

The IFS Green Budget

February 2012

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Preface

Welcome to the Institute for Fiscal Studies' 2012 Green Budget. In the following pages, we discuss some of the many issues confronting Chancellor George Osborne as he prepares his third Budget. The weakness of the macroeconomy, the state of public finances and the path of the proposed fiscal consolidation once again frame his options. With the independent Office for Budget Responsibility significantly downgrading its growth forecasts since last year, the Chancellor looks to have harder choices than he did a year ago. Here we assess the fiscal position in both the short and the longer run, and set out some of the facts around spending and tax policy options, as well as some of the dilemmas.

For the first time this year, we are delighted to be producing the Green Budget in collaboration with Oxford Economics. Andrew Goodwin and Adam Slater, both Senior Economists at Oxford Economics, have contributed chapters on the outlook for the UK economy and the global economy. We are very grateful for their involvement and support.

We are extremely grateful to the Economic and Social Research Council for the funding it has provided to support this year's Green Budget. We are also grateful for the continuing support that ESRC provides for our ongoing research work via the Centre for the Microeconomic Analysis of Public Policy at IFS. This underpins all our analysis in this volume.

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



Paul Johnson

Director, Institute for Fiscal Studies

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Summary

Chapter 1

The global economy

- Global growth prospects are heavily influenced by the financial crisis in the Eurozone, with the UK especially sensitive to Eurozone developments due to close trade and financial links.
- Eurozone GDP is expected to contract in 2012 as financial strains spill over to the real economy. However, our baseline forecast assumes that the Eurozone stays in its current shape, in particular thanks to further intervention by the European Central Bank.
- Emerging market growth is expected to slow in 2012, limiting prospects for export-led growth in the rest of the world.
- Meanwhile, a moderate recovery is expected to continue in the US, assuming only a limited drag from tighter fiscal policy.
- World growth is forecast at 2.5% in 2012 and 3.5% in 2013 (at market exchange rates). Risks to this forecast are skewed to the downside, with an escalation of the Eurozone crisis and a China hard landing perceived to be key sources of risk. In particular, refinancing very large amounts of government debt in the Eurozone this year perhaps represents the largest single threat to global growth.

Chapter 2

The UK economic outlook

- The UK likely re-entered recession at the end of 2011. Near-term prospects are bleak with a number of headwinds hampering the recovery. In particular, falling demand from continental Europe, continuing fiscal retrenchment and weak consumer and business confidence will keep GDP growth down to only 0.3% in 2012. Unemployment is projected to rise to close to 9% by the end of this year.
- But growth should gather pace in the later part of 2012 and average 1.9% in 2013. Key to this pick-up in activity is an expected fall in inflation that ends the squeeze on consumers' purchasing power. In addition, assuming that business confidence improves, sound balance sheets mean that companies can accelerate investment spending.
- We judge that there is currently a significant amount of spare capacity in the UK economy. However, growth in the capacity of the UK economy is likely to be relatively slow in the short term, constrained by tight credit conditions. We expect potential output growth to average only 1.6% over the period to 2016. GDP, however, is expected to grow on average by 2.1% a year over the next five years as the output gap gradually closes.
- Our short-term forecast is somewhat weaker than both the Office for Budget Responsibility (OBR) forecast and the market consensus, although in our view this discrepancy is largely a question of timing, with other forecasters – including the OBR – likely to downgrade their forecasts in the next few months.

- While our baseline forecast may appear to be rather gloomy, particularly in the short term, the risks remain heavily skewed to the downside. The most serious threat comes from the prospect of an escalation of the Eurozone sovereign debt crisis, with a series of defaults and exits from the Eurozone having the potential to cause another deep recession in the UK.

Chapter 3

Fiscal repair: painful but necessary

- Our latest estimates – based on official forecasts – suggest that the financial crisis and associated recession have punched a permanent hole in the public finances of 7.5% of national income, or £114 billion in today's terms.
- Measures announced by the previous Labour government and the coalition government are estimated to have the direct effect of strengthening the public finances by 8.1% of national income, or £123 billion in today's terms, by 2016–17.
- Official figures now suggest that the structural deficit was 0.8% of national income, or £12 billion in today's terms, larger in 2007–08 than the March 2008 Budget suggested. Even had the Labour government known and dealt with this problem, the need for a large fiscal repair job would still have become apparent post-crisis.
- The latest forecasts suggest that borrowing in 2016–17 will be £24 billion, which is not much lower than the £26 billion forecast by Alistair Darling in his March 2010 Budget, despite the large additional fiscal consolidation announced by the new coalition government. However, in the absence of these new measures, borrowing would now be forecast to be much higher.
- The additional spending cuts announced by George Osborne in the Autumn Statement for 2015–16 and 2016–17 mean that he continues to comply with his fiscal mandate. But the latest official forecasts suggest that he only has a fifty–fifty chance of meeting his supplementary target to have debt falling as a share of national income in 2015–16.
- One risk to the public finances is that the government fails to deliver its planned fiscal consolidation. By the end of 2011–12, 73% of the planned tax increases will have been implemented. The spending cuts, however, are largely still to come – only 12% of the planned total cuts to public service spending, and just 6% of the cuts in *current* public service spending, will have been implemented by the end of this financial year.
- The impact of the remaining cuts to the services provided is difficult to predict; they are of a scale that has not been delivered in the UK since at least the Second World War. On the other hand, these cuts come after the largest sustained period of increases in public service spending since the Second World War. If implemented, the planned cuts would, by 2016–17, take public service spending back to its 2004–05 real-terms level and to its 2000–01 level as a proportion of national income.
- Perhaps the only relevant example of such deep cuts being delivered elsewhere in recent decades is Ireland in the late 1980s. The rarity with which such cuts have been delivered no doubt reflects the fact that they have seldom been deemed necessary and therefore not attempted. Should they not be possible, further tax rises or welfare cuts would be needed to reduce borrowing as currently planned.

Chapter 4

Green Budget public finance forecasts

- The IFS Green Budget baseline forecast is for a current budget deficit in 2011–12 of £95.6 billion and for public sector net borrowing of £124.2 billion. These are £2.9 billion lower than the latest Office for Budget Responsibility (OBR) forecasts, due to a forecast £3.3 billion underspend by Whitehall departments.
- Assuming that the economy evolves broadly as the OBR expects, we forecast the cyclically-adjusted current budget will reach a surplus of 1.1% of national income in 2016–17, complying with the Chancellor’s fiscal mandate. This is 0.6% of national income, or £9 billion in today’s terms, larger than the latest OBR forecast, and arises largely from stronger forecast growth in tax revenues.
- Using the Oxford Economics central scenario for the economy makes relatively little difference to these estimates, as weaker economic growth than forecast by the OBR is partly offset by a higher oil price and greater North Sea oil and gas production.
- Under both the baseline forecast and the Oxford Economics central forecast, the Chancellor’s supplementary target to have debt falling as a share of national income between 2014–15 and 2015–16 would be on course to be only just met. Small changes would lead to it being missed.
- The differences between these forecasts are dwarfed by the uncertainties around them. The risks to the economy are skewed to the downside.
- Oxford Economics puts a significant probability on a ‘Eurozone break-up’ scenario. In this scenario, national income falls in the short run, public sector net debt rises and, despite a forecast strong bounce-back in growth towards the end of the forecast horizon, the cyclically-adjusted current budget is still forecast to be in deficit by 1.0% of national income in 2016–17.
- Given the uncertainties surrounding the public finances, and the longer-term need for a net fiscal tightening to offset the impact of an ageing population, there is a strong case for the Budget not to contain a significant permanent net giveaway.
- The case for a short-term fiscal stimulus package to boost the economy is stronger now than it was a year ago. Decisions made in the Autumn Statement are likely to have had a small but positive impact on growth. The case for taking this further is not clear-cut: ongoing uncertainty over the future fiscal situation and the importance of credibility argue against it, but the continued weakness of the economy and the low chance of monetary tightening offsetting it make a loosening look more attractive than a year ago. The case would be strengthened significantly were the outlook for the UK economy to deteriorate sharply.
- A cut to the main rate of VAT, a reduction in employer National Insurance contributions and a boost to investment spending plans all seem sensible choices for a temporary fiscal stimulus package, were one deemed necessary.

