Office for
Budget Responsibility

Forecast evaluation report

October 2013

Office for Budget Responsibility

Forecast evaluation report

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Foreword

The Office for Budget Responsibility (OBR) was created in 2010 to provide independent and authoritative analysis of the UK public finances. Twice a year – at the time of each Budget and Autumn Statement – the OBR publishes a set of five-year-ahead forecasts for the economy and the public finances in our *Economic and fiscal outlook (EFO)*. We use these to assess the Government's progress against the fiscal objectives that it has set itself.

In each *EFO*, we lay great stress on the uncertainty that lies around all such forecasts. We compare our central forecasts to those of other forecasters. We point out the confidence that should be placed in our central forecast given the accuracy of past official forecasts. We use sensitivity and scenario analysis to show how the public finances are likely to be affected by alternative economic outcomes. And we highlight uncertainties in how the public finances will evolve, even if one were to know with confidence how the economy was going to behave – for example, because of the uncertain costing of particular policy measures.

Notwithstanding all these uncertainties – and the fact that no one should expect any economic or fiscal forecast to be right in its entirety – we believe that it is important to spell out our central forecast in considerable quantitative detail and then to examine and explain after the event how it compares to subsequent outturn data. And that is what we endeavour to do in this report.

We believe that it is important to publish the detail of our forecasts for two main reasons. The first is transparency and accountability: the whole rationale for contracting out the official fiscal forecast to an independent body is to convince people that it reflects dispassionate professional judgement rather than politically motivated wishful thinking – even if people disagree with the particular conclusions we have reached. The best way to do that is to 'show our working' as clearly as we can. The second is self-discipline: the knowledge that you are going to have to justify your forecast in detail forces you only to make judgements you are willing to defend. You cannot hide them in the knowledge that no one will ever know.

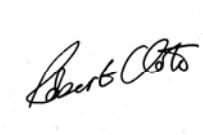
Assessing the performance of our forecasts after the event is also important for transparency and accountability – and for helping the users of the forecasts to understand how they are made and revised. Identifying and explaining forecast errors also helps improve our understanding of the way in which the economy and public finances behave and hopefully allows us to improve our judgements and forecast techniques for the future. This may be particularly important at a time when the economy is recovering from large shocks that have had unexpectedly persistent consequences.

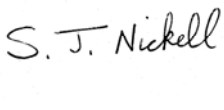
It is worth noting that when we use the word 'errors' in this paper we are simply referring to the arithmetic difference between the forecast and the outturn. We are not implying that it would have been possible to avoid them given the information available at the time the forecast was made – differences with outturns may reflect unforeseeable developments after the forecast was made.

In judging our own performance – and in assessing the relative performance of different forecasters – it is important to remember that the current outturn data represent a relatively early draft of economic history. The story we told in last year's report looks different after subsequent data revisions. So what appear to have been accurate or inaccurate forecasts today may look very different in the wake of inevitable and often large statistical revisions. This was certainly the experience of the recession and recovery of the 1990s and we have already seen significant revisions to the history of this recession and recovery.

We have continued the approach brought in last year of trying to understand the underlying stories that have driven our forecast errors. But, as last year, we also present the detailed decomposition of specific fiscal year forecasts, as in our first *Forecast evaluation report* in 2011 and the *End of year fiscal reports* by the Treasury that preceded it. We would be very grateful for feedback on this report and for suggestions to improve future ones.

The forecasts we publish represent the collective view of the three independent members of the OBR's Budget Responsibility Committee (BRC). Our economic forecast is produced entirely by OBR staff working with the BRC. For the fiscal forecast, given its highly disaggregated nature, we also draw heavily on the help and expertise of officials from across Government, most notably in HM Revenue and Customs and the Department for Work and Pensions. We are very grateful for this work and for the work that officials in these departments have contributed to the production of this report. However, the BRC takes full responsibility for the judgements underpinning the forecasts and for the errors presented in this report.





Robert Chote | Steve Nickell | Graham Parker

The Budget Responsibility Committee

1 Executive summary

1.1 Forecasts provide an essential basis for setting policy into the future. But since the future can never be known with precision, forecasts are surrounded by significant uncertainty and will inevitably prove to be wrong in at least some respects.

1.2 We stress those uncertainties in every *Economic and fiscal outlook*, presenting fan charts around our main forecasts, sensitivity analysis of key assumptions and the fiscal implications of different economic scenarios. And once a year, in our *Forecast evaluation report* (*FER*), we compare the latest data on the evolution of the economy and the public finances to our earlier forecasts and try to explain the inevitable differences. (Throughout this report we refer to the arithmetic difference between these forecasts and outturns as 'errors', but this does not necessarily mean that they could have been avoided given the information available at the time.)

1.3 The backdrop to this report is: a real economy that, until very recently, has been weaker than expected; a labour market that has been stronger than expected in terms of employment, but weaker in terms of earnings growth; and a fall in public sector borrowing as a share of national income of around a third from its peak in 2009-10, with the deficit falling significantly in 2010-11 and 2011-12, but by much less in 2012-13.

What questions does this report seek to answer?

1.4 Last year we asked why the budget deficit narrowed very much as we expected in our June 2010 forecast in 2010-11 and 2011-12, even though real GDP growth had been much weaker than expected. We revisit that question in light of the latest data from the Office for National Statistics (ONS), which have significantly revised both the strength and composition of real GDP growth over this period.

1.5 This year, we extend the analysis to ask why our June 2010 real GDP forecasts continued to under-perform through to mid-2013, but why it was that 2012-13 saw the borrowing forecast move off track as well. And for the first time we examine our March 2012 forecast, which over-predicted real GDP growth to mid-2013, but, despite that, marginally over-predicted borrowing in 2012-13.

1.6 Our economy forecasts are assessed in Chapter 2 and those for the public finances in Chapter 3.

Explaining our June 2010 forecast errors

1.7 Last year, we concluded that our borrowing forecasts to 2011-12 had remained on track despite weak real GDP growth, largely because growth in the nominal, or cash, economy had held up closer to our forecast. Changes in tax receipts depend more on changes in the cash value of the income or spending being taxed than on how the statisticians divide those changes between volumes and prices.

1.8 Following substantial data revisions, that story now looks somewhat different. The ONS has doubled its estimate of real GDP growth between mid-2010 and mid-2012, while revising down its estimate of nominal GDP growth over the same period. So the former is now closer to our forecast than the latter. The reason the deficit continued to fall on schedule in 2010-11 and 2011-12 now owes more to the composition of nominal GDP than to its level. Specifically, the shortfall in nominal GDP was concentrated in those areas that are taxed relatively lightly: private investment rather than private consumption and corporate profits rather than labour income. Tax receipts were still somewhat lower than forecast in 2011-12, but this was offset as central government departments under-spent the Treasury's limits and local authorities spent less than we expected in order to build up their reserves.

1.9 What changed in 2012-13? The real economy continued to under-perform, but this time the budget deficit disappointed as well. Nominal GDP was weaker relative to our forecast than in the previous two years, with labour income falling short of expectations as the weakness of productivity and average earnings outweighed continued positive surprises on employment. (In other respects, the composition of nominal GDP remained favourable for the public finances, with the overall shortfall concentrated in private investment and corporate profits rather than private consumption.) The June 2010 forecast had also assumed that by this stage in the recovery revenues would be boosted as asset prices and turnover returned to more normal levels, but this had not happened. Meanwhile, North Sea receipts suffered as production dropped sharply and tax-deductible expenditure increased. So tax receipts in total under-performed our forecast by a much greater margin in 2012-13 than in the previous two years. In response, the Government imposed an unprecedented squeeze on central government spending towards the end of the year. This was sufficient to keep the deficit falling in cash terms and as a share of GDP, but nowhere near as quickly as we had forecast in June 2010.

Explaining our March 2012 forecast errors

1.10 By March 2012, our forecasts for both the economy and the public finances were much more downbeat than those we had published in June 2010. We had taken on board the weakness of underlying productivity growth, the slow progress in improving credit conditions, the continued difficulties of the euro area and the failure of asset markets and interest rates to normalise over the previous two years.

1.11 But real GDP growth disappointed even these reduced expectations as private investment once again failed to pick up as expected and as net trade suffered when the euro area suffered a sharper downturn than expected. The fall in North Sea production and the weakness of productivity growth during 2012 – with its consequences for average earnings, labour income and nominal GDP – were unexpected in March 2012, just as they were unexpected in June 2010, though to a lesser extent.

1.12 And yet our borrowing forecast for 2012-13 in March 2012 proved slightly pessimistic. The impact on receipts of lower North Sea production and lower labour income – compounded by the fact the growth in self-employment in 2011-12 generated less revenue than we expected when the tax came due a year later – was more than offset by the unexpected scale of under-spending by central government departments and local authorities.

Explaining the weakness of the real economy

1.13 In last year's report, we noted that the over-optimism in our June 2010 forecast for real GDP growth was split roughly equally between private investment, net trade and private consumption, partly offset by a smaller-than-expected fall in real government spending. We concluded that the main explanations for these errors were probably: that external inflation shocks had depressed real consumption; that weak export demand (especially for financial services) depressed net export volumes; and, that weak and uncertain demand, low expected returns and tight credit conditions deterred investment. We said we could not exclude the possibility that the fiscal consolidation had done more to depress growth than we assumed in June 2010, but this did not seem the most likely explanation for the overall shortfall.

1.14 Since last year, the ONS has revised up its estimate of real GDP growth over the first two years of the Parliament. Private consumption now makes a bigger contribution, thanks in part to a reassessment of imputed rent on owner-occupied housing. And private investment makes a smaller contribution, as the prices of investment goods are now assumed to have risen more quickly. Taking the latest year of outturn data into account as well, our real GDP forecast error is now

greatest for private investment, then net trade and then private consumption. We remain of the view that the fiscal consolidation could have had a bigger impact on growth than we anticipated in June 2010, but that this still does not look the most obvious explanation. If the fiscal consolidation did have a bigger impact than expected, it is not obvious why this should be felt so much more in the corporate sector than by households.

Lessons learnt

1.15 The forecasts examined in this report pre-date last year's *FER*, so the lessons we set out then remain relevant and we have applied them as best we can in our subsequent forecasts. These are: the importance of the size of the nominal economy for the public finances; the relationship between the nominal spending and measured output of public services; and, the need to understand better the spending behaviour of central government departments and local authorities. This year's report also underlines the crucial importance of the composition of nominal GDP. Lessons to learn are set out in Chapter 4.

1.16 Stepping back, the story of our successive forecasts and their performance against current outturn data is one of an economy subject to significant post-crisis challenges that, while correctly identified, have proved difficult to calibrate with precision, reflecting the lack of historical precedent. We have underestimated the weakness of productivity and the implications of this and weak credit provision for GDP. And we have continued to over-estimate the degree to which cutting public services spending would subtract directly from real GDP. Determining whether we have gone far enough in adjusting for these factors, or indeed whether they might reverse, will remain a key challenge in our economic forecast over the coming year and beyond.

1.17 On the fiscal side, the need to understand better the spending behaviour of central government departments and local authorities remains. The former has been made more complicated by the Government's use of departmental under-spending as a policy tool to keep the deficit on a declining path. And the latter remains hampered by the number of players in the sector and the lack of accurate and timely data on outturns and plans. But we have changed our approach and we now forecast significant underspends by departments against their plans in future years as well as the current year and we have stepped up our engagement with local government finance experts to understand better their response to coming budget pressures and uncertainties.

Comparison with past official forecasts

1.18 We also compare the size of our forecast errors against past official forecast errors (see Annex B). This exercise has obvious limitations as a guide to relative forecast performance. Most fundamentally, we are not comparing like with like. And, as the OBR has only produced seven forecasts so far, the sample is still very small. For what it is worth, given the limitations of such comparisons, the errors in our real GDP and borrowing forecasts have, more often than not, been smaller than the average errors in official forecasts over the past 20 years.

2 The economy

2.1 This chapter:

- sets out how real and nominal GDP (from paragraph 2.2) and their components (from paragraph 2.14) evolved relative to our forecasts since June 2010;
- considers developments within sectors (from paragraph 2.30) before setting out the behaviour of the labour market (from paragraph 2.50), potential output (from paragraph 2.63) and inflation (from paragraph 2.67);
- presents how the path of monetary policy has differed from market expectations at the time of our forecasts (from paragraph 2.73) and how other market-derived assumptions have evolved (from paragraph 2.76) before exploring the potential role of fiscal policy in explaining our forecast errors (from paragraph 2.79); and
- concludes with a summary of the themes underlying our forecast errors (from paragraph 2.97).

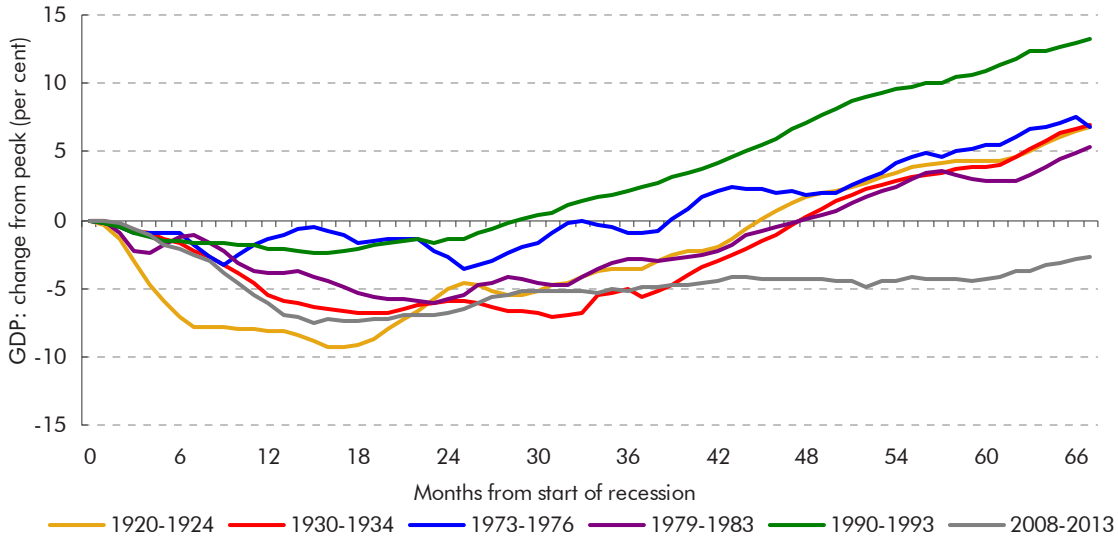
The level and growth of GDP

Real GDP

2.2 The latest data from the ONS suggest that UK GDP fell by 7.2 per cent from its peak in the first quarter of 2008 to its trough in the middle of 2009. Since then, the economy has recovered almost 4 percentage points of that fall and GDP remains 3.3 per cent below its pre-recession peak.

2.3 As Chart 2.1 shows, on current estimates the recent recession was deeper than each of its three predecessors, although only marginally so in the case of the early 1980s. More striking is the relative weakness of the subsequent recovery. Even in the 1920s, when the peak to trough decline in GDP was bigger than in the recent downturn, the economy had more than recovered its pre-recession peak by this stage in the cycle – five and a half years later. This contrasts with the path of employment, where the most recent recovery has been the strongest among post-war recoveries.

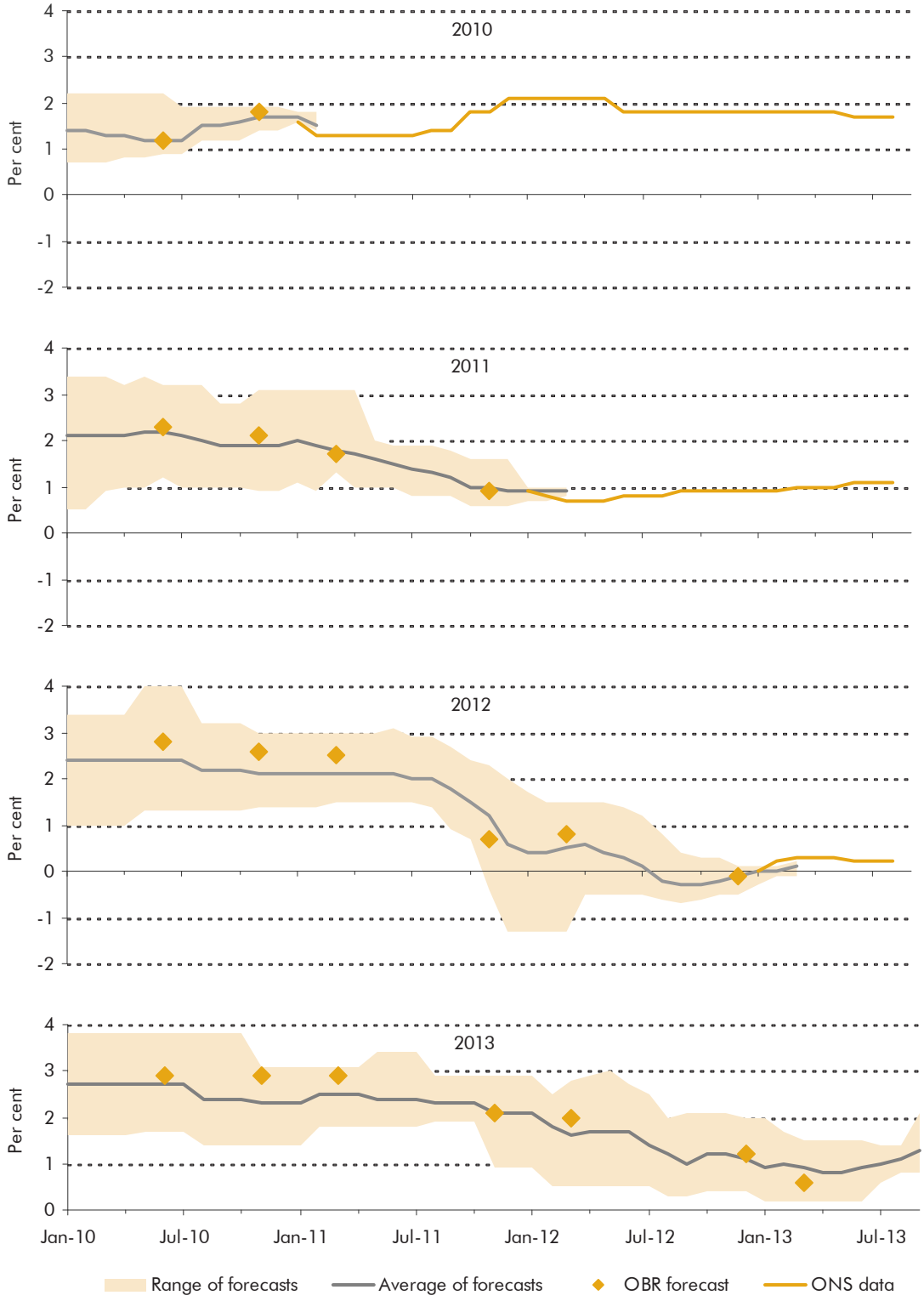
Chart 2.1: Recessions and recoveries



Source: NIESR

2.4 The recovery from the most recent recession began steadily enough, with GDP growth gathering pace until mid-2010. But output was broadly flat thereafter, with growth only picking up noticeably again in the first half of 2013. In common with most outside forecasters, we tended to under-predict growth in 2010 and over-predict it in 2011 and 2012 (Chart 2.2). Outside forecasters now expect growth in 2013 to be higher than in our March 2013 forecast and more in line with our December 2012 forecast.

Chart 2.2: Forecasts and outturns for real GDP growth in 2010 to 2013

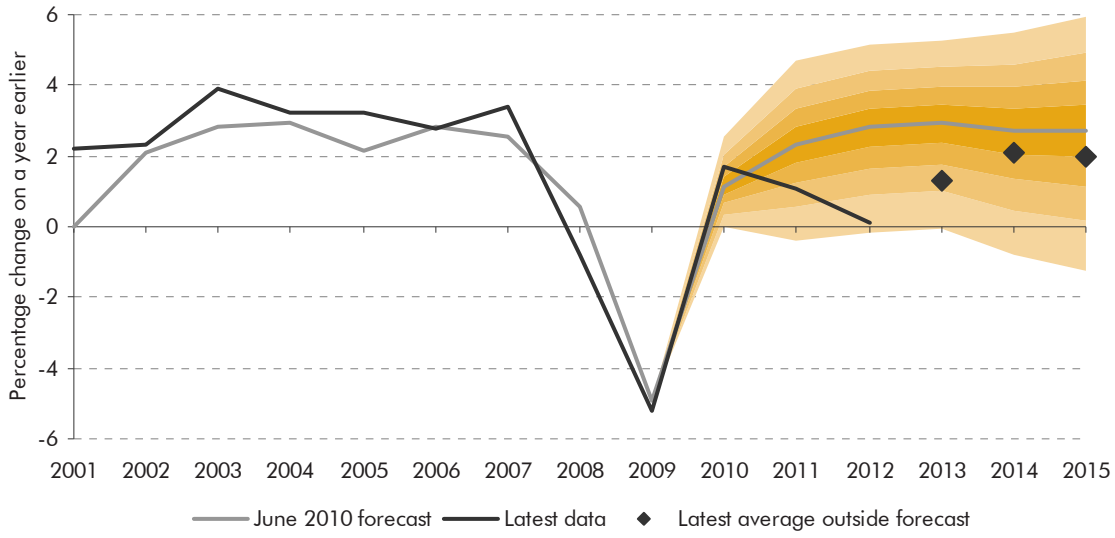


Source: ONS, OBR, HM Treasury

2.5 In every *Economic and fiscal outlook (EFO)* we highlight the enormous uncertainty around any economic forecast and that policymakers and others need to recognise this when taking decisions based on them. We use fan charts to illustrate the confidence that one might place on our central forecasts, given the size and distribution of past official forecasting errors. In June 2010, the interim OBR's median forecast was for GDP growth rates of 1.2, 2.3 and 2.8 per cent in 2010, 2011 and 2012 respectively. The current estimated outturns are 1.7, 1.1 and 0.1 per cent respectively.

2.6 Chart 2.3 shows that, purely on the basis of our June 2010 central forecasts and past official forecasting errors, you would have said there was a roughly 30 per cent probability that growth would be as strong as 1.7 per cent in 2010 and as weak as 1.1 per cent in 2011. The probability of GDP rising by as little as 0.1 per cent in 2012 would have been just over 10 per cent. So, while the current recovery is much weaker than its predecessors, no one should have concluded three years ago that such an outcome was completely unthinkable.

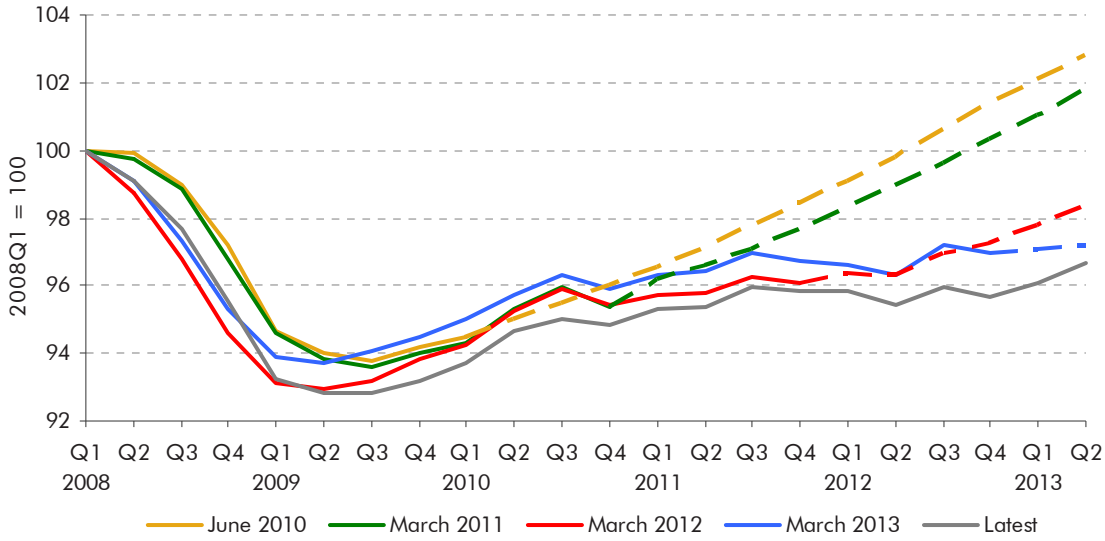
Chart 2.3: June 2010 real GDP fan chart



Source: ONS, HM Treasury, OBR

2.7 At the same time as we have been revising our forecasts for GDP in the future, the ONS has been revising its estimates of GDP in the past. Chart 2.4 shows how our forecasts and ONS's outturn estimates of GDP since the pre-recession peak have evolved since June 2010. It shows that the recession is now thought to have been deeper than the official data suggested at the time of our most recent March 2013 forecast – and more in line with the gloomier picture the official data were painting a year earlier. So although the economy has grown more strongly over the first half of 2013 than we expected in March, the current level of GDP is still lower relative to the pre-recession peak than we expected.

Chart 2.4: Successive forecasts and outturns for real GDP



Source: ONS, OBR

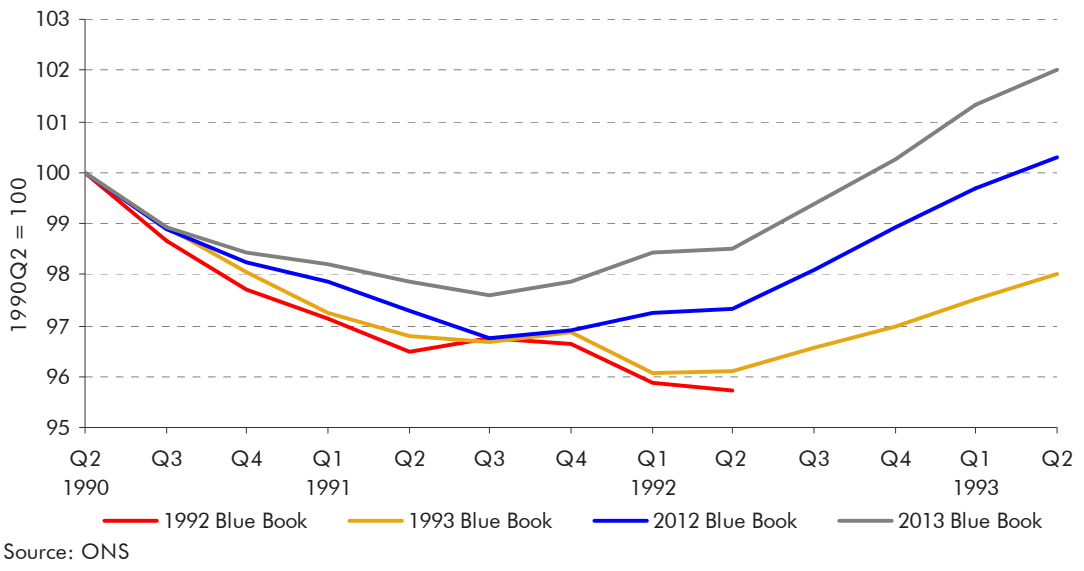
2.8 Box 2.1 illustrates that we can expect the rewriting of economic history to continue for many years to come, judging from estimates of the recession and recovery of the early 1990s. Bearing this in mind, judgements regarding the performance of any economic forecasts made over the recession and recovery, and related questions about what has driven forecast errors, will long remain provisional.

Box 2.1: Rewriting history: the 1990s recession and recovery

Chart A shows the estimated path of GDP from the second quarter of 1990 as recorded shortly after the recession ended, in the 1992 and 1993 Blue Books, as well as in the two most recent Blue Books, in 2012 and 2013. The 1992 Blue Book suggested that the economy shrank by 4.3 per cent from peak to trough and that there was a double-dip recession after a brief recovery at the end of 1991.

The 2012 vintage of data showed a smaller peak-to-trough decline of 3.2 per cent and no double dip. This year's Blue Book has revised the decline down yet further to 2.4 per cent, and both vintages show a stronger recovery than was reported at the time. The latest data suggest cumulative growth in the three years from the pre-recession peak of 2.0 per cent, compared to a cumulative fall of the same amount estimated in the 1993 Blue Book, a difference of fully 4 percentage points.

Chart A: The changing profile of the 1990s recession and recovery



Source: ONS

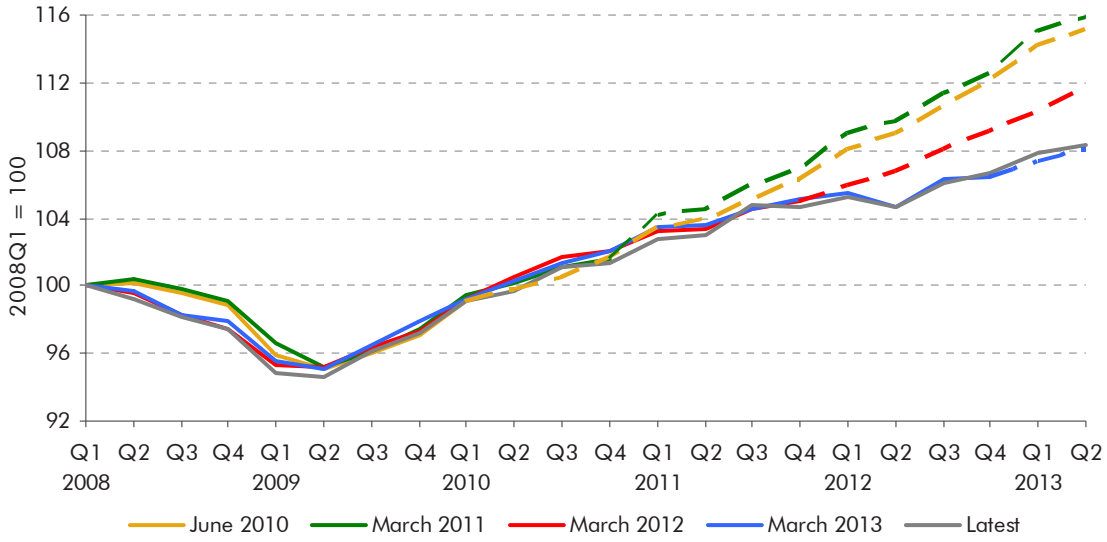
The first big revisions to the path of GDP in the early 1990s came in the 1998 Blue Book – reflecting new business survey data, a new vintage of the European System of Accounts and rebasing of the data to 1995 – and have continued subsequently. Later revisions tend to be prompted by methodological changes rather than by new or corrected information.

Nominal GDP

2.9 Public discussion of economic forecasts tends to focus on real GDP – the volume of goods and services produced in the economy – but the nominal or cash value of GDP is more important in understanding the behaviour of the public finances. Tax receipts are driven more by nominal than real GDP. So is the share of GDP

devoted to public spending, when a large proportion of that spending is set out in multi-year cash plans (public services and administration) or linked to consumer price inflation (benefits and tax credits). Chart 2.5 shows the evolution of forecasts and outturns for nominal GDP since the pre-recession peak in the first quarter of 2008.

Chart 2.5: Successive forecasts and outturns for nominal GDP



Source: ONS, OBR

2.10 The latest estimates show that nominal GDP fell by 5.4 per cent between its pre-crisis peak and its mid-2009 trough, before recovering to its previous level by mid-2010. The ONS has revised down its nominal GDP data again this year to show an earlier and steeper fall, although its estimates of the initial bounce-back have been relatively stable.

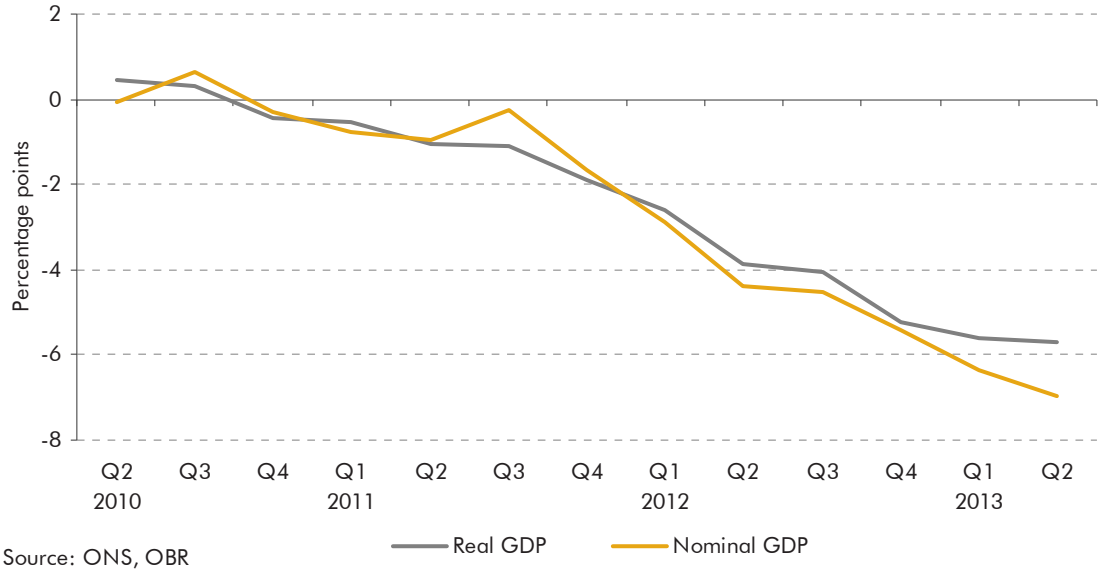
2.11 With whole economy inflation initially coming in higher than expected, we raised our nominal GDP forecasts slightly in March 2011, only to revise them down over the subsequent two years as real output disappointed. Although real GDP growth in the first half of 2013 has outpaced our March 2013 forecast, whole economy prices have also been weaker than expected so that nominal GDP growth over this period has come in broadly in line with our March forecast.

