7	-3.6	-1.7	-2.9	-0.8
Receipts measures		0.1	4.0	0.2	-2.0	-0.7	0.3
AME measures[2,3]		0.3	3.7	1.9	1.7	2.2	2.5
Indirect effects		-0.1	-1.8	-3.0	-3.9	-4.4	-4.2
Memo: October pre-measures forecast	*39.8*	*24.3*	*20.8*	*15.9*	*10.1*	*2.1*	*-3.5*
Memo: Overall change since March	*-5.4*	*-11.6*	*-2.1*	*-2.1*	*-2.2*	*-0.6*	

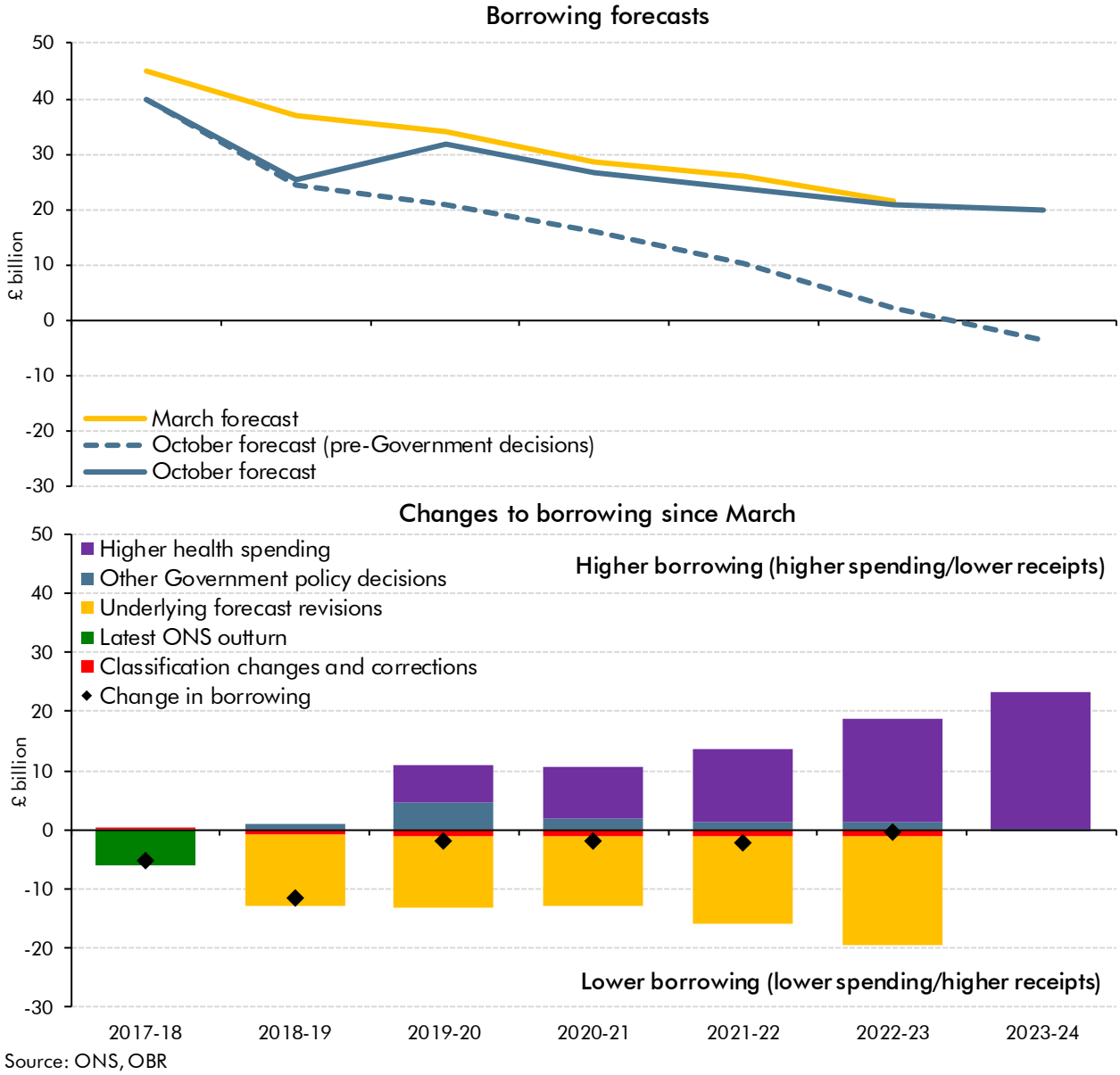
[1] The change in 2023-24 is relative to a baseline that assumes DEL would otherwise have remained constant as a share of GDP.

[2] Excluding health spending changes. Also excluding the impacts from the decision to largely fund departments for the policy to increase employer pension contributions and the supported housing measure, where these changes have offsetting effects in AME.

[3] Incorporates the net effect of the pensions contributions measure on TME, where not all departmental costs have been covered.

Note: This table uses the convention that a negative figure means a reduction in PSNB, i.e. an increase in receipts or a reduction in spending will have a negative effect on PSNB.

Chart 4.13: Public sector net borrowing



Source: ONS, OBR

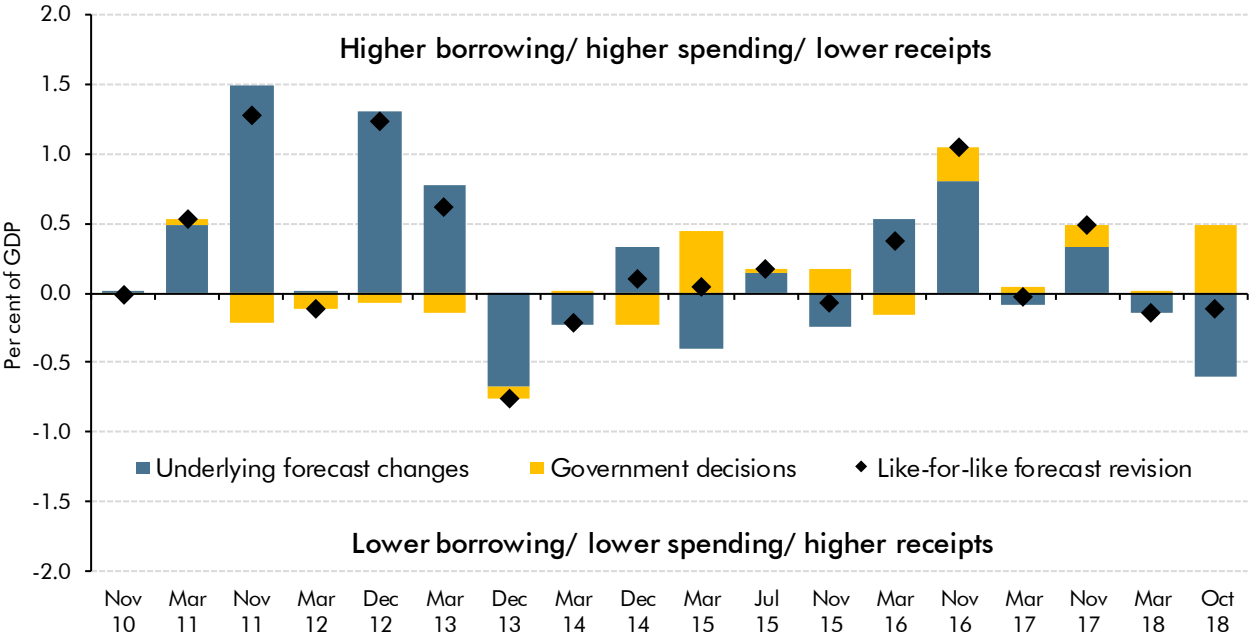
Forecast revision in context

4.183 In our March 2016 *EFO*, we reviewed our previous fiscal forecast revisions to assess how they were related to our economy forecast revisions and how Governments had responded to them. Updating this analysis shows that the underlying downward revision to borrowing in this forecast is the second largest we have made since June 2010, averaging 0.6 per cent of GDP over the final five years of the forecast. But in absolute terms – compared with upward as well as downward revisions – it is similar in size to the average revision in our previous autumn forecasts.

4.184 Presented with this large improvement in our pre-measures forecast, the Government has announced the largest discretionary fiscal loosening in any Budget or Spring/Autumn Statement since the OBR was established. Chart 4.15 shows the average changes in borrowing over the forecast as a share of GDP. In this Budget, Government decisions raise

the deficit by an average of 0.5 per cent of GDP a year, similar to the 0.5 per cent a year average loosening in the pre-election Budget 2015 that partly reversed a previously planned squeeze on public spending. Then as now, discretionary policy changes broadly offset an underlying improvement in the public finances.

Chart 4.14: Revisions to borrowing forecasts since November 2010



Source: OBR

Cyclically adjusted net borrowing (the structural fiscal position)

4.185 The structural deficit is estimated at 1.3 per cent of GDP this year and is expected to rise to 1.6 per cent of GDP next year, reflecting measures announced in this Budget. It then falls steadily over the next four years to 0.8 per cent of GDP in 2023-24. The Government's 'fiscal mandate' is set in terms of this measure, so its profile is discussed in Chapter 5.

4.186 As described in Chapter 3, the output gap in 2018-19 is little changed from our March forecast, but we have revised it up thereafter reflecting the extent of the discretionary fiscal easing announced in this Budget, which we assume has not been fully anticipated in the market-derived interest rate path that underpins our forecast. The output gap remains positive at the end of the forecast period, so the structural deficit is estimated to be larger than the headline deficit, reflecting the cyclical boost to economic activity and receipts from the discretionary fiscal easing.

Current budget

4.187 The latest ONS data show that the current budget (which excludes borrowing to finance net investment spending) moved into surplus by £1.4 billion in 2017-18, down from a peak deficit of £100.5 billion in 2009-10. We expect it to remain in surplus over the forecast, by amounts rising to £34.7 billion in 2023-24 (1.4 per cent of GDP). Relative to March, the surplus is larger in the near term (largely reflecting our higher tax receipts forecast) but is

smaller from 2020-21 onwards, partly reflecting the Government's decision to reduce its plans for capital spending while significantly increasing them for current spending.

Cyclically adjusted current budget

4.188 Our latest estimate is that the cyclically adjusted current budget was in surplus by 0.1 per cent of GDP in 2017-18. We expect this surplus to rise in every year of the forecast, reaching 1.3 per cent of GDP in 2023-24. This measure was targeted by the Coalition Government during the 2010 to 2015 Parliament.

Financial transactions and cash borrowing

4.189 Public sector net borrowing (PSNB) is the difference between total public sector receipts and expenditure each year, measured on an accrued basis. But the public sector's fiscal position also depends on the flow of financial transactions, such as loans and repayments between government and the private sector or the sale of financial assets to the private sector. These do not affect PSNB directly, but they do affect the Government's cash position and its stock of debt and assets. This affects interest paid and received, which do affect PSNB.

4.190 The public sector net cash requirement (PSNCR) is the most complete measure of the public sector's cash flow position in each year.[15] It drives our forecast of public sector net debt (PSND), which is also largely a cash measure. From our estimate of the PSNCR we derive an estimate of the central government net cash requirement (CGNCR), which in turn largely determines the Government's financing requirement – the amount it needs to raise from debt instruments including Treasury bills, gilt issues and NS&I products.

4.191 Differences between the PSNCR and PSNB can be split into the following categories:

- **Loans and repayments**: loans that the public sector makes to the private sector do not directly affect PSNB, but the cash flows affect the PSNCR. In Table 4.36 we divide net lending into programmes that the Government manages within DEL and others.
- **Sales or purchases of financial assets**: the public sector may acquire or sell financial assets such as loans, equity or corporate bonds. When it sells an asset for cash, the initial transaction does not affect PSNB, whereas the cash received will reduce the PSNCR. But both PSNB and the PSNCR will be higher in future years if the Government foregoes an income stream that flowed from the asset sold.
- **Bank of England schemes**: some Bank of England monetary and other policies affect the PSNCR, such as lending under the Term Funding Scheme.
- **Timing effects**: PSNB is an accruals measure of borrowing in which, where possible, spending and receipts are attributed to the year of the activity to which they relate. In contrast, PSNCR is a cash measure in which spending and receipts are attributed to the year in which the cash flow takes place. These timing differences must be adjusted for.

[15] Consistent with the measures of debt and deficit used in this forecast, PSNCR excludes the public sector banks.

Table 4.36: Reconciliation of PSNB and PSNCR

	£ billion					
	Forecast					
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Public sector net borrowing	**25.5**	**31.8**	**26.7**	**23.8**	**20.8**	**19.8**
Financial transactions	**5.6**	**3.8**	**-30.1**	**-55.8**	**25.4**	**14.8**
of which:						
DEL net lending	**6.0**	**7.0**	**7.3**	**5.9**	**6.4**	**2.3**
of which:						
Help to Buy outlays	3.9	4.4	4.8	3.4	3.9	0.0
Other housing schemes	0.6	1.1	1.0			
Devolved administrations	0.4	0.5	0.5			
Other DEL	1.3	1.7	1.6			
Post Spending Review DEL assumption				3.1	3.2	2.9
Allowance for shortfall	-0.1	-0.6	-0.6	-0.6	-0.6	-0.6
Other government net lending	**17.9**	**16.8**	**17.8**	**18.6**	**18.0**	**17.5**
of which:						
Student loan outlays	18.1	19.2	20.1	20.9	21.7	22.6
Student loan repayments[1]	-2.4	-2.3	-2.4	-2.6	-2.8	-3.3
Loan to Ireland	0.0	-1.6	-1.6	0.0	0.0	0.0
Scottish government	0.7	0.6	0.7	0.4	0.5	0.1
UK Export Finance	0.6	0.7	1.4	1.0	0.0	0.0
Other AME	1.6	1.4	1.2	0.9	1.1	1.1
Help to Buy repayments	-0.8	-1.1	-1.6	-2.1	-2.6	-3.0
Sales or purchases of financial assets	**-17.7**	**-11.8**	**-5.3**	**-6.7**	**-7.7**	**-6.0**
of which:						
Student loans	-2.0	-2.7	-2.8	-2.9	-3.0	0.0
RBS shares	-2.5	-3.6	-2.5	-3.8	-4.7	-6.0
UKAR asset sales and rundown	-11.8	-5.0	0.0	0.0	0.0	0.0
Other sales	-1.5	-0.6	0.0	0.0	0.0	0.0
Bank of England schemes	**-0.6**	**0.0**	**-53.3**	**-73.2**	**0.0**	**-0.7**
Cash flow timing effects	**0.0**	**-8.2**	**3.3**	**-0.4**	**8.7**	**1.8**
of which:						
Student loan interest[1]	4.5	5.5	6.1	6.9	7.8	8.3
Corporation tax	2.5	-7.0	-4.9	1.6	1.7	1.3
Other receipts	4.1	4.3	5.0	4.3	4.2	5.0
Index-linked gilt uplift[2]	-13.4	-12.4	-3.7	-14.8	-7.4	-15.4
Other gilt accruals	4.5	3.9	3.8	3.6	4.1	4.4
Other expenditure	-2.2	-2.5	-2.9	-1.9	-1.6	-1.9
Public sector net cash requirement	**31.1**	**35.6**	**-3.4**	**-32.0**	**46.2**	**34.5**

[1] Cash payments of interest on student loans are included within 'Student loan repayments', as we cannot easily separate them from repayments of principal. To prevent double counting, the 'student loan interest' timing effect removes accrued interest.

[2] This reconciliation to the public sector net cash requirement does not affect public sector net debt.

Table 4.37: Changes in the reconciliation of PSNB and PSNCR

	£ billion				
	Forecast				
	2018-19	2019-20	2020-21	2021-22	2022-23
Public sector net borrowing	**-11.6**	**-2.1**	**-2.1**	**-2.2**	**-0.6**
Financial transactions	**-0.7**	**-6.6**	**1.2**	**-4.4**	**-7.2**
of which:					
DEL net lending	**-0.7**	**-0.2**	**0.0**	**-1.6**	**-1.2**
of which:					
Help to Buy outlays	-0.1	0.0	0.1	3.4	3.9
Other housing schemes	-0.5	0.0	0.2		
Devolved administrations	-0.6	-0.5	-0.5		
Other DEL	-0.1	0.3	0.2		
Post Spending Review DEL assumption				-5.0	-5.1
Allowance for shortfall	0.5	0.0	0.0	0.0	0.0
Other government net lending	**0.5**	**0.7**	**1.2**	**0.6**	**-0.2**
of which:					
Student loan outlays	-0.2	-0.4	-0.6	-0.4	-0.3
Student loan repayments[1]	0.2	0.1	0.1	0.1	0.1
Loan to Ireland	0.0	0.0	0.0	0.0	0.0
Scottish government	0.7	0.6	0.7	0.4	0.5
UK Export Finance	0.1	0.1	0.9	0.6	-0.3
Other AME	-0.3	0.3	0.2	0.1	0.1
Help to Buy repayments	0.0	-0.1	-0.1	-0.1	-0.3
Sales or purchases of financial assets	**-0.2**	**-3.6**	**2.2**	**-0.9**	**-4.7**
of which:					
Student loans	0.5	-0.1	-0.1	-0.2	-3.0
RBS shares	0.5	-0.6	0.5	-0.8	-1.7
UKAR asset sales and rundown	0.1	-2.3	1.8	0.0	0.0
Other sales	-1.3	-0.5	0.0	0.0	0.0
Bank of England schemes	**-0.6**	**0.0**	**0.2**	**-1.7**	**0.0**
Cash flow timing effects	**0.3**	**-3.6**	**-2.4**	**-0.8**	**-1.1**
of which:					
Student loan interest[1]	-0.2	-0.1	0.2	0.2	0.3
Corporation tax	-0.2	-0.8	-0.7	0.8	0.3
Other receipts	-0.2	-0.5	0.4	-0.2	-0.1
Index-linked gilt uplift[2]	1.0	-0.6	-0.7	-0.5	0.2
Other gilt accruals	0.1	-0.4	-0.6	-0.6	-0.7
Other expenditure	-0.2	-1.3	-1.1	-0.5	-1.1
Public sector net cash requirement	**-12.3**	**-8.8**	**-0.9**	**-6.6**	**-7.8**

[1] Cash payments of interest on student loans are included within 'Student loan repayments', as we cannot easily separate them from repayments of principal. To prevent double counting, the 'student loan interest' timing effect removes accrued interest.

[2] This reconciliation to the public sector net cash requirement does not affect public sector net debt.

Loans and repayments

Departmental programmes within DEL

4.192 DEL lending programmes are set department-by-department and subject to multi-year spending (or lending) limits. The largest of these is the Help to Buy: Equity Loan (HtB) scheme, which is managed within DEL even though it is entirely demand driven. We expect HtB outlays to increase steadily until 2020-21, which is little changed from our March forecast. The Government has announced that the scheme will be extended for two more years until 2022-23 and then be closed to new borrowers. In 2021-22 and 2022-23, the scheme will only be available to first-time buyers purchasing properties worth up to 1.5 times forecast regional average first-time buyer house prices, with a £600,000 cap in London, removing support from home-movers and those purchasing more expensive properties outside London. We have assumed that there will be a rush of activity in 2020-21 before the more restrictive conditions take effect, and another in 2022-23 before the scheme is closed. The Government's post-Spending Review policy assumption is that DEL net lending will drop sharply in 2023-24 after HtB has been closed to new customers.

4.193 Within the period of the current Spending Review (up to 2020-21) other DEL net lending is forecast by assuming a shortfall in lending against departmental plans. This is lower than in March largely due to the transfer of Scottish Government spending to AME. Abstracting from this it is little changed except for in 2018-19 where departmental plans have been revised down markedly, so we have reduced our shortfall assumption in this year accordingly.

4.194 The Government has changed its assumption for DEL lending programmes beyond the current Spending Review period, reducing it to reflect the Scotland transfer and the extension to the HtB scheme. Otherwise the envelope is little changed.

Student loans

4.195 Net outlays on student loans raise the net cash requirement relative to net borrowing in each year of our forecast. The full fiscal effects of this lending and associated repayments build up over a long period. In our 2018 *Fiscal sustainability report*, we estimated that student loans would increase PSND by more than 12 per cent of GDP in the early-2040s before falling to 11 per cent of GDP by 2067-68 (on the prevailing policy settings).

4.196 Changes in the number of new entrants to higher education institutions are generally one of the biggest drivers of change in the total value of new student loans outside of policy changes. Our latest forecast employs a new Department for Education model for predicting the number of new entrants that will be eligible for loans[16] and we make separate assumptions about continuation rates and durations beyond a student's entrant year. We continue to forecast falling student entrants in the near term – a 3.1 per cent decline in English domiciled entrants in the 2018-19 academic year, followed by smaller falls over the next three years. This reflects fewer 18-year olds (although we expect universities to partially

[16] Further information on this new model can be found in the supplementary forecast note, *Student entrants: forecast methodology change*, available on our website.

offset this by raising acceptance rates). The latest UCAS data support our view that higher education entrant numbers are declining – placed applicants from England 28 days after A-level results are down 3.2 per cent on a year earlier.[17]

4.197 In July 2018, the Government announced that EU students entering English universities in the 2019-20 academic year would "*be charged the same tuition fees as UK students*" and able to access financial support "*on the same basis as is available today*".[18] In the absence of Government policy beyond 2019-20, we assume flat EU student entrants beyond then.

4.198 Net outlays on student loans continue to rise across the forecast period from £15.7 billion in 2018-19 to £19.3 billion in 2023-24. This is little changed since March, largely reflecting offsetting revisions to outlays and repayments. A reduction in our entrants forecast has led us to revise down outlays in every year. This downward revision reaches £0.4 billion by 2020-21, as successively smaller cohorts make their way through the education system. Repayments have also been revised down by £0.1 billion a year on average reflecting changes to our earnings forecast. This affects the proportion of graduates above the repayment threshold and the average repayments for those still repaying.

4.199 The Government has announced that it will freeze the maximum tuition fees publicly funded universities can charge at £9,250 in 2019-20 (fees will be uprated by RPIX inflation beyond this point). We expect the subsequent reduction in outlays to reach around £0.2 billion a year by 2023-24. Again, the cumulative impact on repayments is negligible in the medium term and only reduces repayments by £0.1 billion a year in the mid-2040s.

4.200 In February 2018, the Government announced a review of post-18 education and funding. Among other things, this will cover "*the level, terms and duration*" of students' financial contribution to their post-18 education. Following the ONS's announcement that it is reviewing the accounting treatment of student loans, the Government's review is now expected to complete in 2019. We discussed how the current treatment flatters the public finances in a working paper earlier this year and return to this issue in Box 4.3.[19]

[17] UCAS, *Daily clearing analysis 2018, 13 September 2018 – Overview (English domicile)*, September 2018.
[18] HM Government, *Further financial support for UK and EU students*, July 2018.
[19] Ebdon, J., and Waite, R., *Working Paper No.12: Student loans and fiscal illusions*, July 2018.

Box 4.3: Accounting for student loans

The accounting treatment applied to the burgeoning stock of student loans has been the subject of much interest over the past year, with reports from the House of Lords Economic Affairs Committee, the House of Commons Treasury Select Committee and the Office for National Statistics.[a] In July, we published our own contribution in *Working Paper No. 12: Student loans and fiscal illusions*. These illusions occur when the treatment of a transaction in the National Accounts does not reflect its true implications for the public finances. We noted several aspects of the current treatment create such illusions: the valuation of the loan asset; the deficit impact of sales; and the deficit impacts of the extension of the loans and the interest charged on them. For the latter two in particular, we reviewed potential alternative accounting treatments.

Student loans are designed to have a significant level of subsidy: repayments are contingent on income and it is the policy intent that lower earners will repay only a portion of their loans and associated interest (at most). In the case of full-time students in England receiving Plan 2 loans (the larger ones in place since tuition fees were raised in 2012), our latest projection suggests that only 38 per cent of the total principal and interest charged to students will be repaid. The current accounting treatment does not recognise this subsidy element for many decades, instead:

- all **outlays** are treated as loans assets (with no impact on the deficit) – even though most of the outlays will never be recovered;
- all **interest charged** is treated as income (benefitting the deficit) – even though most of this income will never actually be received; and
- the low rates of recovery lead to large future **write-offs** (30 plus years away for English Plan 2 loans) far beyond our medium-term forecast horizon and Governments' normal planning windows.

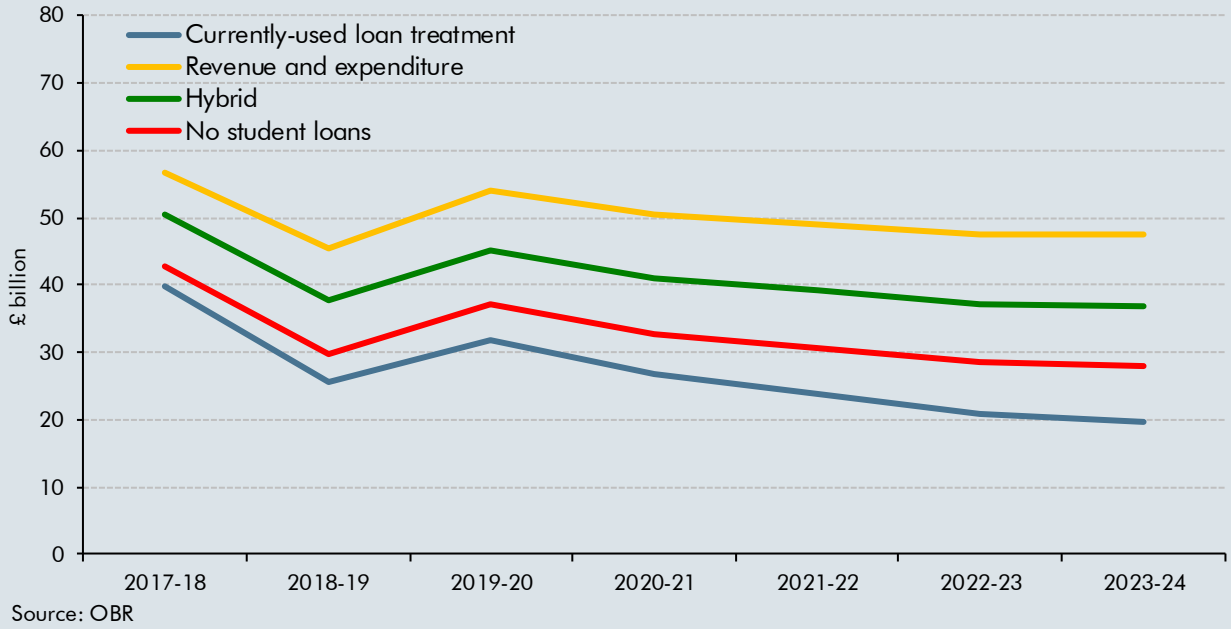
Of the methods investigated in the paper, two were found to offer significant improvements on the current treatment and to be compatible with the National Accounts. The first noted that from the point of view of the recipient, student loans were much like a tax, so could be treated as revenue (for the cash received) and spending (for the outlays). This treatment would be very simple in practice as it reflects observable cash flows. However, by assuming that all outlays are spending, it ignores the fact that a significant portion of outlays do genuinely resemble loans.