Chapter 5

Public sector pensions and pay

- Public spending on public service pensions, having risen dramatically over the last forty years, is set to fall as a share of national income. This is due to reforms already implemented by the last Labour government and the current government that will sharply reduce the generosity of these schemes for many members. Public sector workers will still have much more generous pensions than those typically available to their private sector counterparts.
- The two major structural reforms to public pensions – the move to career average from final salary pensions and the alignment of normal pension ages to the state pension age – are coherent changes, with the latter making sense in the context of increasing longevity at older ages.
- Decisions over the rates of accrual and indexation mean that the latest reforms might not save money in the long term. Lower earners are likely on average to benefit from the reforms, while higher earners will lose somewhat. These distributional consequences enhance rather than diminish the differences between public and private sector labour markets.
- Average hourly wages of public sector workers are 24.3% higher than those in the private sector. Most – but not all – of this difference can be explained by public sector workers typically having greater experience and more education. After taking into account these differences, average hourly wages are estimated to be 8.3% higher in the public sector than in the private sector.
- This estimated public sector pay premium has grown over the period since 2008, largely due to the fall in private sector earnings during the recession. The government's proposed squeeze on public sector pay, which is to run until 2014–15, will roughly eliminate this unintended increase.
- After taking into account differences in age and education, lower-paid workers have a greater estimated public sector pay premium than higher-paid workers. The government is relatively protecting the lowest-paid in the public sector. Lower earners will also typically gain, and high earners lose, from the public service pension reforms. Both enhance rather than diminish the differences between public and private sector labour markets.
- The estimated public sector pay premium varies remarkably across regions. There is no evidence of a public sector pay premium in the South East of England, while in Wales the estimated premium is 18.0% for men and 18.5% for women. This provides a strong case for having regional variation in the pay awards that are set centrally. But there is also tentative evidence that the premium varies across different occupations within the same region; therefore any regional variation in public sector pay awards would need to be carefully designed.

Chapter 6

Local government spending: where is the axe falling?

- Local government spending varies significantly across England. Excluding education, local government expenditure per person in London in 2009–10 (£1,868) was much higher than that in the rest of the country, and almost double that in the South East of

England (£976), the region with the lowest spending. Higher spending on transport and police in London explains a large part of this difference. More generally, spending is higher in poorer, more urban districts and lower in more affluent, rural and suburban districts.

- Local authority budgets for 2011–12 imply real-terms cuts in net current service expenditure (excluding education) of 9.4% since 2009–10, or 10.4% when expenditure on fire and police services is also excluded. This reflects both cuts in the amount provided by central government grants (13.3% in real terms) and reductions in the forecast revenue raised by the council tax (2.1% in real terms).
- The size of the cuts varies significantly across local authority areas. Planned cuts (excluding education, fire and police services) between 2009–10 and 2011–12 exceed 15% in around one-quarter of local authority areas, whilst in another quarter they are smaller than 6% (or spending is even set to increase). Increases in real-terms expenditure are planned in around one-tenth of local authority areas.
- The planned cuts are largest in both absolute and percentage terms in areas with higher expenditure in 2009–10. Amongst councils in the top quarter of spenders in 2009–10, the cuts average 16.8%, versus 5.5% amongst those in the bottom quarter of spenders. This means spending cuts are larger, absolutely and proportionally, in urban and poorer parts of England than in more affluent rural and suburban districts. It also means cuts are larger in London and the northern regions of England than in southern regions.
- The size of cuts varies significantly across service areas. Expenditure on planning and development services is hardest hit, with an average cut across England of 43% over the two years since 2009–10. Expenditure on this area, and on libraries and other culture and leisure, is set to be lower in real terms in 2011–12 than in 2009–10. Expenditure on police services, fire services and social services is relatively protected, and expenditure on environmental and refuse services is set to increase (by 1.7%). There is no clear pattern of whether services that previously saw the biggest increases in expenditure are now seeing the biggest cuts or vice versa.

Chapter 7

UK development aid

- The government has ring-fenced the UK aid budget and committed to increasing expenditure to meet the international target of providing 0.7% of gross national income (GNI) as official development assistance (ODA) from 2013. In 2010, the UK government spent £8.45 billion on international development, equating to £321 for each household, and this is planned to rise to £12 billion in 2013.
- Sixteen European countries have committed to reaching a target of spending 0.7% of GNI on ODA by 2015. While this level has already been surpassed by five of these countries, the UK is among only a handful of others that have currently achieved a level near to the target.
- The majority of UK ODA is channelled through the Department for International Development (DfID). Of the aid that DfID delivers bilaterally, the largest share is allocated to Africa. The majority of multilateral expenditures are made through the European Commission and the World Bank.

- DfID expenditures were reviewed in 2011. As a result, DfID spending will now be focused on fewer countries, will be channelled through fewer multilateral organisations, and will be reported on more regularly and in a more detailed manner. This is intended to improve the value gained from ODA.
- Despite the recent reviews, there remains a need to evaluate the value for money achieved by UK ODA. To do this, a greater amount of information is needed, along with increased transparency, particularly relating to multilateral expenditures. The creation of the Independent Commission for Aid Impact, an independent aid watchdog, should go some way to achieving this.

Chapter 8

Tax reform and growth

- The tax system takes on average £4 of every £10 of income in the economy. Its design matters a great deal for economic welfare and for growth.
- This chapter focuses on reforms that could increase national income in the medium term, not on possible short-term stimulus to promote economic recovery. We emphasise that economic growth (i.e. increases in national income) and increases in welfare are not synonymous. There are many welfare-enhancing reforms to the tax system which should be pursued even if they don't promote growth. And there are growth-promoting but welfare-reducing reforms which should not be pursued.
- In general, a tax system that is significantly more neutral than the current one would do less to distort economic activity, would involve lower administration and compliance costs, and would increase both national income and welfare. The scope for reform in this direction is substantial.
- One set of reforms that would raise levels of economic activity over the medium term would involve strengthening financial work incentives for groups that are particularly responsive to them. We suggest changes that could lead to increased employment among mothers of school-age children and among people aged between 55 and 70, two groups known to be particularly responsive to incentives.
- The design of business taxes is important. By discouraging investment in the UK and favouring some forms of investment and finance over others, corporation tax has direct effects on economic activity. Moving to a system that exempts a 'normal' return to capital from taxation would reduce these problems. Replacing business rates with a land value tax, meanwhile, would remove a damaging bias against property-intensive production.
- We can also improve the design of environmental taxes in the UK in ways that would both boost output and improve their effectiveness in dealing with the externalities they are designed to tackle. Replacing much of fuel duty with a system of congestion charging would have major economic benefits. Reforming and simplifying carbon taxation would help to minimise the cost of reducing emissions.
- International studies suggest that moves away from income taxation and, in particular, corporate income taxes, towards consumption and property taxes would enhance growth. In part, this reflects the structure of corporate taxes which, as currently designed, are relatively damaging to growth. But one of the reasons that consumption taxes may be more growth-friendly than income taxes is that they are

generally less progressive. And there is a clear balance to be struck between a focus on progressivity and a focus on growth. In general, reducing the amount of redistribution done in the tax system would increase aggregate income, but at the cost of greater inequality. That is a trade-off that all governments face.

Chapter 9

The 50p income tax rate: what is known and what will be known?

- There has been much discussion about the impact on tax revenues of the 50p income tax rate above £150,000 that was introduced in 2010–11, but, as we lack robust evidence, this is currently a debate characterised by much heat and little light.
- The impact of the 50p tax rate on revenues will depend not just on how many taxpayers there are with incomes above £150,000, but also on how taxpayers react to the increased rate of tax (the so-called behavioural response).
- The HM Treasury (HMT) estimate of how much revenue the 50p rate will raise assumes a lower level of behavioural response than previous UK and US studies have found, and does not allow for any impact on indirect tax revenues. This might imply that the 50p rate is raising less than HMT was expecting. On the other hand, the HMT estimate does not take account of the possibility that more tax will be raised later on, or through other taxes such as capital gains tax.
- It is important not to fixate just on whether any revenue is raised. Even if HMT's estimate is right, there will be a great deal of avoidance activity and changed economic behaviour. There are costs to this and there might well be better ways of raising a similar amount of revenue from a similar group of people.
- Experience from reforms to higher rates of tax in other countries suggests that most of the behavioural response to the 50p rate will take the form of increased (legal) tax avoidance. With or without the 50p tax rate, an effective way of increasing the tax take from high-income individuals would be to remove opportunities for tax avoidance.
- The Chancellor has asked HM Revenue and Customs to estimate the impact of the 50p tax rate on tax revenues and to report to him in time to inform his Budget 2012 decisions. The first shreds of evidence will appear shortly, once tax returns for the 2010–11 tax year have been processed. However, this will tell us, at most, only the very short-run impact of the 50p tax rate on revenues; the true impact in the long run could be higher or lower. If the future of the 50p rate is to be determined on the basis of evidence about its impact, then Budget 2012 will be too soon to form a robust judgement.