2.12 Chart 2.6 shows our June 2010 real and nominal GDP growth forecast errors since the beginning of 2010. The errors in our forecasts for growth have been much larger since mid-2011, as the recovery stalled rather than gathering pace as in most previous recoveries.

2.13 Over the period as a whole, nominal GDP growth has underperformed by 7.0 per cent. As one might expect, the bulk of the error in forecasting nominal GDP

relates to errors in forecasting real GDP, which disappointed by 5.7 per cent. But the real growth errors have been exacerbated by weaker whole economy prices, with lower than expected price growth over the second half of the period more than outweighing higher growth in the first half. So we have over-predicted nominal GDP by more than we have over-predicted real GDP. As we discuss in more detail in Box 2.2, this is the opposite picture from that painted by the official data a year ago – as the ONS has revised real GDP growth higher and nominal GDP growth lower over the period from early 2010.

Chart 2.6: Cumulative errors in June 2010 GDP forecasts since 2010Q1



Source: ONS, OBR

The composition of GDP

2.14 In order to understand why the economy has grown so much more slowly than we expected over the past three years – and how this may have affected the evolution of the public finances – it is helpful to examine how the different components of GDP have evolved relative to our forecasts.

The expenditure composition of real GDP

2.15 The OBR published its first forecast in June 2010, when the latest available outturn data was for the first quarter of 2010. Chart 2.7 shows our original forecast for growth up to mid-2013, along with the latest set of outturns and the implied errors.

2.16 The latest ONS estimates shows that real GDP has grown by 3.2 per cent since the beginning of 2010, compared with our June 2010 forecast of 8.9 per cent. Table 2.1 breaks down the total shortfall of 5.7 percentage points between the

various components of spending in the economy. Table 2.2 shows the contributions by calendar year.

Table 2.1: Contributions to real GDP growth from 2010Q1 to 2013Q2

	Percentage points							
	Private consumption	Business investment	Residential investment	Total Government	Net trade	Stocks	GDP	Statistical discrepancy
June 2010 forecast	3.4	3.1	1.1	-2.1	2.6	0.8	8.9	0.0
Latest data	2.2	-0.9	0.6	0.2	0.7	0.5	3.2	0.0
Difference[1]	-1.2	-4.0	-0.5	2.3	-1.9	-0.3	-5.7	0.0

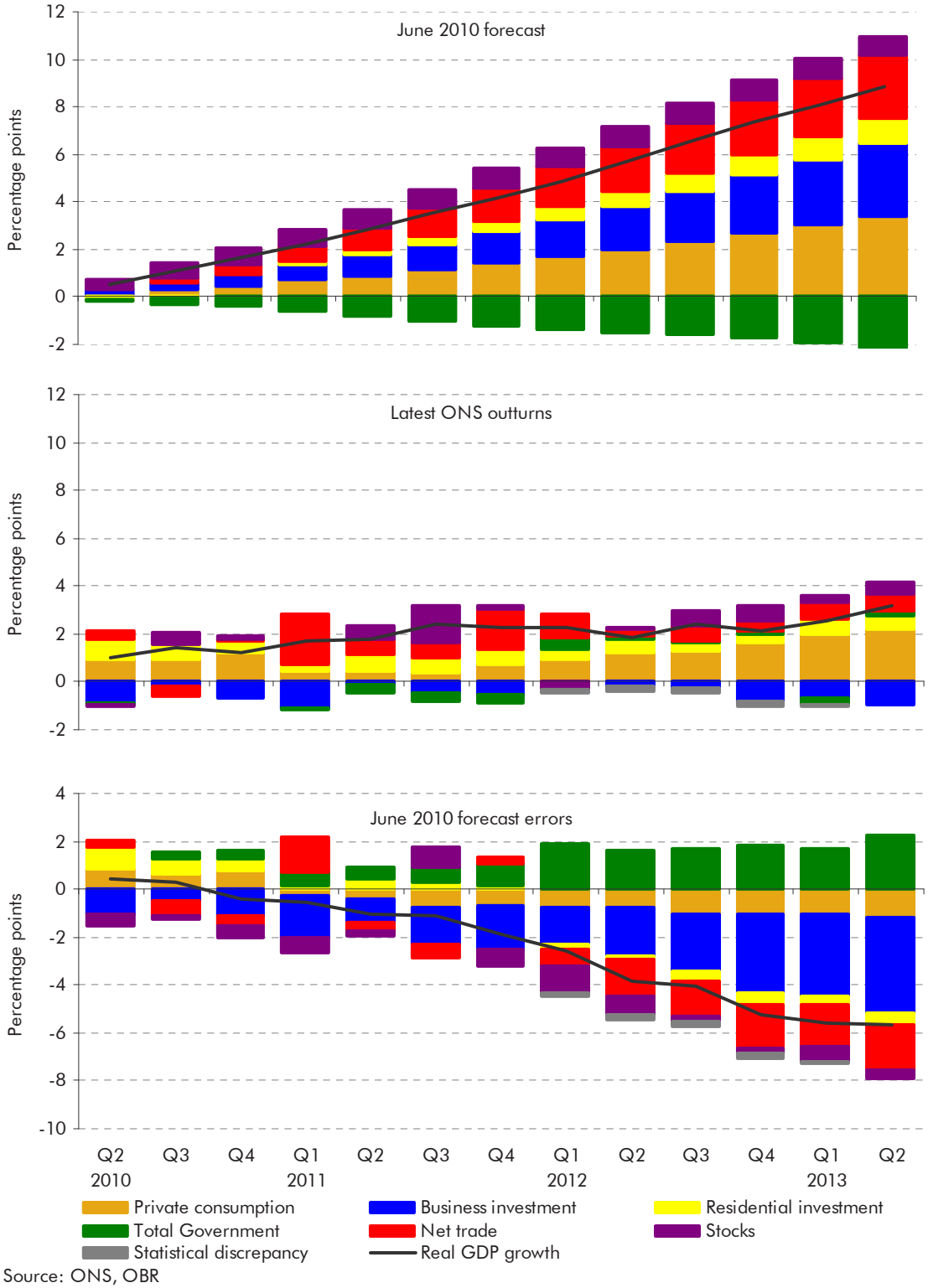
[1] Difference in unrounded numbers.

Table 2.2: Contributions to real GDP growth

	Percentage points							
	Private consumption	Business investment	Residential investment	Total Government	Net trade	Stocks	GDP	Statistical discrepancy
June 2010 forecast								
2010	0.2	0.1	-0.2	0.3	-0.5	1.2	1.2	0.0
2011	0.8	0.8	0.3	-0.7	0.9	0.4	2.3	0.0
2012	1.1	1.0	0.4	-0.6	0.9	0.0	2.8	0.0
Latest data								
2010	0.7	0.1	0.3	0.1	-0.5	1.2	1.7	0.0
2011	-0.3	-0.1	0.1	-0.3	1.2	0.4	1.1	0.0
2012	0.7	0.2	-0.1	0.5	-0.7	-0.3	0.1	-0.2
Difference[1]								
2010	0.5	0.0	0.5	-0.3	0.0	0.0	0.5	0.0
2011	-1.1	-0.9	-0.2	0.5	0.4	0.1	-1.2	0.0
2012	-0.4	-0.8	-0.5	1.1	-1.6	-0.4	-2.7	-0.2

[1] Difference in unrounded numbers.

Chart 2.7: Contributions to real GDP growth from 2010Q1: June 2010 forecast, outturns and errors



Source: ONS, OBR

2.17 The tables and chart show that:

- the June 2010 forecast assumed a smooth pick-up in the private sources of expenditure, with business investment and net trade contributing as much to growth as private consumption over the first two years out to mid-2012, but with private consumption contributing more thereafter. Restocking and a recovery in residential investment were also expected to contribute to growth, with the direct effect of government spending cuts the only drag;

- following an initial dip in business investment and a spike in residential investment, private investment has essentially been flat over the past three years. Private consumption has been the largest contributor to real GDP growth, contributing around two-thirds of the rise, with net trade the next largest, although both were interrupted by falls within the period. Government spending also supported growth over the period as a whole, although this relates largely to one very strong, and possibly erratic, quarter in early 2012; and

- in overestimating real growth our largest error came from business investment, then net trade (mostly in 2012) and finally private consumption (mostly in 2011). Stocks have also failed to pick up as forecast. Only government spending has surprised on the upside, contributing to growth over the period rather than subtracting from it.

2.18 Turning to our March 2012 *EFO*, we had revised down our GDP forecast in November 2011, reflecting weak outturn data in the preceding quarters and maintained a similar forecast in March 2012. But growth continued to disappoint even these reduced expectations. GDP fell a little between the last quarters of 2011 and 2012, before rising by 1 per cent in the first half of 2013. So growth over the last year and a half has come in at 0.9 per cent compared to the 2.4 per cent we predicted in March 2012.

2.19 We forecast relatively broad-based growth over this period, but business and residential investment fell, and net trade subtracted from GDP in the first half of 2012, before recovering somewhat. On the upside, private consumption held up better than in our reduced forecast, while government spending continued to confound expectations by adding to growth rather than subtracting from it.

Table 2.3: Contributions to real GDP growth from 2011Q4 to 2013Q2

	Percentage points							
	Private consumption	Business investment	Residential investment	Total Government	Net trade	Stocks	GDP	Statistical discrepancy
March 2012 forecast	0.9	0.6	0.5	-0.3	0.7	-0.1	2.4	0.0
Latest data	1.4	-0.4	0.0	0.5	-1.0	0.3	0.9	0.0
Difference[1]	0.5	-1.0	-0.6	0.8	-1.6	0.4	-1.5	0.0

[1] Difference in unrounded numbers.

Expenditure composition of nominal GDP

2.20 The composition of nominal GDP is as important for the public finances as its overall level, as the effective tax rates on the different components vary widely. For example, a 1 per cent rise in consumer spending would raise VAT receipts by around £750 million and could have a greater effect if any rise in spending was concentrated in standard rated goods and services. In contrast, much business investment is tax deductible for corporation tax purposes. A 1 per cent rise in investment would reduce corporation tax receipts by a little under £50 million.

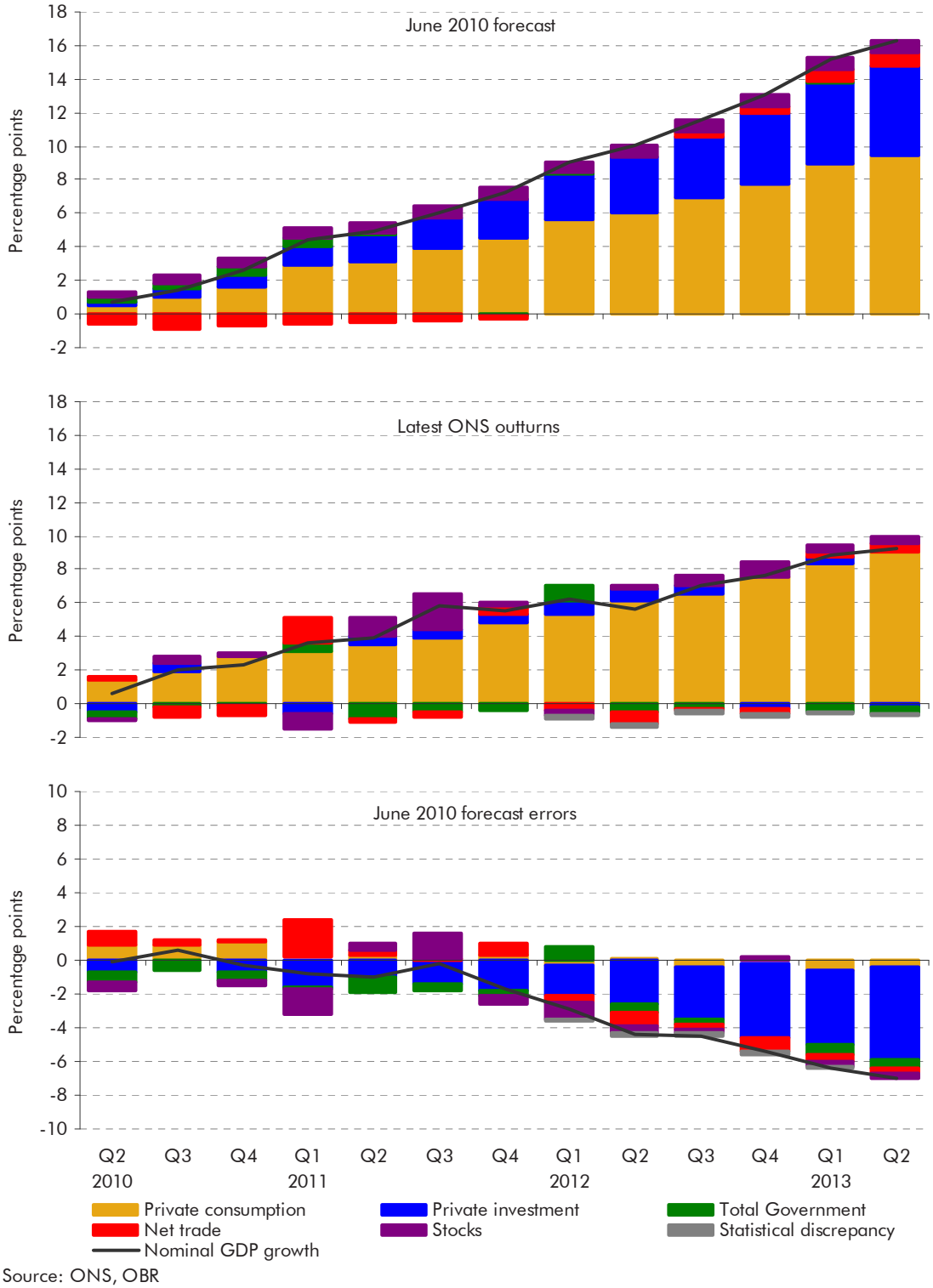
2.21 Chart 2.8 shows our June 2010 forecast breakdown of nominal GDP, alongside outturns and forecast errors over the same period. The chart shows that:

- we forecast that nominal GDP would grow by just over 16 per cent by mid-2013, equivalent to around £230 billion a year by then. We expected around 60 per cent of the growth to come from private consumption, a third from private investment and the remainder from net trade and stocks. Nominal government spending was expected to be broadly flat;

- the latest data suggest that almost all of the nominal GDP growth seen over the past three years has come from private consumption. Other components have fluctuated over this period, but only net trade made a noticeable additional positive contribution; and

- our error in forecasting nominal expenditure, around £100 billion in annual terms, therefore largely reflects the almost complete absence of the significant contribution we expected from private investment – with business, rather than residential, investment explaining the vast majority of the shortfall. Nominal consumption grew broadly in line with the forecast, disappointing somewhat from mid-2012. Net trade has made a smaller positive contribution than forecast over the period as a whole, although masking swings between positive and negative within it. Nominal government spending was broadly flat, as expected, and stocks, which include a statistical alignment adjustment, have generally come in weaker.

Chart 2.8: Contributions to nominal GDP growth from 2010Q1: June 2010 forecast, outturns and errors



Source: ONS, OBR

2.22 Table 2.4 shows the nominal GDP errors over the period to mid-2013 and Table 2.6 for individual calendar years. Tables 2.5 and 2.7 show the same for the main deflators. Combining these with Tables 2.1 and 2.2 above for real GDP, we can see that:

- nominal private consumption has held up closer to our forecast than real consumption, as prices have increased more than expected. Over 2010 and 2011 as a whole, nominal spending was very close to forecast, but prices were higher over 2011 and thus real consumption lower;
- weakness in nominal private investment reflects both lower volumes and lower prices than originally forecast;
- nominal government spending has been lower than forecast, but real measured spending has been much stronger. The difference implies that the price of government output has fallen rather than rising as it had done in the past and as we had forecast would continue; and
- our forecast for the contribution from net trade volumes was thrown off course by the deterioration in 2012, which has since been partially recovered. But even allowing for the fall in 2012, the nominal net trade balance has improved over the period as a whole. The terms of trade, the price of our exports relative to our imports, have held up better than expected.

Table 2.4: Contributions to nominal GDP growth from 2010Q1 to 2013Q2

	Percentage points						
	Private consumption	Private investment	Total Government	Net trade	Stocks	GDP	Statistical discrepancy
June 2010 forecast	9.5	5.3	0.0	0.8	0.7	16.3	0.0
Latest data	9.0	-0.2	-0.5	0.5	0.4	9.3	0.0
Difference[1]	-0.4	-5.5	-0.5	-0.3	-0.3	-7.0	0.0

[1] Difference in unrounded numbers.

Table 2.5: Growth in National Accounts deflators from 2010Q1 to 2013Q2

	Per cent					
	Private consumption	Private investment	Total Government	Exports	Imports	GDP
June 2010 forecast	8.8	9.4	8.9	2.0	8.3	6.8
Latest data	10.4	1.7	-2.5	6.8	7.3	5.9
Difference[1]	1.5	-7.7	-11.5	4.8	-1.0	-0.9

[1] Difference in unrounded numbers.

Table 2.6: Contributions to nominal GDP growth

	Percentage points						
	Private consumption	Private investment	Total Government	Net trade	Stocks	GDP	Statistical discrepancy
June 2010 forecast							
2010	2.8	0.2	1.2	-0.8	1.1	4.4	0.0
2011	2.8	1.3	-0.1	0.1	0.3	4.4	0.0
2012	2.8	1.7	-0.1	0.6	0.0	5.0	0.0
Latest data							
2010	3.3	0.8	0.4	-0.7	1.0	4.8	0.0
2011	2.3	0.3	-0.2	0.6	0.5	3.5	0.0
2012	2.4	0.2	0.4	-0.7	-0.3	1.8	-0.2
Difference[1]							
2010	0.5	0.7	-0.8	0.2	-0.1	0.4	0.0
2011	-0.5	-1.1	0.0	0.5	0.2	-1.0	0.0
2012	-0.3	-1.5	0.5	-1.3	-0.3	-3.2	-0.2

[1] Difference in unrounded numbers.

Table 2.7: Growth in National Accounts deflators

	Per cent					
	Private consumption	Private investment	Total Government	Exports	Imports	GDP
June 2010 forecast						
2010	4.0	2.1	3.3	2.2	3.2	3.2
2011	3.0	2.7	2.4	0.5	2.9	2.0
2012	2.5	2.7	2.1	1.0	2.1	2.1
Latest data						
2010	4.0	3.0	1.3	4.3	4.6	3.1
2011	3.9	2.6	0.3	5.5	7.2	2.3
2012	2.6	1.0	-0.4	-0.9	-0.6	1.7
Difference[1]						
2010	0.0	0.9	-2.0	2.0	1.4	-0.1
2011	0.9	-0.1	-2.1	5.1	4.3	0.3
2012	0.1	-1.7	-2.6	-1.9	-2.7	-0.4

[1] Difference in unrounded numbers.

2.23 Repeating the exercise for our March 2012 forecast, Table 2.8 shows errors for nominal GDP and Table 2.9 deflator errors. Alongside Table 2.3, these show that:

- although real consumption came in above our reduced forecast, nominal consumption came in broadly in line, as prices increased by less than forecast;
- private investment was again by far the biggest source of our nominal GDP growth error, as volumes continued to fall, but so did prices;

- the unexpected strength in real government spending reflected a fall in implied prices, as opposed to higher nominal spending; and

- the nominal net trade balance was stable, even though the deficit expanded in volume terms. The terms of trade improved, rather than holding flat as we had forecast, as import prices fell back.

Table 2.8: Contributions to nominal GDP growth from 2011Q4 to 2013Q2

	Percentage points						
	Private consumption	Private investment	Total Government	Net trade	Stocks	GDP	Statistical discrepancy
March 2012 forecast	4.0	1.9	0.0	0.7	-0.2	6.4	0.0
Latest data	4.0	-0.6	-0.1	0.0	0.2	3.5	0.0
Difference[1]	0.1	-2.5	-0.1	-0.7	0.4	-2.8	0.0

[1] Difference in unrounded numbers.

Table 2.9: Growth in National Accounts deflators from 2011Q4 to 2013Q2

	Per cent					
	Private consumption	Private investment	Total Government	Exports	Imports	GDP
March 2012 forecast	4.6	6.6	1.1	1.8	1.8	3.9
Latest data	3.8	-1.5	-2.3	0.4	-2.4	2.6
Difference[1]	-0.8	-8.2	-3.4	-1.4	-4.3	-1.3

[1] Difference in unrounded numbers.

2.24 As we will go on to discuss in Chapter 3, the expenditure composition of GDP has been more favourable for the public finances than originally forecast, partially offsetting its lower overall level. Private consumption, the main tax base for VAT, held up relatively well and the main shortfall was in private investment, which has the direct effect of raising receipts, as it implies less scope for using capital allowances to offset corporation tax liabilities. Other expenditure components do not have material direct effects on the public finances.

Income composition of nominal GDP

2.25 In addition to breaking down changes in GDP between different categories of expenditure, we can also break them down between different categories of income. This is even more important for the public finances, given the amount of revenue raised from taxes on labour income, savings income and profits. As with expenditure, the composition of nominal income matters because different components face different effective tax rates.

2.26 Table 2.10 shows an income-based breakdown of our nominal GDP growth errors over the past three years, Table 2.11 by financial year, and Chart 2.9 on a quarterly basis. On the income side of the accounts:

- In June 2010, we forecast that growth in the compensation of employees, which accounts for just over half of GDP, would pick up over the three years, but that it would fall as a share of national income. The growth we expected in corporations' gross operating surplus (GOS) was forecast to come almost entirely from the profits of non-oil private non-financial corporations (non-oil PNFCs), with little movement in the other components. Taxes on products and production that contribute to GDP – namely those that create a wedge between expenditure and private sector income (such as VAT) – and other incomes were also expected to rise over time;

- the latest ONS data show that compensation of employees accounted for most of the pick-up in incomes, although its contribution slowed through 2012-13. Corporations' GOS fell over the period as a whole. Within that total, non-oil PNFC profits rose, but they were offset by lower financial corporations' GOS. Oil company profits (as measured in the National Accounts) increased in 2011 before falling back; and

- most of our error in forecasting incomes was to over-predict corporations' GOS, with the error split between non-oil PNFCs, where profit growth was weaker than expected, and financial corporations, where surpluses in the National Accounts fell rather than remaining broadly flat as forecast. Compensation of employees held up in the first two years, but growth rates failed to pick up further as we had originally forecast. Most of the error within that related to wages and salaries growth, although employer social contributions were also lower than expected in 2012-13. Taxes that directly contribute to GDP income and other incomes rose more modestly than forecast.

2.27 As labour income is taxed more heavily than profits, tax receipts should have held up better relative to our forecast than the shortfall in nominal GDP would imply (but actually they did not, owing to other factors). Later in this chapter we also look at the composition of labour income, which has further implications for the tax take. We look at the implications for receipts in more detail in Chapter 3.

Table 2.10: Contributions to nominal GDP growth from 2010Q1 to 2013Q2

	Percentage points					
	Compensation of employees	Corporations' gross operating surplus	Other income	Taxes on products and production	GDP	Statistical discrepancy
June 2010 forecast	6.1	4.2	2.6	3.4	16.3	0.0
Latest data	5.3	-0.8	2.5	2.2	9.3	0.0
Difference[1]	-0.8	-4.9	-0.1	-1.2	-7.0	0.0

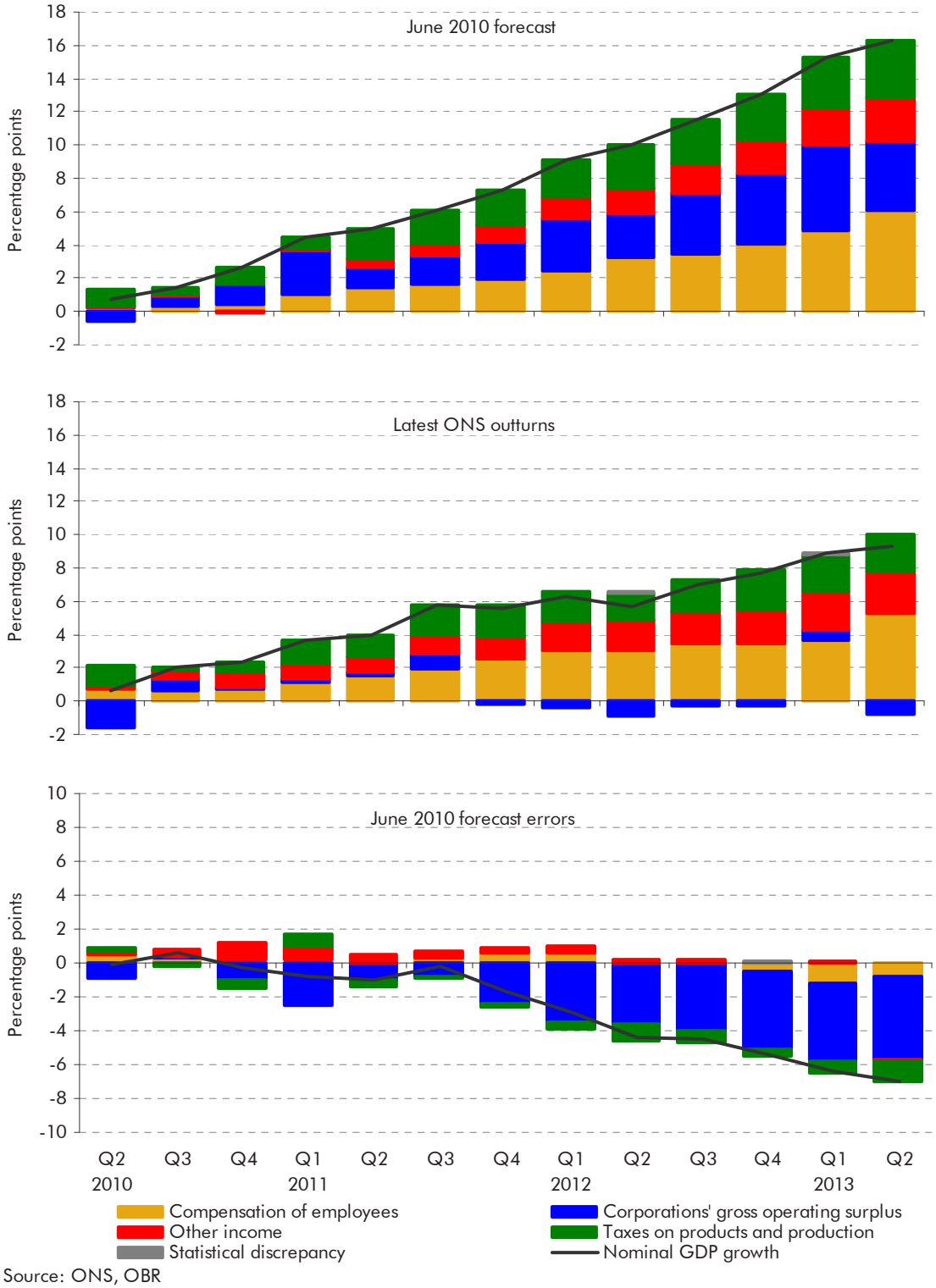
[1] Difference in unrounded numbers.

Table 2.11: Contributions to nominal GDP growth

	Percentage points					
	Compensation of employees	Corporations' gross operating surplus	Other income	Taxes on products and production	GDP	Statistical discrepancy
June 2010 forecast						
2010-11	1.1	1.6	0.4	1.6	4.7	0.0
2011-12	1.3	1.1	0.8	1.2	4.4	0.0
2012-13	1.9	1.7	0.9	0.7	5.3	0.0
Latest data						
2010-11	1.3	0.3	1.4	1.6	4.6	0.0
2011-12	1.4	0.3	0.6	0.9	3.2	0.0
2012-13	1.1	-0.3	0.7	0.3	1.8	0.0
Difference[1]						
2010-11	0.2	-1.3	1.0	0.1	-0.1	0.0
2011-12	0.1	-0.8	-0.2	-0.3	-1.3	0.0
2012-13	-0.8	-2.1	-0.2	-0.4	-3.5	0.0

[1] Difference in unrounded numbers.

Chart 2.9: Contributions to nominal GDP growth from 2010Q1: June 2010 forecast, outturns and errors



Source: ONS, OBR

2.28 Broadly speaking, our errors in forecasting incomes since March 2012 appear to have followed a similar pattern. We failed to anticipate the slowdown in compensation of employees fully, and were again surprised that corporations' GOS fell.

Table 2.12: Contributions to nominal GDP growth from 2011Q4 to 2013Q2

	Percentage points					
	Compensation of employees	Corporations' gross operating surplus	Other income	Taxes on products and production	GDP	Statistical discrepancy
March 2012 forecast	2.8	2.0	0.7	0.8	6.4	0.0
Latest data	2.6	-0.6	1.1	0.3	3.5	0.0
Difference[1]	-0.2	-2.6	0.4	-0.5	-2.8	0.0

[1] Difference in unrounded numbers.

Changes since the 2012 *Forecast evaluation report*

2.29 As Box 2.1 illustrated, data are continuously revised and so our understanding of economic developments evolves. Since our last *Forecast evaluation report (FER)*, revisions to the National Accounts have significantly redrawn the picture that official statistics paint of the growth and composition of GDP over the two years following the election and the creation of the OBR. This means that the size and composition of our forecast errors has changed and so too the most likely explanations for them. Box 2.2 discusses these revisions and their implications.

Box 2.2: How has the story changed since last year?

In last year's report, based on the outturn data at the time, it appeared that nominal GDP had held up closer to our June 2010 forecast than real GDP. We thought this went some way to explaining why our fiscal forecasts out to 2011-12 remained broadly on track despite real growth being much weaker than expected.

But over the past year the ONS have revised down nominal GDP growth and revised up real GDP growth, doubling the real growth rate over the two years following the election. As Chart 2.6 shows, our over-optimism in forecasting nominal GDP growth up to mid-2012 is now greater than our over-optimism for real GDP growth.

As shown in Table A, in addition to revising the level of GDP, the composition of growth has also been revised. Based on the earlier vintage of data, we attributed the underperformance of real GDP over our first two years in roughly equal measure to weaker private consumption, private investment and net trade. Revisions now suggest a clearer ordering, with business investment the biggest source of weakness, followed by net trade and then private consumption and stocks.

In some cases, even the direction of travel has been reversed: earlier estimates of a moderate rise in business investment have been replaced by a fall; government spending now adds to real growth, rather than subtracting from it; and private consumption, which had been flat, is now the largest contributor to GDP growth.

Most of these changes do not reflect revisions to the estimated cash value of these components of demand, but in the way they have been deflated to arrive at estimates for real GDP (Tables B and C). Nominal consumption growth has been revised a little higher, but private investment and net trade are little changed. The big revision on the nominal side relates to nominal government spending, which has been revised down, and a smaller share remains unexplained, as a statistical discrepancy.

Following methodological changes to the investment series, the investment deflator has been revised up, implying lower volumes for a given amount of cash spending. In contrast, the consumption deflator has been revised down, mainly on the housing side following changes in estimating imputed rents. The implied government spending deflator is also now estimated to have fallen, raising real expenditure by more than the downward revision to nominal spending.

Although nominal GDP now appears to have been much weaker than we originally forecast over the past three years, its relatively tax-rich components were closer to our June 2010 forecast. Nominal consumption, the main tax base for VAT, was slightly above forecast, and wages and salaries, the main tax base for income tax and national insurance contributions, also held up relatively well.