The second method was a hybrid between a 'revenue and expenditure' approach and the current 'loans' approach. It would reflect the economic reality of student loans by dividing outlays into loans and grants – reflecting the subsidy element – and then only charging interest on the loan portion. The aim would be to judge the split so there were no write-offs to record at the end of the loan's life. While this is economically sound, it would be difficult to implement as it would rely on uncertain projections of flows over the lifetime of a loan to estimate the division.

Chart A shows our central forecast for public sector net borrowing under the current accounting treatment and illustrative paths under the two alternative methodologies. It also provides a baseline illustration of how the deficit would evolve in the absence of any student loan-related receipts or spending. The analysis is largely based on the detailed cohort data that underlies our English Plan 2 student loans forecast. Due to the scale of the Plan 2 outlays (accounting for 86

per cent of total UK outlays over the forecast) and the larger Plan 2 subsidies (62 per cent of expected write-offs over their lifetime compared to an estimated 19 per cent for non-Plan 2), the analysis is dominated by the Plan 2 loans.[b]

Chart A: PSNB under different treatments of student loans



Source: OBR

As Chart A shows, the current loans treatment reduces the deficit by steadily increasing amounts across the forecast (reaching £8.2 billion in 2023-24), compared to a 'no loans' counterfactual. This reflects interest accrued on the increasing stock of loans, with very little offset from write-offs. On the 'revenue and expenditure' basis, student loans become progressively more expensive across the forecast, raising the deficit by £19.5 billion in 2023-24 (with £22.7 billion of outlays partly offset by £3.3 billion of repayments). The 'hybrid' treatment adds to borrowing too, but by less and has a flatter profile – rising slowly to £8.9 billion in 2023-24 (with £12.6 billion of expenditure offset by £3.7 billion of interest receipts).

The difference between the current treatment and our estimate of the hybrid treatment illustrates the extent of the fiscal illusion created by the current approach. It suggests the current treatment flatters the deficit by £12.3 billion in 2018-19 and £17.1 billion in 2023-24. In the Government's fiscal target year of 2020-21, the difference is £14.4 billion – just less than the margin by which it is set to meet its self-imposed 'fiscal mandate'.

The ONS has been working with international agencies and other national statistical institutes since the spring on potential revisions to the accounting guidance for income contingent loans and aim to provide an update on progress in December. We will then consider whether to make any adjustments to our forecasts at the Spring Statement. Any methodological change will be made after discussions with ONS. It is quite possible that the ONS's eventual methodology will differ from those presented here or in our working paper.

[a] See: House of Commons Treasury Committee, *Student Loans – Seventh Report of Session 2017-19*, February 2018; House of Lords Economic Affairs Committee, *Treating Students Fairly: The Economics of Post-School Education – Second Report of Session 2017-19*, June 2018; and ONS, *Looking ahead: developments in public sector finance statistics*, July 2018.

[b] For other loans, less detailed cohort-level data is available than for 'Plan 2' loans. As these make up a relatively small proportion of the total stock, we have simply 'scaled up' the subset of these loans for which data is available.

Other net lending

4.201 Other net lending includes expected repayments from a £3.2 billion loan extended to the Irish Government during the euro area crisis, loan programmes of the Scottish Government (including Help to Buy (Scotland)), and UK Export Finance loan schemes. Additionally, while outlays under HtB in England are in DEL, the repayments are not. These repayments increase steadily across the forecast to reach £2.9 billion in 2023-24. Despite the extension to the scheme, repayments are little changed since March. This is because the bulk of repayments on the additional years' outlays will fall outside the forecast horizon.

4.202 Abstracting from the switch of Scottish lending from DEL to AME, the largest change since our March forecast comes from a £1 billion expansion of UK Export Finance's Direct Lending Facility, which will help finance the Qatari Government's purchase of British-made Typhoon fighter jets. We assume that some of this expansion to the scheme will displace lending that would otherwise have taken place, so it adds £0.6 billion to our overall forecast to UK Export Finance lending, spread over several years.

Sales and purchases of financial assets

4.203 The Government plans to sell several financial assets across the forecast period, raising a total of £55.3 billion. At this Budget the Government has announced new commitments to sell a further £3 billion-worth of Plan 1 student loans in 2022-23 and to sell all its remaining RBS shares rather than the £15 billion-worth of sales planned in March.

4.204 We only include the proceeds from financial asset sales in our forecasts when firm details are available that allow the effects to be quantified with reasonable accuracy and allocated to a specific year. There are several planned sales that currently meet these criteria (see Chart 4.15). All such sales are subject to uncertainty. We have assumed that there will be sufficient private-sector demand for the sales to take place and at a sufficiently attractive price for the transaction to pass the Government's value for money criteria and go ahead. Box 4.4 discusses how we have reached this judgement in the case of student loans, where the first in a planned series of sales was completed last year and has since been reviewed by the National Audit Office.[20]

4.205 Selling most financial assets will produce an upfront benefit to PSND (and a smaller one to PSNB via lower interest payments) but reduce future income, lowering interest and dividend receipts (affecting both PSNB and PSND). Their effect on the broader balance sheet measure PSNFL, which includes all financial assets not just 'liquid' ones, tends to be closer to neutral, since the sales in effect swap one asset for another (e.g. shares for cash). However, in the case of student loans sales are at a steep discount to the face value recorded in PSNFL. Sales therefore swap loan assets for a smaller sum of cash, increasing PSNFL.

[20] National Audit Office, *The sale of student loans*, July 2018.

UK Asset Resolution

4.206 The Government intends to divest itself of the remaining loan assets held within UK Asset Resolution (UKAR)[21] during 2019-20, a year earlier than previously planned. Given UKAR's track record of delivering asset sales on time and close to its own predictions on valuations, we have incorporated this change in our forecast. This increases proceeds by £2.3 billion in 2019-20, but reduces them the following year.

RBS

4.207 In June, the Government sold £2.5 billion of RBS shares, leaving it owning 62.3 per cent of the company. Our March forecast reflected the Government's then plan to sell £15 billion of RBS shares by 2022-23. At this Budget it has announced a new plan to sell all its remaining RBS shareholding by 2023-24. RBS has now settled several US court cases and has reached agreement with EU regulators (after failing to meet the original terms of its 2008 bailout, which required it to sell its business banking arm, Williams & Glyn). As a result, with RBS's major crisis-related legacy issues now largely resolved, we consider it reasonable to assume that this plan can be achieved. Although, as with all asset sales, final decisions will be based on market conditions and value for money assessments.

4.208 Based on RBS's share price on 4 October, the Government's current shareholding was worth £18.7 billion. It is unlikely that any further sales will be conducted this financial year, so we assume that sales will recommence in 2019-20. The pace of disposals is likely to increase over time as market liquidity increases (because the Government will hold a smaller proportion of the shares) so we assume a rising profile for sale proceeds over the forecast. In addition, RBS has announced that it is looking to return excess capital to shareholders from 2019, which we have assumed will boost proceeds in 2019-20. In total RBS share sales from 2019-20 onwards are expected to raise £20.6 billion. This is somewhat higher than the Government's current holding, because we assume that the share price will rise in line with the economy – as we do for equity prices more generally.

4.209 In October 2018, RBS paid its first dividend since the Government became a shareholder. As RBS is now expected to pay dividends over the forecast period, the Government is expected to forgo around £2.0 billion of dividend income over the five years to 2023-24, as a result of the planned share sales.

Student loans

4.210 At this Budget the Government has reaffirmed its commitment to sell £12 billion of Plan 1 student loans by 2021-22. The first tranche of sales took place in December 2017 and raised £1.7 billion securing a price of 48 per cent of the face value and 67 per cent of the value at which they were recorded in DfE's departmental accounts. In October this year the Government announced the sale of a second tranche of loans with a face value of £3.9 billion. Since we now know the volume of loans that will be sold this year (as it would be very unlikely that another sale could be completed in 2018-19), we have estimated 2018-

[21] UK Asset Resolution holds the assets and liabilities of the former Northern Rock Asset Management and Bradford and Bingley.

19 sales proceeds by assuming that this second tranche secures a price equivalent to 50 per cent of the face value. This is a little higher than the first tranche achieved, since that was probably subject to a greater novelty discount and it comprised older loans than the second tranche will. This price assumption means that sales in 2018-19 are forecast to raise £2.0 billion, £0.4 billion less than assumed in our March forecast. The Government did not provide us with its own expectations for sales proceeds, as the sale process is underway and it holds commercially privileged information.

4.211 We continue to assume that the target of £12 billion in proceeds is met by 2021-22 and that sale proceeds will follow a modestly rising profile. In addition, in this Budget the Government has announced an extension of the Plan 1 sales programme by a further year and aims to raise an additional £3.0 billion in 2022-23. In Box 4.4, we discuss the factors we considered before including these proceeds in this forecast.

Box 4.4: Student loan sales: the 'value for money' hurdle

Between 2018-19 and 2023-24, we expect asset sales to lower public sector net debt (PSND) by £55.3 billion. About a quarter will come from the sale of pre-2012 or 'Plan 1' student loans.

We incorporate sales of financial assets in our forecasts when firm details are available that allow the effects to be quantified with reasonable accuracy and allocated to a specific year. In this case, the Government has clearly stated its intention to sell and the size of the remaining loan book is sufficient to raise the proceeds assumed in the forecast with room to spare.

But, in the rationale for selling the loans that the Government presented to Parliament last year, it stated that: "*Selling financial assets, like student loans, where there is no policy reason to retain them, and value for money can be secured for the taxpayer, is an important part of the Government's plan to repair the public finances*".[a] So there is clearly a risk that the Government could abandon or delay the sales when the time comes if it were to believe that they did not offer value for money at the prospective price. So, we need to judge if this is a realistic prospect.

One way to judge value for money would simply be to assess if selling the loans is likely to strengthen (or 'repair') the long-term health of the public finances. As we discussed in a working paper earlier this year, this appears to be the case under the current National Accounts accounting treatment – but misleadingly so. The European System of Accounts 2010 treats student loans like normal loans, but unlike normal loans the repayments depend on the borrower's income and are time-limited. This means that by design a significant proportion of the principal plus interest for any given cohort of loans will be written off around 30 years after the borrowers graduate. Public sector net borrowing has been reduced by the build-up of never-to-be-repaid capitalised interest but then the loans are sold before the write-offs hit the deficit.[b]

If the Government was selling a corporate asset (like the bank shares that it bought during the financial crisis) the sale could offer value for money because the sale price might reflect the fact that the asset was intrinsically more valuable in the hands of the private than the public sector – because the private sector is generally thought to be better at running banks (most of the time, at least). But, in the case of the student loans, the asset is worth the same – the purchasers of the loans are not taking over the collection of repayments in the hope of collecting larger sums.

When selling student loans, the Government is simply swapping an uncertain flow of future revenue for a certain – but smaller – upfront sum. In effect, it is simply securitising a portion of future income tax receipts and then selling them at a discount to their expected value. (The sale of the first tranche of Plan 1 loans, which took place in November 2017, involved the Government exchanging loans with a face value of £3.5 billion for £1.7 billion in up-front cash. Only part of the £1.8 billion difference reflected the size of the expected write-offs.) This does not strengthen the public finances in any meaningful sense – it is simply an alternative way to finance the budget deficit, and a relatively expensive one at that given current borrowing costs.

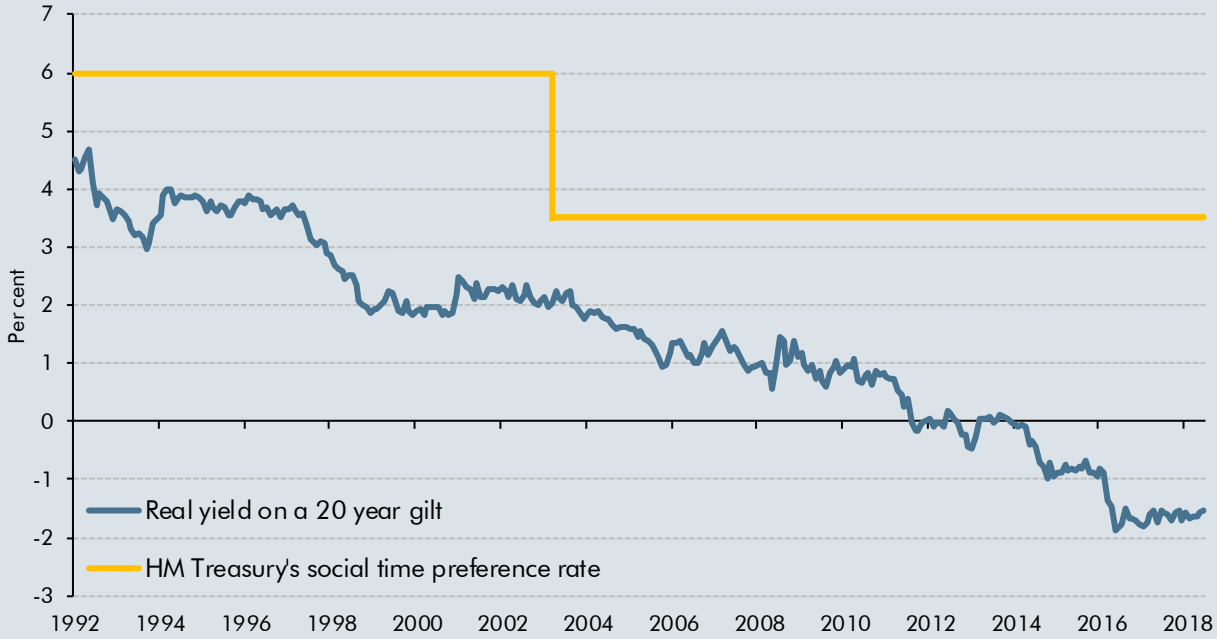
But this is not how the Government judges 'value for money' for the purpose of asset sales like these. Instead it applies the social cost benefit analysis methodology set out in the Treasury's 'Green Book' on project appraisal.[c] This imposes three requirements on asset sales: first, that an efficient market exists for the asset; second, that the sale is structured to promote efficient pricing; and third, that the sale value exceeds the Government's 'retention value' – the price above which it is better off selling the asset than keeping it, given the revenue flow it would forego, the opportunity cost of tying up cash and the risk around uncertain future repayments.

The Government assesses the retention value by forecasting the cash flows to be derived from the asset and then applying a discount rate to turn them into a present value that can be compared to the prospective sale proceeds. The higher the discount rate, the smaller the retention value and the more likely it is that the sale is deemed to offer value for money.

This discount rate comprises elements for inflation and the 'social rate of time preference' (which together determine the nominal social rate of time preference) and an element for the riskiness of the asset in question.

The Green Book specifies that over long time horizons the inflation component should be the long-term projection for GDP deflator inflation from the OBR's *Fiscal sustainability report*, currently 2.2 per cent, but for student loan sales the Treasury uses the higher Retail Prices Index (RPI) inflation rate of 3.0 per cent. (The ONS no longer deems the RPI to be a National Statistic as it falls short of international statistical standards.) The normal social rate of time preference in the Green Book is 3.5 per cent, comprising 0.5 per cent for pure 'time preference' (the preference for value now rather than later), 2 per cent for a 'wealth effect' (which reflects expected growth in per capita consumption), and 1 per cent for 'catastrophe risk' (which accounts for hard-to-foresee, systemic events). This real social rate of time preference has exceeded real yields on government bonds for decades.

Chart B: Market implied and Treasury's real discount rates



Source: Bank of England, HM Treasury

In the case of student loans, instead of including the element for catastrophe risk, the Government estimates an asset specific risk by assessing the returns that investors would expect to generate from similar assets and from risky assets in general (using a capital asset pricing model (CAPM) for the latter) and puts this on top of the 5.5 per cent nominal 'risk-free rate' (RPI inflation plus 2.5 per cent). Also employing a CAPM approach, the National Audit Office (NAO) used the price at which the sale occurred to estimate that market participants' implied risk premium (plus any 'novelty discount') was 4.9 per cent.[d] But the Government does not disclose publicly the asset specific risk element – and therefore the overall discount rate used to estimate the retention value – as this would disclose to would-be purchasers the price at which the Government was willing to sell. This of course makes it hard for the public to judge whether this approach genuinely guarantees value for money. However, the Government does disclose this information on a confidential basis to the NAO and PAC.

At 5.5 per cent, the nominal risk-free element alone looks high relative to both yields on government bonds of similar average maturity to the sold loans (1.6 per cent on 12-year gilts) and the discount rate used to value student loans in the Department for Education's accounts (3.8 per cent). As the NAO has noted, this would have made the retention value comparatively *"conservative"* and the value for money hurdle relatively easy to clear.

To inform the sale, UKGI also estimated how potential buyers might value the loans. The discount rate used for this estimate comprised a 1.6 per cent risk free rate, an asset specific risk premium, and a 'novelty premium'. The final component – which will presumably fall over time – represents the extent to which market participants discount relatively unfamiliar asset classes. (For the sale of Royal Mail, the novelty premium was estimated to be between 5 and 15 per cent.) *Green Book* guidelines do not require the Government to be compensated for the novelty premium.

On the basis of the (necessarily incomplete) information available to us, we assume for now that the planned sales will clear the value for money hurdle and go ahead. We will need to keep this under review and also to judge whether there will be sufficient private-sector demand for the sales to take place. This will depend on conditions in financial markets and the extent to which potential volatility would be expected to affect demand for this particular type of asset.

[a] Department for Education, *Sale of Pre-2012 (Plan 1) Income Contingent Student Loans*, 2017.

[b] So although selling these loans decreases PSND, it increases other measures of indebtedness (such as public sector net financial liabilities). We discussed how the treatment of student loans in the National Accounts can flatter the public finances in Ebdon, J., and Waite, R., *Working paper No. 12: Student loans and fiscal illusions*, OBR, July 2018. We have returned to this issue in Box 4.3 in this chapter.

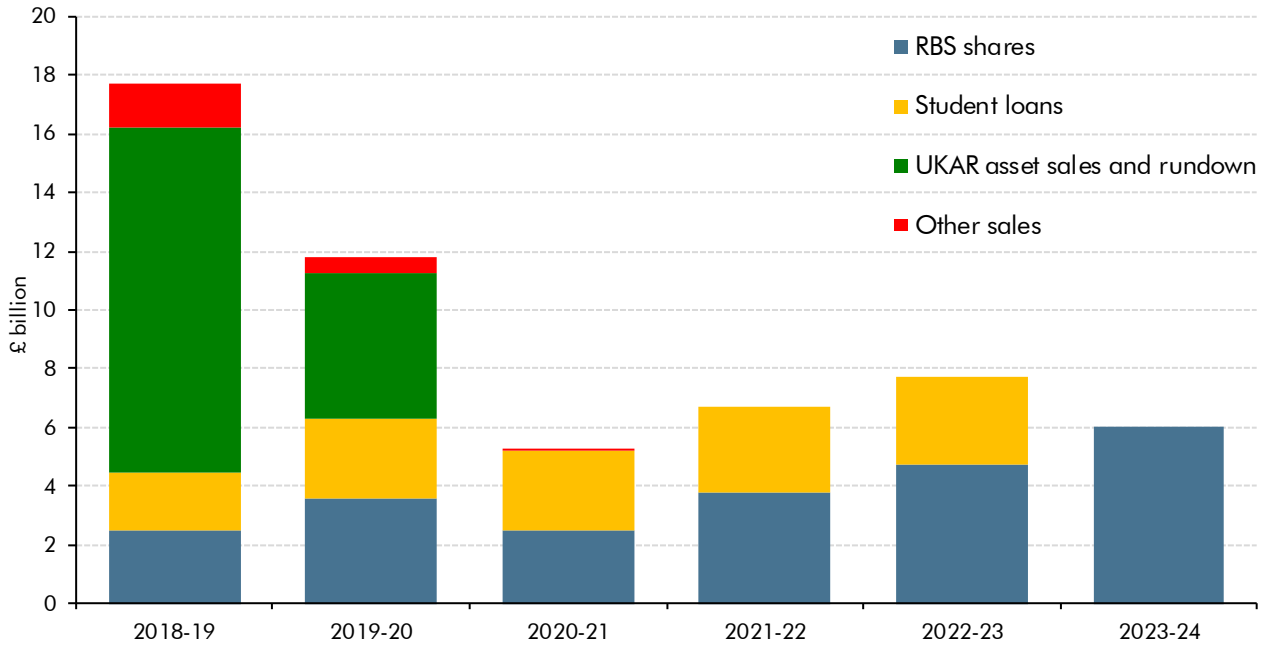
[c] HM Treasury, *The Green Book: appraisal and evaluation in central government*, March 2018.

[d] National Audit Office, *The sale of student loans*, July 2018.

Spectrum licences

4.212 The Government's plans to auction further tranches of 5G spectrum licences. The record of previous spectrum sale forecasts has been very mixed. In 2000, sales of 3G licences raised £22.5 billion, four and a half times the Treasury's original £5 billion forecast. Our market-expectations-based December 2012 forecast overestimated proceeds from 4G auctions by £1.2 billion – more than half the £2.3 billion that was raised. Finally, our March 2018 forecast, based on Ofcom reserve prices, then underestimated proceeds of the first sale of 5G licences by a very large margin: the auction raised £1.35 billion against our assumption of £0.1 billion. For this forecast we have assessed prices achieved in comparable UK and international spectrum auctions and on that basis we assume the next 5G sales will raise £0.5 billion in 2019-20. As past performance indicates, the uncertainty around this central assumption is very large.

Chart 4.15: Proceeds from financial asset sales



Source: HM Treasury, OBR

Bank of England schemes

4.213 Since March 2009, the Bank of England's Monetary Policy Committee (MPC) has deployed unconventional forms of monetary policy to support the economy. The purchase of gilts by the Asset Purchase Facility (APF) affects PSND, but does not affect the flow measures of borrowing or the cash requirement. The interest payments and receipts associated with those gilts have a relatively large effect on borrowing (see Table 4.34).

4.214 In June the MPC revised its guidance on the timing of reductions to the stock of APF assets:

"the MPC now intends not to reduce the stock of purchased assets until Bank Rate reaches around 1.5%, compared to the previous guidance of around 2%. Any reduction in the stock of purchased assets will be conducted at a gradual and predictable pace. Decisions on Bank Rate will take into account any impact of changes in the stock of purchased assets on overall monetary conditions, in order to achieve the inflation target. In the event that potential movements in Bank Rate are judged insufficient to achieve the inflation target, the reduction in the stock of assets could be amended or reversed."[22]

4.215 The market-derived expectations of Bank Rate that underpin this forecast reach 1.5 per cent in the fourth quarter of 2023. We have assumed that the MPC begins to reduce assets at this point. Since the MPC's guidance does not establish 1.5 per cent as a precise trigger point and the Bank Rate futures curve is very flat in the medium term, there is a high degree of uncertainty as to when any reduction in assets would actually take place. Market expectations for Bank Rate underpinning our forecast reach 1.4 per cent in the second quarter of 2022, but do not climb to 1.6 per cent within our five year forecast.

4.216 The MPC has indicated that any reduction in assets will be "*gradual and predictable*", but has not specified what that means in terms of billions of pounds over given timescales. For the purposes of our fiscal forecasts, we have assumed that 'predictable' means reducing assets by a constant amount each quarter and that 'gradual' implies a rate of £5 billion a month. This is broadly in line with the pace at which the US Federal Reserve has sold assets, once the relative size of the two central banks' balance sheets has been taken into account. We also assume that the Bank reduces the stock of corporate bonds held in the APF proportionately, but the fiscal effects of alternative assumptions here would be small.

4.217 Reducing the size of the APF holdings while Bank Rate remains lower than the average yield on the assets it holds decreases the extent to which it lowers the effective cost of financing public debt and so increases net borrowing. Within PSND, the APF's gilts are recorded at their nominal value so any sales above this value will reduce measured debt. As we assume relatively small reductions in APF assets and that they only take place near the end of the forecast, these effects are not currently material. They would be larger if more of the run-off were to feature in a future forecast, either due to movements in market expectations of Bank Rate or any future changes to MPC guidance on how and when APF assets will be reduced.

[22] Bank of England, *Monetary Policy Summary and minutes of the Monetary Policy Committee*, June 2018.

4.218 The Bank's Term Funding Scheme (TFS) remains the largest source of year-to-year fluctuations in our PSNCR forecast. The scheme closed to new lending on 28 February this year and has currently extended £127 billion of loans to commercial banks. We assume that these will be repaid in 2020-21 and 2021-22 at the end of their 4-year terms. These assumptions are little changed from our March forecast.