Chapter 10

Corporate tax setting

- Following a trend that has been seen across many developed countries, the UK government has pursued a corporate tax strategy of rate cutting and base broadening. One rationalisation of this is that it will lower the tax burden on mobile firms, thus reducing the disincentive for firms to locate in the UK without losing too much tax revenue.

- Tax avoidance, especially by companies, has attracted increasing attention in light of the large budget deficit. A first step towards countering avoidance is to minimise the boundaries between what is and is not taxed, which create opportunities for avoidance. The government is considering introducing a General Anti-Avoidance Rule (GAAR) – a broad set of principle-based rules designed to prevent tax avoidance; there are mixed opinions as to the usefulness of a GAAR.
- The taxation of intellectual property has been a key issue for policymakers. The government will introduce a Patent Box in 2013, which will provide a substantially lower tax rate for the income derived from patents. The policy design weakens the link between the size of the tax deduction and the amount of underlying innovation and increases the deadweight cost of the policy.
- The government is considering whether to devolve the power to set the main rate of corporation tax in Northern Ireland to the Northern Ireland Assembly. There are suggestions that Scotland and Wales should be granted equivalent powers.
- The key aim of devolving corporation tax rate setting power is to reduce rates and therefore boost private sector investment. It is hard to judge whether the benefits from greater levels of activity would be sufficient to outweigh the costs of the public spending cuts that would be needed to finance reductions in the rate of corporation tax and the additional compliance costs and distortions to corporate decision-making that would result.
- Implementing such a policy move would be difficult, and likely require a number of years of transition. A key challenge would be to determine how to allocate profits to each nation and ensure that firms could not artificially allocate profits to the lower-tax nation. There would be an important debate over how to adjust the block grant from Westminster appropriately.
- A concern is that allowing separate rates across the four nations could lead to harmful tax competition within the UK, which would reduce tax revenues for all nations.

Chapter 11

Withdrawing Child Benefit from better-off families: are there better options?

- From January 2013, the government plans effectively to withdraw all Child Benefit from any family containing a higher-rate income taxpayer. The Treasury expects this to save it about £2.4 billion in 2013–14. Around 1.5 million families will effectively lose their Child Benefit as a result: about 600,000 one-child families will lose £1,056 per year; about 700,000 two-child families will lose £1,752 per year; and about 200,000 families with three or more children will lose at least £2,449 per year.
- The ‘cliff-edge’ feature of this policy, whereby all of a family’s Child Benefit is removed completely as soon as pre-tax income passes a certain threshold (rather than being tapered away gradually as income rises), will create a bizarre and economically damaging set of incentives for people within certain income bands. About 170,000 families could increase their net income if an individual in that family managed to lower their pre-tax income to just below the higher-rate tax threshold, and about 200,000 families slightly below the higher-rate tax threshold could find themselves with a lower net income if their pre-tax income were to rise slightly.

- The Treasury has estimated that the resulting distortions to people's behaviour will reduce the revenue raised by the reform by about £280 million per year due to 'tax planning' and another £60 million per year due to 'non-compliance'. A further £90 million per year will go uncollected due to difficulties in correctly identifying the families who should be affected by this reform. The total economic costs of the distortions to people's behaviour (such as reduced labour supply) are likely to be greater still; and one can clearly also question the fairness of effectively rewarding people for working less or arranging a pay cut with their employer.
- The fact that Child Benefit withdrawal would be based on individual income, rather than family income, will mean that Child Benefit will be removed from some couples whose joint pre-tax income is £43,000 per year but not removed from other couples whose joint pre-tax income is £84,000 per year.
- The Prime Minister has recently said that the government is reconsidering the way in which Child Benefit is removed from better-off families. This chapter presents alternative ways of removing Child Benefit from better-off families that address one or both of the issues outlined above. Withdrawing Child Benefit gradually through the income tax system would affect a similar set of families to the government's proposal and could easily be tweaked so that it would raise the same amount of money. Gradual withdrawal would avoid the 'cliff-edge' feature of the current policy and hence the most severe economic distortions. More rational solutions would use the existing system of means-testing for families with children, which is subject to neither of the criticisms outlined above: Child Benefit could be combined with the Child Tax Credit (and, later, Universal Credit).

1. The global economy

Adam Slater (Oxford Economics)

Summary

- Global growth prospects are heavily influenced by the financial crisis in the Eurozone, with the UK especially sensitive to Eurozone developments due to close trade and financial links.
- Eurozone GDP is expected to contract in 2012 as financial strains spill over to the real economy. However, our baseline forecast assumes that the Eurozone stays in its current shape, in particular thanks to further intervention by the European Central Bank.
- Emerging market growth is expected to slow in 2012, limiting prospects for export-led growth in the rest of the world.
- Meanwhile, a moderate recovery is expected to continue in the US, assuming only a limited drag from tighter fiscal policy.
- World growth is forecast at 2.5% in 2012 and 3.5% in 2013 (at market exchange rates). Risks to this forecast are skewed to the downside, with an escalation of the Eurozone crisis and a China hard landing perceived to be key sources of risk. In particular, refinancing very large amounts of government debt in the Eurozone this year perhaps represents the largest single threat to global growth.

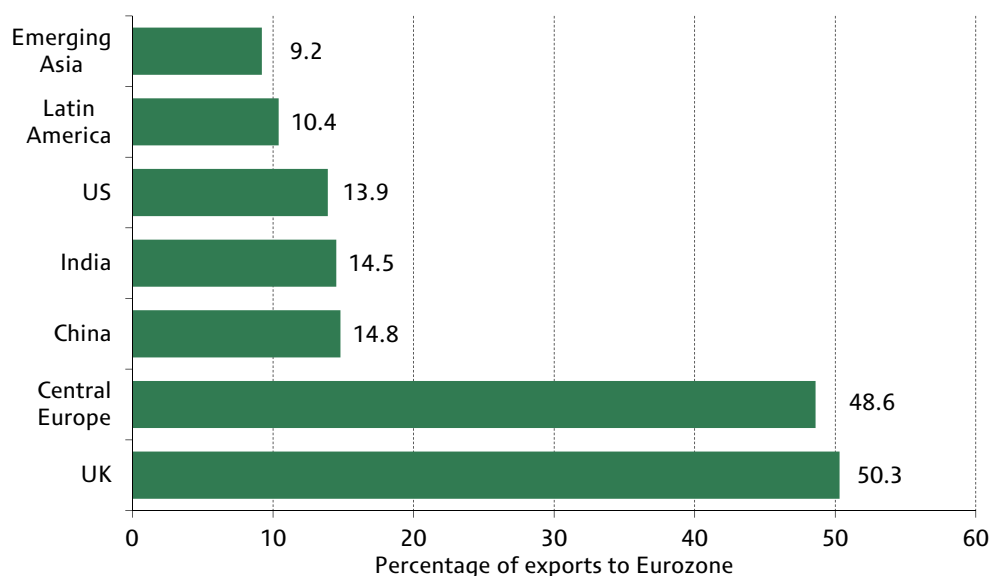
1.1 Introduction

Over the past twenty years, the UK economy has become particularly unbalanced, becoming overly reliant on domestic demand, and in particular consumer spending, to drive economic growth. However, the need for households to deleverage means that consumers no longer look as likely a source of growth as they were before. The sharp depreciation in the value of the pound in the aftermath of the financial crisis raised hopes that exports would fill the void left by the consumer, and the signs were promising in the early stages of the recovery.

However, the global economic outlook darkened in the final months of 2011, in large part due to the deteriorating financial and economic picture in the Eurozone. Economic prospects for 2012 will also be heavily influenced by developments in the Eurozone given its status as a large export market (see Figure 1.1), and the potential for the financial crisis there to generate significant financial shockwaves will affect all the major economies.

The UK is especially at risk from Eurozone developments given its close economic and financial links with the Eurozone. The Eurozone accounts for a large fraction of UK exports, and while UK banks' exposure to the sovereign debt of the troubled 'peripheral' Eurozone states such as Greece is modest, the indirect exposure of UK banks to the Eurozone via loans to the private sector and financial institutions is substantial.

Figure 1.1. Exposure to Eurozone



Source: Haver Analytics, Oxford Economics.

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

1.2 Global outlook

Eurozone

The Eurozone financial crisis continued to intensify over the second half of 2011, despite a number of attempts by EU leaders to stem it. Investor concerns about Greece mounted through the year as Greece's economy continued to shrink rapidly, undermining attempts to rein in the budget deficit. Greece, Portugal and Ireland were all shut out of private bond markets and became dependent on official financial assistance. And most dangerously of all, the crisis spread to the bond markets of larger countries such as Spain and Italy, which between them have around €3 trillion of sovereign debt outstanding.