These changes are a reminder that the National Accounts data we have for the recent recession and the recovery are still very early drafts of economic history – and indeed the history of the previous recession is still being revised significantly from year to year even two decades after the event. A number of users have expressed themselves

puzzled by the latest revisions to the investment data. And next year's Blue Book will see a significant number of methodological changes to the National Accounts. So we should remember that any conclusions drawn from current data are necessarily provisional and are likely to remain so for some years to come.

Table A: Contributions to real GDP growth from 2010Q1 to 2012Q2

	Percentage points							
	Private consumption	Business investment	Residential investment	Total Government	Net trade	Stocks	GDP	Statistical discrepancy
June 2010 forecast	2.0	1.9	0.6	-1.5	1.9	0.8	5.7	0.0
FER 2012 data	0.0	0.2	0.5	-0.7	0.2	0.5	0.9	0.1
Latest data	1.2	-0.2	0.5	0.2	0.3	0.0	1.8	-0.2
Revision to data[1]	1.2	-0.4	0.0	0.8	0.1	-0.5	0.9	-0.4
Difference (latest)[1]	-0.8	-2.0	-0.1	1.6	-1.6	-0.8	-3.9	-0.2

[1] Difference in unrounded numbers

Table B: Contributions to nominal GDP growth from 2010Q1 to 2012Q2

	Percentage points						
	Private consumption	Private investment	Total Government	Net trade	Stocks	GDP	Statistical discrepancy
June 2010 forecast	6.0	3.3	0.0	0.1	0.7	10.0	0.0
FER 2012 data	6.0	0.8	0.5	-0.7	0.5	7.1	0.1
Latest data	6.2	0.7	-0.5	-0.8	0.3	5.7	-0.2
Revision to data[1]	0.2	-0.1	-1.0	0.0	-0.2	-1.4	-0.4
Difference (latest)[1]	0.1	-2.6	-0.4	-0.8	-0.4	-4.4	-0.2

[1] Difference in unrounded numbers.

Table C: Growth in National Accounts deflators from 2010Q1 to 2012Q2

	Per cent					
	Private consumption	Private investment	Total Government	Exports	Imports	GDP
June 2010 forecast	6.0	7.0	6.0	0.4	6.6	4.1
FER 2012 data	9.3	0.4	4.5	5.6	8.1	6.1
Latest data	7.6	2.5	-2.4	5.3	8.2	3.8
Revision to data[1]	-1.7	2.0	-6.9	-0.3	0.1	-2.3
Difference (latest)[1]	1.6	-4.6	-8.4	4.9	1.7	-0.4

[1] Difference in unrounded numbers.

Developments by sector

Households

2.30 Nominal consumption growth has been slightly weaker over the last three and a half years than expected in the June 2010 forecast and disposable income a little weaker still (Table 2.13). That nominal disposable income only fell, on a quarterly basis, £7.5 billion short of our forecast (for the rise since the end of 2009 – the latest data point we had at the time) when the shortfall for quarterly nominal GDP as a whole was £25 billion, reflects two factors. First, some of the weakness in productivity prompted firms to raise prices rather than seek even lower nominal wages to maintain their profit margins. Second, nominal incomes were boosted by higher benefits payments – particularly in 2012, when benefit rates were uprated in line with the unexpectedly high 5.2 per cent CPI inflation rate in September 2011.

2.31 Much of the weakness in real consumption can be traced to the inflation shock of 2011, described below. Unexpectedly high inflation eroded the purchasing power of nominal incomes and, consequently, 2011 saw the level of real consumption fall below the June 2010 forecast – where it has remained.

Table 2.13: Income and consumption growth from 2009Q4 to 2013Q2

	Per cent				
	Nominal disposable income	Nominal consumption	Increase in price level	Real disposable income	Real consumption
June 2010 forecast	15.7	16.4	10.7	5.5	5.1
Latest data	12.5	14.8	11.8	0.6	2.6
Difference[1]	-3.1	-1.6	1.1	-4.8	-2.5

[1] Difference in unrounded numbers.

2.32 Looking at the disaggregated sources of disposable income in more detail, net property income has been the biggest drag on disposable income growth, relative to our forecast. This is largely because of the weakness of dividends and their contribution to household income, both directly and via pension holdings. This is likely to reflect the same factors that have weighed on profit growth relative to forecast.

Table 2.14: Increases in income flows from 2009Q4 to 2013Q2

	£ billion				
	Labour income	Benefits and taxes	Net property income	Other income	Disposable income
June 2010 forecast	18.6	-3.2	14.7	8.0	38.1
Latest data	11.8	4.2	4.4	10.1	30.6
Difference[1]	-6.8	7.4	-10.3	2.2	-7.5

[1] Difference in unrounded numbers.

2.33 However, dividend income, particularly that accruing to pension holdings, is likely to have less influence on consumption behaviour than labour income, because it is less visible to households. The shortfall in net property income more than explains the total shortfall in disposable income, which helps explain why nominal consumption held up better than incomes. That consumption has not been as weak, relative to forecast, as incomes means that there has been a bigger fall in the saving ratio than expected, as shown in Table 2.15.

Table 2.15: Increases in consumption income and saving flows from 2009Q4 to 2013Q2

	£ billion, unless otherwise stated				
	Nominal consumption	Disposable income	Adjustment for pension equity	Gross saving	Saving ratio (per cent)
June 2010 forecast	37.8	38.1	1.0	1.2	-0.5
Latest data	34.4	30.6	2.0	-1.9	-1.6
Difference[1]	-3.4	-7.5	1.0	-3.1	-1.1

[1] Difference in unrounded numbers.

2.34 In our June 2010 forecast, we expected household debt to rise faster than income, as credit provision and the housing market returned to more normal conditions. However, since 2010, lack of confidence amongst households has weighed on demand for credit while intermittent disruption in financial markets and regulatory pressure has constrained the supply of credit. Deposit requirements for mortgages – the main element of household debt – have increased and stayed high, particularly for first-time buyers. As a result, accumulation of new mortgage debt has remained weak. Partly because of this, but also due to continued low interest rates, deposit growth has also been weak. These factors, together with weaker than expected house price inflation, have combined to deliver a household gross debt to income ratio of 141 per cent by mid-2013, down 15 percentage points since the beginning of 2010.

2.35 Property transactions have also remained extremely subdued since the recession and remain significantly below both the June 2010 and March 2012 forecasts, although there has been some pick-up over the first half of 2013. Likewise, residential investment has failed to recover its pre-crisis peak and has fallen

significantly short of forecast. But, owing to its small share of GDP, this explains less of our overall forecast error than other components of demand.

Corporations

2.36 Having fallen by almost a quarter during the recession, our June 2010 forecast predicted real business investment would return to its pre-crisis level by the second quarter of 2013. This would have been broadly consistent with previous post-war recoveries. Instead, rather than rising by almost 34 per cent over the past three years as forecast, the latest data show that business investment fell by more than 10 per cent, with the resulting forecast error accounting for two thirds of the shortfall in real GDP relative to the June 2010 forecast. And while net trade was an important factor in the over-optimism of our March 2012 forecast, as the euro area experienced a sharper downturn than expected, business investment also weakened sharply.

Table 2.16: Growth in real private investment from 2010Q1 to 2013Q2

	Per cent		
	Business	Residential	Total
June 2010 forecast	33.7	22.9	32.9
Latest data	-10.5	6.8	-2.8
Difference[1]	-44.2	-16.2	-35.7

[1] Difference in unrounded numbers.

Table 2.17: Growth in real private investment from 2011Q4 to 2013Q2

	Per cent		
	Business	Residential	Total
March 2012 forecast	7.4	11.0	8.8
Latest data	-4.7	-9.5	-3.5
Difference[1]	-12.1	-20.4	-12.3

[1] Difference in unrounded numbers.

2.37 So why has business investment been so much lower than forecast? There are a number of possible explanations:

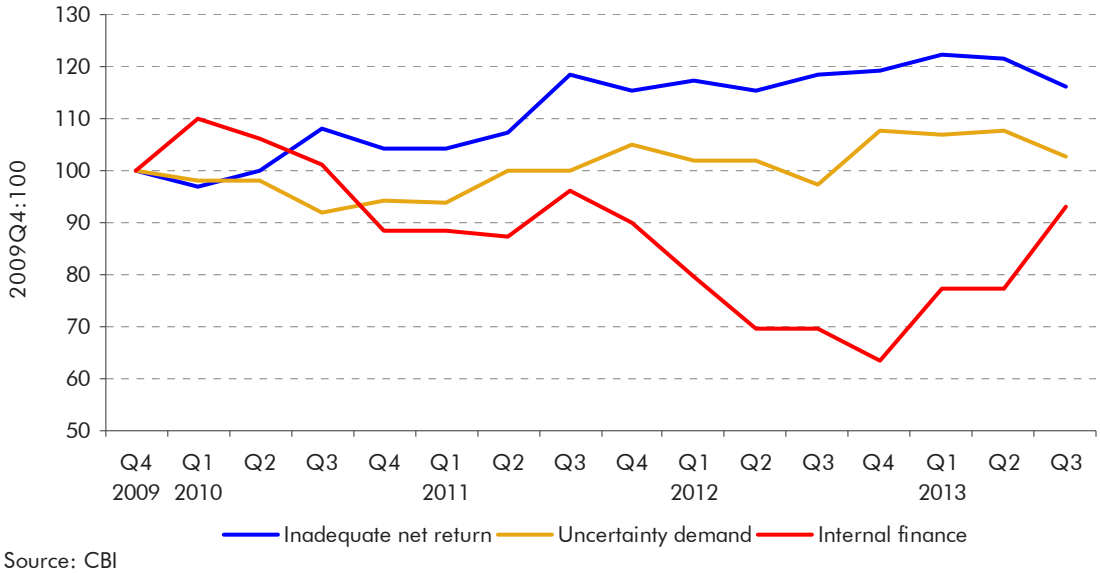
- part of the investment shortfall can be attributed to our forecast error for profits. Profits of corporations operating outside the oil and financial sectors have been significantly weaker than forecast, accounting for over a third of the shortfall in the income measure of nominal GDP relative to the June 2010 forecast. If the unexpected and persistent weakness of profitability led firms to revise down their expectations of future profitability this may have led them to scale back their investment plans;

- the unexpected weakness of profitability also implies smaller flows of internal finance from which to fund investment, which may have been particularly important for smaller firms, who are most likely to have faced binding credit-constraints – although such firms account for a small share of overall investment; and

- prolonged uncertainty over the outlook for demand conditions may also have made firms more wary of engaging in larger investment projects, which might prove difficult or expensive to reverse if the economy did not perform as hoped. This may also explain why firms hired more labour than we forecast, since it may be easier to reduce employees than capital.

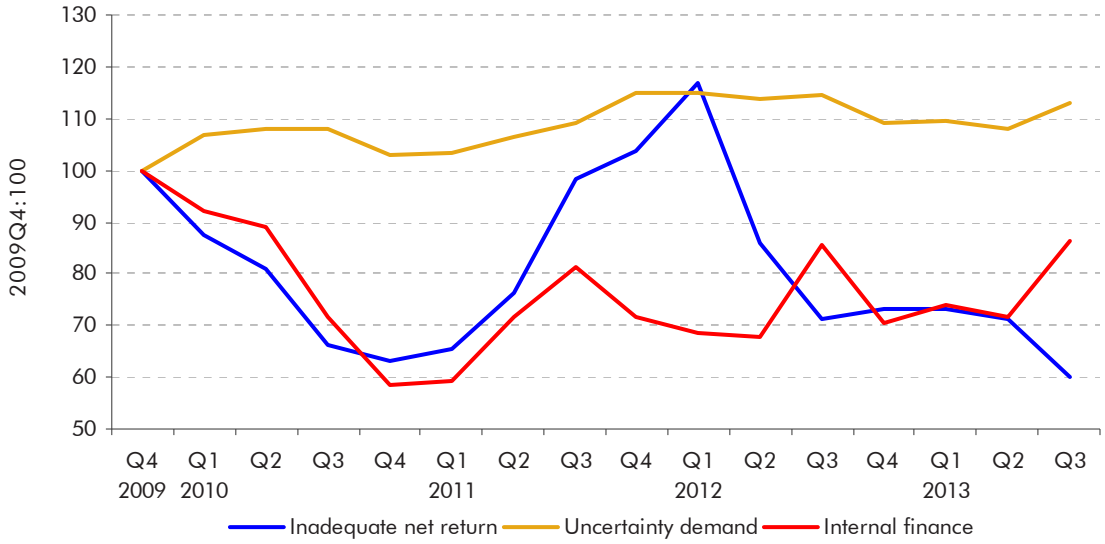
2.38 These explanations may all play a role. CBI surveys show that inadequate net returns has been cited by a growing number of firms as a constraint on investment over the past three years, although this concern appears to have receded for firms going into 2013. Demand uncertainty has persisted, rising a little for both manufacturers and services businesses. The number of manufacturers seeing internal finance as a constraint dropped until the end of last year, despite tight credit conditions, but has picked up sharply through this year, while the number of services firms reporting such constraints has been broadly stable.

Chart 2.10: Factors limiting investment – Manufacturing



Source: CBI

Chart 2.11: Factors limiting investment – Services



Source: CBI

2.39 The narrative presented alongside our forecasts has typically described a gradual easing of tight credit conditions and improving confidence over the forecast period, both of which are consistent with falling uncertainty and strengthening investment. Chart 2.12 illustrates that policy uncertainty, as captured by a composite indicator including the variance of forecasts and a number of other measures, remained elevated over the years following the June 2010 forecast, only falling materially in 2013. To the extent that firms shared our expectations, it is likely that prolonged uncertainty will have affected their investment decisions.

Chart 2.12: Index of policy uncertainty

Source: www.policyuncertainty.com

The external sector and net trade

2.40 By the second quarter of 2013, net trade had contributed considerably less to real GDP than we had forecast in June 2010 (Table 2.18). But the data have been volatile: by the end of 2011 the contribution was still largely on course; since then, an aggregate shortfall has built up.

Table 2.18: Growth in trade from 2010Q1 to 2013Q2

	Per cent, unless otherwise stated			
	Exports	Imports	Net trade contribution (ppts)	Trade balance in 2013Q2[1]
June 2010 forecast	20.0	9.0	2.6	-1.5
Latest data	12.5	9.3	0.7	-1.4
Difference[2]	-7.5	0.3	-1.9	0.1

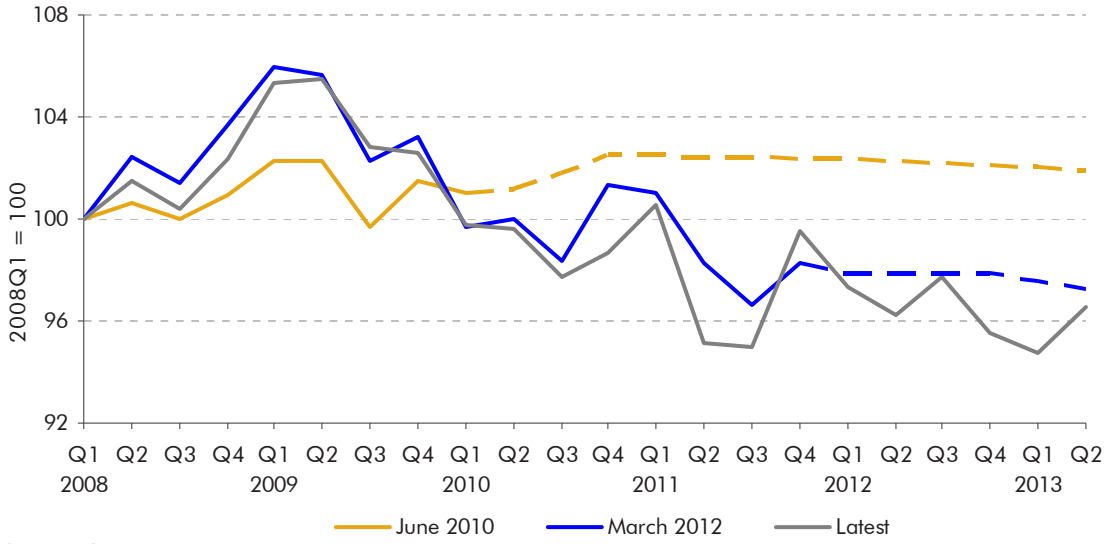
[1] Trade in nominal terms, as a per cent of GDP.

[2] Difference in unrounded numbers.

2.41 We expected UK exporters to respond to the substantial depreciation of sterling in 2007 and 2008 with a moderate increase in market share, just as they had after a similar depreciation in the early 1990s and the UK's exit from the ERM. When we made our June 2010 forecast, little of that effect was apparent (Chart 2.13). But, after revisions to the trade data, it appears that UK export market share did increase rapidly in 2008, immediately after sterling's biggest fall, but this may reflect constraints experienced by competing exporters and the export market share has subsequently resumed its longer term decline.

2.42 Over the period as a whole, exporters appear to have used the fall in the value of sterling to boost profits by keeping foreign currency export prices flat, rather than cutting prices in order to pursue greater market share. This may have reflected lack of confidence in export prospects or lack of availability of credit to invest in new exporting capacity. At the same time, demand from the UK's major export markets, most notably in the euro area, was much weaker than expected, with the net result of weaker growth in UK export volumes.

Chart 2.13: Successive forecasts and outturns for UK export market share

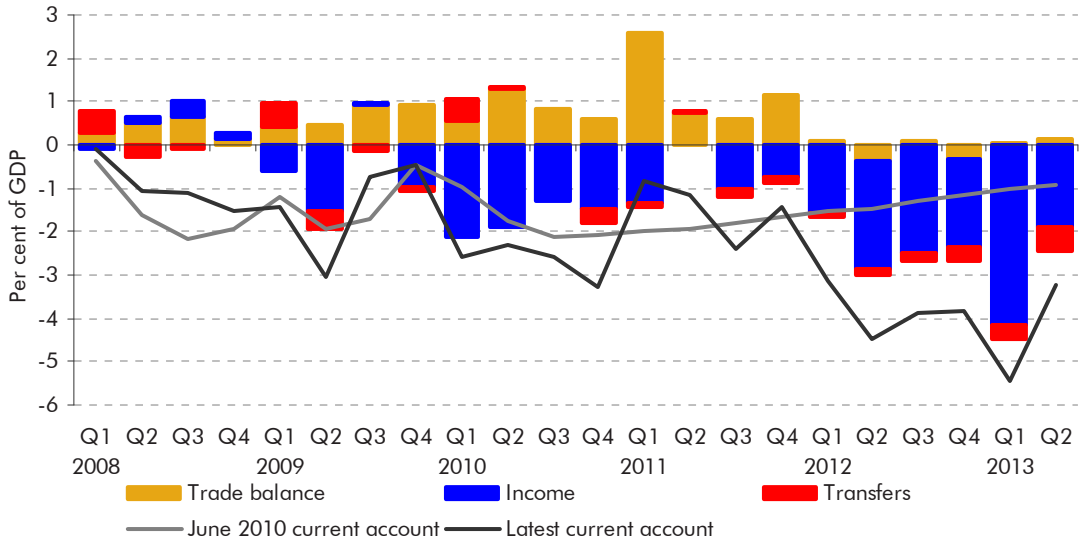


Source: OBR

2.43 Meanwhile, import volumes have undershot the June 2010 forecast, but to a much lesser extent than export volumes. This reflected weaker domestic demand, partly offset by stronger-than-expected import intensity of GDP. Despite sterling's relative stability since the depreciation, domestic consumers have not switched from imports to domestically-produced goods and services to the extent that we had expected.

2.44 Despite the weakness of export volumes relative to imports, the nominal trade deficit was smaller than we expected in June 2010 until the end of 2011 – as exporters exploited the fall in sterling to raise prices – and has been broadly in line with the forecast subsequently. But the current account deficit has nonetheless overshot because net income flows have been less positive than expected, turning negative in 2012. Within these, there have been large swings in net FDI earnings. In the immediate aftermath of the financial crisis, net FDI earnings rose sharply for UK-resident banks (as overseas banks booked losses from their UK businesses), but they then fell back again from 2009. Since then, the income balance has fallen further, thanks to lower earnings by UK private non-financial corporations on their overseas investments.

Chart 2.14: June 2010 current account forecast errors



Source: ONS, OBR

Government

2.45 Our June 2010 forecast assumed that cuts in government spending would directly reduce real GDP by just over 2 per cent by the second quarter of 2013. Current data suggest that government spending has instead added 0.2 per cent to real GDP over this period, growing by 0.7 per cent in real terms rather than falling by around 8 per cent as we forecast. A similar pattern emerges over recent quarters: our March 2012 forecast assumed that government spending would fall by around 1 per cent in real terms between the end of 2011 and the second quarter of this year, but the latest data indicate that it grew by just over 2 per cent.

2.46 It is important to note that these estimates represent only the direct contribution to GDP from government investment and consumption of goods and services. They do not capture indirect effects from other government spending, such as on social security benefits and tax credits, that does not contribute directly to GDP but affects activity via household incomes. Later in the chapter we look at the latest evidence on 'fiscal multipliers', which attempt to capture both the direct and indirect effect of tax and government spending measures on GDP.

Table 2.19: Growth in general government consumption and investment from 2010Q1 to 2013Q2

	Per cent					
	Consumption		Investment		Total	
	Real	Nominal	Real	Nominal	Real	Nominal
June 2010 forecast	-5.0	4.6	-33.2	-36.7	-8.1	0.1
Latest data	2.2	-1.2	-13.4	-8.0	0.7	-1.9
Difference[1]	7.3	-5.8	19.8	28.7	8.7	-2.0

[1] Difference in unrounded numbers.

Table 2.20: Growth in general government consumption and investment from 2011Q4 to 2013Q2

	Per cent					
	Consumption		Investment		Total	
	Real	Nominal	Real	Nominal	Real	Nominal
March 2012 forecast	-1.1	0.6	-0.4	-6.0	-1.0	0.1
Latest data	1.8	-0.8	4.7	5.3	2.1	-0.3
Difference[1]	2.9	-1.5	5.0	11.4	3.1	-0.4

[1] Difference in unrounded numbers.

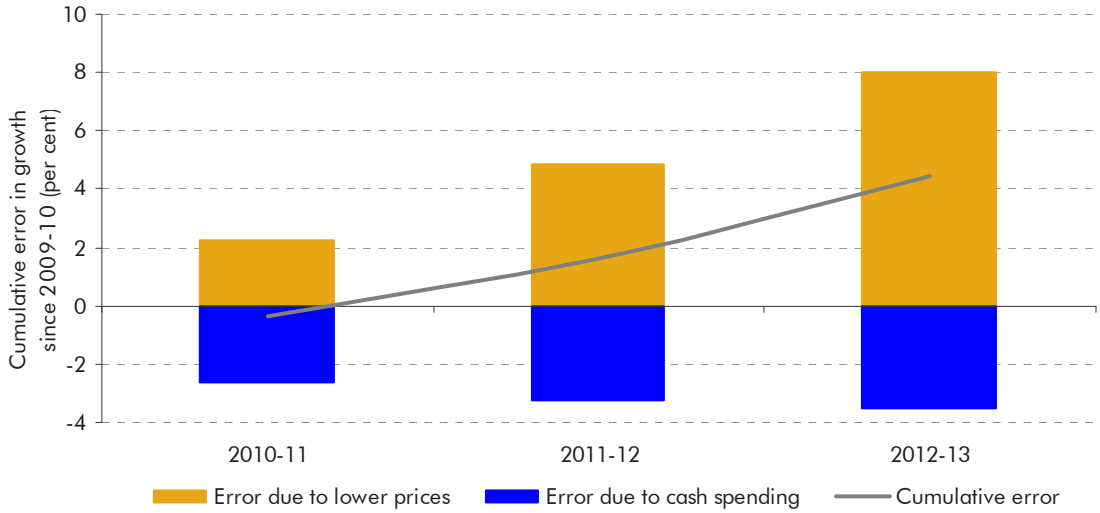
2.47 Looking at government investment and consumption, both elements have been stronger than we expected in June 2010 in real terms. For consumption, weaker than anticipated cash expenditure was dwarfed by a much larger and unexpected fall in its implied price – leaving real government consumption far higher than expected. For investment, the majority of the error lies in stronger than expected cash spending, partly reflecting policy. Our March 2012 forecast errors follow a similar pattern – we greatly overestimated increases in the price of government consumption and nominal investment spending came in stronger than expected.

2.48 As we have discussed in our *EFOs*, real estimates for most categories of government consumption are based on direct output measures (e.g. the number of hospital operations or school pupils) rather than calculated by deflating a nominal measure with a price index. These measures of output are not quality-adjusted. So if nominal spending growth falls, but the particular direct output measures used do not, then implied inflation will fall. This effect has been larger than we allowed for in our previous forecasts.

2.49 Under-spending against original plans by government departments is likely to have added to this effect in 2012-13, as some of the most significant underspends are likely to have occurred in directly measured categories of spending. For example, information presented in our March 2013 *EFO* suggested that there were relatively large underspends in education and health in 2012-13, both of which are directly measured elements of real government consumption. The latest ONS estimates also indicate weak implied inflation in

these categories in 2012-13, with the implied price index falling by 0.4 per cent in education and by 1.0 per cent in health relative to the previous year.

Chart 2.15: General government consumption outturn relative to June 2010 forecast



Source: ONS, OBR

The labour market and productivity

2.50 Labour income generates almost half of all tax receipts and the level of unemployment directly influences social benefit spending, so it is not surprising that developments in the labour market are crucial in determining the outlook for the public finances. But it is not just the number of people in work that matters. Whole-economy wages tend to be more tax rich if they are taken home by a smaller number of higher paid workers than if they are earned by a larger number of lower-paid workers. This reflects the existence of a tax-free personal allowance and the progressive nature of the tax system.

2.51 In June 2010, we forecast unemployment to rise a little before falling steadily as the recovery became established and spare capacity in the economy was taken up. The latest outturn data show that unemployment rose more than we expected to peak in the final quarter of 2011 and has since returned to roughly the level seen in the first quarter of 2010. Given the weakness of GDP growth, it is hardly surprising that unemployment has not fallen overall as we expected – the surprise is that it did not rise much further. Labour market participation and employment have both increased vastly more than we expected. General government employment fell more sharply than anticipated, but this was more than offset by employment growth in the market sector, which had exceeded our June 2010 forecast by more than half a million by mid-2013.

2.52 The picture since the final quarter of 2011 is one of continued strength in employment and participation, with both exceeding our March 2012 forecast. The fall in general government employment was close to the March 2012 forecast, with virtually all of the upside employment surprise accounted for by the market sector. Unemployment fell whereas we had forecast a small rise.

Table 2.21: Changes in labour market indicators between 2010Q1 and 2013Q2

	Thousands					
	Market sector employment	General Government employment	Total employment	Unemployment (LFS)	Activity	Claimant count
June 2010 forecast	799	-183	616	-260	355	-272
Latest data[1]	1,333	-363	970	2	971	-82
Difference[2]	534	-180	354	262	616	189
Memo: 2013Q2 levels	24,555	5,222	29,777	2,514	32,291	1,496

[1] Outturns have been adjusted, so that employment in English colleges is outside the general government sector (and therefore in the market sector) in all periods.

[2] Difference in unrounded numbers, rounded to nearest thousand.

Table 2.22: Changes in labour market indicators between 2011Q4 and 2013Q2

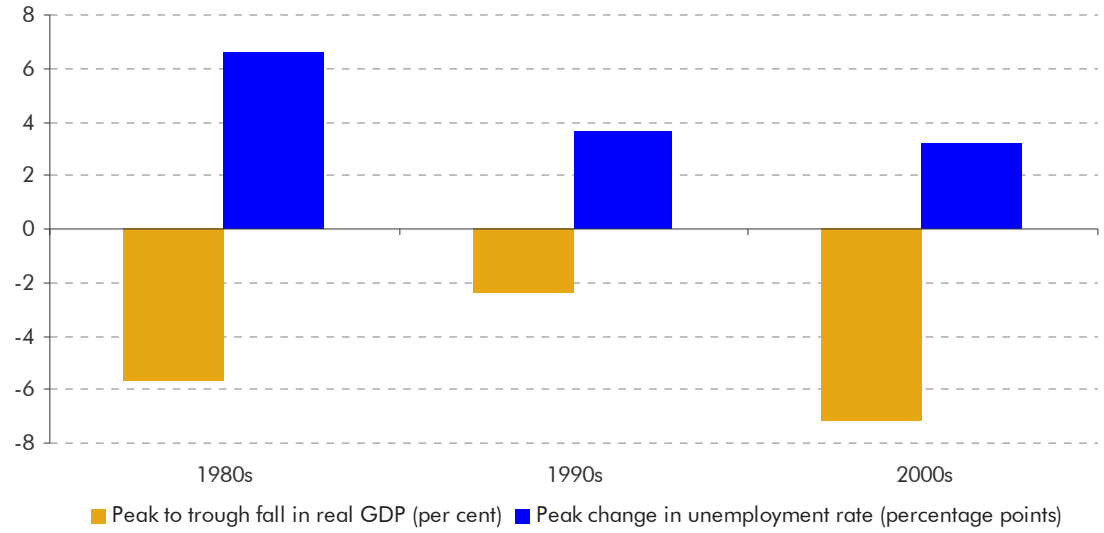
	Thousands					
	Market sector employment	General Government employment	Total employment	Unemployment (LFS)	Activity	Claimant count
March 2012 forecast[1]	216	-158	58	84	142	57
Latest data[1]	761	-130	631	-143	489	-99
Difference[2]	545	28	573	-227	347	-155
Memo: 2013Q2 levels	24,555	5,222	29,777	2,514	32,291	1,496

[1] Outturns and the March 2012 forecast have been adjusted, so that employment in English colleges is outside the general government sector (and therefore in the market sector) in all periods.

[2] Difference in unrounded numbers, rounded to nearest thousand.

2.53 The recession and recovery of the past five years have seen unemployment rise by considerably less than we would have expected given historical experience. Chart 2.16 plots the peak to trough fall in real GDP and the rise in unemployment associated with the recessions of the early 1980s, early 1990s and late 2000s. The rise in unemployment was smaller in the most recent recession than in the previous two, even though the peak to trough fall in GDP was bigger and the recovery slower.

Chart 2.16: GDP and unemployment



Source: ONS

2.54 A number of explanations have been offered for the strength of employment during and after the recession. Some commentators have suggested that firms hoarded labour during the downturn because of the costs associated with shedding labour and then rehiring once economic activity recovers. While this seems a reasonable explanation for the unusually small rise in unemployment over the recession, it cannot explain the strong employment growth experienced since then. Furthermore, turnover in the labour market – the natural churn occurring as people move between jobs – has picked up in recent years.

2.55 A second explanation concerns the response of wages during the recession, the weak growth of which has led some to suggest that labour may have priced itself into employment. But while real wages have been exceptionally weak, nominal wages have continued to rise. And coupled with the weak productivity growth during the recovery, and the consequent rise in unit labour costs, it is hard to see how improved wage flexibility could explain all of the strength in employment relative to earlier episodes.

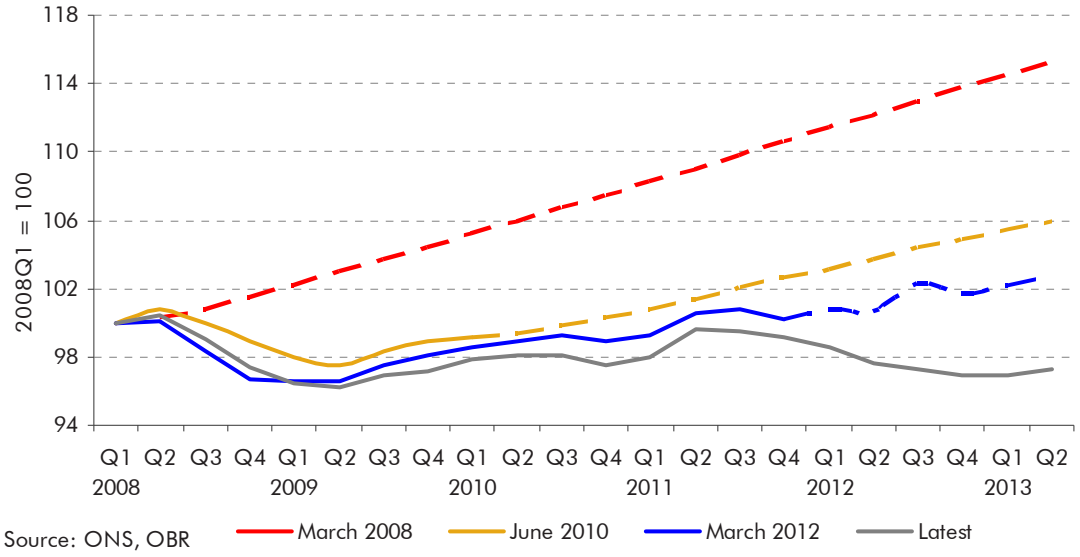
2.56 The strength in employment is, in some part, also likely to reflect the unexpectedly strong rise in labour market participation. This, itself, may be linked to the unexpected weakness of GDP growth. If households interpret the income shortfall relative to their expectations as being permanent, more may have been encouraged to work or continue working for longer. Likewise the weakness of savings income may have persuaded some nearing the retirement age to keep working. Indeed, many of the additions to the labour force have been close to or beyond the State Pension age.