Timing effects

4.219 To move from PSNB to PSNCR, it is necessary to adjust for the expected impact of timing differences between cash flows and accruals. For example, as taxes are generally paid in arrears, and if receipts are forecast to rise over time, the cash received each year will generally be lower than the accrued receipts. The timing difference is large for smaller firms' corporation tax.

4.220 The largest receipts timing adjustment relates to interest on student loans. This is included in the accrued measure of public sector current receipts from the point at which the loan is issued, but cash repayments do not begin until the former students' income rises above a specific threshold. Much of the accrued interest will eventually be written off rather than received as cash payments, making this something of a 'fiscal illusion' within the public sector net borrowing calculation. We have revised up slightly our forecast of this part of the receipts accruals adjustment relative to March.

4.221 Similar timing adjustments are made for spending. The largest is for the timing of payments on index-linked gilts. This is very sensitive to RPI inflation, as well as to the uneven profile of redemptions from year to year. Positive RPI inflation raises the amount that governments will have to pay on index-linked gilts when they are redeemed. This commitment is recognised in PSNB as accrued debt interest spending each year, but the actual cash payments do not occur until redemption, which can be decades into the future. This adjustment has a larger negative impact in most years than it did in our March forecast reflecting changes to our inflation forecast offset by a reduction in planned index-linked gilt issuance.

Central government net cash requirement

4.222 The central government net cash requirement (CGNCR) is the main determinant of government's net financing requirement. Table 4.38 reconciles CGNCR with PSNCR and Table 4.39 sets out the changes in this reconciliation since March. The reconciliation removes transactions associated with local authorities and public corporations from the PSNCR. Relative to March, the biggest change relates to our revised assumptions regarding the Bank of England's monetary policy operations, which affect public corporations' net cash requirement at the start and end of the forecast period. Lending by central government to other parts of the public sector is also expected to be larger than we forecast in March.

4.223 The classification of Bradford & Bingley (B&B), Northern Rock Asset Management (NRAM) and Network Rail in the central government sector means that the CGNCR is not simply a measure of the cash required by the Exchequer to fund its operations, which forms the basis for the Government's net financing requirement.[23] This has three effects:

- The **banks' own cash requirements are included in the headline CGNCR**. Running down the banks' loan books (including through asset sales) reduces the CGNCR by £11.8 billion in 2018-19, falling to zero by 2020-21, but this does not directly affect the Exchequer.

- **Interactions between the Exchequer and these bodies net off** within the headline measure. The B&B and NRAM adjustment shows the difference between net cash received by UKAR and that transferred to central government.

- The Treasury finances **Network Rail**'s new and maturing debt for a fee. Refinancing needs are estimated at £4.2 billion over the forecast.

4.224 The adjustment for B&B and NRAM has changed considerably relative to March. The Government's plans to sell assets faster means that cash can be returned to the Exchequer sooner. Once all assets are sold, we also assume that the Government will wind these companies up in 2019-20 and return the shareholders' equity to the Exchequer.

Table 4.38: Reconciliation of PSNCR and CGNCR

	£ billion					
	Forecast					
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Public sector net cash requirement (NCR)	**31.1**	**35.6**	**-3.4**	**-32.0**	**46.2**	**34.5**
of which:						
Local authorities and public corporations NCR	6.6	7.1	-49.3	-73.1	5.4	5.5
Central government (CG) NCR own account	24.5	28.4	45.9	41.1	40.8	29.0
CGNCR own account	24.5	28.4	45.9	41.1	40.8	29.0
Net lending within the public sector	4.2	2.8	2.8	2.8	2.8	2.8
CG net cash requirement	**28.7**	**31.3**	**48.7**	**43.9**	**43.6**	**31.9**
B&B and NRAM adjustment	1.7	-3.0	0.0	0.0	0.0	0.0
Network Rail adjustment	0.8	-0.6	0.4	-0.3	-0.5	0.7
CGNCR ex. B&B, NRAM and Network Rail	**31.2**	**27.6**	**49.1**	**43.7**	**43.1**	**32.6**

[23] The Government is publishing a revised financing remit for 2018-19 alongside this Budget. The OBR provides the Government with the forecast of the CGNCR for this purpose, but plays no further role in the derivation of the net financing requirement.

Table 4.39: Changes in the reconciliation of PSNCR and CGNCR

	£ billion				
	Forecast				
	2018-19	2019-20	2020-21	2021-22	2022-23
Public sector net cash requirement (NCR)	**-12.3**	**-8.8**	**-0.9**	**-6.6**	**-7.8**
of which:					
Local authorities and public corporations NCR	-2.0	1.6	2.2	0.0	1.3
Central government (CG) NCR own account	-10.3	-10.4	-3.1	-6.6	-9.1
CGNCR own account	-10.3	-10.4	-3.1	-6.6	-9.1
Net lending within the public sector	1.4	0.5	1.0	1.0	1.0
CG net cash requirement	**-8.9**	**-9.9**	**-2.2**	**-5.7**	**-8.1**
B&B and NRAM adjustment	-0.6	-5.3	-1.9	-0.1	-0.1
Network Rail adjustment	0.1	0.5	0.6	0.8	0.9
CGNCR ex. B&B, NRAM and Network Rail	**-9.4**	**-14.7**	**-3.4**	**-4.9**	**-7.3**

Balance sheet aggregates

4.225 Our central forecast for public sector balance sheet aggregates incorporates the forecasts for PSNB and financial transactions set out earlier in this chapter. In this section we explain the changes in several balance sheet aggregates:

- **Public sector net debt**: a stock measure of public sector indebtedness defined as its gross liabilities minus its liquid assets, measured on a cash basis.[24] It is the stock equivalent of the PSNCR, so depends on both our PSNB and financial transactions forecasts. It is used for the Government's supplementary fiscal target.

- **Public sector net debt excluding the Bank of England**: by removing the Bank's balance sheet from the headline measure, this abstracts from the uneven effect across years of the Bank's post-referendum package of monetary policy measures.

- **Public sector net financial liabilities**: a broader balance sheet measure that includes all financial assets and liabilities recorded in the National Accounts. For the most part, it is the stock equivalent of PSNB.

Public sector net debt

4.226 Table 4.40 shows the sources of year-on-year changes in PSND between 2018-19 and 2023-24. In addition to PSNB and financial transactions, the level of debt will be affected by changes in the valuation of existing assets and liabilities that make up PSND or in the classification of bodies into or out of the public sector. The main effects in our forecast are:

- The large **gilt premia** associated with low gilt yields (including negative real yields) relative to the coupons paid on the gilts. This is particularly pronounced for index-

[24] Only liquid financial assets, such as foreign exchange reserves, net off against PSND.

linked gilts. As PSND rises by the nominal value of gilts issued, rather than their market value, selling at a premium reduces the recorded impact on debt.

- **Index-linked gilts** are recorded at their uplifted nominal value in PSND, so positive RPI inflation adds to PSND each year but does not affect the PSNCR until the gilts redeem.

- Differences between the nominal and market value of **gilts held by the Bank of England's Asset Purchase Facility (APF)** add to net debt. This changes little in most years, but is material in 2021-22 when several gilts that the APF holds are due to redeem, which we assume will be rolled over for gilts of higher nominal value. In 2023-24 we assume the stock of APF gilt assets will begin to be gradually reduced. With market prices still assumed to be above the nominal value of the gilts held, the premium on these sales will reduce PSND.

- A weaker pound increases the value of the unhedged component of the **international reserves** that are netted off PSND.

- The **reclassification of Scottish and Welsh housing associations** causes a step change down in 2018-19. In later years the reclassification affects PSNCR and PSND equally.

4.227 Cash borrowing as measured by the PSNCR adds to the stock of debt at the start and the end of the forecast, but reduces it in 2020-21 and 2021-22 when there is a cash surplus generated by the redemption of the Bank of England's Term Funding Scheme (TFS) loans. TFS loans are the prime driver of the uneven path of PSND over the forecast.

4.228 Valuation changes also have an uneven profile – in particular as regards the RPI inflation related uplift in the value of index-linked gilts. The much smaller uplift in 2020-21 is associated with the redemption of £16.4 billion of index-linked gilts that year.

Table 4.40: Year-on-year change in public sector net debt

	£ billion					
	Forecast					
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Level of PSND	**1810**	**1851**	**1841**	**1809**	**1856**	**1896**
Year-on-year change in PSND	**31.2**	**41.0**	**-9.9**	**-31.9**	**47.0**	**40.1**
Due to public sector net cash requirement	**31.1**	**35.6**	**-3.4**	**-32.0**	**46.2**	**34.5**
of which:						
Public sector net borrowing	25.5	31.8	26.7	23.8	20.8	19.8
Financial transactions	5.6	3.8	-30.1	-55.8	25.4	14.8
Due to valuation changes	**6.1**	**5.4**	**-6.5**	**0.1**	**0.8**	**5.6**
of which:						
Gilt premia	-5.7	-6.6	-10.4	-8.4	-7.4	-6.1
Asset Purchase Facility gilt premia	0.5	-0.8	0.0	-6.6	0.5	-4.0
Index-linked gilts uplift	13.4	12.4	3.7	14.8	7.4	15.4
International reserves	-2.2	0.3	0.3	0.3	0.3	0.3
Due to classification changes	**-6.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Changes to public sector net debt

4.229 In March we expected PSND to peak at 85.6 per cent of GDP in 2017-18, before falling to 85.5 per cent of GDP in 2018-19. Thanks to modest upward revisions to nominal GDP and a smaller-than-expected deficit last year, it now appears that PSND peaked at 85.2 per cent of GDP in 2016-17 and fell slightly to 85.0 per cent in 2017-18. We now expect it to fall to 83.8 per cent of GDP in 2018-19. This partly reflects the reclassification of Scottish and Welsh housing associations to the private sector (which lowers debt by around 0.3 per cent of GDP from 2018-19 onwards), but also the downward revision to our PSNB forecast.

4.230 Our latest PSND forecast is lower in all years than we forecast in March and by 2.9 per cent of GDP in 2022-23. Classification changes explain 0.4 per cent of GDP of this.

4.231 Changes to our pre-measures forecast reduce debt. They arise from:

- The large downward revisions to our pre-measures forecast for **public sector net borrowing**, reflecting higher expected receipts and lower expected spending.
- Higher **nominal GDP** in all years (thanks to a lower sustainable rate of unemployment and higher participation). This reduces the debt-to-GDP ratio in all years.
- **Valuation changes**, which reduce debt in the near term. The fall in the pound since March has increased the sterling value of foreign exchange reserves, but from 2019-20 onwards this is increasingly offset by lower gilt premia.
- Downward revisions to our pre-measures **financial transactions** forecast.
- **Lower-than-expected outturn debt**, which reduces PSND in 2017-18 by £5 billion and is more than explained by PSNB being £6 billion lower than we forecast in March.

4.232 These are partly offset by the net impact of Budget policy measures:

- The direct impact of the measures on **borrowing** increases debt by £68 billion by 2022-23, largely thanks to higher health spending.
- Measures leading to **financial transactions** reduce debt by £2 billion by 2022-23, largely due to selling more RBS shares and student loans.
- The **indirect effects** of the measures lower debt by £22 billion in 2022-23, mostly because of the boost to tax receipts from their impact on nominal GDP.

Table 4.41: Changes to public sector net debt since March

	Per cent of GDP					
	Outturn	Forecast				
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
March forecast	85.6	85.5	85.1	82.1	78.3	77.9
Reclassification of Scottish and Welsh HAs	*0.0*	*-0.3*	*-0.3*	*-0.4*	*-0.4*	*-0.4*
March forecast restated	85.6	85.2	84.8	81.7	77.9	77.5
October forecast	85.0	83.7	82.8	79.7	75.7	75.0
Like-for-like change	**-0.5**	**-1.5**	**-1.9**	**-2.1**	**-2.2**	**-2.5**
of which:						
Change in nominal GDP[1]	-0.3	-0.7	-0.9	-1.2	-1.2	-1.2
Change in cash level of net debt	-0.2	-0.9	-1.0	-0.9	-1.1	-1.2
	£ billion					
March forecast restated	1784	1829	1872	1860	1831	1882
October forecast	1779	1810	1851	1841	1809	1856
Like-for-like change in cash debt	**-5**	**-19**	**-21**	**-18**	**-22**	**-25**
Underlying forecast revisions	**-5**	**-21**	**-31**	**-41**	**-55**	**-70**
of which:						
Public sector net borrowing (pre-measures)	-6	-18	-30	-41	-56	-74
Financial transactions (pre-measures)	1	-2	-5	-6	-8	-9
Valuation changes	0	-2	4	7	9	13
Effect of Government decisions	**0**	**2**	**10**	**22**	**33**	**45**
of which:						
Affecting public sector net borrowing	0	1	14	28	45	68
Affecting financial transactions	0	1	-2	1	-1	-2
Indirect effects	0	0	-2	-6	-11	-22

[1] Non-seasonally adjusted GDP centred end-March.

Alternative balance sheet aggregates and the true health of the public finances

4.233 In our 2017 *Fiscal risks report* we discussed various ways in which PSND is not a reliable metric for assessing the underlying health of the public finances. It includes only a limited range of liabilities and an even smaller range of assets. This makes it susceptible to what the IMF terms 'fiscal illusions'. These occur when movements in a fiscal aggregate like PSND do not reflect true changes in the underlying health of the public finances.

4.234 The path of PSND is strongly influenced by several transactions that could fall under this heading. The reclassification of Scottish and Welsh housing associations and asset sales serve to reduce PSND while TFS loans increased debt over the past two years but reduce it at the end of the forecast. None materially change the underlying fiscal position. Issuing student loans does affect the underlying fiscal position but by less than is apparent in PSND – as all the principal extended raises PSND, but some of it will be repaid.

4.235 Asset sales do not generally improve the sustainability of the fiscal position as they simply exchange one asset for another: a long-term flow of receipts for an upfront lump sum. But this lump sum reduces PSND straight away and the loss of receipts only increases it gradually over time. By contrast, TFS lending raises PSND when issued and reduces it when

it is repaid. This is because the loans are deemed to be illiquid and therefore do not net off PSND, but they are backed by collateral and are highly likely to be repaid.

4.236 In our July 2017 *Fiscal risks report*, we discussed the fiscal illusions that result from the use of Private Finance Initiative (PFI) contracts. Most existing PFI contracts are of a design which keeps them 'off balance sheet'. This means that the cost of building infrastructure assets appears in the public finances over a protracted period (often about 30 years) via a series of annual payments rather than as the asset is built. In this Budget, the Government has announced that it: *"has considered its position on [PFI] and its successor PF2, in light of experience since 2012, and found the model to be inflexible and overly complex. The OBR identified private finance initiatives as a source of significant fiscal risk to government. PF2 has not been used since 2016. The… government will no longer use PF2 for new projects."*

4.237 Alternative metrics often do a better job than PSND of reflecting the underlying picture:

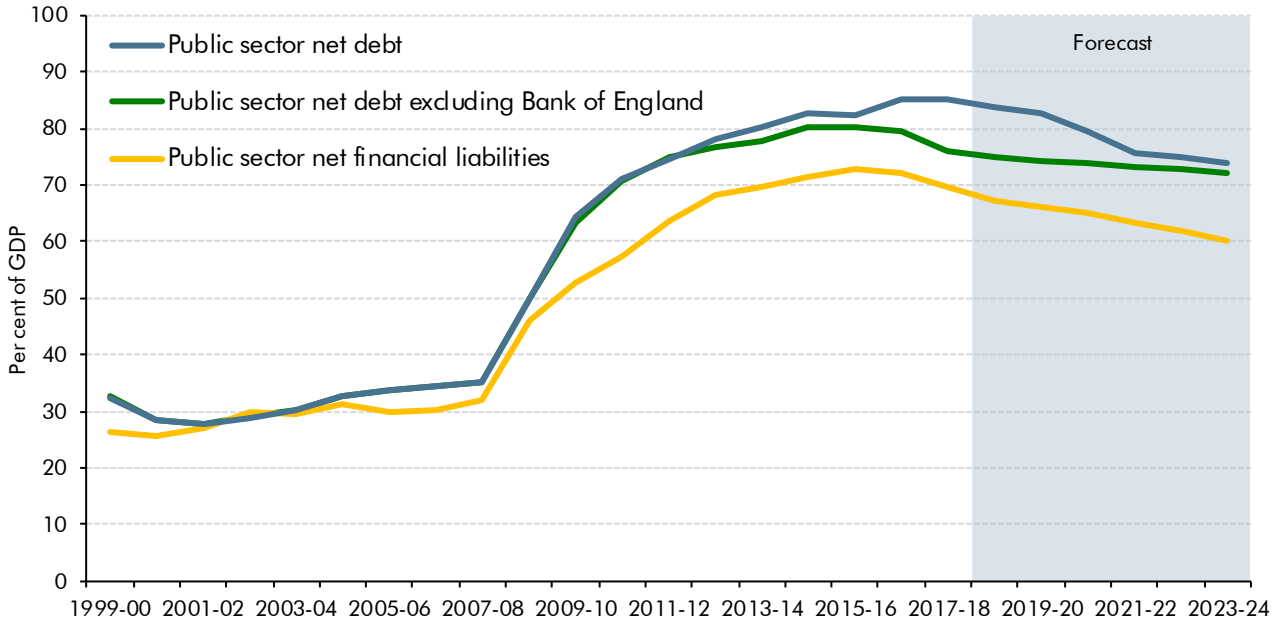
- **PSND excluding Bank of England** removes the distortions from the TFS. This provides a more informative underlying picture during the build-up (in 2016-17 and 2017-18) and rundown (in 2020-21 and 2021-22) of the scheme.

- **Public sector net financial liabilities** (PSNFL) includes all financial assets and liabilities recognised in the National Accounts. As well as being unaffected by the TFS, this provides a more realistic picture of the effect of most asset sales. The main drawback of PSNFL is that the Government's stock of student loan assets is recorded at face value, whereas the actual value is considerably lower because the loans are not expected to be repaid in full (as is recognised in the Department for Education's accounts). Box 4.5 discusses how the composition of PSNFL evolves over our five-year forecast, plus some developments that will affect our ability to forecast broader measures of the public balance sheet.

4.238 PSND and these alternative debt metrics are all distorted by the reclassification of housing associations, since they all use the same distinction between the public and private sectors. In this forecast, we have reflected for the first time the June and September 2018 reclassifications of Welsh and Scottish housing associations respectively from the public to the private sector. As with the November 2017 reclassification of English housing associations, it is hard to argue that the change in statistical treatment reduces the *de facto* exposure of the Government to these organisations were they to fall into financial difficulty, nor does it alter their use as vehicles to deliver the Government's social housing policies.

4.239 Chart 4.16 shows that the paths of both PSND excluding the Bank of England and PSNFL are much smoother than PSND, although both fall in 2017-18 due to the reclassification of English housing associations. PSND declines relatively slowly when the Bank of England is excluded, falling by just 2.9 per cent of GDP between 2017-18 and 2022-23. PSNFL as a share of GDP falls more steadily but still gently across the forecast.

Chart 4.16: The public sector balance sheet: various measures



Source: ONS, OBR

Financing and the balance sheet

4.240 Our debt interest forecast requires us to make assumptions regarding how the change in PSND described above translates into movements in the stocks of assets and liabilities on the public sector balance sheet. Usually the largest component in the PSNCR comes from 'CGNCR ex' – the central government net cash requirement excluding the effects of UK Asset Resolution and Network Rail.

4.241 At each Budget and Spring Statement, the Government specifies how it intends to finance CGNCR ex in the *Financing Remit*.[25] This Budget revises financing plans for 2018-19. It also sets out the level of gilts redeeming and any plans for additional financing of the foreign currency reserves. After adjusting for any planned change in the Debt Management Office's (DMO) net cash position, this determines the gross financing requirement.

4.242 The Government usually meets most of its gross financing requirement by issuing gilts. The rest is met via changes to the stock of Treasury bills, from NS&I products (such as premium bonds) or from other sources. The financing remit does not allocate all of 2018-19 issuance (leaving the DMO with some flexibility through the year), so we assume that the unallocated portion will ultimately be allocated in proportion to announced sales. We also assume that changes in the DMO's net cash position are met entirely by reductions in its assets.

4.243 As Table 4.42 shows, 95 per cent of the 2018-19 gross financing requirement will be met by issuing gilts – 74 per cent from conventional gilts and 21 per cent from index-linked gilts (ILGs). In 2017-18 those figures were 104, 78 and 26 respectively. The drop in the share of ILGs in the total reflects the Government's plans, announced in March, for a 1 to 2

[25] HM Treasury, *Debt management report 2018-19*, 2018.

percentage point reduction in ILG issuance in 2018-19.[26] It has now announced that it "*will look to reduce index-linked gilt issuance in a measured fashion as a share of total issuance over the medium term, in line with this planned reduction*".[27] We have based our forecast on the mid-point of this 1 to 2 percentage point a year pace of decline, which lowers ILG issuance to 14.5 per cent of gilt financing by 2023-24.

Table 4.42: Total gross financing

	£ billion					
	Forecast					
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Central government net cash requirement[1]	31.2	27.6	49.1	43.7	43.1	32.6
Gilt redemptions	66.7	99.1	97.6	79.3	73.3	71.8
Financing for the reserves	6.0	6.0	0.0	0.0	0.0	0.0
Change in DMO cash position[2]	-1.4	0.0	0.0	0.0	0.0	0.0
Total gross financing	**102.5**	**132.7**	**146.7**	**123.0**	**116.5**	**104.4**
of which:						
Conventional gilts	76.0	100.8	114.0	99.9	96.3	87.6
Index-linked gilts	21.4	26.0	26.8	21.2	18.3	14.8
Treasury bills	-4.0	0.0	0.0	0.0	0.0	0.0
NS&I	9.0	6.0	6.0	2.0	2.0	2.0
Other central government	0.0	0.0	-0.1	-0.1	-0.2	0.0

[1] Excluding Northern Rock, Bradford and Bingley, and Network Rail.
[2] Change in Debt Management Office cash position.

4.244 Government policy for UKAR and Network Rail to eliminate their own financing over time – and, in the case of UKAR, to sell financial assets and return the proceeds to the Exchequer – largely determine these organisations' balance sheet impacts. Similarly, the Bank of England's policies concerning the APF determine the bulk of the Bank's balance sheet. We need to make assumptions as to how local authorities and public corporations finance their net cash requirements, but the bulk of this is usually via loans from central government, which are therefore captured in CGNCR ex.

4.245 Table 4.43 shows how we expect the public sector's debt liabilities and liquid financial assets to evolve over the forecast. The table is presented in line with that used by the ONS in the monthly public sector finances release: general government and non-financial public corporations are presented gross, but the Bank of England is shown only on a net basis.

4.246 We forecast public sector gross debt liabilities to fall from 83.7 per cent of GDP in 2018-19 to 79.5 per cent in 2023-24. In terms of the instruments used to finance this debt, this decline largely reflects a 3.6 per cent of GDP reduction in the stock of index-linked gilts following the Government's decision to reduce issuance, offset by a 0.8 per cent increase in conventional gilts. The stocks of other liabilities also reduce slightly.

4.247 Liquid financial assets are projected to fall by 1.2 per cent of GDP, partly offsetting the fall in gross liabilities. The foreign exchange reserves are assumed to remain broadly stable in

[26] HM Treasury, *Debt Management Report*, March 2018.
[27] HM Treasury, *Debt Management Report*, October 2018.

cash terms, so fall relative to GDP. Other central government assets also fall as we assume that stocks remain relatively constant in cash terms.

4.248 The Bank of England's net contribution to debt falls sharply between 2019-20 and 2021-22 as loans issued under the TFS redeem and then to a lesser extent in 2023-24 as we assume that APF holdings of gilts and corporate bonds begin to be sold.

Table 4.43: The composition of public sector net debt

	Per cent of GDP[1]					
	Forecast					
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Public sector debt liabilities[2] (a)	**83.7**	**82.9**	**82.0**	**81.5**	**80.6**	**79.5**
of which:						
Conventional gilts	48.4	48.1	47.9	47.1	49.3	49.2
Index-linked gilts	19.9	19.6	19.2	19.7	17.0	16.3
T-bills	2.8	2.7	2.6	2.5	2.4	2.4
NS&I	7.6	7.7	7.7	7.5	7.3	7.1
Other central government	3.7	3.6	3.4	3.3	3.2	3.1
Local government[3]	1.1	1.1	1.1	1.2	1.2	1.3
Non-financial public corporations[4] (b)	0.1	0.1	0.1	0.1	0.1	0.1
Public sector liquid assets[2] (c)	**8.8**	**8.6**	**8.2**	**8.2**	**7.8**	**7.5**
of which:						
Reserves	5.7	5.8	5.6	5.5	5.3	5.1
Other central government	1.6	1.4	1.3	1.2	1.2	1.1
Local government[3]	1.1	1.0	0.9	0.9	1.0	1.0
Non-financial public corporations[4]	0.3	0.4	0.3	0.6	0.4	0.3
Bank of England net contribution[5] (d)	**8.8**	**8.5**	**5.8**	**2.4**	**2.3**	**2.1**
Public sector net debt (PSND) (a-c+d)	**83.7**	**82.8**	**79.7**	**75.7**	**75.0**	**74.1**
Memo: PSND excluding Bank of England (a-c)	*74.9*	*74.3*	*73.8*	*73.3*	*72.7*	*72.0*
Memo: general government gross debt (a-b)	*83.6*	*82.7*	*81.9*	*81.3*	*80.5*	*79.4*

[1] Non-seasonally adjusted GDP centred end-March

[2] Excluding the Bank of England.

[3] Net of debt liabilities / liquid assets held by central government.

[4] Net of debt liabilities / liquid assets held by central and local government.