In October 2011, Eurozone leaders outlined generous new official financing deals for Greece, Ireland and Portugal and also proposed that Greece's private sector bondholders should agree a 'voluntary' 50% write-down of their debt holdings.¹ Plans were also announced to 'leverage up' the Eurozone's bailout fund, the European Financial Stability Facility (EFSF), to provide support for Spain and Italy. These announcements failed to restore market confidence, however, with investors doubtful that the debt relief granted to Greece was sufficient to restore long-term solvency and sceptical about the effectiveness of the new EFSF mechanism. Indeed, the EFSF struggled to raise relatively modest sums at an acceptable cost in the final months of 2011.²

¹ This was announced by José Manuel Durão Barroso, President of the European Commission, in a speech on 27 October 2011 (<http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/11/714&format=HTML&aged=0&language=EN&guiLanguage=en>).

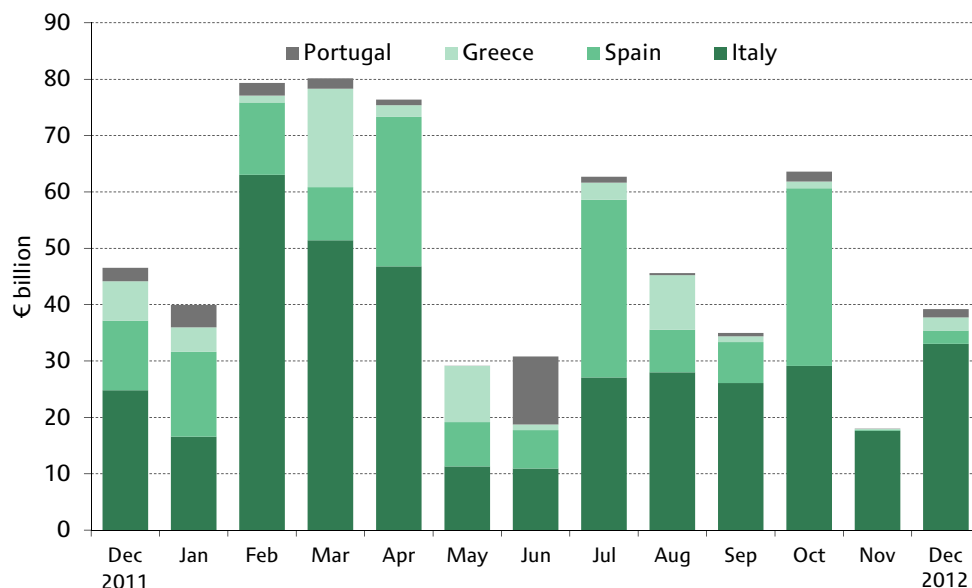
² For example, in early November, the EFSF was only able to sell a €3 billion 10-year bond in support of Ireland by using some of its own funds to cover the shortfall (<http://www.telegraph.co.uk/finance/financialcrisis/8886380/Eurozone-bail-out-fund-has-to-resort-to-buying-its-own-debt.html>).

As the crisis continued to worsen, EU leaders met again on 8–9 December 2011 with the aim of framing a ‘grand bargain’ to restore confidence. Once again, however, their proposals were insufficient to turn around market sentiment. The proposed ‘fiscal compact’ was not the fiscal union many observers were hoping for, and may well prove unworkable. And investors still see the Eurozone’s bailout fund as lacking sufficient firepower to form an effective ‘firewall’ against financial contagion.

As 2012 began, further difficulties arose. Talks between Greece and its creditors to hammer out the terms of the debt swap agreed in October 2011 ran into problems, with some participants arguing for deeper write-downs of debt holdings while creditors resisted this. With large bond maturities due in March, this raised the spectre of a disorderly default by Greece. Meanwhile, the capacity of the Eurozone bailout fund to shore up sovereign bond markets was further damaged by France and Austria losing their AAA credit rating with Standard & Poors, leading to a downgrade of the EFSF itself.

This latter development was especially worrying given the large upcoming debt maturities in Italy and Spain. These two countries need to refinance around €210 billion of government debt between February and April 2012 (see Figure 1.2), which will be very difficult unless market conditions improve substantially. The consequences of a failure to roll over this debt would be dramatic – in our view, this ‘rollover risk’ now poses the single most serious threat to global financial stability.

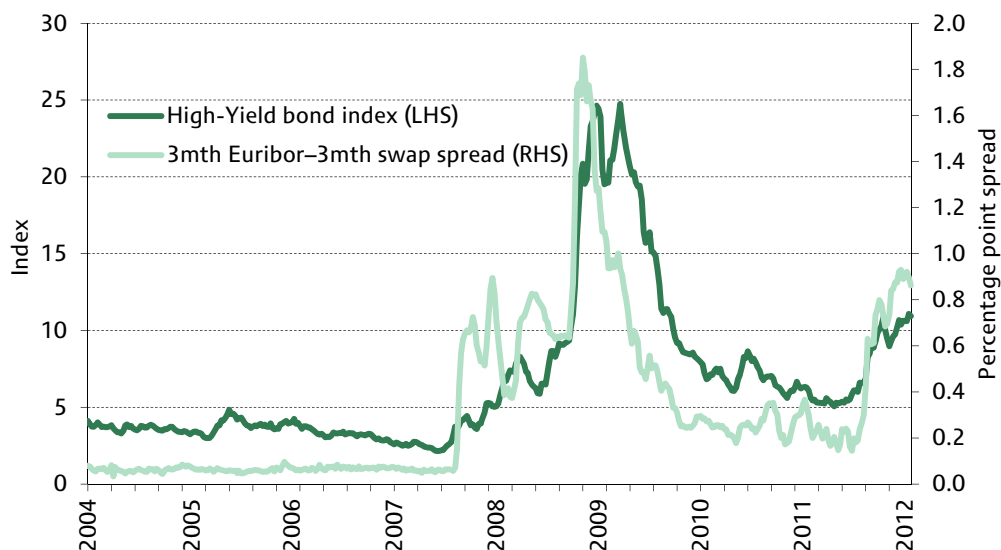
Figure 1.2. Eurozone maturing government debt



Source: Bloomberg.

The distress in sovereign bond markets in the Eurozone has also now spread to broader financial markets, with financial stress levels rising (Figure 1.3). Funding pressures have become acute for Eurozone banks, with many struggling to access unsecured markets at a reasonable cost and growing reliance for funding on European Central Bank (ECB) loans. In addition, in an ill-timed decision, banks are required to raise capital ratios by June 2012. Banks have begun to tighten credit conditions again in response to their own very tight funding environment, threatening damage to the real economy. In some of the ‘peripheral’ Eurozone countries, the situation is graver still, with accelerating outflows of bank deposits in recent months which threaten to undermine banking systems.

Figure 1.3. Eurozone risk spreads



Notes: The High-Yield bond index is compiled by Merrill Lynch and is a commonly-used benchmark index for high-yield corporate bonds. Euribor is short for Euro Interbank Offered Rate. The Euribor rates are based on the average interest rates at which a panel of more than 50 European banks borrow funds from one another. The spread of this rate over the Overnight Indexed Swap (OIS) rate is a good proxy for the degree of financial stress – higher spreads indicate elevated levels of stress.

Source: Haver Analytics, Merrill Lynch.