2.57 Finally, it is possible that prolonged uncertainty over the economic outlook has prompted firms to shift towards labour because hiring employees is more flexible and easily reversible than investing in new capital.

2.58 Taken together, the unexpectedly weak recovery in GDP and the unexpected strength of employment growth have been consistent with productivity – output per person or per hour worked – having fallen even further short of forecast. Output per hour has essentially stagnated since the recession ended and it fell in 2012. This is unusual by historical standards – at this stage of the recovery we would typically expect productivity growth to be strong. Furthermore, the weakness appears to be concentrated in total factor productivity, so it cannot be explained simply by the weakness of investment. Chart 2.17 illustrates the large revisions to productivity forecasts since the onset of the recession.

2.59 We made significant downward revisions to our productivity forecasts in November 2011 and March 2012, but neither forecast anticipated the weakness that was to follow during 2012. Productivity by mid-2013 was around 9 percentage points below the June 2010 forecast and an even larger 18 percentage points below a continuation of the Labour government's Budget 2008 forecast. By way of illustration, average output per worker in the second quarter of 2013 is estimated to have been around £51,000, rather than the £60,000 that would have been consistent with pre-crisis expectations and £55,000 consistent with our June 2010 forecast.[1]

Chart 2.17: The level of productivity (output per hour)



Source: ONS, OBR

[1] Annualised 2010 prices

2.60 As with productivity, average earnings growth has been much weaker than forecast. But the strength of employment meant that total compensation of employees held up against forecast until mid-2012. As a result, the labour share of GDP has been higher than expected, helping to support the public finances because labour income is relatively tax rich.

2.61 However, since mid-2012, productivity growth has been even weaker and employment has not outperformed our forecast sufficiently to offset the weakness in average earnings growth. So total compensation of employees has fallen below forecast, lowering tax receipts. We discuss this in more detail in Chapter 3.

2.62 Having established that the shortfall in GDP relative to our forecasts has been more than accounted for by the shortfall in productivity, the crucial question for the public finances is whether that shortfall is judged to be temporary or persistent. The following section discusses our forecasts for potential output, which encapsulate our judgements on such questions.

Potential output

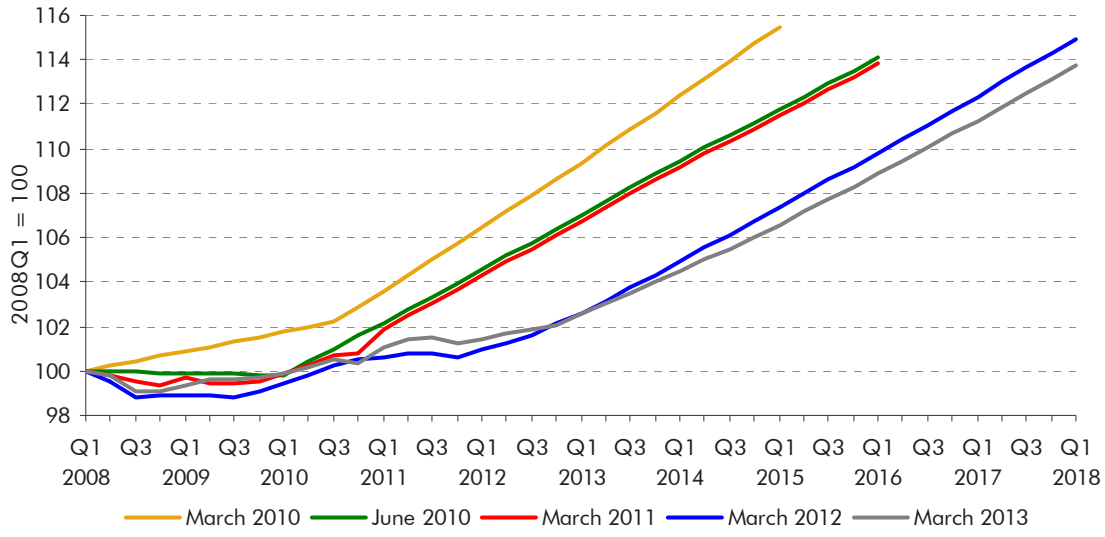
2.63 The amount of spare capacity in the economy (the 'output gap') and the growth rate of potential output are key judgements in our forecast. Together, they determine the scope for actual growth as activity returns to a level consistent with stable inflation in the long term. The size of the output gap also determines how much of the fiscal deficit at any given time is cyclical and how much structural. In other words, how much will disappear automatically as the recovery boosts revenues and reduces some categories of spending, and how much will be left when economic activity has returned to its full potential. The narrower the output gap, the larger the proportion of the deficit that is structural, and the less margin the Government will have against its fiscal mandate, which is set in structural terms.

2.64 The previous section identified a significant gap between the productivity growth forecast in June 2010 and the latest data – the shortfall amounts to some 7.6 per cent. A key forecast judgement over the past few years has been to decide how much productivity will recover as demand conditions improve and how much the shortfall reflects structural weakness that will not come back (at least, not within the five-year horizon over which the Government has determined we should forecast). Since potential output is unobserved, there is no outturn against which we can compare our forecasts and the answer to this question will remain uncertain even in the fullness of time.

2.65 But to illustrate how our thinking has changed, it is informative to plot our successive forecasts of potential output – shown in Chart 2.18. At the time of the June 2010 forecast we reduced the level of potential output by around 3 per cent

at the forecast horizon, relative to the outgoing government's projections. Our second major downward revision came in November 2011 when we reduced the level of potential output at the end of the forecast period by around 3.5 per cent, relative to the March 2011 forecast, with the majority of this revision accounted for by revised projections of potential productivity. We are not alone in projecting a large permanent, or long-lasting, loss of output relative to a pre-crisis trend. As we showed in our latest March 2013 *EFO*, our forecasts of potential output at the forecast horizon lie close to those of the IMF, the European Commission and the OECD, and towards the centre of a wide range of outside estimates.

Chart 2.18: Successive potential output forecast revisions



Source: OBR

2.66 Since November 2011, the level of potential output at the forecast horizon has been broadly unchanged with some adjustments to its growth path over successive forecasts as new data have become available. In our *EFOs* we have set out some competing explanations for the weakness of output per hour, often referred to as the 'productivity puzzle', with updates reflecting ongoing research in this area, both internally and outside the OBR.[2] We have also published sensitivity analysis and a number of alternative scenarios exploring the implications for the economic forecast and the Government's fiscal mandate of making different judgements about potential output.

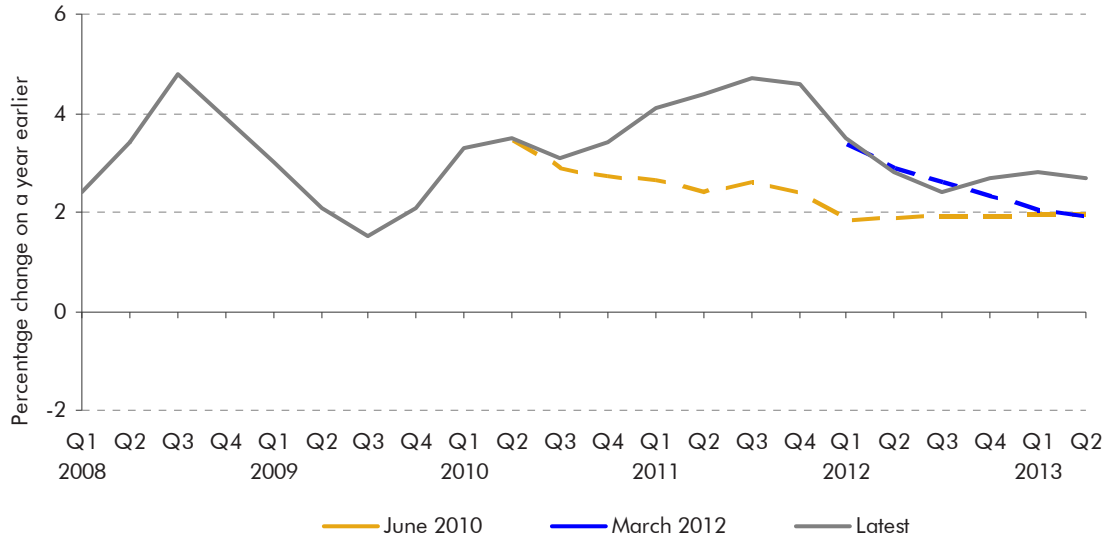
[2] See March 2013 *EFO* – page 32, December 2012 *EFO* – Box 3.2, November 2011 *EFO* – Box 3.1.

Consumer and retail price inflation

2.67 Developments in the public finances are closely related to changes in nominal GDP, and its components, which reflect movements in both real activity and prices. Price changes also affect receipts and spending directly, where the parameters of the tax and social security system are linked to particular measures of inflation – notably consumer price inflation. They also affect the cost of interest payments on index-linked gilts, where the return is linked to retail price inflation.

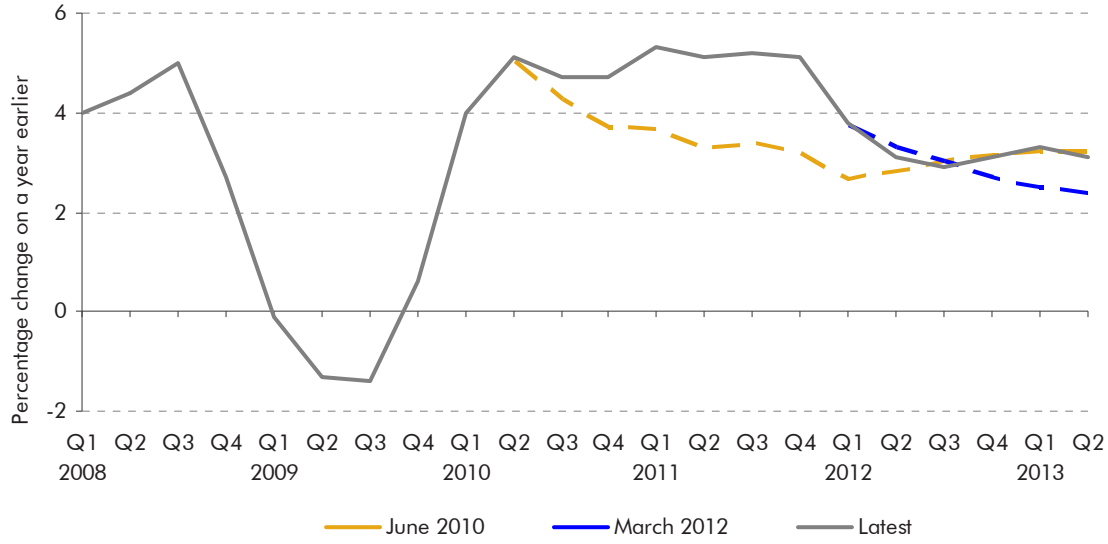
2.68 In June 2010, the interim OBR had expected CPI inflation to decline steadily towards the Bank of England's 2 per cent target over the following two years. Instead it began to increase almost immediately and peaked at a high of 5.2 per cent in September 2011 (and, on a quarterly basis, at 4.7 per cent in the third quarter of 2011, as shown in Chart 2.19).

Chart 2.19: CPI inflation



Source: ONS, OBR

Chart 2.20: RPI inflation



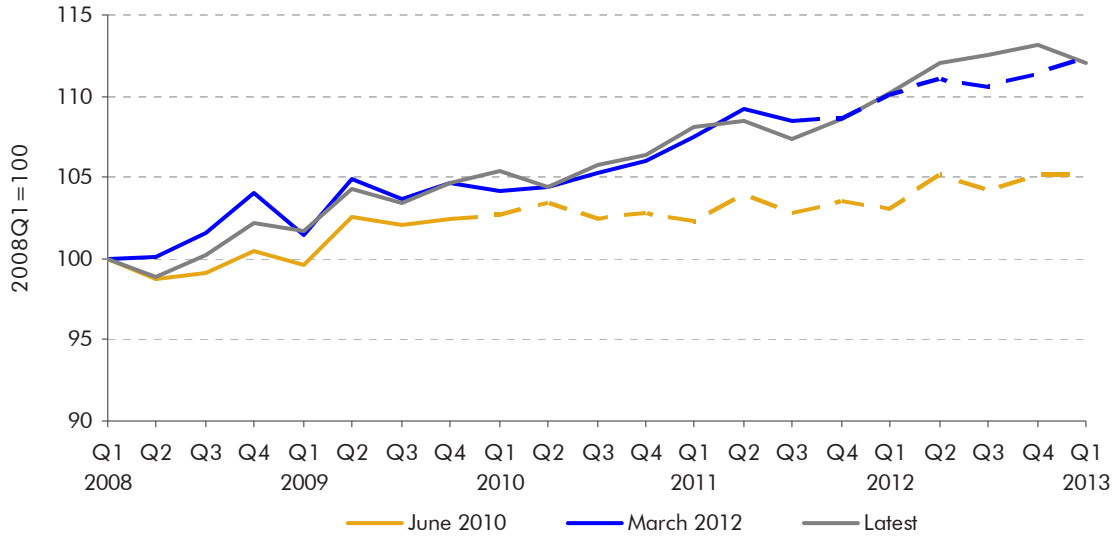
Source: ONS, OBR

2.69 The unexpected increase in CPI inflation was largely due to higher import prices than we expected, in particular caused by global commodity price shocks. In June 2010, the spot price for Brent crude oil averaged around $75 a barrel. At the time, futures markets implied that the price of oil would rise relatively slowly. But, by early 2011, oil prices had risen to around $110 a barrel, although some of the impact on the sterling cost of oil was offset by a rise in the sterling-dollar exchange rate. There were also unexpectedly strong increases in global agricultural commodity prices over the same period, as adverse weather conditions affected the global supply of agricultural commodities.

2.70 CPI inflation fell from its 2011 peak, initially falling faster than expected in the March 2012 forecast, but then picked up again. CPI inflation has not followed import prices below forecast, as firms appear to have taken the opportunity partially to restore margins.

2.71 The unexpected rise in unit labour costs has probably also contributed to inflation remaining above forecast. Nominal rigidities in wage-setting may have meant that some of the weakness in real incomes arising from lower productivity relative to forecast was felt via higher prices – as firms passed on those higher costs of production to consumers. This may help to explain why total compensation of employees and disposable incomes held up relative to GDP, at least until mid-2012. Chart 2.21 shows the unanticipated strength of unit labour costs since 2010.

Chart 2.21: Unit labour costs



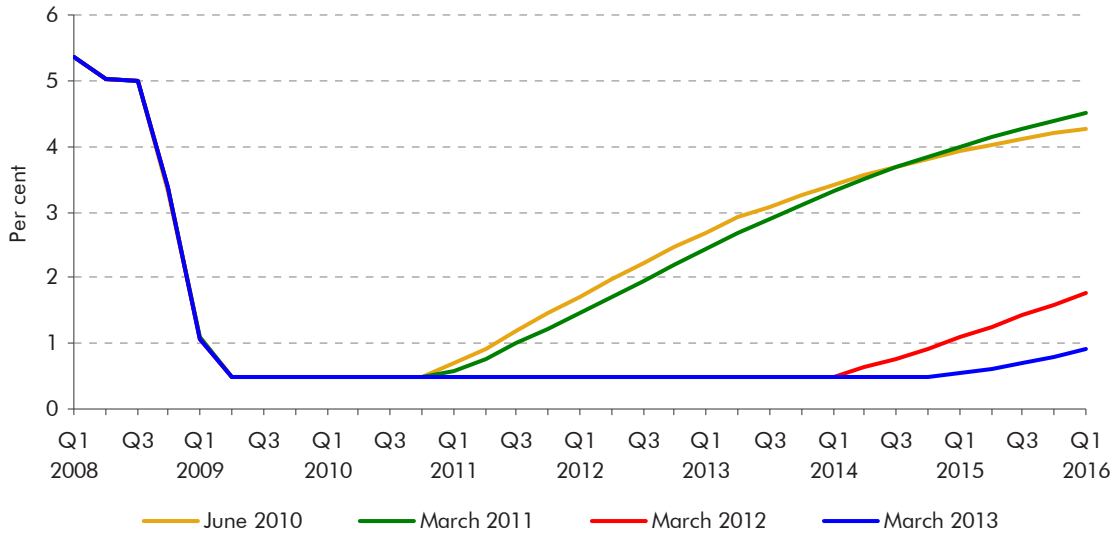
Source: OBR

2.72 The factors that lifted CPI inflation unexpectedly have also had an impact on RPI inflation since June 2010. However, RPI inflation is further affected by movements in components that are not included in the CPI. In particular, mortgage interest payments have been much lower than expected as Bank Rate and market interest rates have remained lower for longer than expected in June 2010. So we made a larger error forecasting CPI than RPI inflation.

Monetary policy

2.73 Monetary policy has turned out looser than we assumed in our June 2010 forecast. There have been additional policy measures: further quantitative easing (QE) and more recently the introduction of the Funding for Lending Scheme, which provides relatively cheap funding to banks lending to the real economy. The June 2010 forecast also assumed (based on market expectations at the time) that Bank Rate would begin rising in 2011 and reach around 3 per cent by mid 2013. Instead Bank Rate has remained at 0.5 per cent and is not now expected to start rising until mid-2015.

Chart 2.22: Successive forecasts for Bank Rate



Source: Bank of England, OBR

2.74 Low interest rates have predominantly helped existing, low-risk borrowers and have helped keep corporate failures low, while those large businesses with access to wholesale markets have benefitted from a large drop in corporate bond yields. The introduction of the Funding for Lending Scheme has been associated with a fall in new mortgage rates.

2.75 However, the supply of credit has remained tight. Banks, struggling with disruptions to global financial markets and weak profitability, and responding to regulatory and market pressure, have sought to preserve capital and reduce the riskiness of their balance sheets. The stock of lending to households and private non-financial corporations has been very weak for the past four years.

Other market assumptions

2.76 The economic forecast is conditioned on a number of other market-derived assumptions, including oil, equity and government bond prices, which are important fiscal determinants. In comparing the assumptions we made for our June 2010 forecast to subsequent outturns, we have to recall the substantial volatility in global asset prices in the aftermath of the financial crisis and particularly driven by developments in the euro area. Such external influences are always difficult to forecast, but were exceptionally so in recent years.

2.77 The impact of looser domestic monetary policy on the price of government debt is likely to have been significant. The Bank's Asset Purchase Facility purchased an additional £175 billion of gilts between October 2011 and July 2012, largely unanticipated by the market at the time of the 2010 forecast. Combined with

falling Bank Rate expectations and external shocks (such as the euro area crisis, which boosted safe-haven demand for gilts) this pushed the yield on gilts to all-time lows: in June 2010 we assumed a weighted average conventional gilt rate of 4.7 per cent by mid-2013, around 2.6 percentage points higher than the outturn rate.

2.78 Equity prices have oscillated above and below successive forecast assumptions, which are linked to nominal GDP growth forecasts. Oil prices increased substantially through 2010, lifted by strong emerging market demand, to a level substantially above our June 2010 forecast assumption. Implications for the economy via inflation were described earlier in the chapter. The consequences for the fiscal forecast are discussed in the next chapter.

Fiscal policy

2.79 The past three financial years have seen a significant discretionary fiscal tightening implemented in the UK. This reflects both the tightening put in place by the previous Labour government and the additional measures announced by the current Coalition government.

2.80 In trying to explain the unexpected weakness of GDP growth over this period, it is natural to ask whether it was caused in part by this tightening – either because it turned out to be larger than we had originally assumed or because a given tightening did more to depress GDP than we had originally assumed.

2.81 In answering the latter question, we are concerned with the aggregate impact of different types of fiscal tightening on GDP (estimated using so-called 'fiscal multipliers') and not simply the direct contribution that government investment and consumption of goods and services makes to the expenditure measure of GDP. As we explained earlier in this chapter, this direct government contribution has been positive for measured real growth, rather than negative as we expected, owing to its method of deflation in the National Accounts.

2.82 To investigate the impact of the discretionary fiscal tightening, we first need to identify its size and composition. There are many different ways to do this, depending on the counterfactual baseline chosen. For simplicity, we adopt the definition of the discretionary tightening used by the Institute for Fiscal Studies (IFS). Broadly speaking, this involves adding up all the tax and welfare measures in Budget scorecards, as well as the impact of announced changes in departmental current and capital spending plans, since the autumn of 2008.

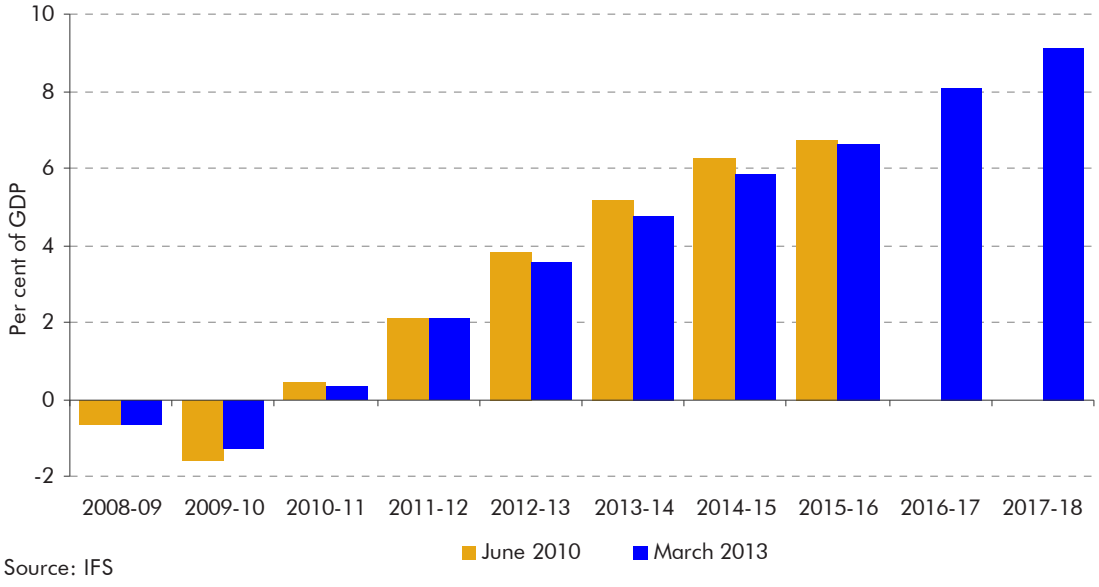
2.83 The spending figures include underspends by departments already in the data, but not underspends that we have pencilled into our forecasts for 2013-14 onwards. The calculations also assume that the borrowing impact of the tax and

welfare measures would have been constant as a share of GDP beyond the end of the relevant scorecard horizon and that current and capital spending would have been constant as shares of GDP once the explicit plans in place at Budget 2008 had run their course.[3] Other assumptions would also be possible.

2.84 Chart 2.23 shows the discretionary fiscal tightening or loosening in each fiscal year, relative to this Budget 2008 baseline. It shows the tightening planned at the time of the Coalition's first Budget in June 2010 and the latest estimates, which are consistent with the estimate made by the IFS after the March 2013 Budget.

2.85 In helping to explain the path of GDP growth, the most relevant metric is the additional discretionary fiscal tightening implemented in each year. Chart 2.24 sets this out for the June 2010 fiscal plans and latest estimates, consistent with Chart 2.23.

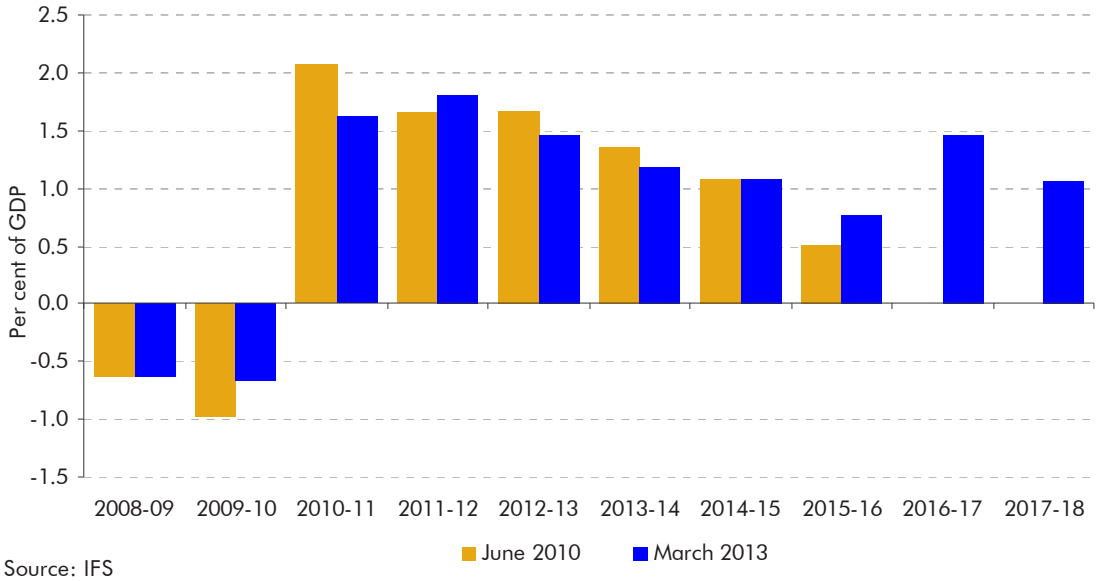
Chart 2.23: Fiscal consolidation relative to Budget 2008 baseline



Source: IFS

[3] See for example *The IFS Green Budget* (2013).

Chart 2.24: Additional fiscal tightening or loosening



Source: IFS

2.86 The charts show that:

- the discretionary tightening between 2009-10 and 2010-11 was dominated by the withdrawal of the temporary stimulus measures put in place by 2009-10, augmented by some additional spending cuts and the increase in the standard rate of VAT towards the end of the fiscal year. The overall tightening was less than originally planned, mainly due to the 50p rate of income tax prompting more forestalling in 2009-10 and raising less revenue from 2010-11 than had been expected at the time;

- the additional discretionary tightening in the following two years, up to 2012-13, was in line with plans at 3.3 per cent of GDP, although the timing, as well as the composition, has differed slightly. Relative to June 2010 plans, there was marginally less tightening through taxes, mainly thanks to fuel duty freezes, and marginally more from spending. The 2010 Spending Review altered the balance between investment and welfare spending in 2012-13, but not the scale of the overall cuts. The additional tightening in spending that year was instead mainly due to departments under-spending relative to their budget allocations, which also affected the profile of the cuts through the two years; and

- the overall consolidation planned by 2015-16 is slightly smaller than planned in June 2010, but with the Government pencilling in additional tightening in 2016-17 and 2017-18, mainly through current spending cuts. Relative to the plans in June 2010, there is now slightly less additional

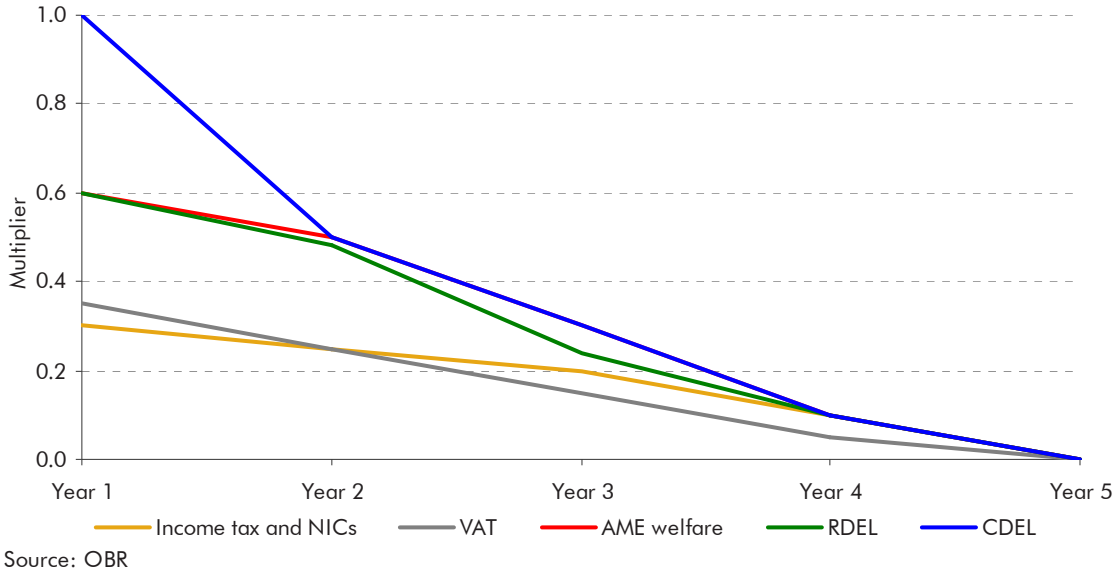
tightening projected in 2013-14, the same amount in 2014-15 and more in 2015-16, followed up with bigger cuts in the subsequent two years.

2.87 So what impact might one expect a fiscal tightening of this size to have on economic growth? In June 2010, the interim OBR estimated the impact that the additional fiscal tightening announced in the Coalition's first Budget would have on growth through the use of 'fiscal multipliers'.

2.88 The multipliers used in the June 2010 forecast are shown in Chart 2.25. The multipliers in the first year, the so-called 'impact multipliers', imply that a discretionary tightening of 1 per cent of GDP would reduce GDP by between 1 per cent (in the case of capital spending cuts) and 0.3 per cent (for income tax and NICs increases) in the first instance. These were applied in the year the policy took effect, rather than the year it was announced. In common with many other users of multipliers, the interim OBR also judged that policy would not have a permanent effect on potential output, implying a long-run multiplier of zero and therefore a steadily shrinking lagged effect from changes in fiscal policy.

2.89 This tapering of the GDP effects of policy, assumed to take place over five years, could materialise through a number of channels, including a monetary policy response, and exchange rate and real wage adjustments. The long-run and impact multipliers chosen lay in the middle of a widely dispersed range of external empirical estimates.

Chart 2.25: Fiscal multipliers used in June 2010



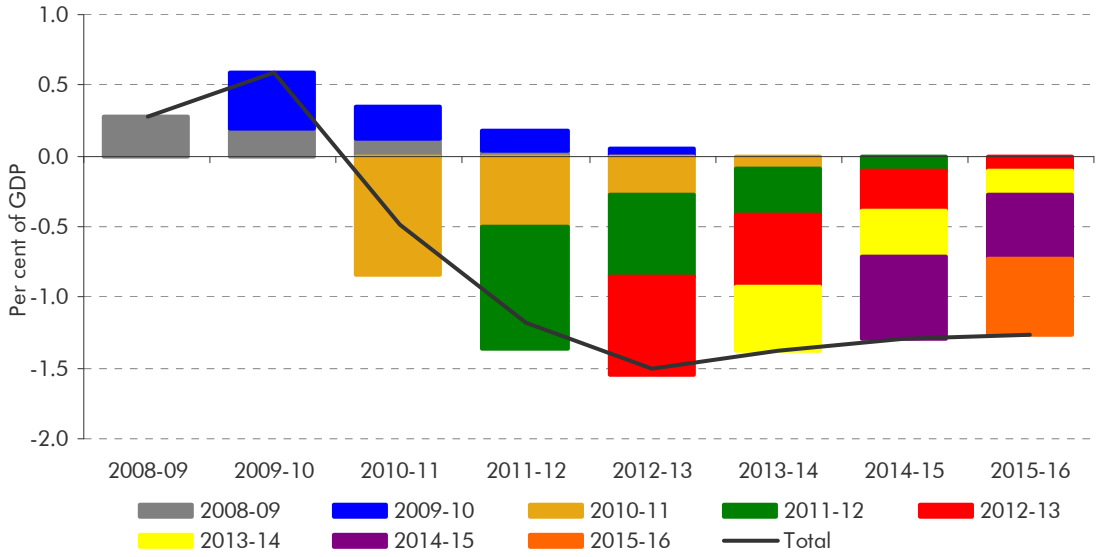
Source: OBR

2.90 The interim OBR only used these multipliers to assess the likely impact of the additional measures announced in June 2010. But if the true multipliers have in

fact been larger than this, then we would also expect the impact on GDP of the discretionary tightening that the Coalition inherited, and the changes to policy it has made since, to be bigger as well.