[5] Largely reserves issued to fund TFS loans and the APF's corporate bond purchases, plus premia on the APF's conventional gilt holdings.

Box 4.5: Public sector net financial liabilities

Public sector net financial liabilities (PSNFL) is a wider measure of the balance sheet than public sector net debt (PSND) and includes all financial assets and liabilities recognised in the National Accounts. Sources of differences between the two measures include *illiquid* financial assets, such as student loans and equity stakes in financial institutions acquired during the financial crisis, which net off against PSNFL but not PSND. Additionally, some liabilities add to PSNFL without affecting PSND, including net pension liabilities for funded pension schemes.

We project PSNFL to fall from 68.7 per cent of GDP in 2017-18 to 60.3 per cent in 2023-24. As Table D shows, this 8.4 per cent of GDP fall reflects a 14.5 per cent of GDP fall in liabilities partly offset by a 5.9 per cent of GDP drop in assets:

- The largest single contribution to both movements arises from loans issued by the Bank of England under the **Term Funding Scheme** (TFS). We assume that all £127 billion of these loans (5.0 per cent of GDP in 2023-24) redeem over the forecast period. This reduces assets and liabilities in equal measure, as the Bank is assumed to reduce its reserves in response – these are recorded as deposit liabilities.
- **The stock of gilts** is expected to decline as a share of GDP over the period. This is reflected in PSNFL in the decline in debt securities liabilities. Other liabilities are not expected to change significantly.
- Despite the significant reduction in loan assets caused by running off the TFS, **the overall stock of loans** is expected to decline by only 2.1 per cent of GDP between 2017-18 and 2023-24. Sales of the mortgage assets in UK Asset Resolution and of student loans reduce loan assets by 1.1 per cent of GDP, but these are offset by the net issuance of new student loans and capitalising of unpaid interest on these loans that together increase loan assets by 5.8 per cent of GDP. The stock of student loans is expected to rise from 5 per cent of GDP in 2017-18 to 9 per cent in 2023-24. In 2011-12, before the large increase in tuition fee loans took effect, the stock was under 3 per cent of GDP.
- **Sales of RBS shares** over the forecast reduce the stock of equity assets held by the public sector from 2.3 per of GDP to just 0.6 per cent of GDP by 2023-24.

Table D: Public sector net financial liabilities balance sheet

	Per cent of GDP						
	Outturn	Forecast					
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Total liabilities, *of which:*	**100.0**	**97.9**	**96.4**	**92.7**	**88.3**	**87.1**	**85.5**
Monetary gold and SDRs[1]	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Currency and deposits	35.4	34.6	33.8	30.6	26.6	25.8	23.8
Debt securities	56.4	55.7	55.3	55.1	55.0	54.8	55.5
Loans	2.6	2.2	2.2	2.2	2.2	2.2	2.2
Pension entitlements	0.7	0.6	0.6	0.6	0.6	0.6	0.5
Other[2]	4.5	4.2	4.0	3.7	3.5	3.2	2.9
Total financial assets, *of which:*	**31.3**	**30.7**	**30.1**	**27.8**	**25.0**	**25.3**	**25.3**
Monetary gold and SDRs[1]	0.9	0.8	0.8	0.8	0.8	0.7	0.7
Currency and deposits	4.2	4.0	4.0	3.9	4.0	3.8	3.7
Debt securities	4.0	3.9	3.8	3.7	3.5	3.4	3.3
Loans	14.3	14.4	14.8	13.1	10.7	11.5	12.2
Equity	2.3	2.1	1.6	1.4	1.2	0.9	0.6
Other[2]	5.5	5.5	5.1	4.9	4.9	4.9	4.9
Public sector net financial liabilities	**69.7**	**67.2**	**66.3**	**65.0**	**63.4**	**61.9**	**60.3**

[1] Special drawing rights (SDRs) are foreign-exchange reserve assets created by the IMF and allocated to its members.

[2] 'Other' mainly comprises accounts payable (or receivable). It also includes non-life insurance technical reserves, financial derivatives and employee stock options, and provisions for call under standardised guarantees.

In Annex C of our November 2016 *EFO*, we discussed how we project PSNFL. As PSNFL can be regarded as the stock equivalent of PSNB, our projection starts by cumulating PSNB. On top of this it makes adjustments for the valuation of financial assets and liabilities that will affect PSNFL but not PSNB. The most material weakness in our original methodology related to estimates of pension liabilities. The ONS has developed its methodology for estimating the net liabilities of funded pension schemes and has consulted on their recording in the public finances. It expects to announce the result of this consultation in time to record any changes to the public finances in 2019. Until then we are unable to produce meaningful forecasts of these pension liabilities.

This is one of several pieces of ONS work that should help to improve our understanding of the balance sheet and fiscal sustainability. Box 4.3 discusses developments in the recording of student loans that may lead to a more realistic valuation of these loans within PSNFL. The ONS is also planning to introduce debt and deficit statistics consistent with the IMF's Government Financial Statistics Manual (GFSM). These will include estimates of the assets and liabilities of both funded and unfunded pension schemes (only funded schemes are captured within PSNFL). Finally, the ONS plans to reintroduce measures of public sector non-financial assets in Blue Book 2019, which will enable the production of measures of public sector net worth.

Financial sector interventions

4.249 The Government undertook several interventions in the financial sector in response to the financial crisis and the subsequent recession of the late 2000s. In each *EFO*, we update the estimated net direct effect of them on the public finances. Table 4.4 summarises the position as at the end of September 2018.[28] This is an estimate of the direct effect of these interventions and the financing associated with them. It is not an attempt to quantify their overall effect on the public finances relative to a counterfactual where the Government had not intervened to support the banking system as the crisis unfolded. The economic and fiscal costs of the crisis would almost certainly have been much greater in the absence of direct interventions to restore the financial system to stability.[29]

4.250 In total, £136.6 billion was disbursed by the Treasury during and following the crisis. By end-September 2018, principal repayments on loans, proceeds from share and asset sales and redemptions of preference shares amounted to £93.3 billion. That is up from the £84.1 billion we reported in March, reflecting ongoing repayments from UKAR (both directly and through its FSCS liabilities[30]) and the sale of £2.5 billion-worth of RBS shares in June 2018. This has fed through to a smaller net cash shortfall of £21.4 billion.

4.251 As of the end of September, the Treasury was still owed £4.1 billion from loans (almost entirely by UKAR). The value of shares retained in RBS had fallen to £20.3 billion, from

[28] The RBS share price is based on the average price for the 10 days to 4 October, so it is consistent with other market-derived assumptions in our fiscal forecast.
[29] We discussed the fiscal implications of financial crises, and steps taken to reduce the risk of such costs, in Chapter 4 of our 2017 *Fiscal risks report*.
[30] The financial services compensation scheme (FSCS) compensated customers at failed banks, including Bradford & Bingley. UKAR repaid £4.7 billion of its loan from the FSCS in April 2018 – after selling £5.3 billion worth of Bradford & Bingley assets – enabling the FSCS to repay a corresponding loan from the Treasury.

£23.4 billion at end-January, both because the June 2018 sale reduced the size of the Government's shareholding and because the 9 per cent fall in the RBS share price reduced the value of its remaining shares. The Treasury's holdings in UKAR had an equity book value of around £8.5 billion.

4.252 If the Treasury were to receive all loan payments in full, and sold its remaining shares at their end-September values, it would realise an overall cash surplus of £11.5 billion, up £0.8 billion from our March estimate.

4.253 But the cash surplus estimate excludes the costs to the Treasury of financing these interventions. If all interventions are assumed to have been financed through gilts, at the market rates that prevailed at the time, the Treasury estimates that the additional debt interest costs would have amounted to £36.0 billion by the end of September, mainly due to the costs associated with RBS and UKAR. This is up £2.1 billion from the March estimate, reflecting eight more months servicing debt on the £33.0 billion worth of interventions that have yet to be repaid or sold, and the difference between the generally higher gilt yields when the interventions were financed and the lower gilt yields at repayment. Together this implies an overall cost of £24.5 billion to the Government, £1.3 billion higher than we estimated in March.

Table 4.44: Gross and net cash flows of financial sector interventions

	£ billion								
	Lloyds	RBS	UKAR[1]	FSCS[2]	CGS[3]	SLS[4]	Other	**Total**	Change since March *EFO*[5]
Cash outlays	-20.5	-45.8	-44.1	-20.9	0.0	0.0	-5.3	**-136.6**	0.0
Principal repayments	21.1	6.3	39.7	20.9	0.0	0.0	5.3	**93.3**	9.2
Other fees received[6]	3.2	4.2	4.4	3.4	4.3	2.3	0.3	**21.9**	0.7
Net cash position	3.8	-35.3	0.0	3.4	4.3	2.3	0.2	**-21.4**	9.8
Outstanding payments	0.0	0.0	4.0	0.0	0.0	0.0	0.1	**4.1**	-6.3
Market value[7]	0.0	20.3	8.5	0.0	0.0	0.0	0.0	**28.8**	-2.7
Implied balance	3.8	-15.0	12.5	3.4	4.3	2.3	0.3	**11.5**	0.8
Exchequer financing	-4.0	-13.5	-11.8	-7.6	1.1	0.3	-0.5	**-36.0**	-2.1
Overall balance	**-0.2**	**-28.5**	**0.7**	**-4.2**	**5.4**	**2.5**	**-0.2**	**-24.5**	**-1.3**
Memo: change in overall balance since March[5]	-0.1	-1.6	0.1	0.2	0.1	0.0	0.0	-1.3	

[1] Holdings in Bradford & Bingley and Northern Rock Asset Management plc are managed by UK Asset Resolution.
[2] Financial services compensation scheme.
[3] Credit Guarantee Scheme.
[4] Special Liquidity Scheme.
[5] March *EFO* figures were consistent with end-January data.
[6] Fees relating to the asset protection scheme and contingent capital facility are included within the RBS figures.
[7] UKAR is book value of equity derived from its accounts published 31 March 2018 (value up to date to 4 October 2018).

Table 4.45: Fiscal aggregates

	Per cent of GDP						
	Outturn	Forecast					
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Receipts and expenditure							
Public sector current receipts (a)	36.6	37.0	36.8	37.0	37.0	37.0	37.2
Total managed expenditure (b)	38.5	38.2	38.3	38.1	38.0	37.9	37.9
of which:							
Public sector current expenditure (c)	34.5	34.4	34.2	34.0	34.0	33.9	33.9
Public sector net investment (d)	2.0	1.9	2.2	2.2	2.2	2.1	2.2
Depreciation (e)	2.0	1.9	1.9	1.9	1.9	1.9	1.9
Fiscal mandate and supplementary target							
Cyclically adjusted net borrowing	1.9	1.3	1.6	1.3	1.1	0.9	0.8
Public sector net debt[1]	85.0	83.7	82.8	79.7	75.7	75.0	74.1
Deficit							
Public sector net borrowing (b-a)	1.9	1.2	1.4	1.2	1.0	0.9	0.8
Current budget deficit (c+e-a)	-0.1	-0.7	-0.8	-1.1	-1.1	-1.2	-1.4
Cyclically adjusted current budget deficit	-0.1	-0.6	-0.6	-0.9	-1.1	-1.2	-1.3
Primary deficit	0.1	-0.3	0.0	-0.3	-0.4	-0.5	-0.5
Cyclically adjusted primary deficit	0.1	-0.2	0.1	-0.1	-0.3	-0.4	-0.5
Financing							
Central government net cash requirement	1.9	1.3	1.4	2.1	1.9	1.8	1.3
Public sector net cash requirement	3.9	1.5	1.6	-0.2	-1.4	1.9	1.4
Alternative balance sheet metrics							
Public sector net debt ex. Bank of England	76.0	74.9	74.3	73.8	73.3	72.7	72.0
Public sector net financial liabilities	68.7	67.2	66.3	65.0	63.4	61.9	60.3
Stability and Growth Pact							
Treaty deficit[2]	2.0	1.3	1.5	1.3	1.3	0.9	0.7
Cyclically adjusted Treaty deficit	2.0	1.4	1.7	1.4	1.4	0.9	0.8
Treaty debt ratio[3]	85.6	85.0	84.1	83.2	82.7	81.8	80.8
				£ billion			
Public sector net borrowing	39.8	25.5	31.8	26.7	23.8	20.8	19.8
Current budget deficit	-1.4	-15.7	-16.6	-23.9	-27.0	-30.4	-34.7
Cyclically adjusted net borrowing	39.4	28.4	36.0	30.1	25.9	22.2	21.0
Cyclically adjusted current budget deficit	-1.8	-12.8	-12.4	-20.5	-24.9	-28.9	-33.5
Public sector net debt	1779	1810	1851	1841	1809	1856	1896
Memo: Output gap (per cent of GDP)	*0.1*	*0.3*	*0.3*	*0.2*	*0.1*	*0.1*	*0.1*

[1] Debt at end March; GDP centred on end March.
[2] General government net borrowing on a Maastricht basis.
[3] General government gross debt on a Maastricht basis.

Risks and uncertainties

4.254 As always, we emphasise the uncertainties that lie around our central fiscal forecast. The uncertainties around the UK's exit from the EU remain significant while the negotiations continue, with the risk of a 'no deal' exit representing one major source of uncertainty that we discussed in our recent paper on Brexit and our forecasts.[31]

4.255 We expose our judgements to different sensitivities and scenarios in Chapter 5. In July 2017, we published our first full *Fiscal risks report (FRR)*, in which we drew together and expanded on our analysis of fiscal risks. Several key risks we highlighted there remain important sources of uncertainty around our central forecast:

- Macroeconomic risks: for example, risks to potential output growth from productivity and migratory flows and the cyclical risks that the economy falls into recession at some point in the next five years. And the risks from shocks, such as the pound falling sharply given the large current account deficit or as a result of a disorderly Brexit.

- Financial sector risks: the UK remains home to one of the world's largest financial sectors, both in absolute terms and relative to the size of the economy. The fiscal risks that can be associated with this have been illustrated clearly over the past decade.

- Revenue-specific risks: our *FRR* highlighted potential pressures on the sustainability of various tax bases. In recent forecasts, we have seen several near-term upside surprises, particularly as regards corporation tax receipts, which could be repeated or reversed. The policy-related risks we highlighted – such as the continued year-by-year freezing of duties on fuel and various other excise duties – have crystallised again in this forecast.

- Primary spending risks (i.e. spending on everything other than debt interest): We noted how pressures can build and the risk of higher borrowing if they are accommodated. In many ways this risk has crystallised in this Budget, which reflects the multi-billion pound settlement for the NHS announced by the Prime Minister in June and modest additional sums for other public services that keeping funding broadly flat in real terms. But risks remain, with the effects of commitments to increase spending in real terms on some non-health services yet to be reflected in detailed plans and prospective rises in the cost of providing adult social care services due to minimum wage policy.

- Balance sheet risks: these can relate to real-world events or statistical changes. In this forecast, we have highlighted the ONS review of the recording of public sector pension funds as one potential source of risk to the measured balance sheet aggregates.

- Debt interest risks: in this forecast we have seen the Government move to address further one of the key risks we identified in the *FRR*. We highlighted the increase in the issuance of index-linked gilts in recent years and the increased sensitivity of debt interest spending to inflation that resulted. The Government has announced plans to

[31] OBR, *Discussion paper No. 3: Brexit and the OBR's forecasts*, October 2018.

continue reducing the proportion of index-linked gilts issued over the medium term, which would help address this risk. We have also highlighted the significant uncertainties around precisely when and how gilts held by the Bank of England's Asset Purchase Facility will be run down once Bank Rate passes 1.5 per cent.

- **Policy delays and reversals**: in recent years, several tax rises and welfare spending cuts that have been announced in Budgets and Autumn/Spring Statements have subsequently reversed, while the implementation of several others has been delayed. In Annex A, we summarise those that have affected this forecast. This Budget announces gross tax rises that average £3.8 billion a year from 2019-20 onwards.

4.256 Two legal processes initiated by the European Commission represent sources of risk to our fiscal forecast. The first relates to the Commission's contention that it has lost around €2 billion after deducting notional collection costs (but before adding on any potential late payment interest costs), as a result of the UK failing to enforce checks against customs fraud. The second regards the UK's application of a zero rate of VAT to certain derivative transactions. On both issues, if the Commission is not satisfied with the Government's response it may seek court proceedings against the UK.

International comparisons

4.257 International organisations, such as the European Commission and the International Monetary Fund (IMF), produce forecasts of deficit and debt levels of different countries on a comparable basis. These are based on the narrower general government definitions of debt and borrowing than the public sector definition that we forecast on. They are also presented on a calendar year basis. To facilitate comparisons, Tables 4.45 and 4.46 convert our UK forecasts to a basis that is comparable with that used by these international organisations. With both modelling and reporting of much tax and expenditure in the UK done primarily on a financial year basis, the calendar year forecasts are illustrative and have been derived by simply weighting our financial year forecasts.

Table 4.46: Comparison with European Commission forecasts

	Per cent of GDP					
	Treaty deficit[1]			Treaty debt[2]		
	2017	2018	2019	2017	2018	2019
UK (October *EFO*)	**1.8**	**1.4**	**1.4**	**87.4**	**85.2**	**84.3**
UK (EC)	1.9	1.9	1.6	87.7	86.3	85.3
Germany	-1.3	-1.2	-1.4	64.1	60.2	56.3
France	2.6	2.3	2.8	97.0	96.4	96.0
Italy	2.3	1.7	1.7	131.8	130.7	129.7
Spain	3.1	2.6	1.9	98.3	97.6	95.9
Euro area	0.9	0.7	0.6	88.8	86.5	84.1

[1] General government net borrowing.
[2] General government gross debt.
Source: European Commission, *European Economic Forecast Spring 2018,* OBR

Table 4.47: Comparison with IMF forecast

	Per cent of GDP					
	General government net borrowing			General government gross debt		
	2018	2019	2023	2018	2019	2023
UK (October *EFO*)	**1.4**	**1.4**	**0.8**	**85.2**	**84.3**	**81.1**
UK (IMF)	2.0	1.7	0.8	87.4	97.2	84.0
Germany	-1.5	-1.5	-0.8	59.8	56.0	44.6
France	2.6	2.8	2.8	96.7	96.5	93.9
Italy	1.7	1.7	2.2	130.3	128.7	125.1
Japan	3.7	2.8	2.0	238.2	236.6	235.4
US	4.7	5.0	4.5	106.1	107.8	117.0

Source: IMF, *World Economic Outlook,* October 2018, OBR

5 Performance against the Government's fiscal targets

Introduction

5.1 This chapter:

- sets out the Government's **medium-term fiscal targets** (from paragraph 5.2);
- examines whether the Government has a better than 50 per cent **chance of meeting them** on current policy, given our central forecast (from paragraph 5.6); and
- assesses how robust these judgements are to the **uncertainties** inherent in any fiscal forecast, by looking at past forecast errors, sensitivity to key parameters of the forecast and alternative economic scenarios (from paragraph 5.24).

The Government's fiscal targets

5.2 The *Charter for Budget Responsibility* requires the OBR to judge whether the Government has a greater than 50 per cent chance of hitting its fiscal targets under current policy. It has been updated several times in recent years as governments have revised their fiscal targets. The latest version was approved by Parliament in January 2017.[1]

5.3 The *Charter* states that the Government's objective for fiscal policy is to ***"return the public finances to balance at the earliest possible date in the next Parliament"***. At the time, this was expected to be the period from 2020 to 2025.

5.4 The *Charter* also sets out targets for borrowing, debt and welfare spending that require:

- The **structural deficit** (cyclically adjusted public sector net borrowing) to be below 2 per cent of GDP by 2020-21 – this is the 'fiscal mandate'.
- **Public sector net debt** to fall as a percentage of GDP in 2020-21 – this is the 'supplementary target'.
- For welfare spending (excluding the state pension and payments closely linked to the economic cycle) to lie below a '**welfare cap**'. The latest version of the cap was initially set in November 2017, to apply in 2022-23. A non-binding pathway for spending was also specified in the years leading up to the cap year. The Government set the effective cap 3 per cent above our November 2017 forecast for 2022-23, with the expected

[1] The latest and previous versions are available on the 'Legislation and related material' page of our website.

level of spending to be adjusted for subsequent changes in our inflation forecast. The methodology for doing so is chosen by the Government, as required by the Charter.

5.5 In this chapter, we assess the Government's performance against the objective (which it is not yet on course to achieve) and the targets (all of which it is on course to achieve), based on our central forecast. We also summarise what the forecast implies for performance against the targets set out in previous versions of the *Charter*.

The implications of our central forecast

5.6 Table 5.1 shows our central forecasts for the fiscal aggregates relevant to the current fiscal targets and objective: cyclically adjusted public sector net borrowing (PSNB); public sector net debt (PSND); spending subject to the welfare cap; and headline PSNB. These forecasts are described in detail in Chapter 4. They should be interpreted as median forecasts, so we believe it is equally likely that outturns will come in above them as below them.

Table 5.1: Forecasts for the Government's target aggregates

	Per cent of GDP, unless otherwise stated						
	Outturn	Forecast					
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Fiscal mandate: Cyclically adjusted public sector net borrowing in 2020-21							
March forecast	2.3	1.9	1.6	1.3	1.1	0.9	
October pre-measures forecast	1.9	1.3	1.1	0.9	0.5	0.1	-0.1
October post-measures forecast	1.9	1.3	1.6	1.3	1.1	0.9	0.8
Supplementary target: Year-on-year change in public sector net debt in 2020-21							
March forecast	85.6	85.5	85.1	82.1	78.3	77.9	
October pre-measures forecast	85.0	83.6	82.4	78.7	74.3	73.2	70.6
October post-measures forecast	85.0	83.7	82.8	79.7	75.7	75.0	74.1
Welfare cap: Specified welfare spending in 2022-23 (£ billion)							
March forecast	118.6	120.7	121.9	123.1	125.6	128.5	
October pre-measures forecast	118.6	119.6	121.0	123.0	125.5	128.3	130.8
October post-measures forecast	118.2	119.6	121.7	123.6	126.1	129.3	132.7
Fiscal objective: Public sector net borrowing in 2025-26							
March forecast	2.2	1.8	1.6	1.3	1.1	0.9	
October pre-measures forecast	1.9	1.1	0.9	0.7	0.4	0.1	-0.1
October post-measures forecast	1.9	1.2	1.4	1.2	1.0	0.9	0.8

5.7 Table 5.2 summarises performance against the mandate, supplementary target and welfare cap in the years in which they apply, and how the margins by which they are met have changed since March. (Our forecast does not extend far enough to do the same for the fiscal objective.) The rest of this section sets out the assessments we make based on these figures and the reasons for the changes in them since March.

Table 5.2: Performance against the Government's fiscal and welfare targets

		Per cent of GDP		£ billion	
		Forecast	Margin	Forecast	Margin
Fiscal mandate: Cyclically adjusted public sector net borrowing in 2020-21					
March forecast	Met	1.3	0.7	29.5	15.4
October pre-measures forecast	Met	0.9	1.1	19.3	26.1
October post-measures forecast	Met	1.3	0.7	30.1	15.4
Change: March to October post-measures		*0.0*	*0.0*	*0.6*	*0.0*
Supplementary target: Year-on-year change in public sector net debt in 2020-21					
March forecast	Met	-3.0	3.0		
October pre-measures forecast	Met	-3.7	3.7		
October post-measures forecast	Met	-3.2	3.2		
Change: March to October post-measures		*-0.2*	*0.2*		
Welfare cap: Specified welfare spending in 2022-23					
March forecast	Met			128.5	5.4
October pre-measures forecast	Met			128.3	5.6
October post-measures forecast	Met			129.3	4.6
Change: March to October post-measures				*0.8*	*-0.8*

The current fiscal targets

The fiscal mandate

5.8 The Government's fiscal mandate requires it to reduce the structural deficit below 2 per cent of GDP by 2020-21. On our latest output gap estimate, the structural deficit moved below this ceiling in 2017-18 – to 1.9 per cent of GDP – three years ahead of the required date.

5.9 Our latest forecast shows the structural deficit falling to 1.3 per cent of GDP in the target year, giving a margin against the fiscal mandate of 0.7 per cent of GDP (£15.4 billion). These margins are precisely the same as in our March forecast, thanks to the Government's decision to use the improvement in our pre-measures forecast (which would have shown a margin of 1.1 per cent of GDP (£26.1 billion)) to pay for the June health spending announcement and a package of near-term net giveaways in this Budget.

5.10 Around half the fall in structural borrowing between 2017-18 and 2020-21 now results from higher receipts and around half from lower spending. Chart 5.1 shows how this differs from our March forecast, using cyclical-adjustment coefficients:[2]

- **Structural borrowing** declines by 0.6 per cent of GDP between 2017-18 and 2020-21, a smaller fall than the 0.9 per cent of GDP in our March forecast reflecting the stronger starting position in this forecast.