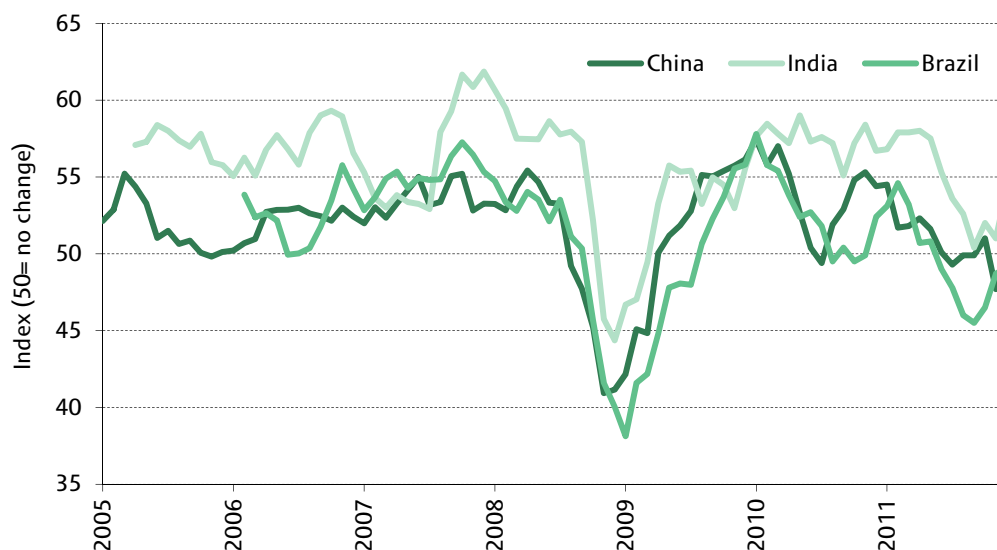
The financial crisis in the Eurozone has also spilled over into the real economy. Gross domestic product (GDP) growth across the whole of the Eurozone ground to a halt in the second half of 2011, even in the previously robust ‘core’ Eurozone economies such as Germany and France. Indicators such as the Purchasing Managers’ Index (PMI) surveys have pointed to contracting output for several months now, and we estimate that the Eurozone re-entered recession in 2011Q4, with a small decline in GDP forecast for 2012 as a whole. This represents a significant blow to UK export prospects in the short term, given that around 50% of UK exports go to the Eurozone.

Emerging economies

The prospects of exports buoying growth in Europe and elsewhere have also been set back by a weakening picture in the emerging markets. The PMI surveys for China were disappointing in the final months of 2011 (Figure 1.4), both in manufacturing and services. The latter development implies that economic weakness might be spreading from the export-dependent sectors to what has until now been a very robust domestic market. We forecast that Chinese GDP growth will slow to around 8% in 2012 from 9% in 2011 and over 10% in 2010.

Elsewhere in the emerging world, Q3 GDP data for Brazil showed zero growth and we now forecast GDP growth in 2012 at 3.1% only. India, meanwhile, has seen a sharp slowdown in industrial output and investment. The latter trend is especially worrying given the importance of investment in fuelling India’s economic ‘take-off’ in recent years. We expect Indian GDP growth at 6.5% in 2012, below 7% for the first time since 2002.

Figure 1.4. BRICs: manufacturing Purchasing Managers' Index



Notes: The Purchasing Managers' Index is an indicator produced by Markit Group by polling private sector companies. The chart shows results for activity in the manufacturing sector, with a reading above 50 indicating that activity is increasing.

Source: PMI / Markit / China NBS.

Though some progress has been made in recent years, the UK's record of exporting to these countries is poor, with only around 5% of exports going to the BRIC³ countries. Therefore, even though our forecasts for these countries remain considerably stronger than those for advanced economies, the UK is unlikely to derive significant benefit.

Japan

Japan suffered a difficult 2011 with natural disasters in March disrupting the energy sector and hitting growth hard for several months. In the third quarter of 2011, the country showed strong signs of recovery with GDP rising by 1.4%, but this rebound started to run out of steam in the final months of the year, with GDP likely to have contracted in 2011Q4 and fallen by around 1% in 2011 as a whole.

Prospects for 2012 also look subdued. The industrial sector is struggling with the effects of a strong currency – a side effect of global financial conditions which have created strong 'safe haven' flows into yen assets – and weakening export demand due to the global and regional economic slowdown. In addition, consumer demand is set to grow at a subdued pace given low growth in real household incomes. We forecast that this will lead to GDP growth being constrained to just 1.4% in 2012.

US

A brighter spot in the global economy at present is the US, where recent data releases have generally outperformed expectations. The Institute for Supply Management (ISM) surveys have continued to point to positive, if moderate, growth and the labour market improved in late 2011 with unemployment falling back and a healthier rate of employment growth in December. Consumer confidence also rebounded strongly in

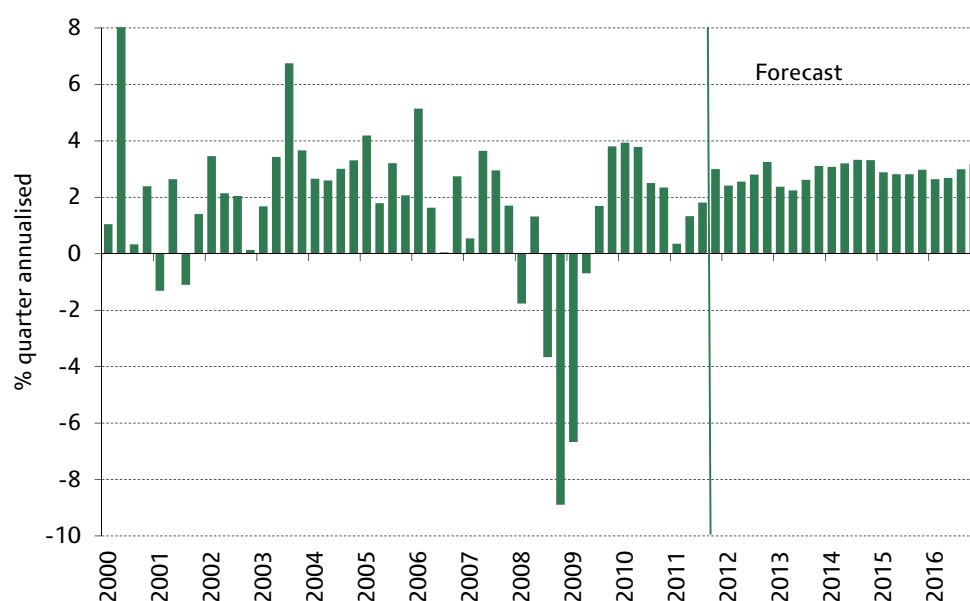
³ BRIC countries are Brazil, Russia, India and China.

November and December 2011, and there were some tentative signs of recovery in some housing indicators.

There is also some evidence that the Federal Reserve's loose monetary policy may be feeding through to the economy more effectively than that of other major central banks. Both the broad money supply and credit indicators are showing reasonable rates of growth and there are few signs as yet of the crisis in the Eurozone spilling over into a tightening in credit conditions in the US.

Many US indicators nevertheless remain at relatively low levels, including housing starts and home sales, consumer confidence and employment. Structural problems in the housing sector remain severe and will restrain recovery there, while an overhang of household debt will continue to hold back the consumer recovery. As a result, the current and forecast pace of the US recovery is modest. We estimate GDP grew by just 1.7% in 2011 and forecast growth of only 2.5% for 2012 (Figure 1.5).

Figure 1.5. US GDP growth



Source: Oxford Economics.

The US remains at risk from a further deterioration in global financial conditions. Some potential risk factors are already visible, including the rise in US dollar LIBOR⁴ in recent months. Another significant area of risk relates to US fiscal policy. This is set to be a drag on growth from 2012 but the scale of the drag is uncertain and dependent upon political factors such as whether the administration and Congress can agree on extending the payroll tax holiday and related measures and on a further rise in the debt ceiling.

The US remains a key export destination for the UK, second only to the Eurozone in terms of importance. But it also plays a key role in shaping global developments, as seen by the impact of the mid-2011 US slowdown on global growth and sentiment.

⁴ LIBOR stands for London Interbank Offered Rate.

Global outlook

As 2012 begins, the global economy is at a dangerous juncture. We forecast world GDP growth at 2.5% for this year (Table 1.1), rising to 3.5% in 2013 (at market exchange rates) but there are substantial downside risks to this forecast, especially those relating to the Eurozone financial crisis. Radical changes in policy look necessary to preserve the Eurozone, including a much-expanded effort by the ECB. Without this, non-Eurozone economies may have to consider major policy shifts themselves to ease the economic fallout.

Table 1.1. Summary of international forecasts

Real GDP	2010	2011	2012	2013	2014	2015
North America						
United States	3.0	1.7	2.5	2.7	3.0	3.0
Canada	3.2	2.4	2.1	2.6	2.7	2.7
Europe						
Eurozone	1.8	1.6	-0.2	1.2	1.8	2.0
Germany	3.6	3.0	0.6	1.7	2.1	2.0
France	1.4	1.6	-0.2	1.4	2.0	2.0
Italy	1.4	0.4	-1.0	0.0	0.8	1.4
UK	2.1	0.9	0.3	1.9	2.8	2.8
EU27	1.9	1.6	0.0	1.6	2.4	2.5
Asia						
Japan	4.5	-1.0	1.4	3.1	2.2	1.4
China	10.4	9.0	8.2	9.1	8.8	8.3
India	8.7	7.1	6.5	8.7	9.2	8.6
World	3.9	2.8	2.5	3.5	3.8	3.7

Source: Oxford Economics.