2.91 The implied effect on the level of GDP, taking into account both the path for fiscal policy in Chart 2.23 and the multipliers in Chart 2.25 is shown in Chart 2.26. This identifies the effects of policies by the year in which they affect net borrowing.[4] For example, the green bars show the effects of tightening policy in 2011-12, both for GDP in that year, and its diminishing effect on later years.

Chart 2.26: Implied impacts of discretionary fiscal policy on the level of GDP

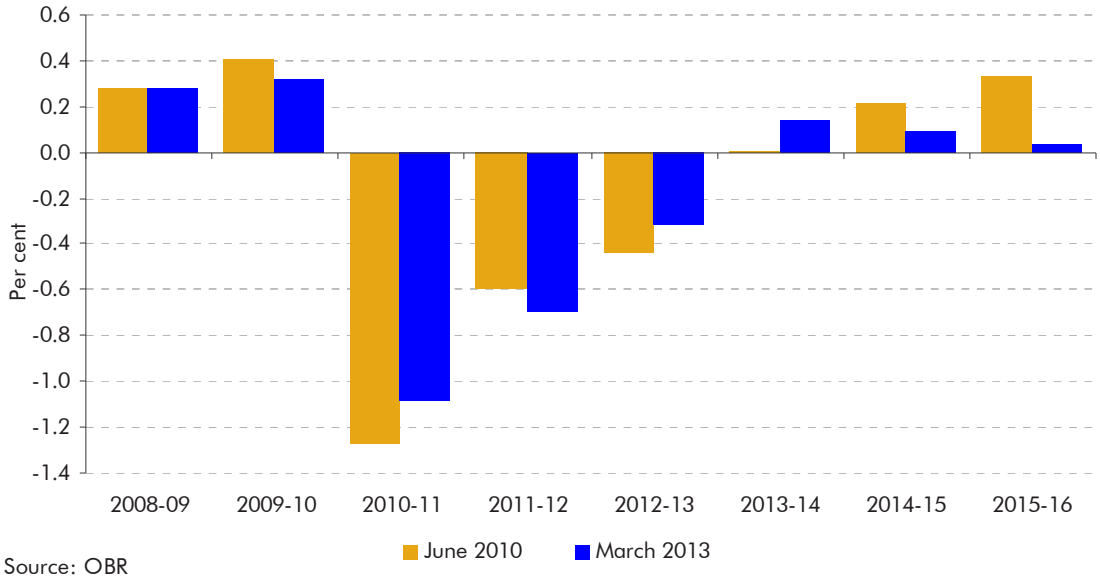


Source: OBR

2.92 The implications for growth in any particular year relate to how large an immediate impact new measures have, and how quickly the lagged effects of previous policies fade. Taking the set of multipliers at face value, between 2013-14 and 2015-16 the effects of previous policies may fade fractionally quicker than new policies bear down on GDP, implying modest upward pressure on annual GDP growth rates, as shown in Chart 2.27, but with the level of GDP remaining lower than it would have been had the consolidation been smaller.

[4] This is not necessarily the year in which the measure takes effect. For example, the temporary cut in the standard rate of VAT which took effect in December 2008 (and so 2008-09), had a larger effect on net borrowing in 2009-10. Part of the cut therefore shows up in the 2008-09 bars and a bigger share in the 2009-10 bars.

Chart 2.27: Implied impacts of discretionary fiscal policy on GDP growth



Source: OBR

2.93 Chart 2.27 also shows the implications for growth in the past. Whilst the additional tightening implemented in each of the last three years are now broadly comparable in scale, the declining lagged effects of previous measures would suggest less of a drag on growth over time. Although the profile is a little different, the picture has not materially changed since June 2010, with a similar impact on growth across that period and the three years immediately following.

2.94 The latest outturn data suggest that growth of 2.0 per cent in 2010-11 was slightly stronger than our June 2010 forecast, and that growth has come in much lower since, at 0.8 per cent in 2011-12, 1.6 percentage points below the June 2010 forecast, and 0.0 per cent in 2012-13, 2.9 percentage points below forecast. Even if fiscal tightening had a permanent level effect on GDP, and did not fade over time, it would fail to explain the scale of errors over the past two years. The impact multipliers would need to be significantly higher to fully explain our growth errors. Some economists believe that they are, but one might then have expected this to result in weaker-than-forecast growth in 2010-11 as well.

2.95 We might also expect a larger fiscal multiplier to leave an imprint on particular types of expenditure. For example, welfare measures directly affect disposable income and a proportion of weaker departmental expenditure is likely to be felt via lower wages and employment – so we might expect nominal private consumption growth to be particularly affected in years when these measures account for a large proportion of discretionary tightening. However, despite these measures accounting for much of the tightening in both 2011-12 and 2012-13, nominal consumption held up significantly better than nominal GDP over that period.

2.96 Needless to say there is huge uncertainty around the timing, size and persistence of the multipliers, reflected in recent studies as well as the longer standing literature (see Box 2.3). As we said last year, we clearly cannot rule out the possibility that the unexpected weakness of economic growth can be explained in part by the fiscal consolidation acting as a greater drag on GDP than the interim OBR had assumed in June 2010. But as we summarise in the concluding section of this chapter, there are a number of more plausible explanations for this weakness.

Box 2.3: Some recent analysis of fiscal multipliers[a]

Estimated fiscal impact multipliers continue to differ widely, some larger, some smaller and some in line with those used by the interim OBR in its June 2010 forecast.

In its 2012 Article IV report for the UK the International Monetary Fund (IMF) said that its "staff assumes an average multiplier during the consolidation of about 0.5 after incorporating the boost to demand from automatic stabilizers and the monetary policy reaction. This estimate is roughly in line with the OBR's estimates." But estimates differ widely – and not least within the IMF.

A recent IMF paper (2013a) suggests that the multipliers are likely to be below 1 by considering potential output assumptions for advanced countries. With a much higher potential output path, a larger multiplier is needed to obtain the low post crisis output levels; as such the paper concludes that it is more likely that potential growth forecasts were too optimistic than that the fiscal multipliers were too small. Another IMF paper (2012) also finds very low multipliers for the UK under fiscal contraction, even when the economy is weak. This paper estimates the government spending multiplier is at most 0.2 when the output gap is negative and zero when the output gap is positive and that the government revenue multiplier is not significantly different from zero.

The IMF's latest synthesis of recent evidence on fiscal multipliers (2013b) argues that there is now "stronger evidence than before that fiscal multipliers are larger when monetary policy is constrained…, the financial sector is weak, or the economy is in a slump." This echoes the conclusions in Portes and Holland (2012) and its earlier work (2013c), which argued that multipliers used across advanced economies in the April 2010 IMF *World Economic Outlook* were on average 1 percentage point too low for 2010-11, and were likely to be in the region of 0.9 to 1.7, compared to an assumed average of 0.5 for this same group. The paper drew similar conclusions from the errors in forecasts produced by the European Commission (EC), the Organisation for Economic Cooperation and Development (OECD), and the Economist Intelligence Unit (EIU). The IMF defines fiscal consolidations in terms of changes in cyclically adjusted budget balances, which does create an additional difficulty in identifying those correctly.

Recent studies have also looked at the tapering of multipliers. IMF (2013a) estimates that fiscal multiplier effects persist for seven years, with 80 per cent of the multiplier realised in the first year, followed by the full effect in the second year, and then gradually declining to zero. The paper looked at five-year and ten-year persistence, as well as a non-linear decline but found little difference from the central seven-year estimate when assessing the overall impact of fiscal policy on the economy.

Portes and Holland (2012) estimate that multipliers taper off more slowly under liquidity constraints, lasting over seven years compared to three years in normal times. Barrell et al. (2012) produce simulations presenting a similar time scale, with the government spending multiplier tapering down to zero after five years and turning slightly positive thereafter due to the response of interest rates. This paper suggests

that the tax and benefits multipliers taper to zero after ten years.

Simulations carried out by Perotti (2004) suggest that the UK multiplier tapers to zero after around four years for government consumption and around one year for government investment, arguing the investment multiplier is very small as government investment directly crowds out private investment.

DeLong and Summers (2012) consider a "hysteresis" effect, such that costs from recessions remain and the path of potential output does not return to its previous level. This implies that the multiplier never tapers off to zero. IMF (2013a) also presents a scenario of permanently lower potential economic output from this hysteresis effect, proposing that long run fiscal neutrality might be unrealistic.

[a] Barrell et al (2012), Fiscal consolidation part 2: Fiscal multipliers and fiscal consolidations (OECD Economics Department working paper); Baum, Poplawski-Ribeiro, and Weber (IMF 2012), Fiscal Multipliers and the State of the Economy (IMF working paper); Bi, Qu and Roaf (IMF 2013a), Assessing the Impact and Phasing of Multi-year Fiscal Adjustment: A General Framework (IMF working paper); Blanchard and Leigh (IMF 2013c), Growth Forecast Errors and Fiscal Multipliers (IMF working paper); DeLong and Summers (2012), Fiscal policy in a depressed economy (Brookings Institute); IMF (2013b), Reassessing the role and modalities of fiscal policy in advanced economies (IMF policy paper); Perotti (2004), Public investment: another (different) look (Universita Bocconi and Centre for Economic Policy Research); Portes and Holland (2012), Self-Defeating Austerity? (National Institute Economic Review)

Conclusion

2.97 Nominal GDP growth has been much weaker over the past three years than we expected in June 2010. The latest data suggest that the shortfall has been dominated by the corporate sector. On the expenditure side, private consumption has risen in line with the forecast, but private investment has failed to recover. And on the income side, the total wage and salary bill has grown somewhat less than we forecast, but private sector profits have failed to increase at all.

2.98 Fortunately for the public finances, labour income and private consumption are taxed relatively heavily, while profits are taxed relatively lightly and quite a lot of private investment is tax deductible. This helps explain why the budget deficit fell broadly in line with the June 2010 forecast in 2010-11 and 2011-12, even though total nominal GDP growth was much weaker. But labour income and private consumption have been weaker relative to our forecasts in the later part of this period, which helps explain why the deficit fell less in 2012-13. We discuss these explanations in greater detail in Chapter 3.

2.99 Meanwhile, real GDP has also grown much less strongly than we forecast in June 2010, although the shortfall is slightly smaller than for nominal GDP – thanks in part to recent data revisions. In descending order of importance, this reflects:

- weak private investment. This mirrors the unexpected weakness of profits, which probably reduced expected returns as well as limiting the internal

finance available for investment at a time of tight credit conditions. Prolonged uncertainty regarding domestic and overseas demand may have deterred larger investment projects that are difficult or costly to reverse;

- a smaller contribution than expected from net trade. Exporters appear to have taken sterling's depreciation as an opportunity to bolster margins rather than to increase market share and export volumes. Meanwhile domestic consumers have not switched from imports to domestically produced goods and services to the degree we would have expected;

- weak real consumption growth. Nominal consumption may have grown broadly in line with the June 2010 forecast, but real consumption has not – although the shortfall is smaller than it looked last year. Real incomes were squeezed by the unanticipated rise in oil and other commodity prices in 2011. And weak productivity growth may have had some effect on real incomes via stronger inflation as well as weaker nominal wage growth; and

- these drags on GDP were partly offset by a continued positive contribution from government investment and consumption, which had been expected to subtract from it. This reflects higher cash spending than originally planned on investment, plus the fact that cuts in nominal consumption had less impact on direct measures of government output than we anticipated.

2.100 The disappointing performance of real GDP over the past three years reflects the weakness of domestic and external demand. But the supply performance of the UK economy also appears to have been unusually weak over this period, although we still believe that there remains significant spare capacity in the economy.

2.101 Potential output looks likely to have grown a lot less quickly over the past three years than we assumed in June 2010, reflecting a number of factors including that the ongoing effects of the financial crisis and associated banking sector impairment appear to have interrupted the flow of capital to its most productive uses. This helps explain the shortfall in productivity against our forecast, which more than explains the shortfall in GDP. Employment – and especially private sector employment – has far exceeded our forecasts.

2.102 While it is clearly possible that fiscal policy has slowed the growth of the economy by more than was assumed in the June 2010 forecast, this does not look the most obvious explanation for the bulk of the shortfall. If the fiscal consolidation had had a much bigger effect than we expected, it is unlikely that it would have hit real private consumption by more but not nominal consumption by more. More generally, it is not obvious why the additional effect would be felt so much in the corporate sector rather than households.

3 The public finances

3.1 This chapter:

- looks at the evolution of our public sector net borrowing (PSNB) forecasts and subsequent outturns over the past three financial years (from paragraph 3.2);
- focuses on the performance of our June 2010 forecast for 2011-12 (from paragraph 3.11) and 2012-13 (from paragraph 3.23) and our March 2012 forecast for 2012-13 (from paragraph 3.35);
- assesses the errors in our forecasts of some of the other main fiscal aggregates (from paragraph 3.48); and
- summarises the public finances data so far in 2013-14 (from paragraph 3.53).

PSNB over the past three years

3.2 Comparisons of PSNB outturn data and forecasts have been complicated recently by a number of policy and statistical classification decisions. These include the Government's decision to transfer the Royal Mail's historic pension fund to the public sector and to transfer the excess cash balances from the Bank of England's Asset Purchase Facility (APF) to the Exchequer, as well as the ONS decision to reclassify Bradford & Bingley plc and Northern Rock (Asset Management) (B&B and NRAM) from the private sector to central government.

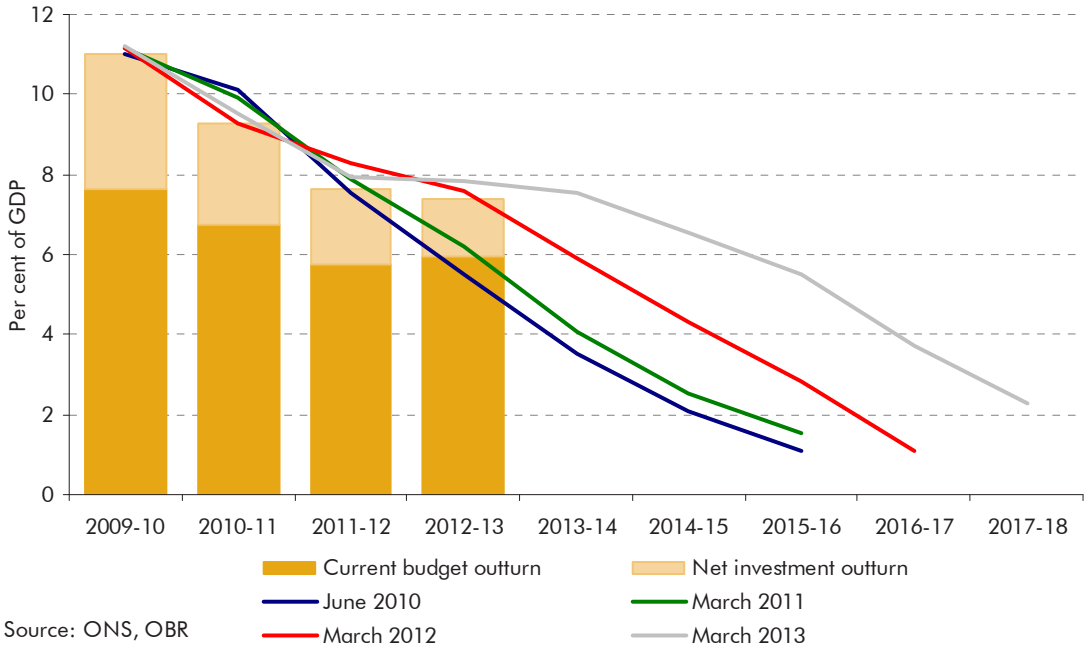
3.3 The Royal Mail and APF transfers have significant effects on the headline measure of PSNB in 2012-13, reducing borrowing by £28.0 billion and £6.4 billion respectively. We have published separate forecasts of PSNB with and without the effect of these factors in recent *Economic and fiscal outlooks (EFO*s). By publishing forecasts of PSNB that remove these effects, we are able to show measures that are more readily comparable between publications. In this chapter, we compare forecasts and outturns of the headline measure of PSNB on this 'underlying' basis – that is excluding the direct effects of the Royal Mail and APF transfers. We will continue to publish forecasts on this basis in forthcoming *EFO*s for as long as the comparison remains useful. The reclassification of B&B and NRAM has only a small effect on PSNB, so we do not remove this from our 'underlying' measure in this *FER*. ONS publishes a variant of the headline

measure of PSNB that excludes Royal Mail and APF transfers, which facilitates comparisons with our forecasts on this basis.

3.4 Viewed as a share of national income, current estimates suggest that 'underlying' borrowing has fallen by about a third from its post-war peak, from 11.0 per cent of GDP in 2009-10 to 7.4 per cent of GDP in 2012-13. As Chart 3.1 shows, PSNB fell by 3.4 per cent of GDP in the two years to 2011-12, very close to the 3.5 per cent of GDP decline that we forecast in June 2010. In the following year, 2012-13, the deficit fell by only 0.3 per cent of GDP, much less than the 2.0 per cent of GDP decline we originally forecast, and also less than the 0.7 per cent of GDP fall we forecast in March 2012.

3.5 Estimates of PSNB continue to be revised well after the fiscal year is over. Cash receipts that are ultimately accrued back come in with a lag, firm data on departmental spending is only available some months after the initial outturn estimates have to be made and the lags from local authority and public corporation data are even longer. For all three years, the latest outturn data show a smaller deficit than the initial outturn data did. The initial estimates have been lowered by 0.3, 0.6 and 0.4 per cent of GDP for 2010-11, 2011-12 and 2012-13 respectively. As well as revisions to the public finances, this reflects the level, though not the growth, of nominal GDP having been revised higher.

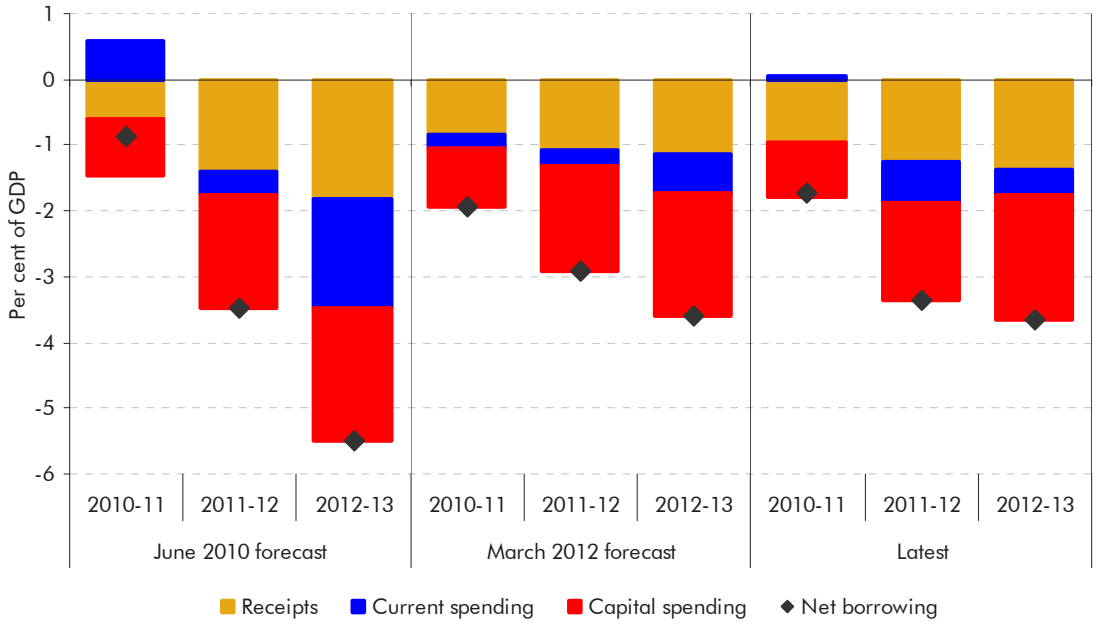
Chart 3.1: Forecasts and outturns for public sector net borrowing



Source: ONS, OBR

3.6 Chart 3.2 shows the changes in PSNB as a share of national income since 2009-10 by receipts and spending, split into current and capital, for both our June 2010 and March 2012 forecasts, as well as the latest outturns.

Chart 3.2: Contributions to changes in net borrowing since 2009-10



Source: ONS, OBR

3.7 The big picture has been that:

- the deficit now appears to have fallen by slightly more as a share of GDP in 2010-11 than we expected in June 2010. Receipts increased much as expected, helped by the reversal of the temporary VAT rate cut and a bounce-back in corporation tax. Meanwhile spending fell, as the Coalition supplemented the cuts in departmental spending that it inherited from the previous Labour government with additional in-year cuts. (This more than offset an increase in debt interest of almost one per cent of GDP, as inflation and debt issuance rose.) Spending fell more than we expected in June 2010, thanks to local authorities and central government departments spending less than we expected;

- over the two years to 2011-12, the fall in borrowing was broadly in line with the June 2010 forecast. Receipts continued to rise, with the increase more than explained by the January 2011 increase in the standard VAT rate. But receipts growth did slow relative to forecast, as lower profits and a greater use of previous losses to offset against tax liabilities dragged down corporation tax, and as greater-than-expected unwinding of forestalling ahead of the introduction of the additional rate of income tax depressed

self-assessment (SA) receipts (see Box 3.1). Spending continued to fall, but by less than expected. Local authorities underspent by less in 2011-12 than 2010-11 and spending on social security, tax credits and public sector pensions increased by more than expected; and

- receipts only rose slightly as a share of GDP in 2012-13, and by less than in our June 2010 forecast, following an unexpected fall in oil and gas receipts and weak SA receipts growth. Spending on welfare increased as a share of GDP, as benefits were uprated by CPI inflation that was above nominal GDP growth. Lower nominal GDP growth also led to spending by departments falling by less as a share of GDP. The fall in borrowing in the year reflected lower investment, with the current deficit rising.

3.8 Looking at these three years as a whole, 63 per cent of the fall in PSNB as a share of GDP up to 2012-13 has been due to lower spending, marginally less than the 67 per cent implied by our June 2010 forecast. Capital spending has fallen by 1.9 per cent of GDP, much as expected, but current spending has only fallen by 0.4 per cent of GDP, compared to our June 2010 forecast of 1.7 per cent of GDP. Both current spending and the broader total have fallen less as a share of GDP than we expected because nominal GDP growth has been weaker than expected – cash spending has actually come in lower than forecast, for both central government departments and local authorities.

3.9 Chart 3.3 shows the errors in our forecasts for net borrowing in cash terms. These relate more to receipts than to spending – spending has been lower than forecast, but receipts have been lower still. The chart also decomposes these errors into their main explanatory factors, showing that the weakness in receipts has been due largely to errors in the economic forecast, while unexpectedly low spending has been due mainly to underspends by local authorities and departments, which were in part an explicit policy choice. More specifically:

- nominal consumption and wages and salaries, the relatively tax rich components of nominal GDP, have held up comparatively well. But receipts have nonetheless come in weaker relative to GDP than we expected because of the mix of wages and salaries (with more of the growth coming through employment and less through average earnings, which lowers the average tax rate), lower oil and gas production, a stagnant property market and lower interest rates. These economic errors led to us over-estimate receipts by over £10 billion in 2011-12 and over £30 billion in 2012-13 in our June 2010 forecast. In other words, if we ran the forecast again, with the most recent outturn data as economic assumptions, we would have forecast much higher borrowing. Nominal GDP growth also continued to disappoint in 2012-13 relative to our March 2012 forecast, although nominal consumption and wages and salaries held up relative to other parts

of the economy. The errors mainly related to oil and gas production, profits and dividend income;

- revenues have been much more sensitive to developments in the wider economy than spending. The relatively strong performance of the labour market has helped keep welfare spending close to forecast and the effects of higher inflation on welfare and debt interest have been largely offset by the impact of lower interest rates on debt interest;

- our over-estimation of receipts after allowing for economic factors was much smaller in total, but included some offsetting effects. SA receipts were depressed by greater unwinding in 2011-12 of the forestalling ahead of the additional rate of income tax and then by larger-than-expected repayments, primarily of PAYE, in 2012-13. Corporation tax receipts were lower than expected because firms had more losses available to offset against corporation tax liabilities than we assumed in June 2010. Partially offsetting these, VAT and capital taxes held up better than economic factors alone would suggest, and public corporations' operating surpluses also rose by more than expected;

- we under-estimated welfare and public service pensions spending, as falling owner occupation rates led to a bigger than expected increase in housing benefit caseloads, as more tax credits were scored as spending rather than negative tax (with these effects cancelling out in their impact on borrowing), and as public service pension payments following retirements and redundancies were higher;

- these upward pressures on spending were more than offset by underspends by local authorities and departments. Apportioning these between errors in our forecasting judgements and policy changes is not clear-cut. For the purposes of this analysis we treat all local authority underspends as fiscal forecasting errors, but only central government departments' underspends against final plans, set out in winter supplementary estimates, in the same way. Most of the underspends in 2011-12 fell into this category;

- most of the underspends by departments in 2012-13 were agreed by the winter, so have been treated as explicit policy changes. Some of the subsequent underspends, which we treat as forecasting errors, reflected a policy choice to bring down spending totals late in the financial year. The Government first set out explicit departmental budgets in its 2010 Spending Review, which followed the June Budget. These were slightly higher than the implied totals in June. Underspends, and therefore policy changes, were larger against this higher baseline, on which we based our March 2012 forecast. In other words, having increased the total limits on departmental

spending in 2012-13 from £363.5 billion in June 2010 to £368.7 billion by the November 2010 *EFO*, reflecting the decision in the October 2010 Spending Review to pay for higher departmental spending with extra welfare cuts, in the event departmental spending came in at only £351.1 billion; [1]

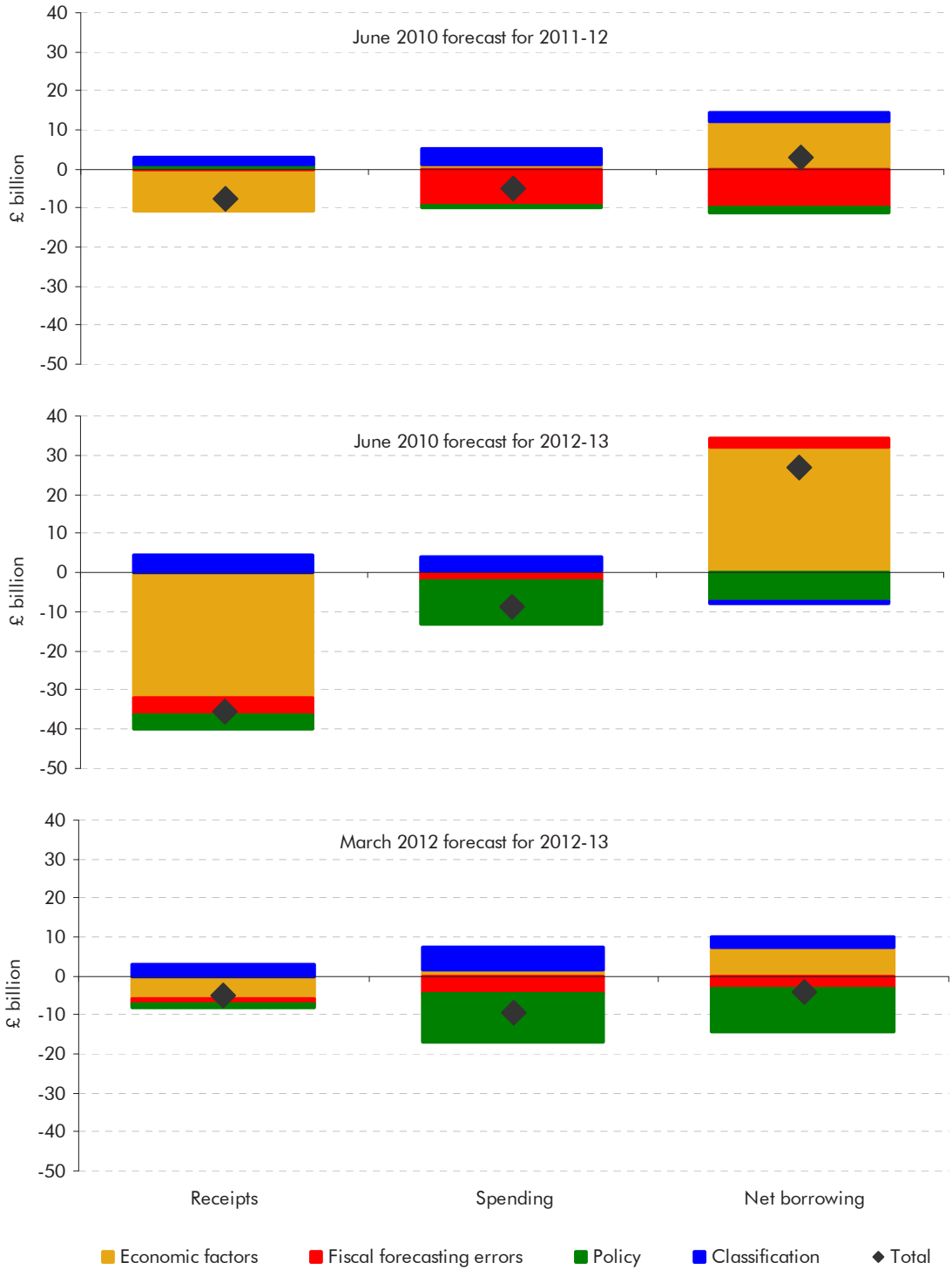
- policy changes affecting receipts were on a smaller scale. The net effect of a number of giveaways and takeaways was a small increase in receipts in 2011-12, and a reduction in 2012-13, mainly due to decisions to freeze fuel duty rates in addition to the 1 pence per litre cut announced in Budget 2011. The Government also announced an increase in the supplementary charge on North Sea profits, taking effect from 2011-12 – lower production and higher expenditure by firms, particularly in 2012-13, means this has raised less than originally expected; and

- classification changes have affected both receipts and spending, although they largely cancel out for borrowing. The reclassification of B&B and NRAM increases both receipts and spending, with the difference a small improvement in net borrowing. This is offset by the effects of ONS's decision to reclassify the proceeds from the 3G spectrum auction in 2000-01 as an upfront improvement in borrowing, rather than an accrued benefit over its lifetime. The ONS has also reclassified the 2012-13 proceeds from the Special Liquidity Scheme as higher receipts rather than lower spending and ongoing flows as a consequence of the Government's decision to transfer Royal Mail's historic pension deficit (which we do not remove from our underlying measure of borrowing) also net out.

3.10 The following sections discuss in more detail the factors that explain the forecast errors depicted in Chart 3.3. The underlying figures are also captured in later tables.

[1] Other factors affecting the reduction in departmental spending relative to the October 2010 Spending Review include £2.3 billion proceeds from the sale of 4G spectrum and a £1.7 billion reduction following the classification changes explained fully in footnote 6 of this chapter.

Chart 3.3: Errors in forecasting receipts, spending and net borrowing



Source: ONS, OBR

June 2010 forecast for 2011-12

3.11 Despite our forecast for real GDP growth proving much too optimistic, our June 2010 borrowing forecast was still largely on track by 2011-12. So why was the deficit still falling on schedule despite a much weaker economy?

3.12 We attempted to answer this question in last year's *Forecast evaluation report (FER)*. Subsequent data revisions mean that the explanation has changed somewhat:

- in last year's *FER* we noted that nominal GDP – which matters more as a determinant of tax revenues – held up closer to our June 2010 forecast than real GDP. As we discussed in Chapter 2, this is no longer the case in the latest data, as real GDP growth over the first two years of the June 2010 forecast has been revised up and nominal GDP growth revised down;

- that said, the latest data suggest – as the data available last year did – that the unexpected weakness of nominal GDP growth has been concentrated in those components of spending and income that do the least damage to the public finances: private investment rather than private consumption, and profits rather than labour income; and

- we over-estimated some receipts quite significantly for reasons that are not directly linked to GDP, for example the impact of forestalling on SA receipts and of the use of past losses to reduce corporation tax liabilities. But these errors were partly offset by lower-than-expected spending, principally by local authorities and central government departments. Welfare spending was less affected by the weakness in growth, reflecting unexpected resilience in the labour market.

3.13 In June 2010, we forecast that PSNB would be around £116 billion, or 7.5 per cent of GDP, in 2011-12. The most recent outturn suggests that borrowing was £2.8 billion, or 0.2 per cent of GDP, higher than we expected. More than half of this error reflected higher net investment, so our error in forecasting the current budget was only £0.9 billion.