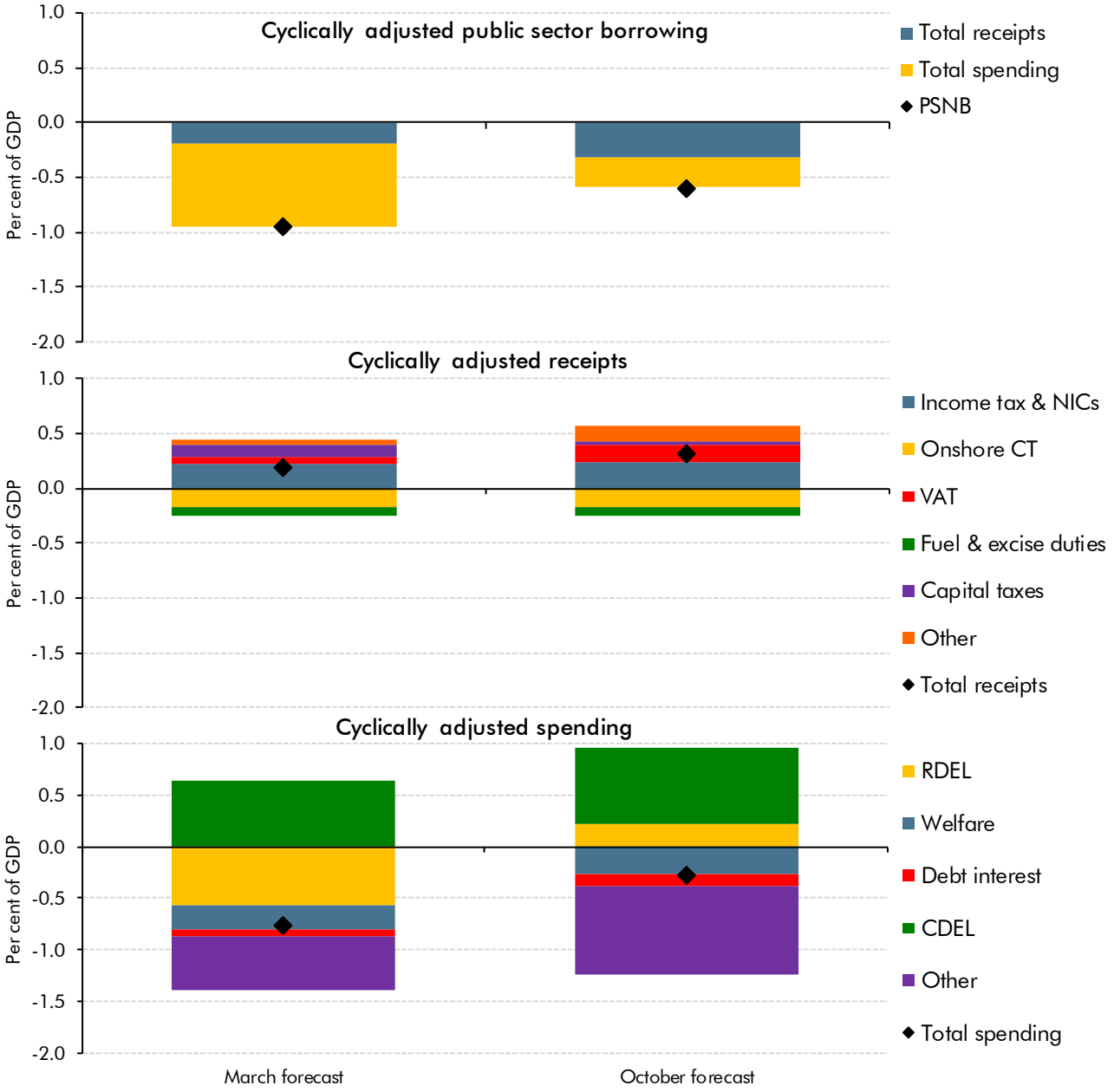
- **Structural receipts** are expected to rise by 0.3 per cent of GDP relative to 2017-18, a slightly larger increase than the 0.2 per cent in our March forecast. As in March, rises in income tax, NICs, VAT and other taxes (e.g. the introduction of the apprenticeship levy and higher environmental levies) are only partly offset by falls in onshore

[2] Further details can be found in Helgadottir, T., *et al., OBR Working Paper No.4: Cyclically adjusting the public finances*, 2012.

corporation tax due to cuts in the main rate. Receipts in the target year are boosted by a one-off effect of changing the timing of capital gains tax payments, which brings forward some payments into that year.

- **Structural spending** is expected to fall by 0.3 per cent of GDP between 2017-18 and 2020-21. This reflects falling welfare, debt interest, and other spending, that is only partly offset by higher departmental spending. The fall is significantly smaller than the 0.8 per cent of GDP drop we expected in March, largely due to the announcement of extra departmental resource spending (RDEL) mostly for health but also other departments. Departmental capital expenditure (CDEL) also still increases in the run up to the target year, although by less than had been previously planned.

Chart 5.1: Cumulative changes in the structural deficit from 2017-18 to 2020-21



Note: March forecast restated to present changes on a like-for-like basis, consistent with Table 4.19.
Source: OBR

The supplementary debt target

5.11 The supplementary debt target requires PSND to fall as a percentage of GDP in 2020-21. PSND was broadly stable as a percentage of GDP between 2016-17 and 2017-18. We now expect it to fall in each year of the forecast, with a large drop of 3.2 per cent of GDP in the target year. The Government is therefore on course to meet this target.

5.12 Chart 5.2 decomposes year-on-year changes in the PSND-to-GDP ratio over the forecast period, to show the different drivers of the decline we expect. It shows that:

- The **Bank of England's August 2016 monetary policy package** continues to have a material effect on the path of net debt, having raised it by £73.5 billion or 3.5 per cent of GDP in 2017-18. This reflected lending to commercial banks under the Term Funding Scheme (TFS). (Lending through the TFS is treated as the acquisition of an illiquid asset, and is not therefore netted off PSND. But it is secured against collateral and thus highly unlikely to generate losses for the public sector.) The repayment of TFS loans after four years reduces the debt ratio significantly in the target year of 2020-21 (accounting for 2.3 percentage points of the total 3.2 per cent of GDP decline in that year) as well as an even larger impact in 2021-22. Excluding the TFS effect, the change in the path of PSND as a share of GDP would be smoother.

- The **primary balance** – net borrowing excluding net debt interest spending – is in surplus every year of the forecast, lowering debt by 0.2 per cent of GDP in 2020-21.

- **Nominal GDP growth is expected to exceed nominal interest rates** throughout the forecast, reducing debt as a share of GDP by relatively large amounts each year (1.3 per cent of GDP in the target year of 2020-21). This 'growth-interest differential' is a key driver of public sector debt dynamics, especially over longer timeframes. We explored this issue in depth in our 2017 *Fiscal risks report*.

- **Net lending to the private sector** – mainly through student loans, plus other lending schemes such as Help to Buy – increases debt as a share of GDP in every year and by 1.1 per cent of GDP in the target year 2020-21. As a financial transaction, this lending only affects the deficit indirectly via interest income, write-off expenses and debt interest costs. We explored the accounting treatment of student loans and their impact on the deficit in our recent working paper *Student loans and fiscal illusions*.[3]

- **Financial asset sales** – including the active sale and rundown of UK Asset Resolution (UKAR) assets and the sale of student loans and RBS shares – reduce debt by 0.8 per cent of GDP in 2018-19 and are expected to do so by smaller amounts in subsequent years. Financial asset sales usually leave the underlying fiscal position largely unaffected, as they typically bring forward cash that would otherwise have been received in later years as revenue, in the shape of mortgage repayments or dividends. So they only reduce debt temporarily.

[3] Ebdon, J., and Waite, R., *OBR Working Paper No.12: Student loans and fiscal illusions,* 2018.

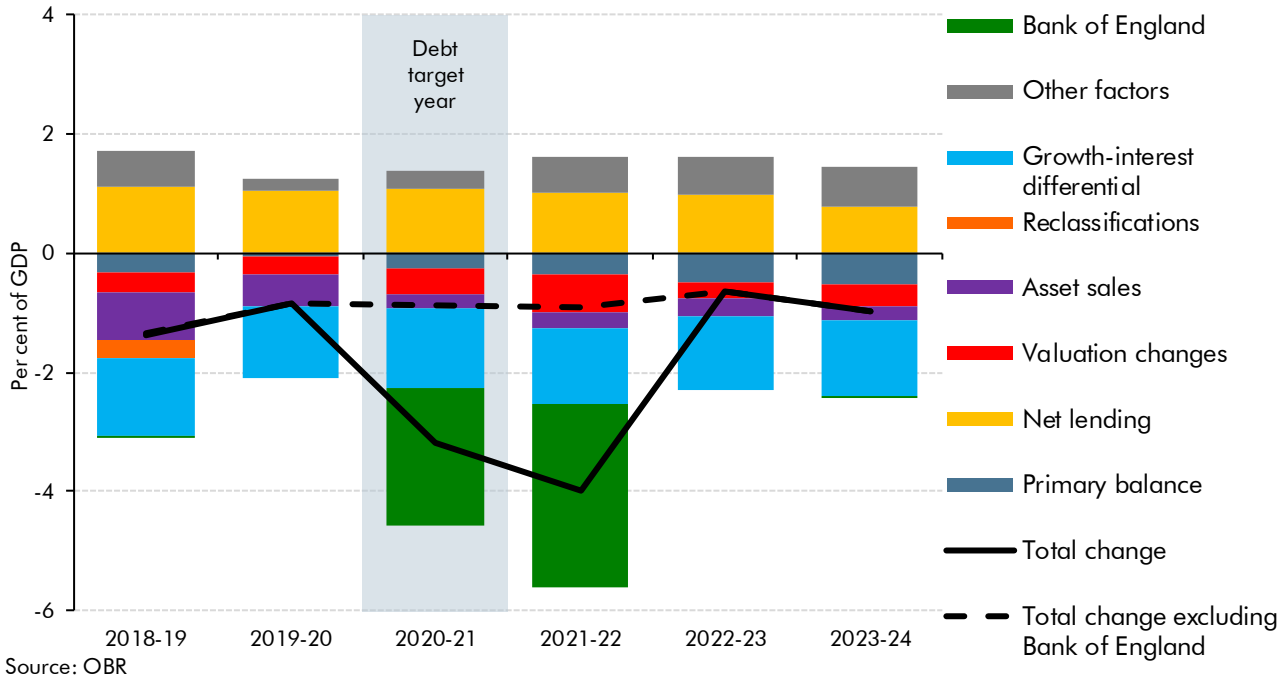
- **Valuation changes** – largely relating to auction premia from Government sales of gilts and from changes to gilt holdings in the APF – reduce debt as a share of GDP in every year of the forecast and by 0.4 per cent of GDP in the target year 2020-21.

- **The reclassification of Scottish and Welsh housing associations** from the public to the private sector reduces debt by 0.3 per cent of GDP in 2018-19.

- **Other factors** increase net debt over the forecast period and by 0.3 per cent of GDP in 2020-21, notably because accrued receipts exceed cash receipts over the medium term. Some receipts, including interest on student loans, are collected with a long lag.

5.13 Abstracting from the effect of Bank of England schemes (largely the TFS), net debt is on a steady downward trajectory over the whole forecast period, falling by an average of 0.9 per cent of GDP a year. The target is met by a margin of 3.2 percentage points, and would still be met by 0.9 per cent of GDP margin without the TFS repayments.

Chart 5.2: Year-on-year changes to the debt-to-GDP ratio



Source: OBR

5.14 Table 5.3 shows how and why the year-on-year changes in net debt shown in Chart 5.2 have changed since our March forecast. In the absence of the Government's June health spending announcement and the relatively modest additional net giveaway in the Budget, every year debt would have fallen significantly faster than in March, thanks to lower net borrowing. Including the Government's policy announcements, net debt is falling in every year of the forecast at a similar rate to March.

Table 5.3: Changes in the profile of net debt since March

	Change in net debt as per cent of GDP on previous year				
	Forecast				
	2018-19	2019-20	2020-21	2021-22	2022-23
March forecast	0.0	-0.4	-3.0	-3.8	-0.4
October forecast	-1.4	-0.8	-3.2	-4.0	-0.6
Change	**-1.3**	**-0.4**	**-0.2**	**-0.2**	**-0.3**
of which:					
Nominal GDP[1]	-0.4	-0.3	-0.3	-0.1	-0.1
Pre-measures net borrowing	-0.6	-0.6	-0.5	-0.6	-0.7
Budget measures affecting net borrowing	0.0	0.5	0.4	0.5	0.7
Net lending	0.0	0.0	0.1	0.0	-0.1
Asset sales	0.0	-0.2	0.1	0.0	-0.2
Bank of England schemes	0.0	0.0	0.0	-0.1	0.0
Other cash	0.0	-0.1	-0.1	0.0	0.0
Valuation changes	-0.1	0.2	0.1	0.1	0.1
Reclassifications	-0.3	0.0	0.0	0.0	0.0

[1] GDP is centred end-March.

The welfare cap

5.15 The current welfare cap was set at Autumn Budget 2017, increased slightly at Spring Statement 2018 and has been increased further at this Budget. It applies in 2022-23 and is preceded by a 'pathway'. It was set in line with our November 2017 forecast plus an increasing margin for error that reached 3 per cent in the target year. When we judge performance against the cap, the *Charter* says that we should adjust our spending forecast to remove the impact of changes in inflation, according to a methodology of the Government's choosing. Its chosen method is to use simplified ready-reckoners to remove the impact on expected uprating of changes in our inflation forecast since November 2017.[4]

5.16 In September, the UK Government devolved Scottish carer's allowance (CA)[5] to the Scottish Government. As part of the devolution of CA, the Scottish Government will now receive a yearly block grant adjustment based on 2017-18 CA expenditure in Scotland and indexed to the Great Britain forecast for CA spending. The Government has decided to include this block grant adjustment within the welfare cap. As reporting against the cap and pathway is on a post-measures basis, we incorporate this into our reporting by adding the block grant adjustment to our post-measures forecast after adjusting for the impact of inflation.

5.17 The Government has also chosen to re-state the pathway and welfare cap, increasing the former by £0.8 billion in 2020-21 and 2021-22 and the latter by £0.9 billion in 2022-23. This follows the Government's decision to reverse an Autumn Budget 2017 policy that would have seen funding for short-term supported housing switched from housing benefit AME expenditure – and hence out of the welfare cap – to DEL spending from 2020-21 onwards. We have confirmed this decision as being fiscally neutral and have updated our reporting to reflect the new levels for the pathway and cap set by the Government.

[4] *'Removing the impact of changes in inflation from the welfare cap'*, HM Treasury, March 2017.
[5] For more on our forecast of carers allowance spending in Scotland please see our *Devolved taxes and spending forecast* publication.

5.18 Table 5.4 shows our latest forecast for spending subject to the welfare cap and how it compares with the cap, pathway and margin. It shows that it is substantially below the cap and the pathway in every year of the forecast. On this basis, the terms of the cap would be comfortably met, both including and excluding the margin. The Government's Budget measures increase spending subject to the cap (in particular universal credit), so spending would have been even further below the cap, pathway and margin without them.

Table 5.4: Performance against the welfare cap

	£ billion, unless otherwise stated				
	Forecast				
	2018-19	2019-20	2020-21	2021-22	2022-23
Welfare cap					**131.1**
Pathway	120.9	122.0	124.7	127.8	
Margin (per cent)	1.0	1.5	2.0	2.5	3.0
Margin	1.2	1.8	2.5	3.2	3.9
Welfare cap and pathway plus margin	**122.1**	**123.8**	**127.2**	**131.0**	**135.0**
Latest forecast and update on performance against cap and pathway					
October pre-measures forecast	119.6	121.0	123.0	125.5	128.3
October post-measures forecast	119.6	121.7	123.6	126.1	129.3
Inflation adjustment		-0.2	-0.4	-0.5	-0.6
Scottish carer's allowance block grant adjustment	+0.2	+0.3	+0.3	+0.3	+0.3
October forecast after adjustments	**119.8**	**121.8**	**123.4**	**126.0**	**129.1**
Difference from:					
Cap and pathway	-1.1	-0.2	-1.3	-1.8	-2.0
Cap and pathway plus margin	**-2.3**	**-2.0**	**-3.8**	**-5.0**	**-6.0**
Memo: cumulative percentage point change in preceding September (Q3) rates of inflation since our November 2017 forecast.		*0.4*	*0.5*	*0.6*	*0.7*

Note: the inflation adjustment is negative as inflation is higher overall than forecast in our November 2017 *EFO*, thus taking the effect of higher inflation out of the spending forecast.

Fiscal objective for the next Parliament

5.19 According to the *Charter for Budget Responsibility*, the Government's fiscal objective is to "*return the public finances to balance at the earliest possible date in the next Parliament*". When this objective was set, the 'next Parliament' was expected to run to May 2025, so the 'earliest possible date' could have been anywhere up to 2025-26. The Conservative Party's 2017 manifesto similarly committed to "*a balanced budget by the middle of the next decade*". Our forecast horizon extends to 2023-24, so we cannot assess performance against this objective definitively using a central forecast for 2025-26.

5.20 That said, if the deficit evolved in line with the pre-measures forecast in this *Economic and fiscal outlook (EFO)* we would have judged – for the first time – that the Government was on course to meet this objective, as we would have been projecting a budget surplus of 0.1 per cent of GDP in 2023-24. But higher health spending and the additional net giveaway in this Budget will cost 0.9 per cent of GDP (£23.2 billion) in that year so our central forecast is for a deficit of 0.8 per cent of GDP (£19.8 billion). On that basis, meeting the fiscal objective still appears challenging from a variety of perspectives. For example:

- If the deficit were assumed to continue falling at the same pace that it falls beyond the Spending Review period (i.e. the four years to 2023-24), then it would reach balance in 2028-29. Among other things, that would require per capita departmental spending – almost 60 per cent of which in 2019-20 is planned to go on health and education – to fall in real terms.

- Our 2018 *Fiscal sustainability report (FSR)* was produced on the basis of our March 2018 forecast, but updated to take into account the June health announcement. In the baseline projection, spending rose to accommodate the pressures of an ageing population and other non-demographic pressures on health spending. But we also showed that this could be partly offset if receipts and annually managed expenditure were **projected forward in line with the approach taken in our medium-term forecast**. The deficit then fell by 0.2 per cent of GDP over the three years to 2025-26. The fiscal tightening in this scenario raised the receipts-to-GDP ratio by a further 0.4 per cent of GDP in the three years to 2025-26 and reduced average working-age welfare payments by a further 5 per cent relative to earnings.

- Using **our baseline *FSR* projection**, the challenge looks even greater. Under that methodology, we assume that tax thresholds and working-age benefit awards move with earnings rather than inflation. This prevents receipts from rising continually relative to GDP and the incomes of working-age benefit recipients declining continually relative to those of the rest of the population. Adding in the pressures on spending from an ageing population, non-demographic pressures specific to health spending and the cost of the triple lock on the uprating of state pensions, would put the deficit on a rising path. In our 2018 *FSR*, the deficit rose by 0.5 per cent of GDP in the three years to 2025-26.

Previous fiscal targets

5.21 Since the OBR was established by the Coalition Government in 2010, we have assessed performance against three previous fiscal mandates, three previous supplementary debt targets and three previous welfare caps:

- Successive **fiscal mandates** have laid out targets for different measures of the deficit at different horizons. In the 2010-2015 Parliament, the mandate specified a surplus on the cyclically adjusted current budget balance (i.e. PSNB excluding net investment spending) by the end of the rolling, 5-year forecast period. In December 2014, this was changed to the end of the third year of the forecast period. At the start of the 2015-2017 Parliament, the mandate prescribed a surplus on headline PSNB by the end of 2019-20.

- The **supplementary debt target** has always referred to year-on-year changes in the ratio of PSND to GDP, but the reference year has changed. In the 2010-2015 Parliament, the Coalition Government started by targeting a year-on-year fall in the fixed year of 2015-16. In December 2014, that was moved back to 2016-17. At the

start of the last Parliament, the target was changed to year-on-year falls in every year from 2015-16 onwards.

- The **welfare cap** has always referred to the same subset of welfare spending, but its level has been changed frequently. Abstracting from movements relating to classification changes, there have been three previous caps. In March 2014, the Coalition Government set the cap in line with our latest forecast at the time. During the 2015-2017 Parliament, the Conservative Government first lowered the cap in line with our July 2015 forecast, including the effects of the welfare cuts it announced in the post-election Summer Budget. It then set a new higher cap in line with our November 2016 forecast, which included a rising margin, the inflation adjustment, and removed the differing treatment of forecast and policy changes.

5.22 The October 2015 version of the *Charter* also stated that: "*These targets apply unless and until the Office for Budget Responsibility (OBR) assess, as part of their economic and fiscal forecast, that there is a significant negative shock to the UK. A significant negative shock is defined as real GDP growth of less than 1% on a rolling 4 quarter-on-4 quarter basis.*" On our latest forecast, that escape clause would not be triggered. The current *Charter* maintains an escape clause set in terms of a 'significant negative shock', but has shifted the responsibility for assessing that to the Treasury and no longer specifies what such a shock would look like in terms of 4-quarter-on-4-quarter real GDP growth. This aligns the escape clause with the approach that the Government took after the referendum in 2016.

5.23 Table 5.5 shows performance against the previous fiscal targets. The latest outturn data and our current central forecast imply that all but the first Conservative Government fiscal mandates would be met, only the first Coalition Government supplementary target would be met, and only the second Conservative Government welfare cap would be met.

Table 5.5: Performance against the previous fiscal targets

		Margin	Target year	Forecast that rule was in force
Fiscal mandate: deficit[1]				
First Coalition	Met	£33.5 billion	Final year of forecast	Jun 2010 – Dec 2014
Second Coalition	Met	£24.9 billion	Third year of forecast	Mar 2015 – Jul 2015
First Conservative	Not Met	-£31.8 billion	End of 2019-20	Nov 2015 – Nov 2016
Supplementary target: falling public sector net debt				
First Coalition	Met	0.4 per cent of GDP	2015-16	Jun 2010 – Dec 2014
Second Coalition	Not Met	-3 per cent of GDP	2016-17	Mar 2015 – Jul 2015
First Conservative	Not Met	-3 per cent of GDP in 2016-17	2015-16 onwards	Nov 2015 – Nov 2016
Welfare cap				
First Coalition	Not Met	-£0.2 billion in 2015-16	2015-16 to 2018-19	Dec 2014 – July 2015
First Conservative	Not Met	All years	2016-17 to 2020-21	Nov 2015 – Nov 2016
Second Conservative	Met	£3.8 billion	2021-22	Mar 2017 – Nov 2017

[1] The Coalition Government targeted a cyclically adjusted current budget balance whereas the Conservative Government targeted a public sector net borrowing surplus.

Recognising uncertainty

5.24 The future is uncertain and the likelihood of unexpected economic and political developments means that the distribution of possible outcomes around any particular central forecast is wide. Consequently there are significant upside and downside risks to our central forecasts for the public finances. These reflect uncertainty both about the outlook for the economy and about the level of receipts and spending in any given state of the economy. The continuing Brexit negotiations – and the limited information about the policy settings and international trading arrangements thereafter – create additional uncertainty.[6]

5.25 Given these uncertainties, it is important to stress-test our judgements regarding the Government's performance against its fiscal targets. We do this in three ways:

- by looking at the distribution of **past forecast errors**;
- by seeing how our central forecast changes if we apply **different individual judgements and assumptions**; and
- by looking at **alternative economic scenarios**.

Past performance

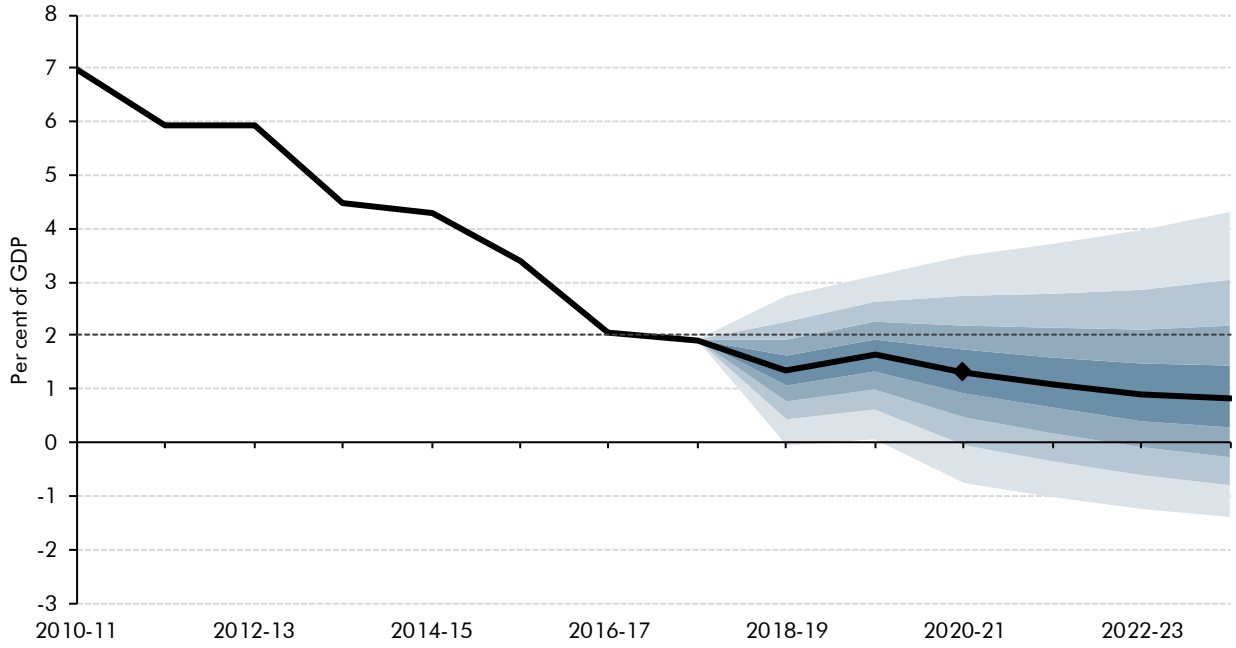
5.26 One relatively easy way to assess the uncertainty around our central forecast is to consider the accuracy of previous official public finance forecasts – both our own and the Treasury's that preceded them. The uncertainty can then be illustrated using fan charts like the ones for GDP growth and CPI inflation in Chapter 3. The fan charts do not represent our assessment of specific risks to the central forecast. Instead they show the outcomes that someone might anticipate if they believed, rightly or wrongly, that the size and distribution of forecast errors in the past offered a reasonable guide to their likely size and distribution in the future.