Such measures would include an extension of the expansionary monetary policy approaches seen since 2009. But a shift towards more unorthodox approaches is also possible, involving policies such as heavy foreign exchange market intervention and – more damagingly – the use of protectionism and perhaps exchange controls.

This weak short-term global forecast has significant implications for UK export prospects, particularly given that the weakness is concentrated on the Eurozone, the UK's most important export market. We expect growth in world trade, weighted by UK export shares, to be just 3.7% in 2012, only half its long-term average.

1.3 Risks to the global economy

The scale of global economic risks is such that an outcome similar to that shown in our central forecast has a probability of just 45%. There are a number of possible alternative scenarios, in which global growth could diverge significantly from our baseline. We cover the key scenarios for the global economy below and move on to assess their possible implications for the UK economy in Chapter 2.

Disorderly defaults in the Eurozone

The first set of alternative scenarios relates to the possibility that the Eurozone financial crisis concludes in a disorderly manner. A range of possible scenarios exist under this heading, including a large-scale and disorderly default in Greece, multiple sovereign defaults across the Eurozone, a Greek exit from the Eurozone and a wider Eurozone break-up. We see a probability of 30% to a disorderly default in Greece, while a broad Eurozone break-up we see having a probability of around 10%.

The impact of these different scenarios would vary greatly, with a disorderly default in only Greece likely to be less severe than a scenario where the defaults are more widespread and result in exit from the euro. For the purposes of the Green Budget, we study the most extreme scenario, that of a wider Eurozone break-up.

A broad Eurozone break-up could result from the failure of the authorities to agree a credible and permanent solution to the crisis, leading financial and business confidence to collapse. Italy and Spain would be unable to refinance debt maturing in early 2012, triggering a series of disorderly defaults. With the peripheral economies unwilling to accept even greater austerity measures, the Eurozone would then break apart. In this scenario, the most likely outcome would be that five economies – Greece, Portugal, Ireland, Italy and Spain – would leave the euro and establish new national currencies.

The exiting countries have suffered a substantial loss of competitiveness over the past decade and, as such, we would expect the new national currencies to depreciate sharply. In addition, euro-exiting countries would almost certainly see large-scale capital outflows initially, leading their exchange rates to ‘overshoot’ fair value. At the same time, the residual euro is likely to strengthen significantly, given the greater focus on the stronger northern European economies.

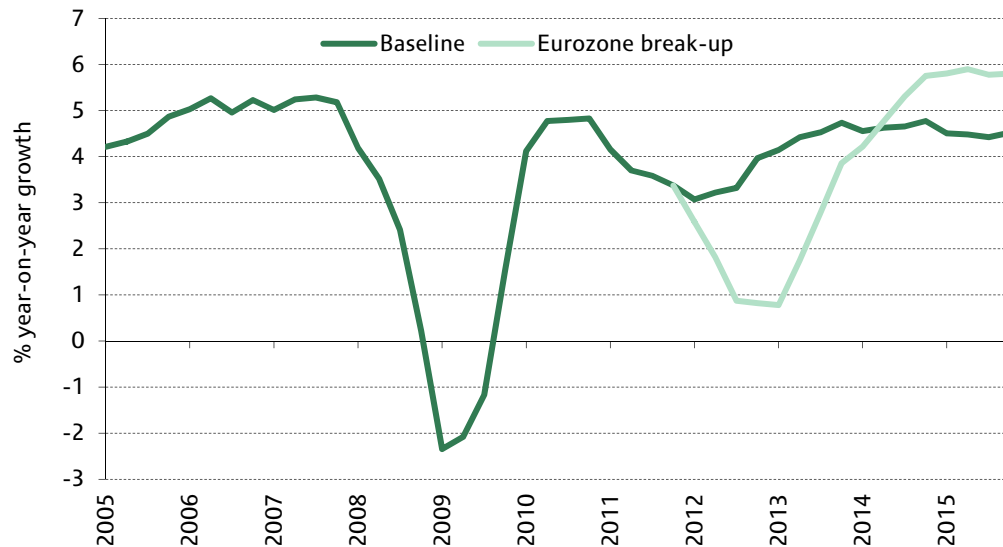
There would also be substantial costs related to the redenomination of contracts from euros into the new currencies, including legal costs. Though euro-exiting countries would increase nominal interest rates following a surge in inflation, it is unlikely that they would raise rates to levels that would be needed to keep inflation down, given the need to support their fragile economies.

The series of defaults would also have a significant impact on banks’ balance sheets across the world, causing interbank markets to freeze up in a similar way seen in the aftermath of the Lehman Brothers failure, leading to a severe credit crunch.

Outside of the Eurozone, heightened uncertainty would send stock markets down sharply. Business confidence would be dampened by the weaker outlook and increased uncertainty, which would have a negative impact on investment in all countries. Furthermore, trade linkages with the Eurozone would depress demand for countries’ exports, particularly in countries such as the UK.

In this scenario, the five exiting countries could see double-digit initial drops in GDP with steep falls also in the ‘core’ Eurozone countries. US GDP growth would slow below 1% by 2013, with a weaker dollar mitigating the effects of weaker global growth, while the UK would suffer a more severe downturn because of its closer trade and financial links with the Eurozone, with GDP about 5% below baseline by end-2013. Growth in China would slow to about 6½% a year in 2012 and 2013. The global economy would only avoid outright recession thanks to policy support in emerging markets (Figure 1.6).

Figure 1.6. World GDP under Eurozone break-up



Source: Oxford Economics.

China hard landing

Another significant downside risk to the global economy is that of a 'hard landing' in China stemming from financial imbalances and an over-inflated property sector. The scale of the credit stimulus the Chinese government pursued in 2009 and early 2010 to help China through the global financial crisis has raised concerns about the robustness of the banking sector and, in particular, about contingent liabilities to local government investment vehicles.

These concerns would be aggravated if exports slowed sharply or poor returns to infrastructure investment at the local level threatened local government finances and the profitability of the industrial sector. This could lead to a sharp increase in non-performing loans (NPLs). A surge in NPLs and a deterioration in banks' balance sheets in China would freeze the amount of credit available to the banking system for investment. In addition, the risk premium in China would rise, pushing up the cost of borrowing. As a consequence, investment would fall sharply, hitting GDP growth and leading to lower employment, which would subsequently weigh down on consumption.

Another trigger for banking sector stress is the property market. Over-capacity in the commercial property market could lead to a sharp correction, and the resulting increase in perceived risk could lead to a more generalised fall in asset prices. The property sector accounts for a significant portion of total investment flows in China and a sharp correction in this sector would reduce investment, resulting in lower employment and growth.

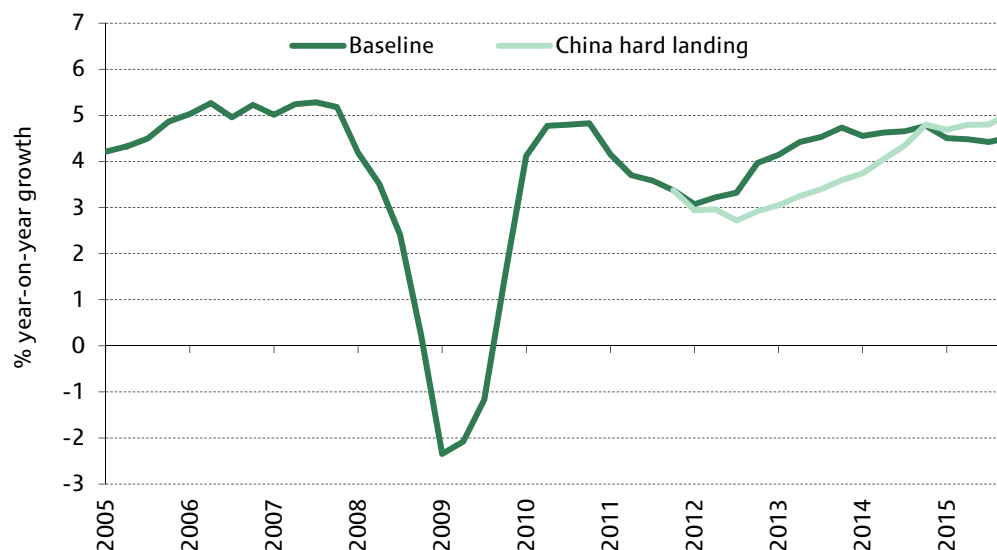
Knock-on effects onto business and consumer confidence from a collapse in the property sector would likely further depress demand, leading to a hard landing for GDP growth. In this scenario, Chinese GDP growth would fall to around 6.5% in 2012 and to below 5.5% in 2013.