3.14 Whilst these errors are small by historical standards, there were some larger offsetting errors within our receipts and spending forecasts. Public sector receipts were around £8 billion lower than we expected, more than explained by a weaker economy, but total spending was also around £5 billion lower, mainly as a result of underspends against plans.

Table 3.1: June 2010 net borrowing and current budget errors for 2011-12

	£ billion						
	Forecast	Outturn	Error	*of which:*			
				Economic factors	Fiscal forecasting errors	Policy changes	Classification changes
Receipts (a)	584.2	576.4	-7.8	-10.8	0.5	0.8	1.7
Spending (b)	699.8	694.9	-4.9	1.2	-9.6	-0.4	4.0
of which:							
Current expenditure (c)	651.1	644.2	-6.9	1.2	-9.3	-1.9	3.1
Net investment (d)	27.2	29.1	1.9	0.0	0.1	1.0	0.8
Depreciation (e)	21.6	21.6	0.0	0.0	-0.5	0.5	0.0
Net borrowing (b - a)	115.6	118.5	2.8	11.9	-10.1	-1.2	2.3
Current budget (a - c - e)	-88.5	-89.4	-0.9	-11.9	10.2	2.2	-1.5

Receipts[2]

3.15 Table 3.2 shows errors in forecasting the main tax heads as a share of GDP, and Table 3.3 splits our cash errors for 2011-12 into errors relating to economic factors, policy, classification and underlying fiscal forecasting errors. A further disaggregation by receipts is available in Annex A. Receipts data are subject to revision over time, and economic data even more so. Our understanding of the drivers of our errors is therefore likely to evolve.

3.16 Upward revisions to the level of nominal GDP have already led to notable revisions in the receipts (and spending) to GDP ratio. Abstracting from this, the improvement in receipts relative to GDP between 2009-10 and 2011-12 was only a little below our June 2010 forecast. Most of the increase arose through higher VAT receipts, as the temporary reduction in the standard VAT rate was first reversed in January 2010 and then it was increased in January 2011. Income tax and NICs fell as a share of GDP, largely due to increases in the personal allowance, and corporation taxes recovered following a big drop during the recession. Over and above these expected changes, VAT receipts were a little firmer, but income tax and NICs and corporation tax somewhat weaker than expected.

[2] Our June 2010 receipts forecast was presented on a cash basis with a separate accruals adjustment, whereas subsequent forecasts have been presented on an accrued basis, as they score in the National Accounts. To aid comparability in this report, we present the June 2010 forecast on an accrued basis and so the figures differ marginally from the original publication.

Table 3.2: June 2010 receipts to GDP errors up to 2011-12

	Per cent of GDP								
	Forecast			Outturn			Error		
	09-10	10-11	11-12	09-10	10-11	11-12	09-10	10-11	11-12
Receipts	**36.6**	**37.2**	**38.0**	**36.0**	**36.9**	**37.2**	**-0.6**	**-0.2**	**-0.7**
of which:									
Income tax and NICs	17.4	16.9	16.8	17.0	16.7	16.4	-0.4	-0.2	-0.4
VAT	5.2	5.7	6.3	5.1	5.7	6.3	-0.1	0.1	0.0
Corporation tax	2.6	2.9	3.0	2.5	2.9	2.8	-0.1	-0.1	-0.3
Other	11.4	11.7	11.8	11.3	11.6	11.7	-0.1	0.0	-0.1

3.17 Table 3.3 sets out that:

- SA receipts were around £4 billion lower than expected, explaining most of our income tax and NICs forecast error. As SA is paid with a one-year lag, this reflects errors in our forecast for SA liabilities in 2010-11. We over-estimated growth in SA incomes, but the bulk of the error related to the original costing for the introduction of the additional 50p rate of income tax, which took effect from April 2010. We under-estimated the extent of forestalling ahead of its introduction (which also meant cash receipts in 2010-11, relating to 2009-10 liabilities, came in stronger) and also appear to have over-estimated its long-run yield;

- although nominal consumption held up, its composition should have brought down VAT receipts, as relatively more was spent on food and energy (mainly due to higher inflation) and relatively less on standard-rated goods. But VAT receipts in fact came in just over £1 billion stronger, helped by a fall in the VAT gap;

- onshore corporation tax receipts were depressed by lower profit growth, particularly within the financial sector. We also under-estimated the extent to which companies used previous losses to offset their latest tax liabilities, leading to an overall error of £4.6 billion;

- oil and gas receipts came in just over £1 billion higher, with the increase in the supplementary charge announced in Budget 2011 and higher prices more than offsetting lower production;

- fuel duties were lower by over £2 billion, almost entirely because of subsequent policy decisions to freeze fuel duty rates;

- we made large but mainly offsetting errors within our capital taxes forecast, with negative errors in our stamp duty forecast, mainly due to economic factors, more than offset by positive errors in our capital gains and inheritance tax forecasts, mainly due to fiscal forecasting errors. As with

income tax, some of these errors were associated with the judgements we made about the extent of forestalling around capital gains tax (CGT) policy changes. Lower property prices and fewer transactions depressed stamp duty land tax receipts and fewer share transactions also led to lower stamp duty on shares. Fiscal forecasting errors on CGT partly reflect that the June 2010 model did not fully capture the sensitivity of CGT receipts to equity prices. Fiscal forecasting errors on inheritance tax reflected under-estimates of the average value of estates;

- a small overall error in our interest and dividend receipts forecast also masks offsetting errors, as lower than expected interest rates reduced receipts, whilst the reclassification of B&B and NRAM into the public sector increased receipts by a similar amount; and

- the reclassification of 3G spectrum proceeds also reduced receipts. The ONS treatment of these changed in August 2011, with proceeds now reducing borrowing when the auction took place in 2000-01, rather than by £1.0 billion in each year of the licence period.

Table 3.3: June 2010 receipts errors for 2011-12

	£ billion						
	Forecast	Outturn	Error	*of which:*			
				Economic factors	Fiscal forecasting errors	Policy changes	Classification changes
Income tax and NICs	259.0	254.3	-4.7	-2.9	-3.1	1.2	0.0
of which: Pay as you earn	*133.3*	*133.9*	*0.6*	*0.4*	*-0.3*	*0.6*	*0.0*
Self-assessment	*24.2*	*20.3*	*-3.9*	*-1.7*	*-2.4*	*0.3*	*0.0*
NICs	*103.3*	*101.6*	*-1.7*	*-0.3*	*-1.8*	*0.4*	*0.0*
Value added tax	96.9	98.1	1.2	-1.3	2.5	0.0	0.0
Onshore corporation tax	38.4	33.8	-4.6	-1.4	-3.2	0.0	0.0
UK oil and gas receipts	10.2	11.3	1.1	-1.1	0.7	1.5	0.0
Fuel duties	28.9	26.8	-2.1	0.1	0.1	-2.3	0.0
Business rates	25.7	25.0	-0.7	0.1	-0.6	-0.2	0.0
Council tax	26.0	26.0	0.0	0.0	0.0	0.0	0.0
Excise duties	19.2	20.1	0.9	0.3	0.5	0.1	0.0
Capital taxes	15.9	16.2	0.3	-1.9	2.2	0.0	0.0
Other taxes	37.4	39.4	2.0	0.1	1.2	0.4	0.3
National Accounts taxes	**557.6**	**550.9**	**-6.7**	**-8.0**	**0.2**	**0.8**	**0.3**
Interest & dividend receipts	5.5	5.8	0.3	-2.8	0.6	0.0	2.4
Other receipts	21.1	19.8	-1.3	0.0	-0.3	0.0	-1.0
Current receipts	**584.2**	**576.4**	**-7.8**	**-10.8**	**0.5**	**0.8**	**1.7**

Box 3.1: The impact of forestalling on income tax receipts

The previous Government announced in Budget 2009 that it would tax incomes above £150,000 at 50 per cent from April 2010. In Budget 2012, the current Government announced that this 'additional rate' would be cut to 45p from April 2013. High-income individuals brought forward taxable income ('forestalled') into 2009-10 so that it would be taxed at 40 per cent rather than 50 per cent. This boosted the tax take on 2009-10 liabilities but meant a lower tax take in the following two years as this forestalling unwound. Similarly, the cut in the additional rate to 45p led to 'reverse forestalling', with high-income individuals shifting taxable income from 2012-13 to 2013-14 to take advantage of the lower rate.

The payment on account regime for self-assessment (SA) means that the effect of forestalling on SA liabilities is not seen in receipts until the following year and SA receipts are scored in the public finances when the cash is received. So the SA forestalling on 2009-10 tax liabilities ahead of the introduction of the 50p rate boosted SA receipts in 2010-11. The unwinding of this forestalling depressed SA receipts particularly in 2011-12 and to a smaller extent in 2012-13.

Table A: Latest estimates of the effect on income tax of forestalling

	£ billion			
	2009-10	2010-11	2011-12	2012-13
Introduction of 50p additional rate				
PAYE	4.4	-3.9	-0.7	0.0
Self-assessment	0.0	2.4	-2.2	-0.5
Cut in the additional rate to 45p				
PAYE	0.0	0.0	0.0	-1.7

PAYE forestalling ahead of the introduction of the 50p rate had boosted receipts at the end of 2009-10 and in June 2010 we allowed for some unwinding of this effect during 2010-11, although not to the extent that we now estimate to have taken place. The June 2010 forecast had allowed for around a £1 billion effect on receipts from SA forestalling. As a result, SA receipts were stronger than expected in 2010-11 and then weaker in 2011-12. These errors are scored as fiscal forecasting errors in the June 2010 forecast comparisons. The effect of the cut in the additional rate to 45p is scored as a policy change.

Our March 2012 forecast incorporated revised estimates of the effects on receipts. Our latest estimate is that the shifting of taxable incomes from 2012-13 into 2013-14 decreased PAYE receipts in 2012-13 by around £1.7 billion, compared with the initial estimate of £2.4 billion. This error is scored as a fiscal forecasting error in the March 2012 comparisons.

Spending

3.18 Tables 3.4 and 3.5 give the corresponding details of our spending forecast errors. Spending fell by 2.1 per cent of GDP in the two years to 2011-12. The drop was more than accounted for by lower spending by departments, which fell by 2.7 per cent of GDP as the Coalition supplemented inherited plans with additional spending cuts. Partially offsetting this, debt interest costs rose by 1.0 per cent of GDP, due to a higher debt stock and inflation. The rise in debt interest was a little more than expected, and welfare spending remained flat as a share of GDP, rather than falling as forecast in June 2010. A number of other factors ensured the overall drop in spending as a share of GDP was in line with forecast.

Table 3.4: June 2010 spending to GDP errors up to 2011-12

	Per cent of GDP								
	Forecast			Outturn			Error		
	09-10	10-11	11-12	09-10	10-11	11-12	09-10	10-11	11-12
Spending	**47.5**	**47.3**	**45.5**	**47.0**	**46.2**	**44.9**	**-0.5**	**-1.0**	**-0.6**
of which:									
TME in DEL	26.7	25.7	23.9	26.0	24.9	23.3	-0.7	-0.8	-0.6
Social security & tax credits	13.3	13.1	12.9	13.0	12.9	13.0	-0.2	-0.2	0.1
Debt interest	2.2	2.9	3.0	2.1	3.0	3.1	-0.1	0.1	0.1
Other	5.4	5.6	5.6	5.8	5.5	5.4	0.4	-0.1	-0.2

3.19 Table 3.5 decomposes our cash spending errors by source. Our overall cash spending error can be more than explained by lower spending by departments. The Government first set out explicit departmental budgets for 2011-12 in its 2010 Spending Review, which followed the June Budget. Our forecasts for departmental spending in June 2010 were those implied by the Government's assumptions on overall spending and our forecasts for all other spending components.

3.20 In total, departments underspent against the implied current spending forecast by almost £7 billion, whilst also under-spending a little against their implied capital forecast. Between our June 2010 forecast and final DEL plans in the supplementary estimates for 2011-12, current plans were reduced by £2.4 billion and capital plans increased by £2.1 billion.[3] We treat these differences as policy changes and later changes as our own forecasting errors. It is usual for departments to underspend against final plans because there are strong

[3] This includes the re-classification of some transactions in our presentation of DEL spending (including EU attributed aid and various EU grants and subsidies) following changes in the new Treasury spending database (their Online System for Central Accounting and Reporting, known as OSCAR). This accounts for £1.8 billion of the reduction in current and £0.3 billion of the increase in capital. These transactions are not included in PSCE and PSGI and so these changes to the DEL outturns are offset in accounting adjustments.

incentives in the budgeting system to avoid overspends. The 2011-12 capital and current underspends were each around £1 billion higher than the average over the previous three years of £3.2 billion on current and £1.4 billion on capital.

3.21 Local authorities also spent less than we had assumed. Overall, local authority self-financed spending was £1.7 billion below forecast,[4] within which current spending was £5.1 billion lower, but capital spending £3.4 billion higher. Local authorities added £2.5 billion more to their reserves than the small addition we had assumed, but also carried out an additional £0.9 billion of unsupported borrowing to fund capital spending.

3.22 Other spending errors of note include:

- a £1.5 billion error in our social security forecast. The labour market held up much better than would be expected given the weakness in GDP growth, leading to only a small error due to economic factors. Among other errors, we under-estimated the growth in housing benefit claims, as falling owner occupation rates led to a rise in eligibility. Slower than expected migration from incapacity benefit and income support to the less generous employment support allowance also increased spending;

- we made a similar sized error in our tax credits spending forecast, although this can be more than explained by a greater proportion of personal tax credits payments being scored as spending rather than lower taxes. This has no effect on borrowing. In aggregate, personal tax credit payments were almost £1 billion below forecast, mainly due to lower than expected childcare claims;

- spending on public sector pensions was almost £2 billion above forecast, as an unexpectedly large number of retirements led to higher lump-sum payments;

- debt interest costs were also almost £2 billion higher. Lower interest rates reduced spending, but this effect was more than offset by higher inflation which increased accrued payments on index-linked gilts;

- the reclassification of B&B and NRAM increased debt interest costs a little. More broadly, the reclassification increased total spending by over £1 billion;

[4] After removing the effect of the £8.1 billion net capital transfer (from local authorities to central government) arising from the 2010 Spending Review Housing Revenue Account (HRA) reforms, which were not included in the June 2010 Budget forecast but are recorded in outturn.

- fees associated with financial sector interventions, which score as negative spending, were around £2 billion. Estimates at the time were not firm enough to include in our original forecast; and

- public corporations also spent around £1 billion less on capital.

Table 3.5: June 2010 spending errors for 2011-12

	£ billion						
	Forecast	Outturn	Error	*of which:*			
				Economic factors	Fiscal forecasting errors	Policy changes	Classification changes
PSCE in RDEL	327.5	320.7	-6.8	0.0	-4.4	-0.7	-1.8
Locally-financed current	26.4	21.3	-5.1	0.0	-4.8	-0.3	0.0
Social security	173.4	174.9	1.5	0.8	0.9	-0.1	0.0
Tax credits	25.7	27.0	1.2	0.1	1.4	-0.3	0.0
Public service pensions	6.3	8.1	1.8	0.0	1.8	0.0	0.0
Debt interest	46.5	48.4	1.9	0.6	0.7	0.0	0.6
Other current	45.3	43.8	-1.5	-0.3	-4.8	-0.6	4.3
Current expenditure	**651.1**	**644.2**	**-6.9**	**1.2**	**-9.3**	**-1.9**	**3.1**
PSGI in CDEL	35.3	35.0	-0.3	0.0	-2.5	1.9	0.3
Locally-financed capital[1]	4.8	8.2	3.4	0.0	3.9	-0.5	0.0
Other capital[1]	8.6	7.5	-1.1	0.0	-1.8	0.2	0.6
Gross investment	**48.7**	**50.7**	**2.0**	**0.0**	**-0.4**	**1.5**	**0.8**
Less depreciation	-21.6	-21.6	0.0	0.0	0.5	-0.5	0.0
Net investment	**27.2**	**29.1**	**1.9**	**0.0**	**0.1**	**1.0**	**0.8**
Total spending	**699.8**	**694.9**	**-4.9**	**1.2**	**-9.6**	**-0.4**	**4.0**

[1] The £8.1 billion net capital transfer (from local authorities to central government) arising from the 2010 Spending Review Housing Revenue Account (HRA) reforms is excluded from the outturn data here so it is comparable with the basis of the initial forecast.

June 2010 forecast for 2012-13

3.23 In June 2010 we forecast that borrowing would fall by a further £27 billion in 2012-13, but the latest estimate suggests that it fell by only £3 billion on a comparable 'underlying' basis. Within that total, net investment fell by around £6.6 billion and the current budget deficit widened by just under £4 billion. So why did the decline in the deficit slow so abruptly from its forecast path in 2012-13, having defied the weakness of the economy in the preceding two years?

3.24 Based on the latest data, a broad explanation would be that:

- the error in forecasting nominal GDP was much larger in 2012-13 than would have been expected by extrapolating the errors in the previous two years. But this only explains part of the additional weakness, as the

composition of nominal GDP growth was more favourable for receipts than we expected;

- other non-GDP related errors were also significant, notably unexpectedly weak income tax receipts from the self-employed and much lower than expected North Sea receipts as production disappointed again. In June 2010 we had also assumed that by the third year of the forecast interest rates and activity in the property market would be returning to more normal levels, bringing in more revenue, but in neither case did they do so; and

- the slower-than-expected fall in spending as a share of GDP reflected lower nominal GDP growth rather than higher cash spending. Cash spending continued to come in below forecast, and by more than in the previous year, as departments and local authorities underspent by even more relative to their plans. The direct consequences for spending of the weaker economy were small, as the labour market held up and errors due to higher inflation and lower interest rates largely offset each other.

3.25 Table 3.6 breaks down our cash borrowing forecast by component. Cash spending came in below forecast and the deterioration arose on the receipts side, mainly due to economic factors.

Table 3.6: June 2010 net borrowing and current budget errors for 2012-13

	£ billion						
	Forecast	Outturn	Error	*of which:*			
				Economic factors	Fiscal forecasting errors	Policy changes	Classification changes
Receipts (a)	621.9	586.5	-35.5	-31.8	-4.7	-3.3	4.3
Spending (b)	711.0	702.1	-8.9	0.3	-2.4	-10.7	3.8
of which:							
Current expenditure (c)	664.5	657.1	-7.4	0.3	-3.2	-7.5	3.0
Net investment (d)	24.0	22.5	-1.6	0.0	1.4	-3.7	0.8
Depreciation (e)	22.5	22.5	0.0	0.0	-0.6	0.6	0.0
Net borrowing (b - a)	89.1	115.7	26.6	32.1	2.3	-7.3	-0.5
Current budget (a - c - e)	-65.1	-93.2	-28.1	-32.1	-0.9	3.6	1.3

3.26 Table 3.7 decomposes the receipts and spending errors for the past two years that we can relate to economic factors. Nominal GDP grew by £16 billion less than we forecast in the two years to 2011-12, but by £75 billion less in the three years to 2012-13. This depressed receipts, but much of the shortfall reflected factors not directly related to the behaviour of GDP. The table shows that:

- on the expenditure side, since our over-estimate of nominal GDP mainly showed up in business investment, rather than private consumption, the

direct implications for receipts were relatively small. Lower business investment implies less scope to use capital allowances to offset corporation tax liabilities, which potentially boosted receipts by around £½ billion. Although nominal consumption growth weakened relative to forecast going into 2012-13, the composition was slightly more favourable for VAT receipts, with spending on durables, such as motor vehicles, picking up;

- on the income side, our over-estimate of nominal GDP mainly showed up in relatively lightly taxed profits rather than wages and salaries, again limiting the impact on receipts. That said, the profits shortfall still reduced receipts by almost £5 billion in 2012-13, particularly due to lower financial company profits. The composition of the growth in wages and salaries, with more arising from increases in employment than average earnings, also depressed income tax and NICs receipts. Both employment and unemployment levels were higher than expected in 2012-13 (we under-estimated total activity), so welfare spending was also higher, albeit much less than one would have expected given the shortfall in GDP;

- the consequences of over-estimating dividend and other SA income were greater than for either profits or wages and salaries alone. As SA is collected a year later, the shortfalls in income that affected 2012-13 receipts arose in 2011-12 (see Box 3.1);

- lower North Sea production (following unplanned temporary closures of several large fields) and higher expenditure that could be offset against tax liabilities reduced oil and gas receipts by over £8 billion, partially offset by higher oil and gas prices that added £3.5 billion;

- higher inflation boosted receipts from indirect taxes linked to inflation in both 2011-12 and 2012-13, but by the latter year this was offset by its effect on income tax and NICs receipts via the indexation of thresholds and allowances. Higher thresholds reduce the amount of income taxed at higher rates, lowering overall receipts;

- higher inflation had a bigger effect on spending, increasing it by almost £6 billion in 2012-13. Inflation has an instant effect on payments on index-linked gilts and also affects benefit thresholds and public sector pension payments with a one-year lag. In particular, higher inflation in 2011 increased basic state pensions, through the triple lock, by £2.4 billion in 2012-13;

- lower interest rates reduced debt interest costs by £8 billion in 2012-13, but also depressed receipts by almost £7 billion, through its effects on taxes on savings income and public sector interest receipts; and

- property markets and equity transactions failed to pick up as assumed, leading to an additional receipts shortfall in 2012-13.

Table 3.7: June 2010 receipts and spending forecast errors due to economic factors

	£ billion			
	2011-12		2012-13	
	Receipts	Spending	Receipts	Spending
Income and expenditure	**-4.4**	**0.6**	**-13.7**	**1.4**
Wages and salaries	0.9	0.6	-3.2	1.4
Non-oil PNFC profits	-0.5		-1.8	
Financial profits	-1.9		-2.9	
Dividend income	-0.6		-2.4	
Other self-assessed income	-0.9		-2.2	
Consumer expenditure	-1.6		-0.6	
Investment	0.4		0.6	
Other GDP effects	-0.2		-1.1	
North Sea	**0.3**	**0.0**	**-4.6**	**0.0**
Oil and gas prices	4.7		3.5	
Production and expenditure	-4.4		-8.2	
Direct effect of RPI/CPI	**0.9**	**4.6**	**-0.7**	**5.9**
Interest rates	**-3.7**	**-3.0**	**-6.8**	**-8.0**
Markets	**-1.9**	**0.0**	**-4.4**	**0.0**
Property markets	-1.5		-3.4	
Equity markets	-0.3		-1.0	
Other determinants	**-1.9**	**-1.0**	**-1.6**	**1.0**
Total	**-10.8**	**1.2**	**-31.8**	**0.3**

Receipts

3.27 Table 3.8 shows our forecasts for receipts as a share of GDP and Table 3.9 includes more of the underlying detail. Although the expenditure and income composition of GDP was more favourable than we had originally forecast, receipts underperformed relative to GDP in 2012-13. Income tax and NICs fell as a share of GDP, rather than rising as we had forecast, mainly due to the shortfall in SA receipts as well as the less tax-favourable split for wages and salaries between employment and earnings growth, coupled with bigger increases in thresholds due to higher inflation and policy changes. Corporation tax receipts fell in absolute terms and as a share of GDP due to much lower receipts from the oil and gas sector. Conversely, VAT receipts continued to rise.

Table 3.8: June 2010 receipts to GDP errors

	Per cent of GDP								
	Forecast			Outturn			Error		
	10-11	11-12	12-13	10-11	11-12	12-13	10-11	11-12	12-13
Receipts	**37.2**	**38.0**	**38.4**	**36.9**	**37.2**	**37.4**	**-0.2**	**-0.7**	**-1.0**
of which:									
Income tax and NICs	16.9	16.8	17.1	16.7	16.4	16.3	-0.2	-0.4	-0.8
VAT	5.7	6.3	6.2	5.7	6.3	6.4	0.1	0.0	0.2
Corporation tax	2.9	3.0	3.1	2.9	2.8	2.6	-0.1	-0.3	-0.6
Other	11.7	11.8	12.0	11.6	11.7	12.0	0.0	-0.1	0.0

3.28 Over and above the economic factors discussed above, Table 3.9 shows:

- income tax and NICs repayments (primarily those related to PAYE) were over £1 billion higher than expected following the introduction of new IT systems. HMRC were able to identify more repayments relating to the previous year, as well as legacy repayments from 2003-04 onwards;
- SA receipts were even weaker than economic factors alone would suggest. The growth in self-employment produced less revenue than we would have expected. This indicates a fall in the effective tax rate, probably reflecting lower average incomes for the newly self-employed;
- the supplementary charge measure on North Sea profits introduced in Budget 2011 increased receipts. However, lower than forecast levels of production and higher expenditure by firms means that the measure is now estimated to have increased receipts by around £1.2 billion in 2012-13, as opposed to the original estimate of £2.2 billion;
- there was an additional error in our fuel duty forecast relating to another freeze in fuel duty rates;
- as in 2011-12 capital gains tax and inheritance tax held up better than economic developments would otherwise have implied. Stamp duty land tax receipts were supported by the stronger performance of the London housing market, with its higher proportion of properties subject to higher stamp duty rates; and
- after allowing for the re-costing of the supplementary charge the overall effect of policy announcements made after the June 2010 forecast was a reduction of around £3 billion in receipts.

Table 3.9: June 2010 receipts errors for 2012-13

	£ billion						
	Forecast	Outturn	Error	*of which:*			
				Economic factors	Fiscal forecasting errors	Policy changes	Classification changes
Income tax and NICs	277.2	256.8	-20.4	-13.3	-7.1	0.0	0.0
of which: Pay as you earn	*137.7*	*132.6*	*-5.2*	*-3.9*	*0.4*	*-1.7*	*0.0*
Self-assessment	*29.2*	*20.6*	*-8.6*	*-4.3*	*-4.9*	*0.6*	*0.0*
NICs	*108.9*	*104.5*	*-4.4*	*-2.3*	*-3.2*	*1.1*	*0.0*
Value added tax	99.9	100.7	0.8	-1.2	1.9	0.2	0.0
Onshore corporation tax	42.1	35.6	-6.5	-3.4	-2.3	-0.7	0.0
UK oil and gas receipts	10.6	6.5	-4.0	-4.7	-0.5	1.2	0.0
Fuel duties	30.3	26.6	-3.7	-0.4	0.2	-3.5	0.0
Business rates	26.6	26.1	-0.5	0.7	-0.6	-0.5	0.0
Council tax	27.0	26.3	-0.8	0.0	-0.8	0.0	0.0
Excise duties	19.6	19.7	0.1	0.2	-0.2	0.1	0.0
Capital taxes	17.7	16.2	-1.6	-4.6	3.1	-0.1	0.0
Other taxes	41.5	42.1	0.7	-0.2	-0.4	0.0	1.2
National Accounts taxes	**592.4**	**556.6**	**-35.8**	**-27.0**	**-6.8**	**-3.3**	**1.2**
Interest & dividend receipts	7.5	8.0	0.5	-4.9	1.2	0.0	4.1
Other receipts	22.0	21.9	-0.1	0.0	0.9	0.0	-1.0
Current receipts	**621.9**	**586.5**	**-35.5**	**-31.8**	**-4.7**	**-3.3**	**4.3**

Spending

3.29 Table 3.10 shows that spending only fell by 0.2 per cent of GDP in 2012-13, much less than we forecast. Welfare spending rose as a share of GDP rather than falling as we initially forecast, and spending by departments only fell by around 1.0 per cent of GDP, rather than the 1.5 per cent of GDP we forecast in June 2010. The latter error in particular reflected lower nominal GDP growth rather than an error in our cash forecasts.

Table 3.10: June 2010 spending to GDP errors

	Per cent of GDP								
	Forecast			Outturn			Error		
	10-11	11-12	12-13	10-11	11-12	12-13	10-11	11-12	12-13
Spending	**47.3**	**45.5**	**43.9**	**46.2**	**44.9**	**44.7**	**-1.0**	**-0.6**	**0.8**
of which:									
TME in DEL	25.7	23.9	22.4	24.9	23.3	22.4	-0.8	-0.6	-0.1
Social security & tax credits	13.1	12.9	12.6	12.9	13.0	13.5	-0.2	0.1	0.9
Debt interest	2.9	3.0	3.2	3.0	3.1	3.1	0.1	0.1	-0.2
Other	5.6	5.6	5.6	5.5	5.4	5.8	-0.1	-0.2	0.2

3.30 The cash spending errors relating to the economy, mainly on welfare spending and debt interest were largely offsetting. Table 3.11 shows that once again, the

main cash errors related to under-spending by central government departments and local authorities.

3.31 In total, central government departments underspent against their implied current plans by £7.9 billion and implied capital plans by £3.6 billion.[5] After allowing for classification changes,[6] current spending in the final plans in the winter supplementary estimates for 2012-13 was £2.9 billion lower than implied by our June 2010 forecast, and capital spending was £0.1 billion lower. The Government also sold 4G spectrum for £2.3 billion, setting the proceeds off against budgets.

3.32 This leaves underspends against final plans by departments of £3.0 billion on current spending and £1.4 billion on capital spending. These figures are slightly below the average of past underspends, probably because the Government anticipated more under-spending than normal in the winter supplementary estimates. Some of these additional underspends are likely to have been the consequence of a late push to ensure borrowing fell over the year, and so we have characterised them as a policy change, but it is difficult to disentangle exactly how much of the underspend was a true policy decision.

3.33 Local authority self-financed spending was £3.7 billion below forecast, with additional capital spending of over £1 billion more than offset by lower current spending. Government grants to incentivise local authorities to freeze council tax rates reduced self-financed spending by £1.2 billion, with an equal offset in central government budgets. Local authorities added to their reserves by £2.5 billion above the small increase we had pencilled into our original forecast, but also carried out an additional £0.9 billion of unsupported borrowing for capital spending.

3.34 In other spending areas, our errors were of a similar nature to those for 2011-12, and generally on a slightly larger scale:

- spending on housing benefit continued to come in higher than expected due to higher caseloads;

[5] There was also a £1 billion underspend on Single Use Military Equipment, which is part of capital DEL, but is scored as current in the National Accounts.

[6] There was a re-classification of some transactions in our presentation of DEL spending (including EU attributed aid and various EU grants and subsidies) following changes in the new Treasury spending database (OSCAR). This accounts for a £1.9 billion reduction in current and £0.2 billion increase in capital. These transactions are not included in PSCE and PSGI and so these changes to the DEL outturns are offset in accounting adjustments.

- the migration to the less generous employment support allowance remained behind original plans;
- even more of the payments on personal tax credits were treated as spending rather than negative tax (with the effect neutral overall for borrowing), but the total was below forecast; and
- lump-sum public service pension payments were higher than expected. We also included pension payments relating to the Royal Mail transfer.

Table 3.11: June 2010 spending errors for 2012-13

	£ billion						
	Forecast	Outturn	Error	*of which:*			
				Economic factors	Fiscal forecasting errors	Policy changes	Classification changes
PSCE in RDEL	324.4	316.5	-7.9	0.0	-3.0	-2.9	-1.9
Locally-financed current	27.5	22.7	-4.8	0.0	-3.9	-0.9	0.0
Social security	177.3	183.0	5.6	4.7	1.9	-1.0	0.0
Tax credits	26.3	28.7	2.4	1.1	2.9	-1.6	0.0
Public service pensions	7.0	10.2	3.2	0.7	1.4	1.1	0.0
Debt interest	52.4	48.0	-4.4	-5.9	1.1	0.0	0.4
Other current	49.6	48.2	-1.5	-0.3	-3.5	-2.2	4.5
Current expenditure	**664.5**	**657.1**	**-7.4**	**0.3**	**-3.2**	**-7.5**	**3.0**
PSGI in CDEL	33.4	29.8	-3.6	0.0	-1.4	-2.4	0.2
Locally-financed capital	4.6	5.7	1.1	0.0	1.8	-0.7	0.0
Other capital	8.4	9.4	1.0	0.0	0.4	0.0	0.6
Gross investment	**46.5**	**45.0**	**-1.5**	**0.0**	**0.8**	**-3.1**	**0.8**
Less depreciation	-22.5	-22.5	0.0	0.0	0.6	-0.6	0.0
Net investment	**24.0**	**22.5**	**-1.6**	**0.0**	**1.4**	**-3.7**	**0.8**
Total spending	**711.0**	**702.1**	**-8.9**	**0.3**	**-2.4**	**-10.7**	**3.8**

March 2012 forecast for 2012-13

3.35 By March 2012, we had raised our underlying borrowing forecast for 2012-13 by over £30 billion from the June 2010 forecast. The latest estimate suggests that cash borrowing came in slightly lower than this raised figure, despite GDP growth being weaker than expected over the year. So, as in the first two years of the June 2010 forecast, we have to ask why the unexpected weakness of GDP growth again did not immediately translate into a higher borrowing forecast?