5.27 It is important to note that the historical forecast errors that underpin our fan charts reflect both underlying forecast errors and the effects of any subsequent policy responses. That is likely to be one reason why the probability distributions around borrowing and other measures of the budget balance do not widen significantly at longer time horizons: when underlying forecast changes push borrowing significantly away from original plans, governments tend to change policy to try to bring it back on track. This was evident in the analysis of past fiscal forecast errors and the fiscal policy response of governments presented in Annex B of our March 2016 *EFO*.

5.28 The probability of the Government meeting its fiscal mandate can be assessed using the distribution of forecast errors that underpins a fan chart for cyclically adjusted PSNB. Chart 5.3 shows a fan around our central forecast, in which the Government is on course to meet the fiscal mandate by 2020-21. The chance of the structural deficit being below 2 per cent of GDP is above 65 per cent from 2020-21 onwards – little changed from March.

[6] More on Brexit and the associated forecast uncertainties can be found in *our Discussion Paper No.3: Brexit and the OBR's forecasts.*

Chart 5.3: Cyclically adjusted public sector net borrowing fan chart



Source: ONS, OBR

5.29 Being able to produce a similar analysis of the uncertainties around our central forecast for debt would improve our understanding of the risks to the public finances. We are currently investigating the best way to do this. But as our central forecast shows the debt-to-GDP ratio falling in the target year, we estimate that there is a more than 50-50 chance that the supplementary target will be met in 2020-21. We do not currently have a sufficiently long disaggregated series of past welfare spending forecasts to produce a welfare cap fan chart.

Sensitivity analysis

5.30 It is next to impossible to produce a full unconditional probability distribution for the Government's target fiscal variables because they are affected by so many determinants – both economic and non-economic – many of which are also interrelated in complex ways. But we can go further than using evidence from past forecast errors by illustrating how sensitive the central forecast is to changes in individual parameters and judgements.

5.31 In thinking about the evolution of the public finances over the medium term, there are several parameters that have an important bearing on the forecast. Here we focus on:

- the **sensitivity of the fiscal mandate** to changes to the level of potential GDP, inflation, interest rates and the effective tax rate;
- the **sensitivity of the supplementary debt target** to differences in the level of debt or the growth rate of the economy, which both affect how debt changes from year-to-year as a percentage of GDP; and

- some of the circumstances in which **the supplementary target could be missed while still meeting the fiscal mandate**.

The fiscal mandate

5.32 As Chart 5.3 illustrated, on the basis of past forecast errors, we estimate that there is a roughly 35 per cent chance that the structural budget deficit will exceed 2 per cent of GDP in 2020-21. There are many reasons why this might happen. For example, the evolution of potential output could be less favourable than forecast or receipts or spending could turn out differently for a given state of the economy. And while our forecasts are conditioned on current Government policy, that is also likely to change, especially in respect of the policy settings and international trading arrangements that will apply once the UK has left the EU.

5.33 On our website we publish ready-reckoners that show how elements of the public finances could be affected by changes in some of the determinants of our fiscal forecast. It is important to stress that these are stylised exercises that reflect the typical impact of changes in variables on receipts and spending as embodied in our forecast models. They are subject to significant uncertainty. But bearing those caveats in mind, we can use ready-reckoners to calibrate several possible adverse surprises relative to our central forecast that would be sufficient to push the structural deficit above 2 per cent of GDP in 2020-21.

5.34 This analysis shows that the 0.7 per cent of GDP margin relative to the 2 per cent target could fall to zero if:

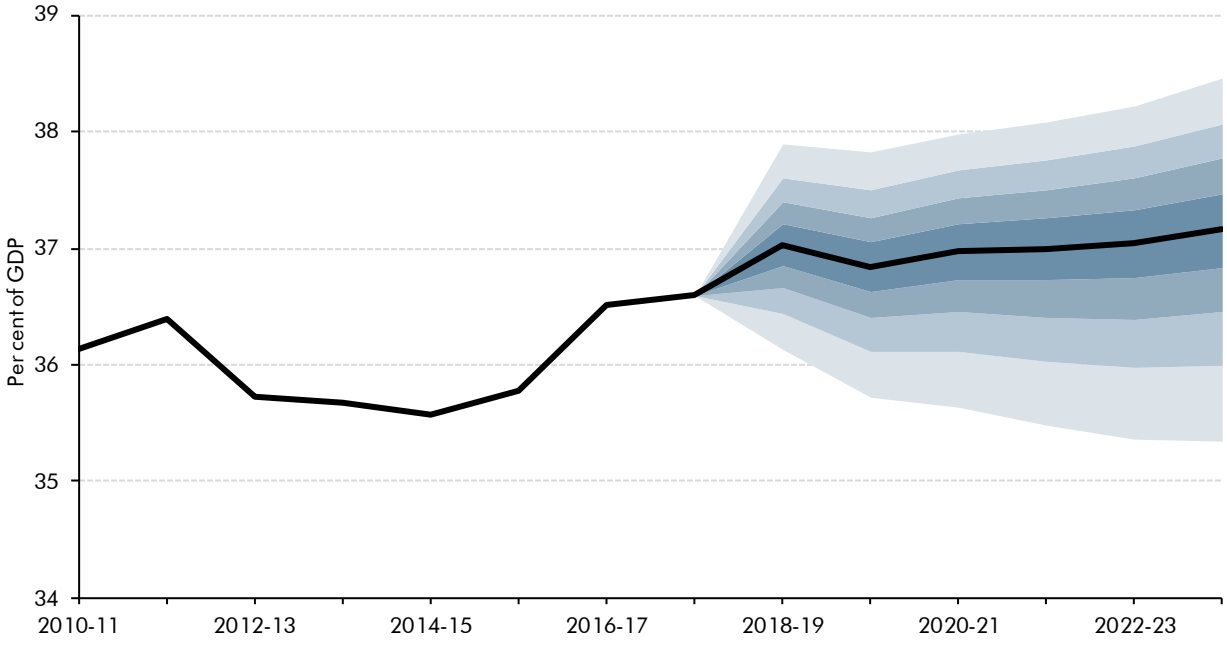
- **Potential output** were 1.4 per cent lower. This would be broadly equivalent to the downward revision to potential output in 2020-21 that we made in our November 2017 forecast. But it is not large relative to the cumulative downward revisions made since the financial crisis and subsequent recession.

- The **effective tax rate** – as measured by the tax-to-GDP ratio – were 0.7 percentage points lower and the difference was a consequence of structural factors (recognising that unpicking the structural and cyclical elements of any changes in the tax-to-GDP ratio would be difficult). Chart 5.4 presents a fan chart for the receipts-to-GDP ratio, reflecting both cyclical and structural drivers of past errors. It suggests there is around a 25 per cent chance that receipts could be 0.7 per cent of GDP lower than forecast.

- **Effective interest rates** on central government gross debt were 0.8 percentage points higher (relative to our central projection of 2.3 per cent). The fact that £371 billion of conventional gilts held in the APF are currently in effect financed at Bank Rate reduces the effective interest rate by 0.5 percentage points.

- Higher **RPI inflation** could increase accrued interest on index-linked gilts. Taken in isolation, if RPI inflation were 3.4 percentage points higher than expected in 2020-21, that alone would add 0.7 per cent of GDP to debt interest costs. Based on past forecast errors, the chance of that happening is small. And of course, this sort of shock to inflation would be likely to have other material effects on the public finances.

Chart 5.4: Receipts fan chart



Source: ONS, OBR

The supplementary debt target

5.35 The supplementary debt target is focused on year-on-year changes in the debt-to-GDP ratio, with the target set for a fixed date of 2020-21. Table 5.6 shows how our central forecast for a 3.2 per cent of GDP fall in PSND in that year would be affected by two sources of sensitivity: differences in the level of debt in the preceding year and differences in growth in 2020-21. We use cyclical adjustment coefficients to estimate the effect of GDP growth shocks on borrowing, but do not vary interest rates, so that differences in the assumed rate of GDP growth result in changes to the interest rate-growth rate differential. On that basis, the table shows that:

- In most cases, the extent to which the debt-to-GDP ratio changes in 2020-21 is inversely related to **the debt-to-GDP ratio in the preceding year**. That counter-intuitive result is due to the low level of interest rates assumed in our central forecast, which means that the effect of GDP growth on the denominator in the debt-to-GDP ratio is greater than the effect of interest rates on growth in the cash level of debt (via debt interest spending). The higher the starting level of debt, the more the denominator effect outweighs the interest rate effect. It is only the larger negative growth shocks that see the growth rate fall close to the assumed interest rate. When they are similar (which would be the case if growth was around 2 percentage points slower), the two effects cancel out. If the growth rate was lower than the interest rate, the extent to which debt falls would be positively related to the level of debt in the preceding year.

- As expected, negative **shocks to GDP growth** reduce the extent by which debt falls as a share of GDP and positive shocks increase it. The year-on-year change in the debt-to-GDP ratio is more sensitive to GDP shocks than the deficit, because it is affected both by the deficit channel (which drives the accumulation of debt in that year) and by the

denominator channel (which means the previous year's cash debt is divided by a different level of nominal GDP). Well over half the fall in the debt-to-GDP ratio in 2020-21 reflects the assumed repayment of TFS loans at the end of their four-year term. Excluding that effect, meeting the proposed target would be at risk to small negative shocks to GDP growth.

Table 5.6: Illustrative debt target sensitivities in 2020-21

		Year on year change in the PSND-to-GDP ratio in 2020-21					
		Difference in GDP growth in 2020-21 (percentage points)					
		-3	-2	-1	0	+1	+2
Difference in the level of PSND in 2019-20 (per cent of GDP)	-20	1.1	-0.2	-1.5	-2.8	-4.1	-5.4
	-10	1.2	-0.2	-1.6	-3.0	-4.4	-5.8
	+0	1.4	-0.2	-1.7	**-3.2**	-4.7	-6.1
	+10	1.5	-0.1	-1.7	-3.3	-4.9	-6.5
	+20	1.6	-0.1	-1.8	-3.5	-5.2	-6.8

5.36 The Government's fiscal targets only apply in the fixed year of 2020-21, but each is subject to different sensitivities. For example, holding all other elements of our central forecast constant, but assuming that structural borrowing in 2020-21 was 2 per cent of GDP, it would still be possible for the supplementary target to be missed if:

- **TFS loans** issued in 2016-17 were rolled over rather than being repaid, as their repayment reduces debt by 2.3 per cent of GDP in 2020-21 in our central forecast.
- **Cyclical borrowing** caused the primary balance to deteriorate by more than 2.5 per cent of GDP. (It is near zero in our central forecast).
- **Financial transactions** pushed cash borrowing up relative to PSNB by 2.5 per cent of GDP more than in our central forecast. That could happen if the Bank of England decided that a monetary policy stimulus of the type that was announced in August 2016 was necessary in that year.
- **Nominal GDP growth** was 1.7 per cent (or lower) in the year centred on end-March 2021 that is the denominator for the debt-to-GDP ratio in 2020-21 (relative to 3.4 per cent in our central forecast).

Scenario analysis

5.37 The sensitivity analysis discussed above focuses on ready-reckoned estimates of the impact of individual factors and therefore offers only a limited assessment of potential uncertainty. In this section, we set out the fiscal implications of illustrative alternative economic scenarios, designed to test how dependent our conclusions are on key judgements that are subject to debate in the forecasting community. We stress that these scenarios are not intended to capture all possible ways in which the economy might deviate from the central forecast and we do not attempt to attach particular probabilities to them occurring.

5.38 While much attention focuses on how our departure from the EU might affect the economy, the remit that has been set for us by Parliament means we are not allowed to posit the impact of alternative policies. We have recently set out how we expect to approach the task of making forecasts as Brexit progresses (including in the event of 'no deal').[7] Instead, here we consider the fiscal implications of two alternative scenarios of rising trade tensions and global protectionism[8] – one of the risks to the economy that we highlight in Chapter 3:

- Our central forecast includes the implications of tariffs already announced by the US, mostly focused on Chinese imports. The **temporary trade skirmish** scenario assumes that the US increases tariffs by 10 percentage points on its imports from all countries for three years, with all other countries taking equivalent reciprocal action.

- The **permanent return to protectionism** scenario assumes the same increase in tariffs are permanently imposed. It also assumes firms and households' expectations about more tariffs being introduced – or a collapse of the rule-based global trading regime – lead to increased uncertainty and tighter financial conditions.

5.39 Both scenarios have the same, small negative output gap opening up as GDP growth slows. The output gap troughs at minus 0.2 per cent of potential, weighing on inflation. This effect is more than offset by the direct cost of the tariffs on the price of imports from the US (and the indirect impact on the price of imports from all other countries), which increases inflation in both scenarios. The Monetary Policy Committee is assumed to look through the temporary effect of higher import prices and to loosen monetary policy to close the output gap and bring inflation back to target.[9] We have also made the simple assumption that half the effect of changes in output are reflected in actual productivity and half in employment.

5.40 In the permanent return to protectionism scenario potential output is also lower, as firms reduce investment and productivity growth slows. This means that, while the level of real GDP by the end of the forecast period is unchanged in the temporary trade skirmish scenario, it is 1.0 per cent lower in this scenario. Lower productivity growth feeds through into weaker earnings growth and slower house price inflation.

5.41 On the basis of the assumptions above, Table 5.7 summarises the main implications of each scenario for the current fiscal targets on current Government policy:

- In the **temporary trade skirmish** scenario, the passing weakness in nominal GDP hits receipts in the near term. The effect on most spending items is relatively small and we assume departmental spending plans are not adjusted in response to the downturn. Despite higher borrowing, debt interest spending is lower in every year due to lower interest rates and, from 2021-22 onwards, lower RPI inflation. As a share of GDP, borrowing is a little higher in the near term. The fiscal mandate is met by a slightly

[7] See OBR, *Brexit and the OBR's forecast*, 2018.
[8] The size of the GDP effects of these scenarios are calibrated using analysis published by the Bank of England (*From protectionism to prosperity,* speech given by Mark Carney, July 2018).
[9] The monetary policy response is calibrated using a simple model. See *Working Paper No. 4: A small model of the UK economy*, available on our website.

larger margin than in our central forecast thanks to the extent of the reduction in debt interest spending. The debt target would be met, with PSND falling 3.1 per cent of GDP in 2020-21. And welfare cap spending would remain below the cap.

- The weaker path for potential productivity in the **permanent return to protectionism** scenario pushes receipts permanently below our central forecast. Again, despite higher borrowing, there is a partly offsetting effect from lower debt interest payments. DEL spending is still assumed not to be adjusted in cash terms, but spending would be 0.3 per cent of GDP higher than in our central forecast as the economy is smaller. A weaker labour market also raises welfare spending slightly. As a share of GDP, borrowing would be higher in all years, but the Government would still comfortably meet its fiscal mandate. The debt target and welfare cap would also still be met.

Table 5.7: Key economic and fiscal aggregates under alternate scenarios

	Per cent of GDP, unless otherwise stated					
	Central forecast					
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Economic assumptions						
GDP growth (per cent on a year earlier)	1.4	1.6	1.4	1.5	1.5	1.6
Output gap (per cent of potential GDP)	0.3	0.3	0.2	0.1	0.1	0.1
CPI inflation (per cent on a year earlier)	2.5	1.9	2.1	2.1	2.1	2.0
3-month interest rate (per cent)	0.8	1.2	1.4	1.6	1.6	1.7
Nominal GDP growth (per cent on a year earlier)	3.3	3.4	3.4	3.4	3.5	3.5
Fiscal aggregates						
Public sector current receipts	37.0	36.8	37.0	37.0	37.0	37.2
Total managed expenditure	38.2	38.3	38.1	38.0	37.9	37.9
Public sector net borrowing	1.2	1.4	1.2	1.0	0.9	0.8
Fiscal targets						
Cyclically adjusted public sector net borrowing	1.3	1.6	1.3	1.1	0.9	0.8
Public sector net debt	83.7	82.8	79.7	75.7	75.0	74.1
	'Temporary skirmish' scenario					
Economic assumptions						
GDP growth (per cent on a year earlier)	1.3	1.3	1.4	1.7	1.6	1.6
Output gap (per cent of potential GDP)	0.2	0.0	-0.2	-0.1	0.0	0.1
CPI inflation (per cent on a year earlier)	2.6	2.1	2.1	2.0	2.0	2.0
3-month interest rate (per cent)	0.8	1.0	1.1	1.3	1.5	1.7
Nominal GDP growth (per cent on a year earlier)	3.2	3.3	3.4	3.5	3.5	3.5
Fiscal aggregates						
Public sector current receipts	37.0	36.8	36.9	36.9	37.0	37.1
Total managed expenditure	38.2	38.3	38.1	37.9	37.8	37.8
Public sector net borrowing	1.2	1.5	1.2	1.0	0.8	0.7
Fiscal targets						
Cyclically adjusted public sector net borrowing	1.3	1.6	1.2	1.0	0.8	0.8
Public sector net debt	83.7	83.0	79.9	75.8	75.1	74.0
	'Permanent return to protectionism' scenario					
Economic assumptions						
GDP growth (per cent on a year earlier)	1.3	1.1	1.2	1.5	1.4	1.4
Output gap (per cent of potential GDP)	0.2	0.0	-0.2	-0.1	0.0	0.1
CPI inflation (per cent on a year earlier)	2.6	2.1	2.1	2.0	2.0	2.0
3-month interest rate (per cent)	0.8	1.0	1.1	1.3	1.5	1.7
Nominal GDP growth (per cent on a year earlier)	3.1	3.1	3.3	3.4	3.3	3.3
Fiscal aggregates						
Public sector current receipts	37.0	36.8	36.9	36.9	37.0	37.1
Total managed expenditure	38.3	38.4	38.3	38.1	38.1	38.2
Public sector net borrowing	1.2	1.6	1.4	1.2	1.1	1.1
Fiscal targets						
Cyclically adjusted public sector net borrowing	1.3	1.6	1.3	1.1	1.1	1.1
Public sector net debt	83.8	83.4	80.5	76.6	76.2	75.7

A Budget 2018 policy measures

Overview

A.1 Our *Economic and fiscal outlook (EFO)* forecasts incorporate the expected impact of the policy decisions announced in each Budget or other fiscal statement. In the run-up to each one, the Government provides us with draft estimates of the cost or gain from each policy measure it is considering. We discuss these with the relevant experts and then suggest amendments as necessary. This is an iterative process where individual measures can go through several stages of scrutiny. After this process is complete, the Government chooses which measures to announce and which costings to include in its main policy decisions scorecard. For these scorecard costings we choose whether to certify them as 'reasonable and central', and whether to include them – or alternative costings of our own – in our forecast. We also include the effects of policy decisions that do not appear on the scorecard.

A.2 Unusually, in this forecast there are several costings that we have not certified. All relate to policy changes affecting universal credit, where the Treasury did not provide sufficient information in time for us to judge that the costings were reasonable and central. Table A.2 reproduces the scorecard alongside our subjective assessment of the uncertainty around each costing.[1] Table A.1 reports the effect of non-scorecard costings.

A.3 The costings process worked reasonably efficiently for the most part, with more notes submitted to us earlier than has typically been the case in previous Budgets. But the final stages proved unusually challenging, thanks to repeated failures to observe the forecast timetable that had been agreed between the Treasury and ourselves. This was the main reason for several universal credit measures not being certified. It also meant that a high volume of measures remained under consideration in the final days of the scrutiny process.

Policy decisions not on the Treasury scorecard

A.4 Our forecast includes the effect of no fewer than 18 policy decisions that the Treasury has chosen not to present on its scorecard. These are reported in Table A.1. They include:

- **Public service pensions: changes to employer contribution rates**: the Treasury has lowered the discount rate applied when calculating contribution rates for public service pensions from the 2.8 per cent that was set at Budget 2016 to 2.4 per cent. This will increase employer contributions significantly from April 2019 (and September 2019 for teachers). This reduces AME spending by an average of £5.7 billion a year from 2019-20 onwards (as higher contributions reduce net spending on public service pensions). The Treasury has set aside a broadly similar amount in RDEL spending to allow public sector employers to meet these costs.

[1] There are further details in Chapter 4 and in the Treasury's *Budget 2018 Policy costings document*, which briefly summarises the methodology used to produce each costing and the main areas of uncertainty within each.

- **Royal Bank of Scotland**: our March forecast reflected the Government's intention to sell £15 billion of RBS shares by 2022-23. In the Budget it has announced that it plans to sell all its remaining shares by 2023-24. These sales affect borrowing via the forgone dividend income on the Government's RBS shareholding.

- **Student loans asset sale**: the Government has announced an extension of the Plan 1 sales programme by a further year and aims to raise an additional £3 billion in 2022-23. This affects borrowing via the forgone interest receipts from the loans sold.

- **Spectrum sale**: Ofcom will oversee the commercial auction of spectrum licences for mobile services including 5G that is planned for the second half of 2019. The Treasury has estimated that, based on comparable auctions, this will raise around £0.5 billion in 2019-20 across two auctions. We have accepted this as a central estimate and included it in our forecast. In the National Accounts, this income is accrued over a 20-year period so the effect on receipts is £25 million a year from 2019-20 onwards.

- **The Government's financing remit**: the Government has published a revised financing remit for 2018-19 and has stated that it intends to steadily reduce the proportion of index-linked gilts issued in the medium term. This change increases accrued debt interest spending by £250 million a year by the end of the forecast.

- **Business rates revaluation**: the rateable value of business properties is usually reassessed by the Valuation Office Agency every five years, with the most recent taking place in 2017. At Spring Statement 2018 the Government announced that the next revaluation would be brought forward a year to 2021, and reduced the standard interval to three years. We were informed too late to include this in our March forecast. The Government is obliged to design the revaluation and transitional relief to be fiscally neutral. At revaluation, the multiplier is set to include headroom for future changes to the rating list (e.g. from successful appeals). With the revaluation brought forward a year, the initial boost to yield (before it is eroded by appeals) occurs a year earlier than in our March forecast. This adds £0.9 billion to receipts in 2021-22.

- **Business rates: extension to pilots**: the Government has extended the first wave of business rate pilots to 2019-20. As local authorities retain growth in business rates revenues beyond a specified baseline, this boosts local authorities' self-financed spending beyond the amount foregone in central government grants.

- **Council tax: empty homes premia**: in July 2018, the Government announced that, in addition to increasing the existing premia on homes that have been empty and substantially unfurnished for the past two years from 50 to 100 per cent from April 2019, local authorities will be allowed to charge up to 200 and 300 per cent council tax premia for homes that have been empty and substantially unfurnished for five and ten years, respectively. This will be effective from April 2020 (200 per cent) and April 2021 (300 per cent). We assume that most of the additional revenue, around £40 million a year, will be used to finance local authority spending, but we make a small allowance for some to be saved in reserves.

- Short-term supported housing: the Government announced in October 2017 that funding for short-term supported accommodation – such as homeless hostels, domestic abuse refuges and bail accommodation – that are secured for claimants by local authorities or charities would be provided through a grant, rather than being met through housing benefit and universal credit. The policy was due to take effect from April 2020, and would have switched AME spending into DEL. This measure reverses that decision, shifting the associated spending back to AME.

- Enterprise investment scheme knowledge intensive companies fund: in November 2017 the Government launched *"an action plan to unlock over £20 billion of patient capital investment to finance growth in innovative firms over 10 years"*. This included increasing the generosity of tax reliefs for those investing in 'knowledge-intensive companies' through the Enterprise Investment and the Venture Capital Trust schemes. This measure removes an exemption for dividends income, while a one-year delay to April 2020 means investors will need to be slightly more patient with their capital.

- VAT on vouchers: this measure updates an announcement at Autumn Budget 2017 that related to the VAT treatment of retail gift vouchers following an EU directive in 2016. The policy has been amended following a consultation that also improved the evidence base. It was initially expected to have a negligible effect, but is now expected to generate a small yield. An accounting simplification means that, in some instances, VAT will be paid based on the face value of the voucher, whereas previously it may have been based on a lower amount that was eventually paid by the end user.

- Tobacco: anti-forestalling restrictions: HMRC routinely applies restrictions to limit the number of cigarettes that tobacco manufacturers can 'clear' at the prevailing duty rate ahead of a Budget. Manufacturers look to clear a disproportionately high number of cigarettes in the expectation that rates will increase at Budgets, a practice known as forestalling. The allowed level is based on a formula that considers a manufacturer's daily clearances over the previous year, plus an uplift. The last time restrictions were imposed, they included an uplift of 21 days. The additional uplift has been reduced by 7 days to 14, adding £10 million to receipts in 2018-19.

- Royalty withholding tax: adjustments: the Government announced 'income tax: withholding tax on royalties' at Budget 2016. The measure sought to counter the use of intra-group royalty payments by multinationals to shift profits from the UK to lower-tax countries. It widened the scope of royalty payments to include intangible assets such as trademarks and brand names, and broadened the rules on when royalties are regarded as having a UK source. At Autumn Budget 2017 the Government addressed some failings with the initial measure by announcing 'royalty payments made to low tax jurisdictions: withholding tax', which expanded the scope of the earlier measure to cover royalties and other similar payments that are connected with sales to UK customers. HMRC has told us that the combined expected yield from the earlier measures was to be revised down again, but that it is partly offset by further policy changes since our March forecast. The largest yielding component of these is the inclusion of embedded royalties. Other amendments include a change in collection

mechanism – it is now to be collected via self-assessed income tax, and that it is no longer a withholding tax but a direct income charge.

- **Non-resident gains on UK property**: this Autumn Budget 2017 measure taxes gains made by non-UK residents disposing of UK immovable property, whether the disposal is made directly or indirectly via a non-trading company. The costing for the original measure has been revised down in line with our lower property price forecast. This measure revises last year's announcement with several changes to the policy design. The largest of these is the removal of capital gains tax related to annual tax on enveloped dwellings.