We see a probability of this scenario of 15%. This probability is reduced by the fact that the Chinese authorities have scope to respond more aggressively to slowing growth with policy stimulus. Already, the central bank has cut reserve requirements for Chinese banks to ease credit conditions in the slowing economy. However, it is of course possible that

the authorities act too slowly to preserve growth, or that they make errors which exacerbate the downturn.

The impact of a Chinese hard landing on the rest of the world would be noticeable through trade linkages and financial contagion, although the inevitable sharp drop in commodity prices would mitigate some of the impact (Figure 1.7). In this scenario, we would expect the US to grow by around 2% in 2012 and 1.8% in 2013 and Eurozone GDP would fall by around 0.3% in 2012 and grow by just 0.8% in 2013.

Figure 1.7. World GDP under China hard landing



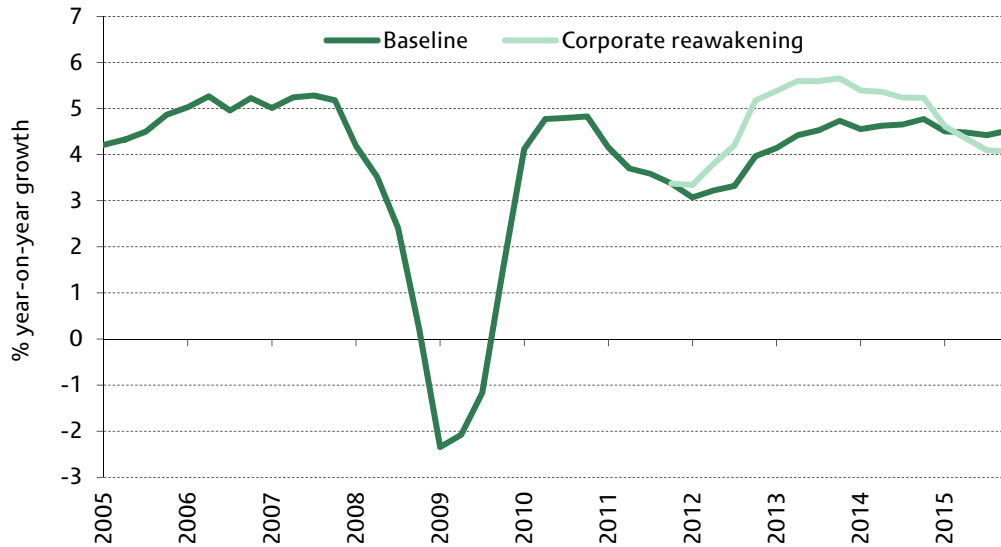
Source: Oxford Economics.

Corporate reawakening

As well as the downside scenarios outlined above, there are also possible upside risks to our central forecast. One possible upside scenario might be generated by the development of credible plans to deal with fiscal problems and the financial crisis in the Eurozone and an easing of tensions in the Middle East which led to oil prices falling back. This would encourage the corporate sector to invest and boost its workforce, as well as easing pressure on the purchasing power of households. Industrialised countries would lead the way, with beneficial spillover effects on emerging markets.

In developed countries, the corporate sector has built up large financial surpluses and, in this scenario, the restructuring of the global financial system and stability brought about by fiscal consolidation would lead business to spend these funds quicker than in the baseline rather than paying down debt. This would enhance confidence in the industrialised economies, leading to a quick recovery in demand (Figure 1.8). In this scenario, US GDP would grow by over 3% in 2012 and accelerate to 4.0% in 2013, whereas in the Eurozone economic activity would expand by around 0.6% in 2012 and 2.2% in 2013. We see a relatively low probability of 10% to this scenario.

Figure 1.8. World GDP under corporate reawakening



Source: Oxford Economics.

1.4 Conclusions

The global economic outlook is of particular importance to the UK, given the goal of rebalancing the UK economy towards exports and investment. The external risks to UK growth prospects are greater still due to close trade and financial links with the Eurozone, where the financial crisis has escalated over recent months and spilled over to the real economy. Eurozone GDP is forecast to contract slightly in 2012, with the risk of a rather deeper recession should the financial crisis culminate in a disorderly manner.

In addition, global growth is being held back by a slowdown in growth in the emerging markets and by a relatively modest pace of recovery in Japan and to a lesser extent in the US. Some of the emerging countries have scope to loosen policy to boost growth but there is also the risk that China will suffer a 'hard landing', which would be a significant blow to regional and global growth prospects. The US economy also remains vulnerable to further financial shocks, with the consumer rebound still relatively muted.

There are also upside risks to world growth, including the possibility that credible steps to ease global financial tensions plus lower oil prices spark a faster recovery of consumer and investment spending. However, currently downside risks dominate, especially those connected to the Eurozone.

2. The UK economic outlook

Andrew Goodwin (Oxford Economics)

Summary

- The UK likely re-entered recession at the end of 2011. Near-term prospects are bleak with a number of headwinds hampering the recovery. In particular, falling demand from continental Europe, continuing fiscal retrenchment and weak consumer and business confidence will keep GDP growth down to only 0.3% in 2012. Unemployment is projected to rise to close to 9% by the end of this year.
- But growth should gather pace in the later part of 2012 and average 1.9% in 2013. Key to this pick-up in activity is an expected fall in inflation that ends the squeeze on consumers' purchasing power. In addition, assuming that business confidence improves, sound balance sheets mean that companies can accelerate investment spending.
- We judge that there is currently a significant amount of spare capacity in the UK economy. However, growth in the capacity of the UK economy is likely to be relatively slow in the short term, constrained by tight credit conditions. We expect potential output growth to average only 1.6% over the period to 2016. GDP, however, is expected to grow on average by 2.1% a year over the next five years as the output gap gradually closes.
- Our short-term forecast is somewhat weaker than both the Office for Budget Responsibility (OBR) forecast and the market consensus, although in our view this discrepancy is largely a question of timing, with other forecasters – including the OBR – likely to downgrade their forecasts in the next few months.
- While our baseline forecast may appear to be rather gloomy, particularly in the short term, the risks remain heavily skewed to the downside. The most serious threat comes from the prospect of an escalation of the Eurozone sovereign debt crisis, with a series of defaults and exits from the Eurozone having the potential to cause another deep recession in the UK.

2.1 Introduction

2011 was a particularly challenging year for the UK economy, with most forecasters forced to make substantial downgrades to their forecasts as the year progressed. The Office for Budget Responsibility (OBR) cut its forecasts for gross domestic product (GDP) growth for the 2011–13 period to 1.2% a year in November 2011 from 2.4% a year previously. However, subsequent events raise questions about whether even these revisions went far enough, with the failure to bring the Eurozone crisis to an end meaning that the short-term outlook has continued to worsen. In this chapter, we discuss the outlook for the UK economy, beginning in Section 2.2 with short-term prospects, where we assess the likelihood that the UK will endure a double-dip recession. We then explain why we think that growth will recover next year (Section 2.3).

Moving our focus beyond the short term, we consider prospects for the 2012–16 period as a whole. As part of this, we analyse indicators of the degree of spare capacity in the economy and discuss the prospects for growth in potential output over that period (Section 2.4). Having set out our baseline forecast, we then assess how this compares with the most recent forecast from the OBR and those of other independent forecasters (Section 2.5).

Section 2.6 analyses the potential impact of alternative global scenarios on the UK economy, including an upside scenario ‘corporate reawakening’ and a severe downside scenario involving a break-up of the Eurozone. Section 2.7 concludes.

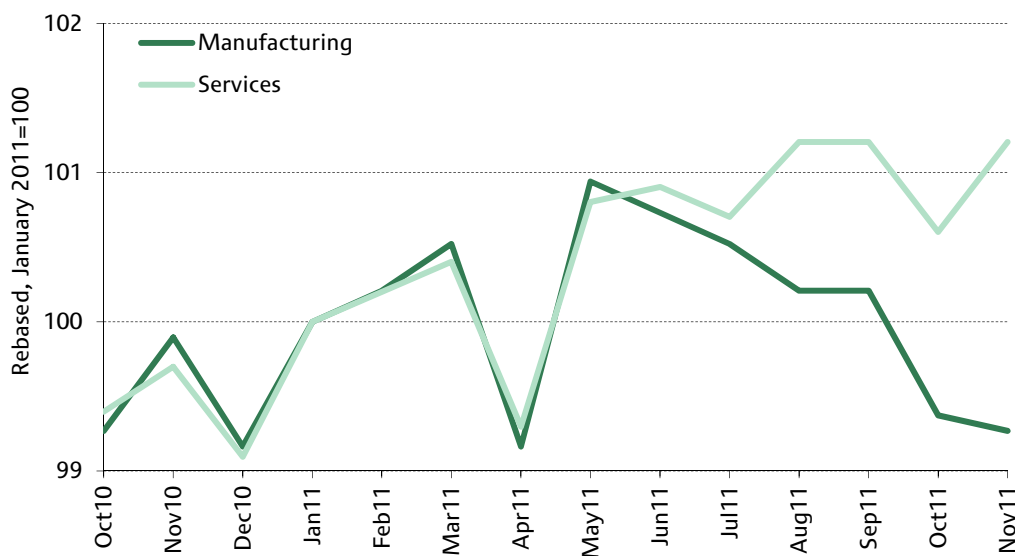
2.2 Double dip in 2012?