3.36 The answer appears to be that:

- the relatively tax rich components of GDP, wages and salaries and nominal consumption, were close to forecast, while the weakness showed up in the corporate sector components that are less heavily taxed or tax-deductible.

Other economic factors, mainly lower oil and gas production, dragged down receipts. Our fiscal forecasting errors cancelled each other out as higher-than-expected income for public corporations offset a number of smaller factors, and policy had only a modest effect on receipts; and

- notwithstanding that receipts held up reasonably well given the shortfall in nominal GDP, borrowing would have been on course to rise over the year. But the Government chose to offset most of the impact on the deficit by bearing down on spending by central government departments. Local authorities also spent less than we forecast at the beginning of the year.

3.37 As Table 3.12 shows, underlying borrowing fell to £115.7 billion in 2012-13, £4.2 billion below our March 2012 forecast. Although cash borrowing was below forecast, the rate of decline was not. We had forecast that borrowing would fall by over £6 billion from the previous year, but the latest data (which are still being revised from month to month) currently show that the drop was just below £3 billion, from a revised starting point.

Table 3.12: March 2012 net borrowing and current budget errors for 2012-13

	£ billion						
	Forecast	Outturn	Error	*of which:*			
				Economic factors	Fiscal forecasting errors	Policy changes	Classification changes
Receipts (a)	591.5	586.5	-5.1	-5.7	-1.3	-1.1	3.0
Spending (b)	711.4	702.1	-9.3	1.5	-4.4	-12.3	5.9
of which:							
Current expenditure (c)	664.6	657.1	-7.5	1.5	-4.2	-7.6	2.9
Net investment (d)	24.6	22.5	-2.1	0.0	0.0	-4.7	2.6
Depreciation (e)	22.2	22.5	0.3	0.0	-0.1	0.0	0.4
Net borrowing (b - a)	119.9	115.7	-4.2	7.2	-3.1	-11.3	2.9
Current budget (a - c - e)	-95.3	-93.2	2.1	-7.2	3.0	6.6	-0.3

3.38 Table 3.13 compares the 2012-13 errors arising from economic factors for both our June 2010 and March 2012 forecasts. As one would hope, the errors in our March 2012 forecast for the year ahead were much smaller than the errors in our June 2010 forecast, forecasting three years ahead. This is consistent with evidence from past official forecasts, which we use to calibrate the fan charts presented in each *EFO*.

3.39 We still made a relatively large error in forecasting nominal GDP: our June 2010 forecast was for nominal GDP to rise by £81 billion in the year; by March 2012 we lowered that forecast to £55 billion; but, based on the latest estimate, nominal GDP only rose by £22 billion – so our year-ahead error on this basis

was half as large as our three-year error. Notwithstanding this, the table suggests that:

- errors directly related to nominal GDP and its income and expenditure components reduced receipts by less than £3 billion, as we only made small errors in forecasting the tax rich categories of nominal consumption and wages and salaries. Although we were again surprised by the extent to which growth in wages and salaries came from employment rather than earnings, stronger employment growth was this time associated with a fall in unemployment, reducing spending;

- SA income was again lower than expected. SA payments in 2012-13 related to 2011-12 liabilities, and so the underlying economic errors were as much due to data revisions as to our own forecasting errors;

- as in 2011-12 we were surprised by the extent of temporary field closures in the oil and gas sector. But by March 2012 we had raised our estimates for expenditure in the sector that could be offset against tax liabilities, and outturns were close to these higher levels; and

- our errors in other economic determinants were much lower. Our March 2012 forecast assumed a much lower path for interest rates and property transactions in particular.

Table 3.13: Comparison of June 2010 and March 2012 receipts and spending forecast errors for 2012-13 due to economic factors

	£ billion			
	June 2010		March 2012	
	Receipts	Spending	Receipts	Spending
Income and expenditure	**-13.7**	**1.4**	**-2.9**	**-0.3**
Wages and salaries	-3.2	1.4	-0.8	-0.3
Non-oil PNFC profits	-1.8		-0.6	
Financial profits	-2.9		-0.1	
Dividend income	-2.4		0.5	
Other self-assessed income	-2.2		-1.1	
Consumer expenditure	-0.6		-0.1	
Investment	0.6		-0.3	
Other GDP effects	-1.1		-0.2	
North Sea	**-4.6**	**0.0**	**-2.6**	**0.0**
Oil and gas prices	3.5		-0.9	
Production and expenditure	-8.2		-1.7	
Direct effect of RPI/CPI	**-0.7**	**5.9**	**0.1**	**1.3**
Interest rates	**-6.8**	**-8.0**	**0.2**	**0.3**
Markets	**-4.4**	**0.0**	**0.1**	**0.0**
Property markets	-3.4		0.6	
Equity markets	-1.0		-0.6	
Other determinants	**-1.6**	**1.0**	**-0.6**	**0.2**
Total	**-31.8**	**0.3**	**-5.7**	**1.5**

Receipts

3.40 Our March 2012 forecast was for receipts to remain constant as a share of GDP. Although corporation taxes fell by more than expected as a share of GDP, income tax and NICs and VAT held up slightly better, in part reflecting the smaller errors in wages and salaries and consumption. Along with growth in other receipts, the receipts to GDP ratio edged up slightly, but remained some way off our earlier forecasts.

Table 3.14: March 2012 receipts to GDP errors and comparison with June 2010 forecast

	Per cent of GDP							
	June 2010		March 2012		Outturn		March 2012 error	
	11-12	12-13	11-12	12-13	11-12	12-13	11-12	12-13
Receipts	**38.0**	**38.4**	**37.5**	**37.5**	**37.2**	**37.4**	**-0.3**	**-0.2**
of which:								
Income tax and NICs	16.8	17.1	16.7	16.5	16.4	16.3	-0.3	-0.2
VAT	6.3	6.2	6.4	6.5	6.3	6.4	-0.1	-0.1
Corporation tax	3.0	3.1	2.9	2.8	2.8	2.6	-0.1	-0.3
Other	11.8	12.0	11.5	11.7	11.7	12.0	0.2	0.3

3.41 Table 3.15 shows more of the underlying detail for cash receipts. It shows that over and above the economic errors, there were only modest policy changes in-year, including a further freeze in fuel duty rates. Classification changes, mainly relating to B&B and NRAM, increased receipts. Our fiscal forecasting errors largely cancelled out, as a number of relatively small negative errors were offset by a much larger positive error within public corporations' gross operating surpluses. These surpluses have been revised up significantly for recent years, following changes implemented this summer in the way the ONS capture the data.

Table 3.15: March 2012 receipts errors for 2012-13

	£ billion						
	Forecast	Outturn	Error	*of which:*			
				Economic factors	Fiscal forecasting errors	Policy changes	Classification changes
Income tax and NICs	260.4	256.8	-3.6	-2.2	-1.4	0.0	0.0
of which: Pay as you earn	*132.6*	*132.6*	*0.0*	*-0.6*	*0.6*	*0.0*	*0.0*
Self-assessment	*22.3*	*20.6*	*-1.8*	*-1.3*	*-0.5*	*0.0*	*0.0*
NICs	*105.6*	*104.5*	*-1.1*	*-0.3*	*-0.8*	*0.0*	*0.0*
Value added tax	102.0	100.7	-1.3	-0.8	-0.5	0.0	0.0
Onshore corporation tax	36.8	35.6	-1.2	-0.7	-0.2	-0.3	0.0
UK oil and gas receipts	9.6	6.5	-3.0	-2.4	-0.6	0.0	0.0
Fuel duties	27.3	26.6	-0.7	0.1	0.1	-0.9	0.0
Business rates	26.2	26.1	-0.1	0.0	-0.1	0.0	0.0
Council tax	26.3	26.3	0.0	0.0	0.0	0.0	0.0
Excise duties	20.3	19.7	-0.5	0.0	-0.5	0.0	0.0
Capital taxes	16.2	16.2	0.0	0.2	-0.3	0.1	0.0
Other taxes	43.8	42.1	-1.7	-0.1	-2.8	0.0	1.2
National Accounts taxes	**568.8**	**556.6**	**-12.2**	**-6.0**	**-6.4**	**-1.1**	**1.2**
Interest & dividend receipts	4.6	8.0	3.4	0.2	1.4	0.0	1.8
Other receipts	18.2	21.9	3.7	0.0	3.7	0.0	0.0
Current receipts	**591.5**	**586.5**	**-5.1**	**-5.7**	**-1.3**	**-1.1**	**3.0**

Spending

3.42 By March 2012, we had reduced the expected decline in spending as a share of GDP from our June 2010 forecast of 1.6 per cent of GDP to 0.6 per cent of GDP. In the event, spending fell by only 0.2 per cent of GDP in 2012-13, with the errors relating to lower nominal GDP growth rather than higher cash spending.

Table 3.16: March 2012 spending to GDP errors and comparison with June 2010 forecast

	Per cent of GDP							
	June 2010		March 2012		Outturn		March 2012 error	
	11-12	12-13	11-12	12-13	11-12	12-13	11-12	12-13
Spending	**45.5**	**43.9**	**45.8**	**45.1**	**44.9**	**44.7**	**-0.9**	**-0.4**
of which:								
TME in DEL	23.9	22.4	23.9	23.5	23.3	22.4	-0.6	-1.1
Social security & tax credits	12.9	12.6	13.3	13.3	13.0	13.5	-0.2	0.2
Debt interest	3.0	3.2	3.1	2.8	3.1	3.1	0.0	0.2
Other	5.6	5.6	5.5	5.6	5.4	5.8	-0.1	0.2

3.43 We made sizeable revisions to our receipts forecast in 2012-13, but our forecast for cash spending was relatively unchanged. As Table 3.17 shows, our larger errors related to spending by departments and local authorities, and these errors were again to the downside.

3.44 In total, central government departments underspent against TME in DEL plans set out in Budget 2012 by £18.5 billion in 2012-13, of which £11.6 billion on current, £5.9 billion on capital, and £1 billion on SUME.[7] Under-spending on this scale against plans set out at the beginning of the year is rare, and was largely a direct result of the Government's deliberate actions to reduce spending late in the year, partly by pushing money forward into future years. Our best estimate for the amount carried forward is £5.5 billion but it is difficult to disentangle precisely how much.[8]

3.45 Most departmental underspends were agreed by the winter, so have been treated as explicit policy changes. Some of the subsequent underspends, which we treat as fiscal forecasting errors, also reflected policy choices to reduce spending.

3.46 Total local authority self-financed spending was over £3.5 billion below forecast, more than accounted for by lower current spending. We assumed that local authorities would begin to draw down on reserves given their steady accumulation in recent years and ongoing spending cuts. Instead, they continued to add to their reserves at a similar pace to past years, adding a further £2.7 billion.

[7] This includes the £2.3 billion proceeds from the sale of 4G spectrum and £1.7 billion reduction from the classification change explained fully in footnote 6 of this chapter. SUME is Single Use Military Equipment, which is part of capital DEL, but is scored as current in the National Accounts.

[8] Page 128 of our *March 2013 EFO* explains the in-year spending changes in more detail.

3.47 In addition to underspends and errors relating to the economic forecast:

- around half the error in social security benefits related to housing benefit payments, again largely reflecting a higher caseload than expected;
- we under-estimated the shift between personal tax credit payments being scored as negative tax towards those scored as spending. Abstracting from this, our forecast for total payments was reasonably accurate;
- having under-estimated lump-sum public service pension payments in previous forecasts, we over-estimated them in this forecast; and
- the £2.3 billion proceeds from the Special Liquidity Scheme have been reclassified as receipts rather than a negative capital grant.

Table 3.17: March 2012 spending errors for 2012-13

	£ billion						
	Forecast	Outturn	Error	*of which:*			
				Economic factors	Fiscal forecasting errors	Policy changes	Classification changes
PSCE in RDEL	328.1	316.5	-11.6	0.0	-3.0	-6.6	-1.9
Locally-financed current	26.7	22.7	-4.0	0.0	-4.0	0.0	0.0
Social security	181.8	183.0	1.1	-0.2	1.3	0.0	0.0
Tax credits	27.4	28.7	1.3	0.0	1.3	0.0	0.0
Public service pensions	11.6	10.2	-1.4	0.0	-1.4	0.0	0.0
Debt interest	44.8	48.0	3.2	1.7	1.1	0.0	0.4
Other current	44.3	48.2	3.9	0.0	0.5	-1.0	4.3
Current expenditure	**664.6**	**657.1**	**-7.5**	**1.5**	**-4.2**	**-7.6**	**2.9**
PSGI in CDEL	35.7	29.8	-5.9	0.0	-1.4	-4.7	0.2
Locally-financed capital	5.3	5.7	0.5	0.0	0.5	0.0	0.0
Other capital	5.8	9.4	3.6	0.0	0.8	0.0	2.8
Gross investment	**46.8**	**45.0**	**-1.8**	**0.0**	**-0.1**	**-4.7**	**3.1**
Less depreciation	-22.2	-22.5	-0.3	0.0	0.1	0.0	-0.4
Net investment	**24.6**	**22.5**	**-2.1**	**0.0**	**0.0**	**-4.7**	**2.6**
Total spending	**711.4**	**702.1**	**-9.3**	**1.5**	**-4.4**	**-12.3**	**5.9**

Other fiscal aggregates

3.48 In this chapter we have focused our analysis on PSNB, which is the broadest accrued measure of borrowing. But the Government's fiscal targets are defined in terms of the cyclically-adjusted current budget (CACB) and public sector net debt (PSND), so it is useful to consider the errors in our forecasts for these aggregates.

The cyclically-adjusted current budget

3.49 Table 3.18 shows that the June 2010 forecast for the current budget was on track as a share of GDP in 2011-12, but that as for net borrowing, the current budget deficit did not improve as we had expected in the following year. Indeed the current budget deficit widened a little in 2012-13, with the small improvement in net borrowing due to a fall in net investment (which is included in PSNB but not the current budget).

3.50 Despite the larger deficit, our June 2010 judgement on the output gap in 2012-13 is close to our latest estimate, set out in our March 2013 *EFO*. This implies that the entire deterioration relative to forecast in the headline deficit is structural rather than cyclical (and a little more, since the previous year's output gap also matters when cyclically adjusting the headline deficit). We have narrowed our assessment of the output gap in 2011-12, implying that even though the headline deficit appeared to be on track, the structural deficit was not.

Table 3.18: June 2010 current budget and cyclically-adjusted current budget errors

	Per cent of GDP					
	Forecast		Outturn		Error	
	2011-12	2012-13	2011-12	2012-13	2011-12	2012-13
Surplus on current budget balance	-5.7	-4.0	-5.8	-5.9	0.0	-1.9
Cyclically-adjusted current budget	-3.2	-1.9	-3.9	-4.0	-0.6	-2.1
Memo: output gap	*-3.5*	*-2.8*	*-2.7*	*-2.9*	*0.8*	*0.0*

Public sector net debt

3.51 The absolute level of public sector net debt is significantly higher than we forecast in June 2010, although much of this reflects revisions and reclassifications such as the inclusion of B&B and NRAM. As Table 3.19 shows, excluding that particular reclassification and the Royal Mail pension fund and APF transfers, net debt has not risen by as much as our borrowing errors would suggest.

3.52 Net debt rises by the nominal value of gilts issued, rather than by their market value, and gilts have on average been issued at a premium to their nominal value in recent years. We did not allow for this effect in our forecasts and this explained £13 billion of the error for 2011-12 and another £12 billion for 2012-13. Partially offsetting this in 2012-13, not all of the £28.0 billion transfer of assets along with Royal Mail's historic pension fund affected net debt. Only the cash and uplifted nominal value of the gilts reduced debt, as did proceeds from subsequent asset sales. We estimated in our March 2013 *EFO* that debt would fall by around £6 billion less than borrowing.

Table 3.19: June 2010 errors for the annual change in public sector net debt

	£ billion	
	2011-12	2012-13
June 2010 forecast	127	103
Latest	102	76
Error	-26	-27
of which:		
Reclassification of B&B and NRAM	-11	-9
APF transfers	0	-11
Royal Mail pension transfer's effect on borrowing	0	-28
Changes in 'underlying' net borrowing	-1	27
Financial transactions and other	-15	-6

The public finances so far in 2013-14

3.53 We conclude this chapter by summarising briefly the evolution of the public finances so far this year, compared to our latest forecast in March 2013. Our March 2013 forecast predicted that borrowing would come in at £119.8 billion in 2013-14, implying a £1.0 billion fall in the deficit over the previous year. But downward revisions to the outturn estimate of net borrowing in 2012-13 mean that our forecast for 2013-14 forecast now implies a £4.2 billion increase over 2012-13. So far this year, net borrowing is £3.7 billion lower than at the same stage last year. But this is largely the result of a change in the timing of grant payments to local authorities that has led to them borrowing £4.5 billion less in the first five months of the year than in the same period last year.

3.54 Although the predicted revenue from the Swiss capital tax is now not likely to materialise in full, the payments that have been received have boosted central government receipts growth in the first five months of the financial year. Abstracting from this, receipts growth for the year to date at 2.5 per cent is slightly higher than the full year forecast of 2.3 per cent. Corporation tax receipts have been boosted by a pick-up in non-oil, non-financial profits, but partly offset by weaker payments from oil and gas firms. House price growth has boosted stamp duty land tax receipts, particularly in London, which accounts for almost 40 per cent of such receipts, where house prices have risen by 9.7 per cent year on year in the latest ONS data.

3.55 There is less evidence that the unexpected strength of economic data over recent months has started to feed through to other key receipts streams. This could reflect lags between the economy and receipts or the fact that real GDP growth is picking up more strongly than nominal GDP growth. Growth in accrued VAT receipts for the first five months of 2013-14 of 2.5 per cent is below the full year forecast of 3.1 per cent. Growth in both income tax and NICs for the year-to-date is above the full year forecasts, but this largely reflects the fact that April and

May receipts benefited from the deferral of some bonuses in the financial and business services sector into 2013-14 to take advantage of the introduction of the lower 45p additional rate of income tax. Prospects for PAYE and NIC receipts growth will depend on the performance of both average earnings and employment.

3.56 Growth in central government current expenditure for the first five months of the financial year is 2.6 per cent, compared with a 2.0 per cent full year forecast. This chiefly reflects changes to the timing of grants to local authorities, as larger payments have been made earlier in the year than has been the case in the past. Growth in net social benefits and debt interest spending are currently below their full year forecasts, but the monthly profile of these transactions can also vary from year to year.

3.57 Overall, at this stage there continues to be significant uncertainty around the path for full-year borrowing. This will depend in part on the extent to which recent developments in the economy feed into receipts growth. And there is very significant uncertainty around the local authority and public corporations borrowing figures, both in respect of the annual totals and the path through the financial year. These are prone to substantial revision both within the year and well beyond.

4 Lessons to learn

4.1 We strive to provide the greatest possible transparency around our forecasts, in order to facilitate understanding of the complexities of fiscal forecasting and to ensure we can be held to account for the judgements we make in producing those forecasts. Such transparency also permits us to scrutinise our own forecasts in great detail, examining the themes that run through the forecast errors that inevitably occur. We hope that this full disclosure will provide reassurance that our forecasts are based on impartial professional judgement rather than politically motivated wishful thinking. The process also affords an opportunity to learn lessons that can be applied in order to improve our future forecasts.

4.2 We continually review our forecasting techniques and judgments in the light of experience. And even where forecasts appear to perform reasonably well, there is often scope for further development. In light of last year's report, which was subsequent to the forecasts we have analysed in this report, there were a number of areas that we considered further. For example:

- we revisited our approach to forecasting departmental under-spending, taking the view that departments would be likely to end each year with significant underspends against their plans at the start of that year, and that a central forecast in future years would therefore be lower. So, since our December 2012 *EFO* we have included an allowance for shortfall in our DEL forecasts and increased transparency around those assumptions;

- we stepped up our engagement with stakeholders in local government finances to improve our understanding of their strategies in the face of tighter budgets and policy reforms. Since December 2012, we have assumed that local authorities will add to their current reserves over the next five years. And we have enhanced transparency around the local authority forecast in order to improve further our dialogue with stakeholders;

- we continue to monitor our original policy costings after the event, and, in light of new information, we revised down our costings of the extent of PAYE 'reverse forestalling' ahead of the change in the additional income tax rate to 45p and the increase in the North Sea supplementary charge; and

- we have improved our methodology for forecasting National Accounts deflators, particularly in the government sector, where the interaction

between the direct measurement of certain public sector outputs and slower growth of public spending has led to falls in implied prices.

4.3 Our analysis in this report has confirmed the importance of these lessons and the actions we have taken in response. The challenge of forecasting departmental under-spending relative to plans has been further complicated by the Government's use of under-spending as a policy tool to ensure borrowing remains on a falling path from year to year.

4.4 Stepping back, the story of our successive forecasts and their performance against current outturn data is one of an economy subject to significant post-crisis challenges that, while correctly identified, have proved difficult to calibrate with precision, reflecting the lack of historical precedent. We have underestimated the weakness of productivity and the implications of this and weak credit provision for GDP. And we have continued to over-estimate the degree to which cutting public services spending would subtract directly from real GDP. Determining whether we have gone far enough in adjusting for these factors, or indeed whether they might reverse, will remain a key challenge in our economic forecast over the coming year and beyond.

A Decomposition of fiscal forecasting errors

A.1 The following tables contain the detail which underlies the forecast errors for receipts and spending, broken down by economic and fiscal forecasting errors, and errors made as a result of subsequent policy or classification decisions. It also includes a more detailed breakdown of errors in the social security benefits forecast and the errors we made in forecasting the determinants which feed into the public finances forecast. Chapter 3 contains detailed commentary and summary tables based on these more comprehensive tables.

Receipts

Table A.1: Breakdown of June 2010 receipts forecast errors for 2011-12

	£ billion						
	Forecast	Outturn	Error	*of which:*			Total error (%)
				Economic factors	Fiscal forecasting errors	Policy and classification changes	
Income tax (gross of tax credits)	155.8	152.7	-3.0	-2.6	-1.3	0.8	-2.0
of which:							
Pay as you earn (PAYE)	*133.3*	*133.9*	*0.6*	*0.4*	*-0.3*	*0.6*	*0.5*
Self assessment (SA)	*24.2*	*20.3*	*-3.9*	*-1.7*	*-2.4*	*0.3*	*-19.0*
Income tax credits	-6.1	-4.7	1.3	0.0	1.5	-0.1	-28.6
National insurance contributions	103.3	101.6	-1.7	-0.3	-1.8	0.4	-1.7
Value added tax	96.9	98.1	1.2	-1.3	2.5	0.0	1.2
Corporation tax	46.7	43.1	-3.7	-2.1	-3.1	1.5	-8.5
of which:							
Non-North Sea	*38.4*	*33.8*	*-4.6*	*-1.4*	*-3.2*	*0.0*	*-13.5*
North Sea	*8.3*	*9.2*	*0.9*	*-0.7*	*0.1*	*1.5*	*9.9*
Corporation tax credits	-0.8	-0.9	-0.1	0.0	-0.1	0.0	13.7
Petroleum revenue tax	1.8	2.0	0.2	-0.4	0.6	0.0	9.4
Fuel duties	28.9	26.8	-2.1	0.1	0.1	-2.3	-7.9
Business rates	25.7	25.0	-0.7	0.1	-0.6	-0.2	-2.9
Council tax	26.0	26.0	0.0	0.0	0.0	0.0	-0.2
VAT refunds	13.7	14.0	0.3	0.0	0.3	0.0	1.8
Capital gains tax	3.3	4.3	1.0	0.2	0.9	0.0	23.5
Inheritance tax	2.3	2.9	0.6	-0.1	0.7	0.0	21.5
Stamp duties	10.3	8.9	-1.4	-2.0	0.6	0.0	-15.3
of which:							
Stamp duty land tax	*7.1*	*6.1*	*-1.0*	*-1.4*	*0.4*	*0.1*	*-15.6*
Stamp duty on shares	*3.2*	*2.8*	*-0.4*	*-0.6*	*0.2*	*0.0*	*-14.5*
Tobacco duties	9.5	9.9	0.4	0.2	0.1	0.1	3.7
Alcohol duties	9.7	10.2	0.5	0.1	0.4	0.0	5.0
Air passenger duty	2.9	2.6	-0.2	0.0	-0.1	-0.1	-8.9
Insurance premium tax	2.8	3.0	0.2	-0.2	0.4	0.0	7.1
Climate change levy	0.7	0.7	0.0	0.0	0.0	0.0	-4.6
Other HMRC	6.1	5.9	-0.2	0.3	-0.5	0.0	-3.3
of which:							
Landfill tax	*1.4*	*1.1*	*-0.3*	*0.0*	*-0.3*	*0.0*	*-28.9*
Aggregates levy	*0.3*	*0.3*	*0.0*	*0.0*	*0.0*	*0.0*	*-5.6*
Betting and gaming duty	*1.4*	*1.6*	*0.2*	*0.0*	*0.2*	*0.0*	*11.7*
Customs duties	*3.0*	*2.9*	*-0.1*	*0.3*	*-0.3*	*0.0*	*-2.1*
Vehicle excise duties	6.0	5.9	-0.1	0.1	-0.2	0.0	-1.6
Bank levy	1.2	1.8	0.7	0.0	0.0	0.7	37.3
BBC licence fee receipts	3.2	3.1	-0.1	0.0	-0.1	0.0	-2.6
Environmental levies	1.8	1.5	-0.3	0.0	-0.6	0.3	-22.2
EU ETS auction receipts	0.3	0.3	0.1	0.0	0.1	0.0	23.0
Other taxes	5.7	6.2	0.5	0.0	0.5	0.0	8.1
National accounts taxes	**557.6**	**550.9**	**-6.7**	**-8.0**	**0.2**	**1.1**	**-1.2**
less VAT and own resources EU contributions	-4.8	-5.2	-0.4	0.0	-0.4	0.0	7.1
Interest & dividends	5.5	5.8	0.3	-2.8	0.6	2.4	4.8
Gross operating surplus	25.9	26.0	0.1	0.0	0.1	0.0	0.6
Other receipts	0.0	-1.1	-1.1	0.0	-0.1	-1.0	-
Current receipts	**584.2**	**576.4**	**-7.8**	**-10.8**	**0.5**	**2.5**	**-1.3**

Table A.2: Breakdown of June 2010 receipts forecast errors for 2012-13

	£ billion						
	Forecast	Outturn	Error	*of which:*			Total error (%)
				Economic factors	Fiscal forecasting errors	Policy and classification changes	
Income tax (gross of tax credits)	168.3	152.3	-16.0	-10.9	-3.9	-1.1	-10.5
of which:							
Pay as you earn (PAYE)	*137.7*	*132.6*	*-5.2*	*-3.9*	*0.4*	*-1.7*	*-3.9*
Self assessment (SA)	*29.2*	*20.6*	*-8.6*	*-4.3*	*-4.9*	*0.6*	*-42.0*
Income tax credits	-6.0	-3.0	3.0	0.0	3.4	-0.4	-99.6
National insurance contributions	108.9	104.5	-4.4	-2.3	-3.2	1.1	-4.3
Value added tax	99.9	100.7	0.8	-1.2	1.9	0.2	0.8
Corporation tax	50.8	40.4	-10.4	-7.7	-3.2	0.5	-25.8
of which:							
Non-North Sea	*42.1*	*35.6*	*-6.5*	*-3.4*	*-2.3*	*-0.7*	*-18.2*
North Sea	*8.7*	*4.8*	*-3.9*	*-4.3*	*-0.9*	*1.2*	*-82.1*
Corporation tax credits	-0.8	-0.9	-0.1	0.0	-0.1	0.0	13.7
Petroleum revenue tax	1.8	1.7	-0.1	-0.4	0.4	0.0	-4.8
Fuel duties	30.3	26.6	-3.7	-0.4	0.2	-3.5	-13.8
Business rates	26.6	26.1	-0.5	0.7	-0.6	-0.5	-1.9
Council tax	27.0	26.3	-0.8	0.0	-0.8	0.0	-2.9
VAT refunds	15.2	13.8	-1.4	0.0	-1.4	0.0	-10.2
Capital gains tax	2.7	3.9	1.2	0.0	1.3	0.0	31.7
Inheritance tax	2.4	3.1	0.7	-0.4	1.1	0.0	22.3
Stamp duties	12.7	9.1	-3.5	-4.1	0.7	-0.1	-38.4
of which:							
Stamp duty land tax	*9.3*	*6.9*	*-2.4*	*-3.0*	*0.5*	*0.1*	*-34.2*
Stamp duty on shares	*3.4*	*2.2*	*-1.1*	*-1.2*	*0.2*	*-0.2*	*-51.3*
Tobacco duties	9.5	9.6	0.1	0.2	-0.2	0.1	0.7
Alcohol duties	10.1	10.1	0.1	0.0	0.1	0.0	0.6
Air passenger duty	3.1	2.8	-0.2	-0.1	-0.2	0.0	-8.8
Insurance premium tax	2.7	3.0	0.3	-0.1	0.4	0.0	9.5
Climate change levy	0.7	0.6	-0.1	0.0	0.0	0.0	-7.9
Other HMRC	6.3	5.9	-0.4	0.1	-0.5	0.0	-6.6
of which:							
Landfill tax	*1.5*	*1.1*	*-0.3*	*0.0*	*-0.3*	*0.0*	*-30.7*
Aggregates levy	*0.3*	*0.3*	*-0.1*	*0.0*	*0.0*	*0.0*	*-20.4*
Betting and gaming duty	*1.4*	*1.7*	*0.2*	*0.0*	*0.2*	*0.0*	*14.6*
Customs duties	*3.1*	*2.9*	*-0.2*	*0.2*	*-0.4*	*0.0*	*-8.6*
Vehicle excise duties	6.1	6.0	-0.1	0.0	-0.2	0.0	-2.1
Bank levy	2.3	1.6	-0.7	0.0	-1.1	0.4	-43.5
BBC licence fee receipts	3.3	3.1	-0.2	0.0	-0.2	0.0	-6.4
Environmental levies	2.1	2.3	0.2	0.0	-1.0	1.2	8.1
EU ETS auction receipts	0.6	0.3	-0.4	0.0	-0.4	0.0	-
Other taxes	5.8	6.6	0.9	-0.2	1.0	0.0	13.0
National accounts taxes	**592.4**	**556.6**	**-35.8**	**-27.0**	**-6.8**	**-2.1**	**-6.4**
less VAT and own resources EU contributions	-5.0	-5.3	-0.3	0.0	-0.3	0.0	5.5
Interest & dividends (ex. APF)	7.5	8.0	0.5	-4.9	1.2	4.1	5.8
Gross operating surplus	27.0	27.3	0.4	0.0	0.4	0.0	1.4
Other receipts	0.0	-0.2	-0.2	0.0	0.8	-1.0	92.1
Current receipts (ex APF)	**621.9**	**586.5**	**-35.5**	**-31.8**	**-4.7**	**1.0**	**-6.1**
Interest & dividends inc. APF	*7.5*	*14.4*	*6.9*	*-4.9*	*1.2*	*10.5*	*47.7*
Current receipts inc. APF	*621.9*	*592.9*	*-29.1*	*-31.8*	*-4.7*	*7.4*	*-4.9*