- **Life assurance: change to reform loss relief rules**: at Budget 2016 the Government announced a measure that restricted the use of brought forward losses to 50 per cent of the corporation tax liability, though there is no restriction to rolling losses forward to future years. This led to unintended consequences for the life assurance sector. For insurers writing 'basic life assurance and general annuity business' (BLAGAB), some of their trading profits are not chargeable to corporation tax. This meant the level of the loss relieved could be higher than 50 per cent of the profits subject to corporation tax. This measure ensures that the 50 per cent cap will also apply to BLAGAB profits. It initially raises £20 million a year before declining in later years. BLAGAB profits are typically volatile, which creates additional uncertainty around this costing.

- **HGV road user levy: air quality incentive**: this measure reduces HGV levy rates by 10 per cent for lower emitting Euro VI vehicles, and increases them by 20 per cent for higher emitting Euro 0 to V vehicles. It is effective from February 2019. The cost of this measure rises to £10 million a year by 2023-24. It is sensitive to the assumed pace at which HGV fuel efficiency improves, but is not in itself expected to change that pace.

- **Carer's allowance: devolution to Scotland**: the Scotland Act 2016 makes provision for several social security benefits to be devolved to the Scottish Government. The first of these is carer's allowance, which was devolved in September. This is a close-to neutral switch, moving from DWP AME to Scottish Government AME. Spending on devolved carer's allowance is expected to be around £360 million a year by 2023-24.

- **Non-scorecard Scottish AME**: non-scorecard Scottish AME includes consequences of UK Government decisions that are not reported on the Treasury scorecard. For example, the Treasury reports the effect of decisions in terms of the block grant adjustment, but does not include the direct effect on Scottish taxes. This line balances the effect in Scottish self-financed expenditure from changes in Scottish taxes that we include in our receipts forecast.

- **Other non-scorecard DEL changes**: partly offsetting the giveaways, the Government has decided to cut departmental capital spending (CDEL) by over £2 billion a year on average from 2020-21 onwards. The largest CDEL change comes in 2020-21, where the Government has cut overall CDEL limits by £7 billion. Since a significant amount of those limits had still not been allocated to departments, we had already assumed that

they would be significantly underspent in the absence of any policy change. The net effect on our CDEL spending forecast of all non-scorecard policy is 2020-21 is a reduction of £3.8 billion.

Table A.1: Costings for policy decisions not on the Treasury scorecard

		£ million					
	Head	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Public service pensions: changes to employer contribution rates	Current AME	0	+4735	+5700	+5910	+6095	+6305
	RDEL	0	-5375	-5515	-5610	-5700	-5870
Royal Bank of Scotland	Receipts	+150	+385	+525	+585	+445	+190
Student loans asset sale	Receipts	0	0	0	0	0	-420
Spectrum sale	Receipts	0	+25	+25	+25	+25	+25
Government's financing remit	Current AME	0	-20	-50	-90	-155	-250
Business rates revaluation	Receipts	0	0	0	+935	-15	-170
Business rates: extension to pilots	Current AME	0	-890	+65	+5	0	0
	Capital AME	0	-1075	0	0	0	0
Council tax: empty homes premia	Current AME	0	-30	-35	-35	-35	-40
	Receipts	0	+30	+40	+40	+40	+40
Short-term supported housing	RDEL	0	0	+1010	+1040	+1070	+1100
	Current AME	0	0	-1010	-1040	-1070	-1100
EIS knowledge intensive companies fund	Receipts	0	+10	+5	+5	+5	+5
VAT on vouchers	Receipts	+5	+10	+10	+10	+15	+15
Tobacco: anti-forestalling restrictions	Receipts	+10	0	0	0	0	0
Royalty withholding tax: adjustments	Receipts	0	-275	+225	+100	+65	+55
Non-resident gains on UK property	Receipts	neg	+10	-5	-15	-20	-15
Life assurance: change to reform loss relief rules	Receipts	+20	+20	+15	+10	+10	+10
HGV road user levy: air quality incentive	Receipts	0	0	-5	-5	-5	-10
Non-scorecard Scottish AME	Current AME	-15	+265	-470	-465	-420	+80
	Capital AME	0	0	0	+125	+90	+50
Other non-scorecard DEL changes[1]	RDEL	+935	+2185	-3645	-3430	-3060	+2220
	CDEL	-25	+515	+3755	+1850	+3010	+900
Effect of Government decisions		+1080	+2405	+655	-45	+385	+3130

Note: The presentation of these numbers is consistent with the usual scorecard treatment, with negative signs implying an Exchequer loss and a positive an Exchequer gain.

[1] The change in 2023-24 is relative to a baseline that assumes DEL would otherwise have remained constant as a share of GDP.

Uncertainty

A.5 In order to be transparent about the potential risks to our forecasts, we assign each certified costing a subjective uncertainty rating, shown in Table A.2. These range from 'low' to 'very high'. In order to determine the ratings, we have assessed the uncertainty arising from each of three sources: the data underpinning the costing; the complexity of the modelling required; and the possible behavioural response to the policy change. We take into account

the relative importance of each source of uncertainty for each costing. The full breakdown that underpins each rating is available on our website. It is important to emphasise that, where we see a costing as particularly uncertain, we see risks lying to both sides of what we nonetheless judge to be a reasonable and central estimate.

A.6 We have not assigned an uncertainty rating to the package of universal credit measures, which includes some individual costings that were certified and some that were not. The largest of these – the increase to work allowances – is not hugely uncertain, but the interactions between the other parts of the package and between the above-inflation rise in the personal allowance and universal credit spending are more complex and uncertain. Past experience suggests that these interactions are only likely to be fully understood once they have been modelled properly by DWP analysts for our next forecast.

Table A.2: Treasury scorecard of policy decisions and OBR assessment of the uncertainty of costings

		Head	£ million[1]						Uncertainty
			2018-19	2019-20	2020-21	2021-22	2022-23	2023-24[2]	
Spending and Public Services									
1	National Health Service: five year settlement agreed in June 2018	Spend	0	-7,350	-11,130	-16,090	-21,400	-27,610	N/A
2	Social Care: 2018-19 and 2019-20 funding	Spend	-285	-775	-	-	-	-	N/A
3	Children's Social Care: improvement pilots	Spend	0	-45	-25	-15	-15	0	N/A
4	Transport: road maintenance	Spend	-500	0	0	0	0	0	N/A
5	Schools: 2018-19 capital	Spend	-475	0	0	0	0	0	N/A
6	Justice: 2018-19 prisons, courts, and justice system funding	Spend	-60	0	0	0	0	0	N/A
8	Defence: 2018-19 and 2019-20 funding	Spend	-200	-800	0	0	0	0	N/A
7	Centre for Public Sector Leadership	Spend	0	-10	-10	-10	0	0	N/A
9	Armistice Day Commemorations	Spend	-15	0	0	0	0	0	N/A
Living Standards									
	Tax								
10	Personal Allowance and Higher Rate Threshold: increase to £12,500 and £50,000 for 2019-20 and 2020-21	Tax	0	-2,790	-1,935	-1,445	-1,605	-1,780	Medium
11	Fuel Duty: freeze for 2019-20	Tax	0	-840	-855	-880	-910	-935	Medium-Low
12	Alcohol Duties: freeze spirits, beer and cider in 2019 and set rate for high strength cider	Tax	-35	-165	-175	-175	-180	-185	Medium-Low
	Welfare								
13	Universal Credit: £1,000 increase to work allowance	Spend	0	-545	-865	-1,130	-1,400	-1,695	
14	Universal Credit: additional support for transition	Spend	-35	-90	-170	-255	-240	-205	
15	Universal Credit: revised implementation schedule	Spend	0	-95	+320	+845	+745	+250	
16	Industrial Injuries Disablement Benefit: include Dupuytren's contracture	Spend	0	0	-5	-5	-5	-5	Medium-Low
	Spending								
17	Low Cost Credit: support	Spend	0	-5	*	0	0	0	N/A
18	Pensions Dashboard: further funding	Spend	0	-5	0	0	0	0	N/A
19	Disabled Facilities Grant: expand	Spend	-65	0	0	0	0	0	N/A
Business and Growth									
20	Annual Investment Allowance: temporary increase to £1m for two years from January 2019	Tax	-215	-600	-425	+140	+185	+155	Medium
21	Structures and Buildings Allowance: permanent capital allowance for new structures and buildings	Tax	-55	-165	-260	-365	-475	-585	Medium
22	Special Writing Down Allowance: align with depreciation in accounts at 6% rate	Tax	+75	+250	+360	+325	+315	+305	Medium
23	Apprenticeships: halve co-investment rate to 5%	Spend	0	-25	-60	-60	-70	-70	N/A
24	Skills: regional pilot of course subsidy for self-employed	Spend	0	-5	-5	0	0	0	N/A
25	Skills: regional pilot of on-the-job training for young people	Spend	0	-5	-5	0	0	0	N/A
26	Skills: digital skills boot camps	Spend	0	-5	0	0	0	0	N/A
27	Enterprise: expand Knowledge Transfer Partnerships	Spend	0	0	-5	-10	-10	-10	N/A
28	Enterprise: extension of start-up loans programme	Spend	0	0	-5	0	0	0	N/A
29	Enterprise: University Enterprise Zones	Spend	-5	0	0	0	0	0	N/A
30	Trade: Global Britain	Spend	0	-5	0	0	0	0	N/A
31	Energy: support for UK nuclear fusion	Spend	0	-20	0	0	0	0	N/A
32	Quantum Technology: research and development	Spend	0	-5	-5	-15	-10	0	N/A

Housing and Homeownership									
33	Local Authority Housebuilding: remove borrowing cap	Spend	-95	-385	-850	-855	-1,235	-1,235	Medium-High
34	Development Corporations: competitive fund	Spend	0	*	-5	-5	0	0	N/A
35	Discounted Homes: capacity funding	Spend	0	-5	-5	-5	0	0	N/A
36	Strategic Housing Deals: capacity funding	Spend	0	-5	-5	0	0	0	N/A
37	Stamp Duty Land Tax: extend First Time Buyers relief for shared ownership properties	Tax	*	-5	*	*	*	-5	Medium-Low
Environment									
38	Plastics and Waste: sustainability and innovation	Spend	0	-20	0	0	0	0	N/A
39	Abandoned Waste Sites: clearance	Spend	0	-5	-5	0	0	0	N/A
40	Urban Tree Planting	Spend	0	-5	-5	*	*	0	N/A
41	Air Quality	Spend	-10	-15	0	0	0	0	N/A
42	Industrial Energy Transformation Fund[3]	Spend	0	-20	-60	-90	-75	-70	N/A
43	Capital Allowances: discontinue enhanced allowances for energy and water-efficient	Tax	0	+10	+50	+100	+80	+75	Medium
Local Growth									
44	Business Rates: one third off for retail premises up to a rateable value of £51,000 in 2019-20 and 2020-21	Tax	+10	-490	-450	+45	-15	0	Medium-High
45	Future High Streets Fund: resource	Spend	0	-20	-15	-15	-10	-5	N/A
46	Future High Streets Fund: capital[4]	Spend	0	-5	-75	-220	-240	-195	N/A
47	Business Rates: public lavatories relief from 2020-21	Tax	0	0	-5	-5	-5	-5	Low
48	City and Growth Deals: Tay, Belfast, North Wales, Stirling and Clackmannanshire	Spend	-5	-40	-40	-	-	-	N/A
49	Coventry: City of Culture	Spend	0	-10	0	0	0	0	N/A
50	Northern Powerhouse Rail: development funding	Spend	0	-40	0	0	0	0	N/A
51	East-West Rail: development funding	Spend	0	-20	-	-	-	-	N/A
52	West Midlands Combined Authority: UK Mobility Data Institute	Spend	-20	0	0	0	0	0	N/A
A fair and sustainable tax system									
53	Digital Services Tax	Tax	0	+5	+275	+370	+400	+440	Very High
54	Off-payroll Working: extend reforms to private sector in 2020-21, excluding small businesses	Tax	-5	-150	+1,165	+595	+635	+725	Very High
55	Corporation Tax: restrict use of carried forward capital losses from 2020-21	Tax	0	+25	+110	+140	+140	+125	Medium-High
56	Capital Gains Tax: extend Entrepreneurs' Relief minimum qualifying period	Tax	0	+5	+10	+75	+80	+90	High
57	Private Residence Relief: reform lettings relief and final period exemption from 2020-21	Tax	0	+15	+50	+120	+135	+150	High
58	VAT Registration Threshold: maintain at £85,000 for further two years	Tax	0	0	+60	+130	+145	+150	Medium-High
59	Employment Allowance: restrict to businesses below a £100,000 employer NICs threshold from 2020-21	Tax	0	0	+225	+260	+290	+320	Medium
60	Climate Change Levy: move towards equalised gas and electricity rates	Tax	0	0	*	*	*	+5	Medium
61	Aggregates Levy: freeze in 2019-20	Tax	0	-10	-15	-15	-15	-15	Low
62	Heavy Goods Vehicle VED: freeze in 2019-20	Tax	0	-5	-5	-10	-10	-10	Low
63	Tobacco Duty: RPI plus 2ppt on all duties and additional 1ppt for hand rolling tobacco	Tax	0	+5	+5	+5	+5	+5	Medium
64	Carbon Price Support: freeze rate at £18 in 2019-20 and 2020-21	Tax	0	0	-15	-15	-20	-20	Medium-Low
65	Alcohol Duty: ban post duty point dilution	Tax	0	+65	-15	+85	+85	+90	Medium-High
66	Savings: maintain thresholds for adult ISA allowance and starting rate of savings	Tax	0	*	+5	+5	+5	+10	Medium-Low
67	Gift Aid: increase small donation limit from £20 to £30	Spend	0	-5	-5	-5	-5	-5	Medium-Low
68	HMRC: funding for Budget measures	Spend	-5	0	0	0	0	0	N/A

Avoidance, Evasion, and Unfair Outcomes								
69 Withheld Taxes: protecting your taxes in insolvency and tackling abuse	Tax	0	+10	+65	+150	+195	+185	Medium-High
70 R&D Tax Credits: preventing abuse of the SME payable credit	Spend	0	0	0	+20	+45	+45	Medium
71 VAT: ensuring proper adjustments	Tax	+5	+150	+200	+200	+195	+190	Very High
72 Offshore: prevent profit fragmentation, extend VAT grouping rules and prevent looping	Tax	*	+65	+65	+75	+95	+100	Very High
73 Capital Gains Tax: tackling misuse in Entrepreneurs' Relief	Tax	0	+5	+10	+10	+10	+15	High
Previously announced policy decisions								
74 Tuition Fees: freeze fees in September 2019	Tax	0	*	-10	-20	-30	-40	Medium-Low
75 NICs: delay NICs Bill by one year and maintain Class 2 NICs	Tax	-5	+180	+395	+370	+335	+310	Medium-Low
76 Childcare Vouchers: extension to the closure for new entrants to October 2018	Tax	-45	-55	-50	-40	-25	-10	Medium-High
77 Fixed Odds Betting Terminals: £2 stake limit in October 2019	Tax	0	-120	-245	-255	-260	-270	High
78 Remote Gaming Duty: raise to 21% in October 2019	Tax	0	+130	+255	+265	+280	+295	Medium-High
79 Index Linked Savings Certificates: reindex at next maturity date from May 2019	Spend	0	+35	+85	+150	+165	+175	Medium
80 National Retraining Scheme: first phase	Spend	0	-10	-25	-80	0	0	N/A
81 Support for Enterprise	Spend	0	-35	-	-	-	-	N/A
82 Birmingham: future mobility area	Spend	0	-10	-10	-10	0	0	N/A
83 Food Waste: pilot	Spend	0	-20	0	0	0	0	N/A
84 Mayoral Combined Authorities: extension of borrowing powers	Spend	-45	-160	-245	-205	-70	0	N/A
85 Youth Endowment Fund	Spend	-225	0	0	0	0	0	N/A
86 Public Service Broadcasting Contestable Fund	Spend	0	-15	-20	0	0	0	N/A
Total policy decisions[5]		**-2,305**	**-15,085**	**-14,395**	**-17,600**	**-23,520**	**-30,560**	
Total spending policy decisions		**-2,035**	**-10,905**	**-13,370**	**-17,880**	**-23,650**	**-30,520**	
Total tax policy decisions		**-270**	**-4,180**	**-1,025**	**+280**	**+125**	**-40**	

* Negligible.

[1] *Costings reflect the OBR's latest economic and fiscal determinants.*

[2] *At Spending Review 2015, the government set departmental spending plans for resource DEL (RDEL) for the years up to and including 2019-20, and capital DEL (CDEL) for the years up to and including 2020-21. Where specific commitments have been made beyond those periods, these have been set out on the scorecard. Where a specific commitment has not been made, adjustments have been made to the overall spending assumption beyond the period.*

[3] *In 2019-20 £10m is funded from the Reserve, and is not included in total policy decisions.*

[4] *In 2021-22, 2022-23 and 2023-24, the capital funding for this measure has been allocated from within the National Productivity Investment Fund, and is not included in total policy decisions.*

[5] *Totals may not sum due to rounding.*

An example of assigning uncertainty rating criteria

A.7 Table A.3 shows the detailed uncertainty criteria and applies them to a sample policy measure from this Budget: **'Remote Gaming Duty: raise to 21% in October 2019'**. This measure increases the RGD rate from 15 to 21 per cent from October 2019. This is aimed at offsetting the loss in revenue from the new maximum stake cap of £2 on 'B2' gaming machines, from the current maximum of £100. This policy is expected to raise £130 million in 2019-20 and an average of £275 million a year from 2020-21 onwards. Against each uncertainty criterion:

- **Behavioural**: this is the most important source of uncertainty in this costing. Given the significant rise in duty rate, it is likely that operators will pass the tax increase onto consumers. If the price of remote gaming increases, this would reduce demand by an amount dependent on consumers' responsiveness to price changes in the gaming industry. The behavioural estimate in the costing is based on research by Frontier Economics on behalf of HMRC. Compliance with the rate change and attrition are also considered, as it is an innovative industry. This is a 'high' source of uncertainty.

- **Data**: the main data for this costing are RGD receipts, gross profits, prices and stakes. We believe the data give a reasonably reliable indication of the tax base and static costing, so consider this a 'medium-low' source of uncertainty.

- **Modelling**: our forecast for RGD receipts is used to model gross profits, prices and stakes. Gambling Commission data are used to help model the additional RGD receipts expected because of the reduced spending on B2 machines. We consider this a 'medium-low' source of uncertainty.

Taking all these into account, we gave the costing an overall rating of 'Medium-high'.

Table A.3: Assigning uncertainty rating criteria to 'Remote Gaming Duty: raise to 21% in October 2019'

Rating	Modelling	Data	Behaviour
Very High	Significant modelling challenges Multiple stages and/or high sensitivity on a range of unverifiable assumptions	Very little data Poor quality	No information on potential behaviour
High	Significant modelling challenges Multiple stages and/or high sensitivity on a range of unverifiable assumptions	Little data Much of it poor quality	Behaviour is volatile or very dependent on factors outside the tax/benefit system
Medium-High	Some modelling challenges Difficulty in generating an up-to-date baseline and sensitivity to particular underlying assumptions	Basic data May be from external sources Assumptions cannot be readily checked	Significant policy for which behaviour is hard to predict
Medium	Some modelling challenges Difficulty in generating an up-to-date baseline	Incomplete data High quality external sources Verifiable assumptions	Considerable behavioural changes or dependent on factors outside the system
Medium-Low	Straightforward modelling Few sensitive assumptions required	High quality data	Behaviour fairly predictable
Low	Straightforward modelling of new parameters for existing policy with few or no sensitive assumptions	High quality data	Well established, stable and predictable behaviour
Importance	**Low**	**Medium**	**High**
Overall		**Medium-High**	

A.8 Using the approach set out in Table A.3, we have judged 8 measures in the scorecard to have 'high' or 'very high' uncertainty around the central costing. Together, these represent 9 per cent of the scorecard measures by number, or 21 per cent of the tax and AME measures that we have certified. They represent 29 per cent of certified measures by absolute value or 6 per cent of all scorecard measures. [2] Of these highly uncertain measures, one has an Exchequer cost (which totals £1.2 billion over the forecast period) while seven have an Exchequer yield (which totals £6.6 billion).

Digital services tax

A.9 The Government has announced a new tax on the revenues of large businesses in the digitalised sector that derive value from a UK user base, regardless of whether they have a taxable UK presence. This includes social media platforms, search engines and online marketplaces. Rather than defining value or how it is derived, the 'digital services tax' will levy a 2 per cent tax on revenues generated by specific business models and activities that the Government has deemed to meet this definition and to relate to UK users. It will be legislated for in the 2019-20 Finance Bill and will be take effect in April 2020.

A.10 We have certified that the methodology used to produce this costing is reasonable and central, but there is a high degree of uncertainty around the central estimates of the yield (£275 million in 2020-21 rising to £440 million in 2023-24). The multiple steps in the costing methodology that underpinned these estimates included:

- **Identifying the groups that could be in scope.** Groups are identified using the United Nations Conference on Trade and Development *World Investment Report* and the commercial ORBIS database. In total around 30 groups were identified. There could of course be more in the future as new businesses are set up and grow.

- **Collecting data on the global revenues in scope.** Global revenues in scope for most groups are obtained from published annual reports. Where annual reports are not available, global revenues in scope are sourced from various external sources.

- **Estimating the proportion of global revenues in scope that relate to the UK.** For just over half the groups the revenues are either explicitly disclosed in their annual reports or have been obtained from external sources. For just under half, HMRC used a range of modelling approaches, most relying on estimating the proportion of relevant global revenues that would be in scope of the tax. In some cases, available data required little manipulation to generate a proxy for UK revenues. In others, little relevant information was available and less closely linked proxies had to be used.

- **Projecting the tax base.** The tax base is grown over the forecast period using an average of the historical growth in revenues of the identified groups and our profits forecast. The variability of past revenue growth signals this as a significant source of uncertainty around the estimated yield from the new tax.

[2] Absolute value ignores whether they are expected to raise or cost money for the Exchequer.

- **Allowing for the de minimis threshold and the allowance.** The digital services tax will only apply to groups with £500 million of global revenues from the business lines in scope of the tax. There is also a £25 million allowance for revenues attributable to the activities of UK users from one or more business lines in scope of the tax.

- **Adjusting for a 'safe harbour'.** This would cap a group's liability to the digital services tax if it had a low or negative profit margin. The costing we certified included specific parameters for this provision, which the Government plans to publish with its consultation on the digital services tax next month.

- **Reflecting the reduction in corporation tax receipts** that will result from the digital services tax being an expense against a group's corporation tax liability, where that expense relates to revenues recognised in the UK.

- **Estimating the revenue consequences of potential behavioural responses.** Some of the yield estimated via the steps above is expected to be lost to behavioural responses – known as attrition. The Government expects this to be relatively limited. Potential responses include: reclassifying revenue currently in scope as being out of scope, particularly for groups with mixed business models; altering business models to generate new revenue streams that are out of scope; and profit shifting. The costing allows for attrition rising to 30 per cent by 2023-24.

A.11 We sought reassurances around HMRC's compliance activities. The costing was certified subject to HMRC receiving the funding required for the approximately 20 full-time equivalent staff positions required to police compliance with the digital services tax.

A.12 There is also uncertainty around the final policy design that might emerge once future consultations have taken place, including one that the Government will launch in early November. We have been told that the Government will consult on the design of the safe harbour and, for administration purposes only, the deductibility against corporation tax, the allowance and the de minimis. If consultation leads to changes in the parameters on which these costings are based then we would expect these to be reflected as a future scorecard policy costing that we would scrutinise in the usual way.

A.13 Most of the forecast revenue is expected to come from a handful of large businesses. This mostly relates to advertising revenue and the commissions charged by online marketplaces. As this is likely to reflect a rising share of overall economic activity in the future, the yield from this tax could rise faster than GDP for many years beyond the forecast horizon, as revenues for those groups currently within scope continue to rise and several currently out-of-scope groups – e.g. those not currently generating profits – come within scope.

A.14 Every stage of this costing is uncertain. We have assigned uncertainty around data as 'high', uncertainty around behaviour as 'medium-high' and, given the complex multi-stage costing methodology, uncertainty around modelling as 'very high'. As this is deemed the most important element of the costing, it is deemed 'very high' uncertainty overall.

Other highly uncertain measures

A.15 The other measures subject to a 'very high' or 'high' uncertainty rating are:

- **'Off-payroll working: extend reforms to private sector in 2020-21, excluding small businesses'**: this measure relates to the taxation of off-payroll workers who work for a private sector client through their own intermediary, such as a personal service company. This allows them to pay less tax and NICs than employees. Rules are already in place to ensure that when a worker can be shown to work in effect as an employee, then the tax and NICs due would be broadly the same as an employee. This measure moves the burden of responsibility for determining whether existing rules apply to the engager (i.e. the private sector business) rather than the intermediary. HMRC expects this to increase compliance and revenue. There are multiple sources of uncertainty with the costing. No information is directly held on the tax base, which has had to be estimated using a series of very uncertain judgements. The costing assumes a high level of attrition as it is deemed very likely that individuals will continue to seek ways of minimising the tax they pay. A previous measure that targeted similar workers in the public sector has so far raised more than originally expected, but non-compliance is assumed to be greater in the private sector. Overall, we give this a 'very high' uncertainty rating, with data, behaviour and modelling all deemed to be sources of 'high' or 'very high' uncertainty.

- **'VAT: ensuring proper adjustments'**: this measure has two components. The first – relating to VAT on unfulfilled supplies – applies VAT to cases where a customer makes a full or part pre-payment for a service or good but then does not use or collect it. An example would be the booking and subsequent cancellation of a hotel room. The second part closes a loophole that allows businesses to adjust their VAT return to reclaim VAT from HMRC in respect of past periods with no time limit. Data for both elements are highly uncertain, particularly the second which assumes the number of businesses currently exploiting the loophole by extrapolating from the limited number of known cases. The low quality of data means the modelling relies on several assumptions to derive the tax base and, as with many anti-avoidance measures, there is also considerable uncertainty over the potential size of the behavioural response. We assign this costing a 'very high' uncertainty rating, with data, behaviour and modelling all deemed to be sources of 'very high' uncertainty.

- **'Offshore: prevent profit fragmentation, extend VAT grouping rules and prevent looping avoidance schemes'**: this package of anti-avoidance measures has three components. Profit fragmentation targets UK residents who avoid UK tax by diverting their business profits via an external entity. The second component relates to VAT exempt businesses that use overseas branches and UK VAT grouping rules to circumvent non-recoverability of acquisitions subject to VAT. The third element tackles a VAT avoidance scheme known as 'offshore looping' that is used within the insurance sector. As is often the case with offshore measures the behavioural response is highly uncertain and we have given this package a 'very high' uncertainty rating overall.

- **'Fixed odds betting terminals: £2 stake limit in October 2019'**: this policy will cap the maximum stake in fixed odds betting terminals at £2 from the previous £100. The main uncertainty is around the behavioural response of gamblers and the extent to which they reduce the amounts they bet in these machines and whether they choose to switch to alternative forms of gambling. One of those alternatives is to engage in more online gambling, some of which be reflected in the costing for the change to remote gambling duty also announced in this Budget. We give this costing a 'high' uncertainty rating.

- **'Capital gains tax: tackling misuse in entrepreneurs' relief'**: this measure adds two new tests designed to limit the eligibility for entrepreneur's relief and prevent misuse. The key uncertainty in this costing relates to the low quality of relevant data, and we assign this costing a 'high' uncertainty rating overall.

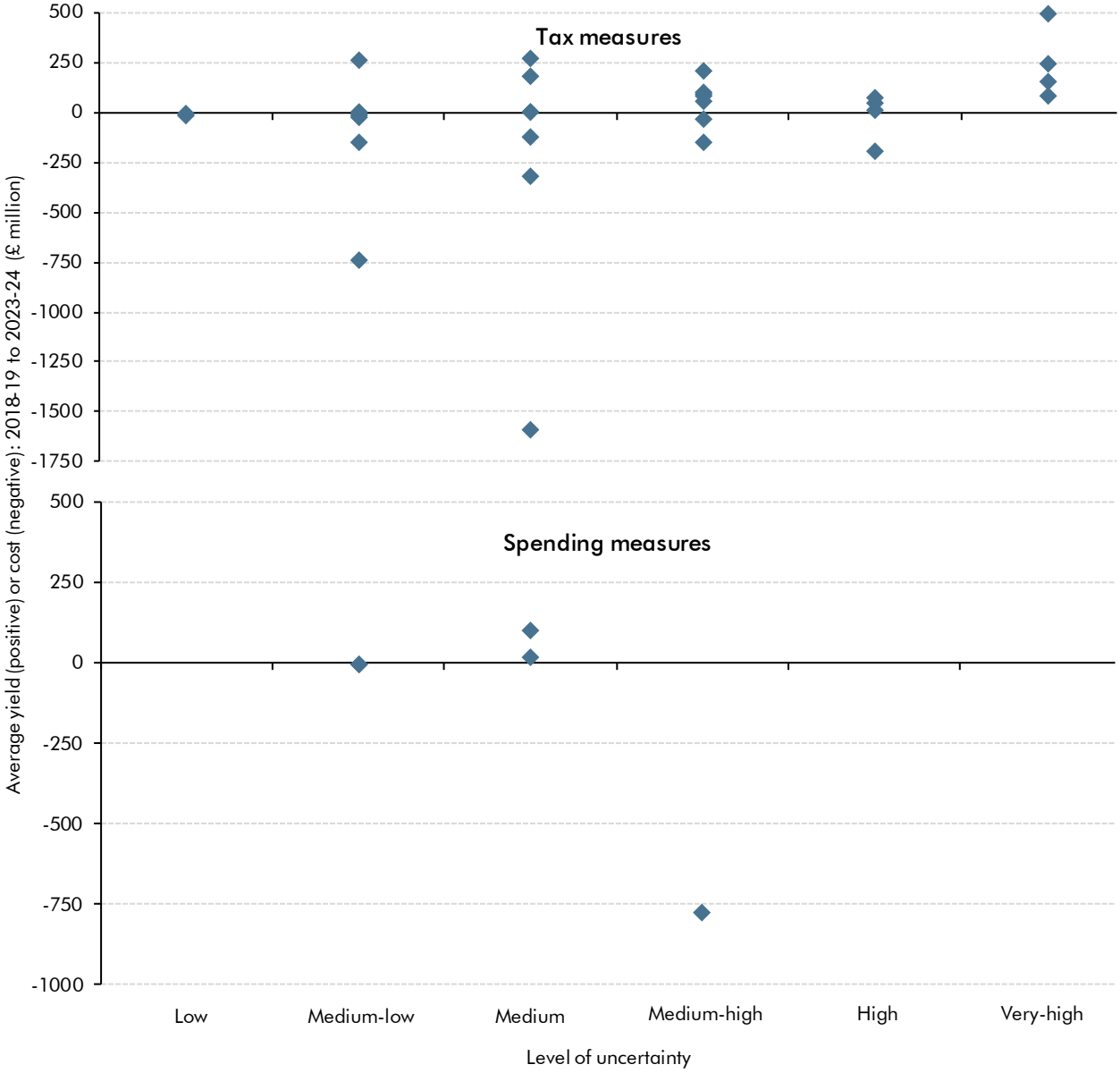
- **'Capital gains tax: extend entrepreneurs' relief minimum qualifying period'**: this measure increases the minimum qualifying period for eligibility for entrepreneurs' relief to two years. The data and modelling underpinning this costing are highly uncertain. Overall, we assign this costing a 'high' uncertainty rating.

- **'Private residence relief: reform lettings relief and final period exemption from 2020-21'**: private residence relief exempts main residences from CGT. This measure makes changes to two reliefs – the final period exemption is reduced from 18 to 9 months and lettings relief is restricted to those owners that share with their tenants. There is limited data on the take-up of these reliefs, so the tax base is derived using several assumptions. Overall, we assign this costing a 'high' uncertainty rating.

A.16 We have judged 27 scorecard measures to have 'medium-low' to 'medium-high' uncertainty around the central costing, with three having 'low' uncertainty. That leaves 71 per cent of the certified tax and AME scorecard measures in the medium range (70 per cent by absolute value). 8 per cent have been rated as low (just 1 per cent by absolute value).

A.17 Chart A.1 plots these uncertainty ratings relative to the amount each policy measure is expected to raise or cost. One feature of the distribution of measures by uncertainty is that spending measures are typically assigned lower uncertainty ratings than tax measures, while those measures cutting taxes typically have lower uncertainty ratings than those raising them. This is particularly true for the measures that aim to raise money from companies and from high income and wealth individuals that are already actively planning their affairs to reduce their tax liabilities. This pattern has been apparent in most recent fiscal events and, as we noted in our *Fiscal risks report*, is considered an ongoing fiscal risk.

Chart A.1: OBR assessment of the uncertainty of scorecard costings



Longer-term uncertainties

A.18 For most policy costings, the five-year scorecard period is sufficient to give a representative view of the long-term cost or yield of a policy change. Typically, that effect is either zero – because the policy has only a short-term impact that has passed by the end of the scorecard period – or it would be reasonable to expect the impact at the end of the forecast to rise broadly in line with nominal growth in the economy thereafter. Those with longer-term effects worth noting include:

- **'Corporation Tax: restrict use of carried forward capital losses from 2020-21'**: this measure restricts the amount of brought forward capital losses a company can offset against taxable gains. The yield rises to £140 million in 2021-22, but we expect this to erode over time. HMRC estimates it may take over 20 years for the costing to reach steady state.

- **'Structures and buildings allowance: permanent capital allowance for new structures and buildings'**: this introduces a 2 per cent capital allowance for all new expenditure on structures and buildings. The annual cost rises to £585 million by 2023-24, but this continues to rise as investments can take a long time to be written off. HMRC estimates it will take around 50 years to reach steady state. The long-term cost is expected to be around £2 billion in 2018-19 prices.

- **Freezing of indexation allowance for corporation tax**: when companies dispose of an asset corporation tax is due on any gain in its value. Indexation allowance reduces their liability by relieving gains accounted for by inflation. This Autumn Budget 2017 measure froze the allowance so that inflation-driven gains beyond January 2018 will not attract relief. The costing has been re-estimated for this forecast. The measure takes a long time to reach a steady state, as some of the relevant assets are held for lengthy periods. It is currently estimated to raise around £550 million in 2023-24, and the long-term projection suggests it may reach around £750 million by 2028-29.

- **Student loans asset sale**: with the sale of Plan 1 student loans the Government is exchanging an uncertain 30-year revenue stream for an upfront payment. As we discuss in Chapter 4, this has the effect of improving public sector net debt in the near term but increasing future public sector net borrowing.

- **Digital services tax**: it seems likely that the tax base for this new tax will rise faster than GDP for some time, so the annual yield could continue to rise in the longer term.

Small measures

A.19 The BRC has agreed a set of conditions that, if met, allow OBR staff to put an individual policy measure through a streamlined scrutiny process. These conditions are:

- the expected cost or yield does not exceed £40 million in any year;

- there is a good degree of certainty over the tax base;

- it is analytically straightforward;

- there is a limited, well-defined behavioural response; and

- it is not a contentious measure.

A.20 By definition, any costings that meet all these conditions will have a maximum uncertainty rating of 'medium'.

A.21 A good example of a small measure announced in this Budget is the '**Business Rates: Public Lavatories Relief**' measure. This policy reduces bills to zero for eligible hereditaments from 2020-21. It is expected to cost £5 million a year. The measure uses high quality data based on the Valuation Office Agency ratings list to show that there are currently 3,500 public

toilets in England. The modelling is straightforward – the total rateable value of the public toilets is multiplied by a multiplier for 2020-21 to produce the static costing. The prospect of a behavioural response from business rates payers – a boom in the provision of public conveniences to benefit from the additional form of relief they now afford – seems unlikely.

Update on previous measures

A.22 We cannot review and re-cost all previous measures at each fiscal event (the volume of them being simply too great), but we do look at any where we are informed that the original (or revised) costings are under- or over-performing, and at costings that we have previously identified as subject to particular uncertainty.

Policy reversals

A.23 Our forecast reflects three previously announced policies that have been reversed:

- **PAYE cap for R&D tax credits**: the Government is re-introducing a PAYE cap on the amount of payable R&D tax credit that can be claimed by a company under the small or medium-sized companies scheme. The cap was previously removed in 2012, but will be effective again from April 2020. The yield rises to £45 million in 2023-24.

- **Abolition of Class 2 NICs**: the Government announced at Budget 2016 that it would abolish Class 2 NICs with effect from April 2018. At Autumn Budget 2017, it decided to delay that by a year. In September it abandoned the policy completely. Not going ahead raises an average of £375 million a year relative to the delayed policy implementation assumed in our baseline forecast.

- **Universal credit work allowances**: the work allowance income threshold is the amount that claimants of universal credit can earn before their award is tapered. In Summer Budget 2015, the Government cut these as part of a £12 billion package of welfare savings. Many elements of that package have already been reversed. In this Budget, the Government has announced that work allowances will increase by £1,000 in April 2019, reversing around half the saving from the Summer Budget 2015 measure.

Policy delays

A.24 In order to certify costings as central, we need to estimate when – as well as by how much – measures will affect the public finances. As we have set out in previous *EFOs*, many of the Government's announced policy measures do not meet the timetable factored into the original costings – even where we have required greater contingency margins before certifying the measure. This continues to pose a risk to our forecast. The policy delays we have been notified about in this Budget include:

- **NICs on Termination Payments**: this measure, which was announced at Budget 2016, applies employer NICs on termination payments that exceed the £30,000 tax exemption threshold. It was due to begin from April 2018, but was delayed by one

year at Autumn Budget 2017. At this Budget, as part of 'NICs: delay NICs Bill by one year and maintain Class 2 NICs' this has now been delayed by a further year, until April 2020. The effect of this is a revenue loss of £215 million in 2019-20.

- **Employer supported childcare (ESC)**: this scheme is available to working parents through their employer. It was initially due to be phased out in autumn 2015 following the launch of tax-free childcare (TFC). The repeated delays to TFC has meant the ESC scheme has now been extended to October 2018, three years later than planned. The latest extension, confirmed in this Budget, was for six months and is expected to cost around £50 million a year as more families are able to enter the scheme and they can remain in it after it has closed to new entrants.

- **Universal credit**: the Coalition Government first announced universal credit (UC) in 2010, with a provisional timetable that would have seen the rollout completed by October 2017. The rollout schedule has been pushed back repeatedly since then. After the further delays announced in this Budget we now assume the rollout will be complete in 2024-25. While earlier delays were due to issues with operational delivery, more recent delays have been largely due to changes in the design of policy (see Chapter 4 for more information).

- **Enterprise investment scheme knowledge intensive companies fund**: the one-year delay to this measure is described in paragraph A.4.

HMRC tax reliefs

A.25 Governments since 2010 have introduced a succession of tax reliefs designed to stimulate a desired response, such as the promotion of entrepreneurship and the 'creative' sector. We consider five separate types of schemes to show how the cost has risen over time, often far beyond what was expected at the time of the original costings. These five are:

- **Entrepreneurs' relief**, which allows directors of companies with significant stakes in them (over 5 per cent) to pay a lower tax rate of 10 per cent on disposals of shares below a certain threshold, rather than the much higher headline capital gains tax rate. Between 2010 and 2011, the lifetime limit was raised from £2 million to £10 million. In this Budget two new measures aim to tighten the rules around eligibility. Nevertheless, the latest estimate is that entrepreneurs' relief cost £2.7 billion in 2017-18, and it is projected to cost £3.9 billion in 2023-24.

- **Venture capital investment schemes**, which include three separate tax reliefs. Two of them, the enterprise investment scheme (EIS) and venture capital trusts, are long-running tax reliefs first introduced in the 1990s to create incentives for investors to fund smaller, high-risk companies through income tax relief, capital gains tax reliefs on disposals of shares and (in some cases) income tax relief on dividends. These regimes offer a generous rate of tax relief and the amount of qualifying share disposals has been increasing. The seed enterprise investment scheme was introduced in 2012-13 and is similar to the EIS, but targeted at smaller companies. A third scheme – the

social investment tax relief – was introduced in 2014 and offers income tax relief and CGT relief to investors in social enterprises. These schemes have cost the Exchequer a combined £0.8 billion in 2017-18, twice the £0.4 billion cost in 2010-11. We expect the cost to rise to £1.0 billion in 2023-24.

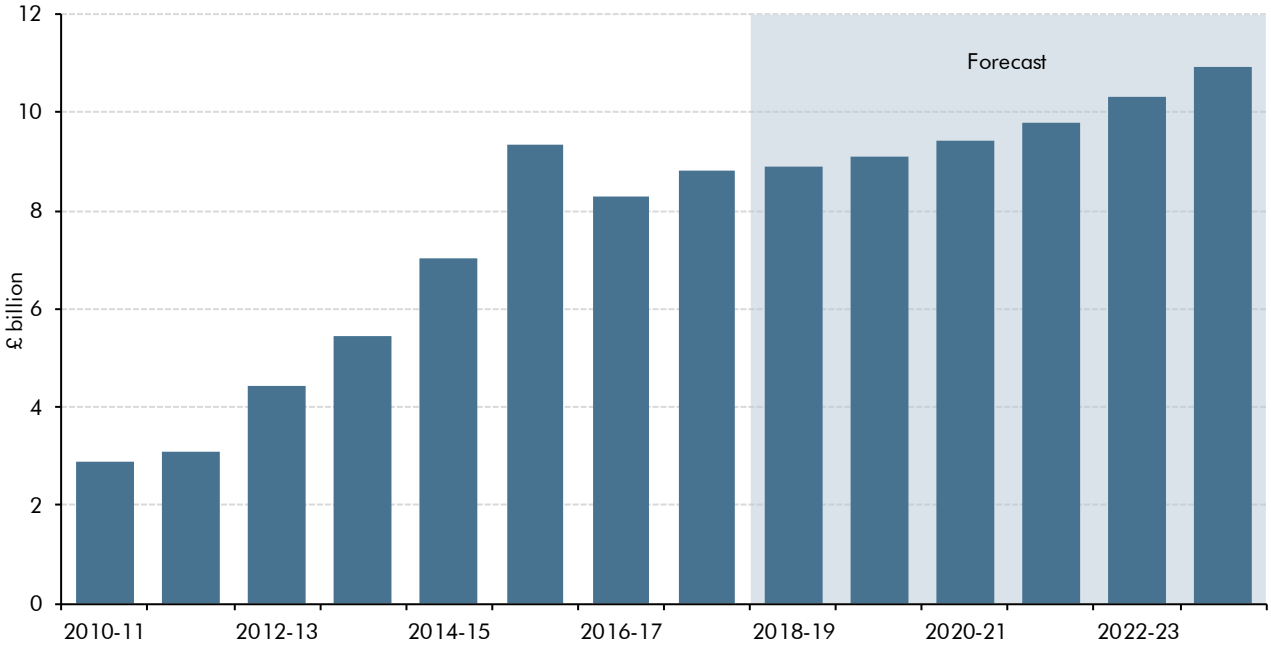
- **The patent box** aims to reward intellectual property (IP) that is commercialised in the UK by lowering the corporation tax (CT) rate on profits made from those patents. The original scheme was announced in 2010 and was amended significantly in 2016 to limit jurisdictions from using incentives to compete for mobile IP. The latest estimate is that the patent box cost £0.9 billion in 2017-18, rising to £1.0 billion in 2023-24.

- **Research and development (R&D) tax credits**, a complex set of directly payable and reduced liability corporation tax credits designed to incentivise expenditure on innovation activities. R&D tax credits are a long-running programme, whose structure has changed several times, but whose overarching characteristics have stayed broadly similar: the scheme allows companies to deduct their expenditure on R&D-related activities for taxable income purposes, and gives a more generous incentive for smaller companies. The cost of the schemes has increased significantly, especially since the introduction of more generous relief for large companies in 2013-14. The reliefs are estimated to have cost £3.5 billion in 2017-18, compared with £1.1 billion in 2010-11. We expect the cost to rise to £3.9 billion in 2023-24.

- **Creative reliefs**, which includes film production, high-end television, animation production, video games, orchestras, theatres, children's television, and museum and galleries tax reliefs. These reliefs give enhanced deductibility for expenditure that takes place in the UK, which means that a company's taxable income is reduced by more than one pound for every pound spent. Film tax reliefs were introduced in 2007 and the other creative reliefs have been introduced progressively since 2013-14. Their cost has risen significantly since then. Creative reliefs cost £0.2 billion in 2010-11 and this has risen to £0.9 billion in 2017-18, mostly due to unexpectedly high take-up and the introduction of new reliefs. We forecast that the cost of creative reliefs to rise to £1 billion in 2023-24.

A.26 Chart A.2 shows these schemes cost a combined £8.7 billion in 2017-18, compared with £2.7 billion in 2010-11. We forecast that their cost will continue to increase over the course of our forecast, rising to £11 billion in 2023-24.

Chart A.2: Latest estimate and forecast of the total cost of creative and entrepreneurial reliefs



Source: OBR

A.27 We have also received updates on several other policies including:

- **Presenting officers**: at Budget 2016, as part of the measure 'DWP and HMRC operational and policy measures', the Government announced that £22 million would be allocated to DWP to recruit staff across 2016-17 and 2017-18 to support the department in personal independent payment and employment and support allowance tribunals. Presenting officers were to attend tribunals and assist in the decision-making process. The original costing expected this would generate savings of £25 million in 2017-18, rising to £35 million a year from 2018-19. In our March 2017 *EFO* we reported that a delay in recruitment meant the savings were pushed back a year. We have now been told that fewer presenting officers have been attending tribunals than expected, roughly halving the expected savings.

- **Transferable marriage allowance**: this measure was announced in September 2013 allowing spouses and civil partners to transfer £1,000 of their own personal tax allowance to their partner, provided neither of them were higher or additional rate taxpayers. Take up of this measure was very low at the beginning. In the original costing HMRC estimated around 70 per cent take-up in 2015-16, but it reached only 16 per cent. Take up has increased significantly since then. The outturn figure for 2017-18 was around 2.8 million claimants benefitting. The latest recosting that is reflected in this forecast assumes an 83 per cent rate of take-up in 2018-19.

- **Soft drinks industry levy**: the yield for this has been revised down multiple times since it was announced at Budget 2016, when the then Chancellor announced a target of raising £500 million in 2019-20, that would be hypothecated to pay for school sport. As 2019-20 approaches we currently estimate the Government is on track to raise half

that amount. This largely reflects the strength of the response from producers in reformulating drinks so as not to be liable to the levy. We have not been made aware of any change in amounts spent on school sport.

- **Support for mortgage interest: switch from benefit to loan**: in Summer Budget 2015, the Government announced that, from April 2018, support for mortgage interest (SMI) will switch from being a non-repayable benefit payment to an interest-bearing loan, secured against a mortgaged property and due to be repaid upon death or the sale of the property.[3] This measure was originally due to reduce spending by £270 million in 2018-19 and to increase lending (which affects debt but not the deficit) by an almost equivalent amount. In March, we revised down the 2018-19 lending effect to £155 million a year. At the time, we noted the high level of uncertainty around take-up of the loan. We have now revised down lending again to £80 million, as take-up has remained sluggish. Figures from DWP show that only 21,000 of the 98,000 claimants originally expected to take-up the loan by the end of 2018-19 have done so, a shortfall of 78 per cent. We now expect take-up to reach around 56,000 by the end of 2018-19, though considerable uncertainty remains.

- **Help to save**: at Budget 2016, the Government announced the introduction of a regular savings account for certain low-income recipients of tax credits and universal credit. In March, we revised our forecast to allow for a delay in the launch, from April to October. The scheme has now been launched, and HMRC has told us there were 67,000 fully operational accounts by 7 October with deposits of £5.7 million to date. We will revisit this in our next *EFO*.

- **HMRC operational delivery:** we have revised down 2018-19 receipts from **making tax digital for VAT**, HMRC's initiative to use software to interact with taxpayers. This reflects our judgement that initial take-up will be slower than we allowed for in our previous forecast, and is based on concerns around wider operational and decision-making capacity in HMRC. As we saw with the change in plans for HMRC's transformation package, there is a risk that projects are crowded out, and this reflects that risk. HMRC has assured us that delivering making tax digital is one of their main priorities, and remain confident that delivery is on track for April 2019. Similarly, following a consultation in summer 2018, HMRC has confirmed that funding for its **CGT payment window** and that it remains on track for an early 2020 implementation date.

- **HMRC's Customs Declaration Service (CDS):** HMRC estimates the number of customs declarations could increase from 55 million to 260 million each year in a no deal scenario, with around 145,000 to 250,000 traders who trade solely with the EU needing to register for the first time. CDS was already being developed well before the EU referendum but the benefits it brings relative to the existing system – the customs handling import export freight (CHIEF) system – are timely. CDS has been built to handle 300 million declarations each year, improve declaration times and provide enhanced digital capability. Its implementation period was initially between 2017 and

[3] If the amount of equity available after the sale is less than the amount owed to the Government then the balance will be written off.

2020, but it is now due to be fully rolled out in March 2019.[4] HMRC believes that the CHIEF system can be successfully scaled up if it is required, and indeed will run it alongside CDS in the initial period. HMRC does not think there will be an impact on tax receipts in either scenario but has also said that the overall customs model *"will not be optimal from day one"* and that improvements would be required to *"reduce friction and costs"*.[5] For now, we note this as a clear risk to our forecasts for customs duties and VAT.[6]

Departmental spending

A.28 From 2019-20 onwards, the NHS settlement and other spending increases result in progressively higher RDEL spending, reaching £25.4 billion in 2023-24. Virtually all this change is reported on the Treasury scorecard. By contrast, the cut to CDEL spending of over £2 billion a year from 2020-21 has not been shown. Indeed, the scorecard shows a £0.1 billion a year increase in CDEL spending on average.

Indirect effects on the economy

A.29 The Government has announced several policy changes in this Budget that we have judged to be sufficiently large to warrant adjustments to our central economic forecast (see Box 3.2 for more details). These include:

- **Fiscal policy**: The Government has loosened fiscal policy, largely through the increase in health spending announced in June. This boosts real GDP growth by around 0.3 percentage points in 2019, with growth slightly weaker thereafter as the effect of the loosening diminishes. This is expected to leave CPI inflation marginally above target in the medium term.

- **Business investment**: The Government has announced several changes to capital allowances that are expected to affect the cost of capital faced by firms and therefore the level of business investment. These measures are expected to increase the level of business investment by 0.4 per cent by 2023-24.

- **Inflation**: We have adjusted our inflation forecast for the freeze to fuel duty and some alcohol duties in 2019-20 and a freeze in the maximum tuition fee charged in England for UK and EU students. These reduce CPI inflation by just over 0.1 percentage points in 2019-20.

- **Housing market**: There have been several measures announced that are likely to affect the housing market. We expect these to increase house prices by 0.1 per cent in 2021-22 and to reduce house price inflation slightly in 2023-24 following the currently planned end of the Help to Buy scheme in 2022-23. The Government's decision to lift the Housing Revenue Account borrowing cap is expected to increase aggregate housebuilding by an additional 9,000 over the forecast period.

[4] HMRC evidence to the Public Accounts Committee, 5 September 2018.
[5] HMRC evidence to House of Lords European Union Select Committee, 19 July 2018.
[6] For more on our approach to forecasting the effects of Brexit, see our *Brexit and the OBR's forecasts*, OBR Discussion Paper No. 3, October 2018.

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