Table A.3: Breakdown of March 2012 receipts forecast errors for 2012-13

	£ billion						
	Forecast	Outturn	Error	*of which:*			Total error (%)
				Economic factors	Fiscal forecasting errors	Policy and classification changes	
Income tax (gross of tax credits)	154.8	152.3	-2.5	-1.9	-0.6	0.0	-1.6
of which:							
Pay as you earn (PAYE)	*132.6*	*132.6*	*0.0*	*-0.6*	*0.6*	*0.0*	*0.0*
Self assessment (SA)	*22.3*	*20.6*	*-1.8*	*-1.3*	*-0.5*	*0.0*	*-8.6*
Income tax credits	-4.2	-3.0	1.2	0.0	1.2	0.0	-39.9
National insurance contributions	105.6	104.5	-1.1	-0.3	-0.8	0.0	-1.0
Value added tax	102.0	100.7	-1.3	-0.8	-0.5	0.0	-1.3
Corporation tax	44.8	40.4	-4.4	-2.9	-1.1	-0.3	-10.8
of which:							
Non-North Sea	*36.8*	*35.6*	*-1.2*	*-0.7*	*-0.2*	*-0.3*	*-3.3*
North Sea	*8.0*	*4.8*	*-3.2*	*-2.3*	*-0.9*	*0.0*	*-66.6*
Corporation tax credits	-0.9	-0.9	0.0	0.0	0.0	0.0	-0.9
Petroleum revenue tax	1.6	1.7	0.2	-0.1	0.3	0.0	8.8
Fuel duties	27.3	26.6	-0.7	0.1	0.1	-0.9	-2.7
Business rates	26.2	26.1	-0.1	0.0	-0.1	0.0	-0.3
Council tax	26.3	26.3	0.0	0.0	0.0	0.0	-0.2
VAT refunds	14.8	13.8	-1.0	0.0	-1.0	0.0	-7.1
Capital gains tax	3.8	3.9	0.1	-0.1	0.2	0.0	2.7
Inheritance tax	3.0	3.1	0.1	0.2	-0.1	0.0	4.7
Stamp duties	9.4	9.1	-0.3	0.0	-0.4	0.1	-3.1
of which:							
Stamp duty land tax	6.4	6.9	0.5	0.5	-0.2	0.1	6.9
Stamp duty on shares	3.0	2.2	-0.8	-0.5	-0.3	0.0	-33.8
Tobacco duties	9.8	9.6	-0.2	0.0	-0.1	0.0	-1.7
Alcohol duties	10.5	10.1	-0.4	0.0	-0.4	0.0	-3.6
Air passenger duty	2.9	2.8	-0.1	0.0	-0.1	0.0	-3.2
Insurance premium tax	2.9	3.0	0.1	0.1	0.0	0.0	3.0
Climate change levy	0.8	0.6	-0.1	0.0	-0.1	0.0	-19.4
Other HMRC	6.2	5.9	-0.3	-0.2	-0.1	0.0	-5.0
of which:							
Landfill tax	*1.3*	*1.1*	*-0.2*	*0.0*	*-0.2*	*0.0*	*-19.4*
Aggregates levy	*0.3*	*0.3*	*0.0*	*0.0*	*0.0*	*0.0*	*-5.0*
Betting and gaming duty	*1.7*	*1.7*	*0.0*	*0.0*	*0.0*	*0.0*	*0.5*
Customs duties	*2.9*	*2.9*	*-0.1*	*-0.2*	*0.1*	*0.0*	*-2.5*
Vehicle excise duties	5.9	6.0	0.1	0.0	0.1	0.0	1.7
Bank levy	2.2	1.6	-0.6	0.0	-0.6	0.0	-37.4
BBC licence fee receipts	3.1	3.1	0.0	0.0	0.0	0.0	-1.5
Environmental levies	2.3	2.3	-0.1	0.0	-1.3	1.2	-2.3
EU ETS auction receipts	0.7	0.3	-0.5	0.0	-0.4	0.0	-
Other taxes	7.0	6.6	-0.4	0.0	-0.4	0.0	-6.6
National accounts taxes	**568.8**	**556.6**	**-12.2**	**-6.0**	**-6.4**	**0.2**	**-2.2**
less VAT and own resources EU contributions	-5.3	-5.3	0.1	0.0	0.1	0.0	-1.5
Interest & dividends (exc. APF)	4.6	8.0	3.4	0.2	1.4	1.8	42.7
Gross operating surplus	24.4	27.3	3.0	0.0	3.0	0.0	10.9
Other receipts	-0.9	-0.2	0.6	0.0	0.6	0.0	-259.0
Current receipts (exc. APF)	**591.5**	**586.5**	**-5.1**	**-5.7**	**-1.3**	**1.9**	**-0.9**
Interest & dividends inc. APF	*4.6*	*14.4*	*9.8*	*0.2*	*1.4*	*8.2*	*68.2*
Current receipts inc. APF	*591.5*	*592.9*	*1.3*	*-5.7*	*-1.3*	*8.3*	*0.2*

Spending

Table A.4: Breakdown of June 2010 spending forecast errors for 2011-12

	£ billion						Total error (%)
	Forecast	Outturn	Error	*of which:*			
				Economic factors	Fiscal forecasting error	Policy and classification changes	
Public sector current expenditure (PSCE)							
PSCE in RDEL	**327.5**	**320.7**	**-6.8**	**0.0**	**-4.4**	**-2.1**	**-2.1**
PSCE in Annually Managed Expenditure	**323.6**	**323.5**	**-0.1**	**1.2**	**-4.9**	**3.6**	**0.0**
of which:							
Social security benefits	173.4	174.9	1.5	0.8	0.9	-0.1	0.9
Tax credits	25.7	27.0	1.2	0.1	1.4	-0.3	4.8
Net public service pension payments	6.3	8.1	1.8	0.0	1.8	0.0	28.8
of which: CG unfunded pension schemes	5.1	6.7	1.5	0.0	1.5	0.0	29.8
LG police & fire pension schemes	1.1	1.4	0.3	0.0	0.3	0.0	24.0
National lottery current grants	0.7	1.1	0.4	0.0	0.4	0.0	53.0
BBC domestic services current expenditure	3.8	3.5	-0.3	0.0	-0.3	0.0	-7.6
Fees associated with financial interventions	0.0	-2.0	-2.0	0.0	-2.0	0.0	-
Other PSCE items in departmental AME	0.5	0.9	0.4	0.0	-0.8	1.2	82.9
Expenditure transfers to EU institutions	6.7	5.9	-0.7	-0.3	-0.4	0.0	-10.9
Locally-financed current expenditure	26.4	21.3	-5.1	0.0	-4.8	-0.3	-19.3
Central government gross debt interest	46.5	48.4	1.9	0.6	0.7	0.6	4.1
Depreciation	16.0	16.5	0.5	0.0	0.0	0.5	3.4
Current VAT refunds	12.0	11.7	-0.2	0.0	-0.2	0.0	-1.9
Single use military expenditure	5.7	5.3	-0.4	0.0	-0.3	-0.1	-7.1
Environmental levies	1.2	1.5	0.3	0.0	0.0	0.3	22.2
Other National Accounts adjustments	-1.3	-0.6	0.7	0.0	-1.1	1.8	-56.0
Total public sector current expenditure	**651.1**	**644.2**	**-6.9**	**1.2**	**-9.3**	**1.2**	**-1.1**
Public sector gross investment (PSGI)							
PSGI in CDEL	**35.3**	**35.0**	**-0.3**	**0.0**	**-2.5**	**2.1**	**-0.9**
PSGI in Annually Managed Expenditure	**13.4**	**15.7**	**2.3**	**0.0**	**2.1**	**0.2**	**17.2**
of which:							
National lottery capital grants	0.6	0.4	-0.2	0.0	-0.2	0.0	-31.6
Other PSGI items in departmental AME	0.1	-7.0	-7.1	0.0	0.2	-7.2	-
Locally-financed capital expenditure	4.8	16.3	11.5	0.0	3.9	7.6	238
Public corporations capital expenditure	8.1	7.1	-1.0	0.0	-1.2	0.2	-12.8
Other National Accounts adjustments	-0.2	-1.1	-0.8	0.0	-0.6	-0.3	370
Total public sector gross investment	**48.7**	**50.7**	**2.0**	**0.0**	**-0.4**	**2.4**	**4.1**
Less depreciation	*-21.6*	*-21.6*	*0.0*	*0.0*	*0.5*	*-0.5*	*0.2*
Public sector net investment	27.2	29.1	1.9	0.0	0.1	1.8	7.1
Total managed expenditure	**699.8**	**694.9**	**-4.9**	**1.2**	**-9.6**	**3.6**	**-0.7**

Table A.5: Breakdown of June 2010 spending forecast errors for 2012-13

	£ billion						
	Forecast	Outturn	Error	*of which:*			Total error (%)
				Economic factors	Fiscal forecasting error	Policy and classification changes	
Public sector current expenditure (PSCE)							
PSCE in RDEL	**324.4**	**316.5**	**-7.9**	**0.0**	**-3.0**	**-4.9**	**-2.4**
PSCE in Annually Managed Expenditure	**340.2**	**340.7**	**0.5**	**0.3**	**-0.1**	**0.4**	**0.2**
of which:							
Social security benefits	177.3	183.0	5.6	4.7	1.9	-1.0	3.2
Tax credits	26.3	28.7	2.4	1.1	2.9	-1.6	9.2
Net public service pension payments	7.0	10.2	3.2	0.7	1.4	1.1	45.0
of which: CG unfunded pension schemes	5.9	8.5	2.7	0.6	1.0	1.1	45.1
LG police & fire pension schemes	1.1	1.6	0.5	0.1	0.4	0.0	44.5
National lottery current grants	0.7	1.1	0.4	0.0	0.4	0.0	57.1
BBC domestic services current expenditure	3.9	3.4	-0.5	0.0	-0.5	0.0	-13.2
Fees associated with financial interventions	0.0	-0.1	-0.1	0.0	-0.1	0.0	-
Other PSCE items in departmental AME	0.3	1.9	1.6	0.0	0.1	1.5	494
Expenditure transfers to EU institutions	6.7	7.5	0.8	-0.3	1.1	0.0	11.8
Locally-financed current expenditure	27.5	22.7	-4.8	0.0	-3.9	-0.9	-17.4
Central government gross debt interest	52.4	48.0	-4.4	-5.9	1.1	0.4	-8.5
Depreciation	16.7	17.3	0.6	0.0	0.0	0.6	3.9
Current VAT refunds	13.4	11.6	-1.8	0.0	-1.8	0.0	-13.2
Single use military expenditure	5.8	4.8	-1.0	0.0	0.0	-1.0	-17.1
Environmental levies	1.6	1.7	0.1	0.0	-0.4	0.5	7.1
Other National Accounts adjustments	0.5	-1.2	-1.6	0.0	-2.3	0.7	-
Total public sector current expenditure	**664.5**	**657.1**	**-7.4**	**0.3**	**-3.2**	**-4.5**	**-1.1**
Public sector gross investment (PSGI)							
PSGI in CDEL	**33.4**	**29.8**	**-3.6**	**0.0**	**-1.4**	**-2.2**	**-10.7**
PSGI in Annually Managed Expenditure	**13.1**	**15.1**	**2.1**	**0.0**	**2.2**	**-0.1**	**15.7**
of which:							
National lottery capital grants	0.6	0.4	-0.2	0.0	-0.2	0.0	-28.5
Other PSGI items in departmental AME	0.1	0.7	0.6	0.0	0.0	0.6	421
Locally-financed capital expenditure	4.6	5.7	1.1	0.0	1.8	-0.7	23.4
Public corporations capital expenditure	8.0	7.5	-0.5	0.0	-0.7	0.2	-6.3
Other National Accounts adjustments	-0.3	0.7	1.1	0.0	1.3	-0.2	-
Total public sector gross investment	**46.5**	**45.0**	**-1.5**	**0.0**	**0.8**	**-2.4**	**-3.3**
Less depreciation	*-22.5*	*-22.5*	*0.0*	*0.0*	*0.6*	*-0.6*	*0.1*
Public sector net investment	24.0	22.5	-1.6	0.0	1.4	-3.0	-6.5
Total managed expenditure	**711.0**	**702.1**	**-8.9**	**0.3**	**-2.4**	**-6.8**	**-1.3**
Receipt of Royal Mail pension funds assets	*0.0*	*-28.0*	*-28.0*	*0.0*	*0.0*	*-28.0*	-
Total managed expenditure (incl. Royal Mail)	*711.0*	*674.1*	*-36.9*	*0.3*	*-2.4*	*-34.8*	*-5.2*

Table A.6: Breakdown of March 2012 spending forecast errors for 2012-13

	£ billion						
	Forecast	Outturn	Error	*of which:*			Total error (%)
				Economic factors	Fiscal forecasting error	Policy and classification changes	
Public sector current expenditure (PSCE)							
PSCE in RDEL	**328.1**	**316.5**	**-11.6**	**0.0**	**-3.0**	**-8.6**	**-3.5**
PSCE in Annually Managed Expenditure	**336.6**	**340.7**	**4.1**	**1.5**	**-1.2**	**3.8**	**1.2**
of which:							
Social security benefits	181.8	183.0	1.1	-0.2	1.3	0.0	0.6
Tax credits	27.4	28.7	1.3	0.0	1.3	0.0	4.7
Net public service pension payments	11.6	10.2	-1.4	0.0	-1.4	0.0	-12.2
of which: CG unfunded pension schemes	10.0	8.5	-1.5	0.0	-1.5	0.0	-14.7
LG police & fire pension schemes	1.6	1.6	0.1	0.0	0.1	0.0	3.8
National lottery current grants	0.9	1.1	0.2	0.0	0.2	0.0	19.4
BBC domestic services current expenditure	3.5	3.4	-0.1	0.0	-0.1	0.0	-3.2
Fees associated with financial interventions	-0.7	-0.1	0.6	0.0	0.6	0.0	-92.1
Other PSCE items in departmental AME	1.0	1.9	0.9	0.0	0.1	0.8	91.5
Expenditure transfers to EU institutions	5.8	7.5	1.7	0.0	1.7	0.0	30.4
Locally-financed current expenditure	26.7	22.7	-4.0	0.0	-4.0	0.0	-14.9
Central government gross debt interest	44.8	48.0	3.2	1.7	1.1	0.4	7.1
Depreciation	16.9	17.3	0.4	0.0	0.0	0.4	2.5
Current VAT refunds	12.6	11.6	-1.0	0.0	-1.0	0.0	-7.8
Single use military expenditure	5.8	4.8	-1.0	0.0	0.0	-1.0	-17.6
Environmental levies	1.6	1.7	0.1	0.0	-1.2	1.2	3.2
Other National Accounts adjustments	-3.2	-1.2	2.0	0.0	0.1	1.9	-63.6
Total public sector current expenditure	**664.6**	**657.1**	**-7.5**	**1.5**	**-4.2**	**-4.8**	**-1.1**
Public sector gross investment (PSGI)							
PSGI in CDEL	**35.7**	**29.8**	**-5.9**	**0.0**	**-1.4**	**-4.5**	**-16.5**
PSGI in Annually Managed Expenditure	**11.1**	**15.1**	**4.1**	**0.0**	**1.2**	**2.8**	**36.9**
of which:							
National lottery capital grants	0.6	0.4	-0.1	0.0	-0.1	0.0	-25.5
Other PSGI items in departmental AME	-2.2	0.7	3.0	0.0	0.1	2.9	-
Locally-financed capital expenditure	5.3	5.7	0.5	0.0	0.5	0.0	8.8
Public corporations capital expenditure	7.0	7.5	0.5	0.0	0.3	0.2	7.4
Other National Accounts adjustments	0.4	0.7	0.3	0.0	0.5	-0.2	64.7
Total public sector gross investment	**46.8**	**45.0**	**-1.8**	**0.0**	**-0.1**	**-1.7**	**-3.9**
Less depreciation	-22.2	-22.5	-0.3	0.0	0.1	-0.4	1.5
Public sector net investment	24.6	22.5	-2.1	0.0	0.0	-2.1	-8.7
Total managed expenditure	**711.4**	**702.1**	**-9.3**	**1.5**	**-4.4**	**-6.4**	**-1.3**
Receipt of Royal Mail pension funds assets	*-28.0*	*-28.0*	*0.0*	*0.0*	*0.0*	*0.0*	-
Total managed expenditure (incl. Royal Mail)	*683.4*	*674.1*	*-9.3*	*1.5*	*-4.4*	*-6.4*	*-1.4*

Table A.7: Breakdown of June 2010 social security benefit forecast errors for 2012-13

	£ billions						
	Forecast	Outturn	Error	*of which:*			Total error (%)
				Economic factors	Fiscal forecasting error	Policy and classification changes	
Incapacity benefit	2.1	3.3	1.2	0.1	1.1	0.0	55.4
Employment and support allowance	7.7	6.8	-0.9	0.2	-0.8	-0.3	-12.0
Statutory maternity pay	1.9	2.4	0.5	0.0	0.5	0.0	27.9
Income support	4.7	5.3	0.6	0.1	0.5	0.0	13.8
Jobseeker's allowance	5.1	5.2	0.1	0.5	-0.5	0.1	2.0
State pension	77.2	79.7	2.5	2.4	0.1	0.0	3.3
Pension credit	7.4	7.5	0.1	0.0	0.4	-0.3	1.0
Disability living allowance	13.3	13.4	0.1	0.4	-0.2	0.0	0.9
Attendance allowance	5.8	5.5	-0.3	0.2	-0.4	0.0	-4.9
Housing benefit	21.4	23.3	1.9	0.8	1.3	-0.2	9.0
Child benefit	12.3	12.2	-0.1	0.0	0.3	-0.4	-0.6
Other social security benefits[1]	18.6	18.4	-0.2	0.2	-0.4	0.1	-0.9
Total social security benefits	**177.3**	**183.0**	**5.6**	**4.7**	**1.9**	**-1.0**	**3.2**

[1] Includes all Northern Ireland benefit payments, war pensions, council tax benefit

Table A.8: Breakdown of March 2012 social security benefit forecast errors for 2012-13

	£ billions						
	Forecast	Outturn	Error	*of which:*			Total error (%)
				Economic factors	Fiscal forecasting error	Policy and classification changes	
Incapacity benefit	2.8	3.3	0.4	0.0	0.4	0.0	15.1
Employment and support allowance	6.6	6.8	0.2	0.0	0.2	0.0	3.4
Statutory maternity pay	2.4	2.4	0.0	0.0	0.0	0.0	0.7
Income support	5.1	5.3	0.2	0.0	0.2	0.0	3.7
Jobseeker's allowance	5.5	5.2	-0.3	-0.2	0.0	0.0	-5.2
State pension	79.7	79.7	0.0	0.0	0.0	0.0	0.0
Pension credit	7.8	7.5	-0.3	0.0	-0.3	0.0	-3.5
Disability living allowance	13.6	13.4	-0.1	0.0	-0.1	0.0	-0.9
Attendance allowance	5.6	5.5	-0.2	0.0	-0.2	0.0	-3.0
Housing benefit	22.8	23.3	0.5	0.0	0.6	0.0	2.3
Child benefit	11.9	12.2	0.3	0.0	0.3	0.0	2.6
Other social security benefits[1]	18.1	18.4	0.3	0.0	0.3	0.0	1.6
Total social security benefits	**181.8**	**183.0**	**1.1**	**-0.2**	**1.3**	**0.0**	**0.6**

[1] Includes all Northern Ireland benefit payments, war pensions, council tax benefit

Fiscal determinants

Table A.9: Fiscal determinants for 2011-12 and errors against June 2010 forecast

	Percentage change on a year earlier, unless otherwise stated		
	Forecast	Outturn	Error
GDP and its components			
Real GDP	2.4	0.8	-1.6
Nominal GDP (£ billion)[1]	1539	1548	9
Nominal GDP[1]	4.4	3.1	-1.4
Wages and salaries[2]	2.4	2.4	0.1
Non-oil PNFC profits[2, 3]	9.0	5.9	-3.1
Consumer spending[2, 3]	4.3	3.5	-0.8
Prices and earnings			
GDP deflator	1.9	2.3	0.3
RPI (September)	3.4	5.6	2.2
CPI (September)	3.0	5.2	2.2
Whole economy earnings growth	1.9	2.7	0.8
Other key fiscal determinants			
Claimant count (millions)[4]	1.45	1.57	0.12
VAT gap (per cent)	12.6	9.5	-3.1
Financial and property sectors			
Equity prices (FTSE All-share index)	2795	2903	108
HMRC financial sector profits[1, 3, 5]	5.5	-5.0	-10.5
Residential property prices[6]	2.3	-0.9	-3.2
Residential property transactions	22.6	4.7	-17.9
Commercial property prices[7]	7.8	4.9	-2.9
Commercial property transactions[7]	6.5	-2.8	-9.3
Oil and gas			
Oil prices ($ per barrel)[3]	82	111	29
Oil production (million tonnes)[3]	61.5	51.9	-9.6
Gas production (billion therms)[3]	19.3	16.1	-3.2
Interest rates			
Market short-term interest rates (per cent)[8]	1.8	1.0	-0.8
Market gilt rates (per cent)[9]	4.0	2.2	-1.8

[1] Not seasonally adjusted
[2] Nominal
[3] Calendar year
[4] UK seasonally-adjusted claimant count
[5] HMRC Gross Case 1 trading profits
[6] ONS House price index
[7] Outturn date from HMRC information on stamp duty land tax
[8] 3-month sterling interbank rate (LIBOR)
[9] Weighted average interest rate on conventional gilts

Table A.10: Fiscal determinants for 2012-13 and errors against June 2010 forecast

	Percentage change on a year earlier, unless otherwise stated		
	Forecast	Outturn	Error
GDP and its components			
Real GDP	2.9	0.0	-2.9
Nominal GDP (£ billion)[1]	1620	1570	-50
Nominal GDP[1]	5.3	1.4	-3.9
Wages and salaries[2]	3.5	2.4	-1.1
Non-oil PNFC profits[2, 3]	10.1	4.3	-5.9
Consumer spending[2, 3]	4.3	3.8	-0.5
Prices and earnings			
GDP deflator	2.3	1.8	-0.5
RPI (September)	3.0	2.6	-0.4
CPI (September)	2.4	2.2	-0.2
Whole economy earnings growth	2.6	1.1	-1.5
Other key fiscal determinants			
Claimant count (millions)[4]	1.37	1.57	0.20
VAT gap (per cent)	12.7	10.7	-2.0
Financial and property sectors			
Equity prices (FTSE All-share index)	2943	3091	148
HMRC financial sector profits[1, 3, 5]	5.5	2.0	-3.5
Residential property prices[6]	4.2	2.1	-2.1
Residential property transactions	17.0	1.4	-15.6
Commercial property prices[7]	9.8	1.6	-8.2
Commercial property transactions[7]	4.5	1.5	-3.0
Oil and gas			
Oil prices ($ per barrel)[3]	85	112	27
Oil production (million tonnes)[3]	58.2	44.5	-13.7
Gas production (billion therms)[3]	18.4	13.8	-4.6
Interest rates			
Market short-term interest rates (per cent)[8]	2.4	0.7	-1.7
Market gilt rates (per cent)[9]	4.5	1.7	-2.8

[1] Not seasonally adjusted
[2] Nominal
[3] Calendar year
[4] UK seasonally-adjusted claimant count
[5] HMRC Gross Case 1 trading profits
[6] ONS House price index
[7] Outturn date from HMRC information on stamp duty land tax
[8] 3-month sterling interbank rate (LIBOR)
[9] Weighted average interest rate on conventional gilts

Table A.11: Fiscal determinants for 2012-13 and errors against March 2012 forecast

	Percentage change on a year earlier, unless otherwise stated		
	Forecast	Outturn	Error
GDP and its components			
Real GDP	1.0	0.0	-1.0
Nominal GDP (£ billion)[1]	1576	1570	-6
Nominal GDP[1]	3.6	1.4	-2.2
Wages and salaries[2]	2.1	2.4	0.3
Non-oil PNFC profits[2, 3]	4.7	4.3	-0.4
Consumer spending[2, 3]	3.8	3.8	0.0
Prices and earnings			
GDP deflator	2.7	1.8	-0.9
RPI (September)	3.0	2.6	-0.4
CPI (September)	2.6	2.2	-0.4
Whole economy earnings growth	2.4	1.1	-1.3
Other key fiscal determinants			
Claimant count (millions)[4]	1.66	1.57	-0.09
Employment (millions)	29.1	29.6	0.5
VAT gap (per cent)	9.3	10.7	1.4
Financial and property sectors			
Equity prices (FTSE All-share index)	3138	3091	-47
HMRC financial sector profits[1, 3, 5]	3.7	2.0	-1.7
Residential property prices[6]	-0.6	2.1	2.7
Residential property transactions	-1.5	1.4	2.9
Commercial property prices[7]	0.9	1.6	0.7
Commercial property transactions[7]	-0.8	1.5	2.3
Oil and gas			
Oil prices ($ per barrel)[3]	118	112	-6
Oil prices (£ per barrel)[3]	74.4	70.6	-3.8
Gas prices (p/therm)	63.4	59.1	-4.3
Oil production (million tonnes)[3]	48.3	44.5	-3.8
Gas production (billion therms)[3]	16.1	13.8	-2.3
Interest rates			
Market short-term interest rates (per cent)[8]	1.0	0.7	-0.3
Market gilt rates (per cent)[9]	2.3	1.7	-0.6
Euro/Sterling exchange rate	1.18	1.23	0.05

[1] Not seasonally adjusted
[2] Nominal
[3] Calendar year
[4] UK seasonally-adjusted claimant count
[5] HMRC Gross Case 1 trading profits
[6] ONS House price index
[7] Outturn date from HMRC information on stamp duty land tax
[8] 3-month sterling interbank rate (LIBOR)
[9] Weighted average interest rate on conventional gilts

B Comparison with past official forecasts

B.1 This annex compares the size of the errors in our forecasts for the public finances with the average errors in official forecasts over the past 20 years.

B.2 This exercise has obvious limitations as a guide to relative forecast performance. Most fundamentally, we are not comparing like with like. For example, we may be looking at periods in which the underlying behaviour of the public finances was inherently more or less predictable, in which the size and distribution of unforeseeable shocks was different, or in which policymakers responded differently when the public finances diverged from expectations. And, as the OBR has only produced seven forecasts so far, the sample is still very small.

B.3 In addition to the public finances, we also undertake this comparison for our forecasts of real GDP growth. As we have emphasized throughout this report, real GDP growth is far from being the most important economic determinant of the public finances, but it is the measure that most outside commentators focus on when judging the performance of macroeconomic forecasts.

B.4 For what it is worth, given the limitations of such comparisons, the errors in our forecasts have, more often than not, been smaller than the average errors in official forecasts over the past 20 years.

Real GDP growth

B.5 As Table B.1 shows, in-year forecasting errors for GDP have been smaller than the average of the previous 20 years. The errors in our forecasts for growth in 2012 have been larger than average, reflecting the fact that real GDP growth per calendar year slowed over the first three years of this recovery rather than gathering pace as in most previous recoveries. Only by late 2011 did we (and other forecasters) revise down our expectations for 2012 GDP growth significantly.

B.6 When comparing the absolute error between forecast periods, the expected error for two years out is greater than for one year ahead, and for one year ahead greater than in-year estimates. This might be expected – the closer to the event, the more data becomes available and the easier it should be to forecast. And it is consistent with the evidence from historical forecast errors. However, this

information advantage is complicated by data revisions, which are often substantial, multiple, and long after the event.

Table B.1: Forecast errors for real GDP growth

	Per cent		
	Calendar years ahead		
	In-year	One	Two
June 2010	0.5	-1.2	-2.7
November 2010	-0.1	-1.0	-2.5
March 2011	-0.6	-2.4	
November 2011	0.2	-0.6	
March 2012	-0.7		
December 2012	0.2		
Average absolute errors over the previous 20 years			
Spring/summer	1.0	1.3	1.5
Autumn	1.0	1.2	1.4
Key:			
Smaller than average absolute error			
Average sized error			
Bigger than average absolute error			

Public sector net borrowing

B.7 We made sizeable two and three year-ahead forecasts errors for 'underlying' borrowing (excluding the Royal Mail pension fund and APF transfers) for 2012-13. But forecasts over such horizons are generally subject to widening degrees of uncertainty, and our errors were in fact smaller than the average of past forecasts over comparable horizons.

B.8 The largest relative errors in our PSNB forecasts, shown in red and yellow in Table B.2, relate to in-year forecasts. In large part these reflect the volatility of recent borrowing outturns. Estimates of PSNB continue to be revised well after the fiscal year is over. Cash receipts that are ultimately accrued back come in with a lag, firm data on departmental spending is only available some months after the initial outturn estimates have to be made, and the lags for local authority and public corporation data are even longer. First estimates – broadly comparable to our March in-year forecasts – have been revised down in each of the last three years (coinciding with the largest relative errors).

Table B.2: Forecast errors for PSNB as a per cent of GDP

	Per cent of GDP			
	Fiscal years ahead			
	In-year	One	Two	Three
June 2010[1]	0.0	-0.8	0.2	1.9
November 2010	-0.7	0.1	1.8	
March 2011	-0.6	-0.2	1.2	
November 2011	-0.7	-0.2		
March 2012	-0.6	-0.2		
December 2012	-0.3			
March 2013	-0.4			
Average absolute errors over the previous 20 years				
Spring/summer	0.4	1.1	2.2	3.1
Autumn	0.7	1.5	2.2	2.3

[1] For comparability with other forecasts, 'in-year' is assumed to be 2009-10.

Key:

Smaller than average absolute error
Average sized error
Bigger than average absolute error

B.9 Tables B.3 and B.4 report the errors in our forecasts for receipts and spending as shares of GDP, which show that our underlying receipts and spending forecasts have been more accurate than has been the case on average over the past.

Table B.3: Forecast errors for receipts as a per cent of GDP

	Per cent of GDP			
	Fiscal years ahead			
	In-year	One	Two	Three
June 2010[1]	-0.6	-0.3	-0.8	-1.1
November 2010	-0.2	-0.6	-0.8	
March 2011	-0.3	-0.9	-0.8	
November 2011	-0.6	-0.4		
March 2012	-0.3	-0.2		
December 2012	0.1			
March 2013	-0.2			
Average absolute errors over the previous 20 years				
Spring/summer	1.7	2.1	2.5	2.8
Autumn	1.6	2.0	2.2	2.5

[1] For comparability with other forecasts, 'in-year' is assumed to be 2009-10.

Key:

Smaller than average absolute error
Average sized error
Bigger than average absolute error

Table B.4: Forecast errors for spending as a per cent of GDP

	Per cent of GDP			
	Fiscal years ahead			
	In-year	One	Two	Three
June 2010[1]	-0.5	-1.1	-0.6	0.8
November 2010	-0.9	-0.5	1.0	
March 2011	-0.9	-1.1	0.4	
November 2011	-1.3	-0.6		
March 2012	-0.9	-0.5		
December 2012	-0.2			
March 2013	-0.7			
Average absolute errors over the previous 20 years				
Spring/summer	1.7	2.0	2.5	2.4
Autumn	1.9	2.3	2.4	2.2

[1] For comparability with other forecasts, 'in-year' is assumed to be 2009-10.

Key:

Smaller than average absolute error
Average sized error
Bigger than average absolute error

B.10 Estimates for the level of nominal GDP will not necessarily be comparable over time, due to methodological changes. Changes in this year's Blue Book have raised the level of GDP slightly, and we may expect larger changes in next year's

Blue Book, as the figures are brought into line with the latest European System of Accounts. This would echo the experience of the last time such an exercise was undertaken in 1998.

B.11 These revisions potentially distort comparisons of receipts and spending forecasts expressed as a share of GDP (the consequences for net borrowing are on a much smaller scale, as the effects on receipts and spending shares are largely offsetting). To give a clearer guide we:

- present, in Table B.5, forecast errors relating to the change in receipts as a share of GDP over time, which abstracts from changes in the level caused by revisions to the denominator; and
- compare cash spending errors in Table B.6, normalised by the latest set of GDP numbers.

B.12 Table B.5 shows that our errors for receipts relative to GDP remain small relative to historical experience. Table B.6 suggests that this has also broadly been the case for cash spending, although spending has been much lower than our March 2011 forecast in particular (when we raised our spending projections). As we discussed in Chapter 3, lower spending has in part been a consequence of policy actions, which we do not attempt to adjust for here, given the difficulties in quantifying the scale of policy changes in years prior to our creation.

Table B.5: Forecast error for changes in receipts as a per cent of GDP

	Per cent of GDP			
	Fiscal years ahead			
	In-year	One	Two	Three
June 2010[1]	-0.5	-0.2	-0.7	-1.0
November 2010	0.4	0.0	-0.2	
March 2011	0.2	-0.4	-0.3	
November 2011	-0.2	0.0		
March 2012	0.1	0.2		
December 2012	0.2			
March 2013	0.1			
Average absolute errors over the previous 20 years				
Spring/summer	0.4	0.9	1.2	1.5
Autumn	0.5	0.8	1.1	1.2

[1] For comparability with other forecasts, 'in-year' is assumed to be 2009-10.

Key:

Smaller than average absolute error
Average sized error
Bigger than average absolute error

Table B.6: Forecast errors for cash spending

	Per cent of actual GDP			
	Fiscal years ahead			
	In-year	One	Two	Three
June 2010[1]	0.3	-0.2	-0.3	-0.6
November 2010	-0.3	-0.6	-0.6	
March 2011	0.0	-1.0	-1.2	
November 2011	-0.5	-0.8		
March 2012	-0.1	-0.6		
December 2012	0.0			
March 2013	0.0			
Average absolute errors over the previous 20 years				
Spring/summer	0.8	0.8	1.0	1.5
Autumn	0.7	0.7	0.9	1.1

[1] For comparability with other forecasts, 'in-year' is assumed to be 2009-10.

Key:

Smaller than average absolute error
Average sized error
Bigger than average absolute error

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