The UK enters 2012 from a weak position

The preliminary estimate for GDP growth in 2011Q4 showed that output contracted by 0.2% at the end of last year. Official monthly output estimates had shown manufacturing activity drifting down through the summer, but greater resilience in the services sector. However, the escalation of the Eurozone crisis from late July caused a sharp decline and increased volatility in equity prices, which in turn damaged sentiment amongst both businesses and consumers. This was reflected in a steep downturn across a number of the key business surveys in the autumn, but the damage to the real economy was most apparent in October’s official monthly output estimates, with the manufacturing and services sectors having seen month-on-month declines of 0.9% and 0.6% respectively (Figure 2.1). December’s Purchasing Managers’ Index (PMI) surveys were less weak than in preceding months, but activity balances remained well below the levels reached in early 2011 and the new orders pipeline remained weak. We are forecasting that the UK economy will endure a technical recession in 2011Q4 and 2012Q1.

The descent back into recession was caused by a range of international and domestic factors. The global economy slowed sharply during 2011, firstly because of a soft patch in

Figure 2.1. Official monthly output estimates



Source: Haver Analytics.

the US and latterly as a result of the escalation of the Eurozone sovereign debt crisis. This has been particularly damaging for the UK because of its heavy reliance on the Eurozone for its exports (see Chapter 1). We estimate that growth in world trade, weighted by UK export shares, slowed from 13.4% in 2010 to 6.4% in 2011.

The uncertainty over the future of the Eurozone has also had a negative effect on domestic demand in the UK. Surveys of business and consumer sentiment have dropped back to levels last seen during the recession of 2008–09, and this has translated into a reluctance to spend until the uncertainty clears.

Furthermore, though weaker global growth has been reflected in lower prices across a range of commodities, including food and metals, oil prices have remained at historically high levels. Social and political tensions in the Middle East have increased concerns about supply disruptions, raising the risk premiums. As a result, retail petrol prices have barely fallen from their April 2011 peaks. And, with domestic energy bills also increasing by more than 10% in Autumn 2011, households' finances have remained under severe pressure.

Domestically, the austerity programme has been a significant drag on growth in recent quarters. The increase in the main rate of VAT in January 2011 added around 1 percentage point to inflation in 2011, exacerbating the squeeze on consumers. Moreover, government investment has been cut sharply. We estimate that it reduced GDP growth by 0.3 percentage points in 2011. The austerity programme has also dampened net job creation. The pace of job losses in the public sector has been considerably faster than the OBR had originally forecast and, with economic growth faltering, the private sector found it increasingly difficult to create sufficient jobs to offset the drag from the public sector. The subsequent increase in unemployment has reinforced the pressure on households and further damaged confidence.

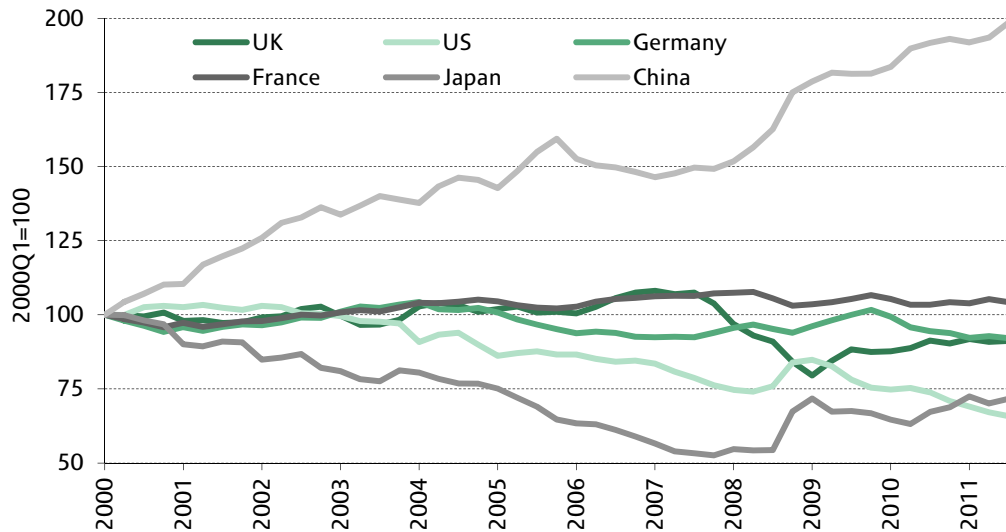
In addition, credit conditions still remain tight relative to historical norms. Small and medium-sized firms, in particular, continue to find it difficult to access the credit they require, which is constraining their ability to invest and to expand production. Furthermore, although UK banks have not implemented the type of credit tightening seen in the Eurozone, there were signs towards the end of 2011 that higher interbank rates were beginning to increase the cost of credit, particularly for firms.

Export environment expected to remain adverse this year

UK exports rebounded strongly in the early stages of the recovery, benefiting from the recovery in world trade and a substantial improvement in competitiveness (Figure 2.2), caused by the sharp depreciation of the pound. Measured in terms of relative unit labour costs, the UK's cost competitiveness has improved by 14% since 2007. However, export momentum faltered as 2011 progressed and global growth slowed.

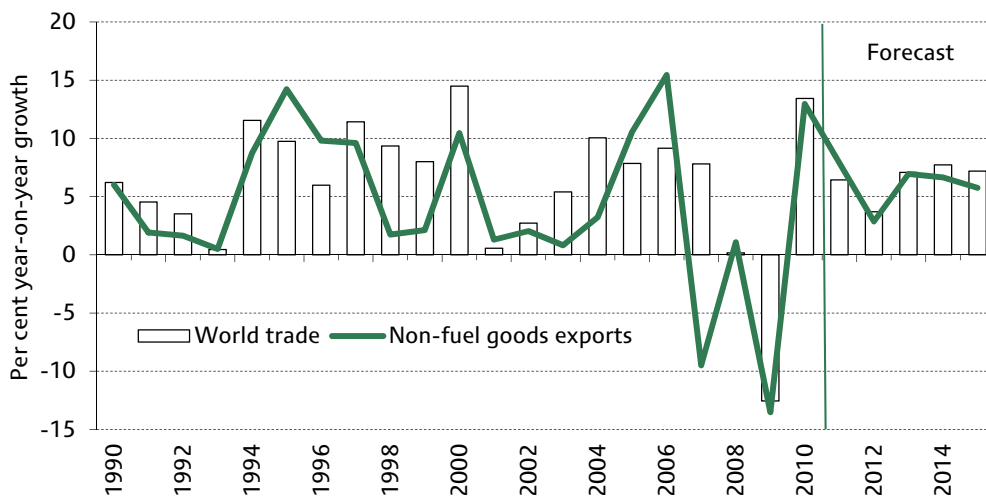
The export environment is likely to remain tough this year, with global growth expected to be slower than in 2011. Our forecast is for a mild recession, at best, in the Eurozone, the UK's main export destination. Exports to Eurozone markets will be further hampered by a weaker euro, with the recent depreciation of the currency likely to persist while uncertainty remains heightened. While the outlook for emerging markets is more robust, the UK has only had limited success in exporting to these countries. We expect growth in world trade, weighted by UK export shares, of just 3.7% in 2012, only half its long-term average (Figure 2.3).

Figure 2.2. Relative unit labour costs



Source: Haver Analytics, Oxford Economics.

Figure 2.3. UK exports and world trade



Source: Haver Analytics, Oxford Economics.

As a result, our forecast shows export growth slowing from 4.8% in 2011 to 1.9% this year. The poor consumer outlook should ensure that imports remain weak, but the contribution of net trade to GDP growth is still likely to drop back from 1.0 percentage point last year to just 0.1 percentage points in 2012.

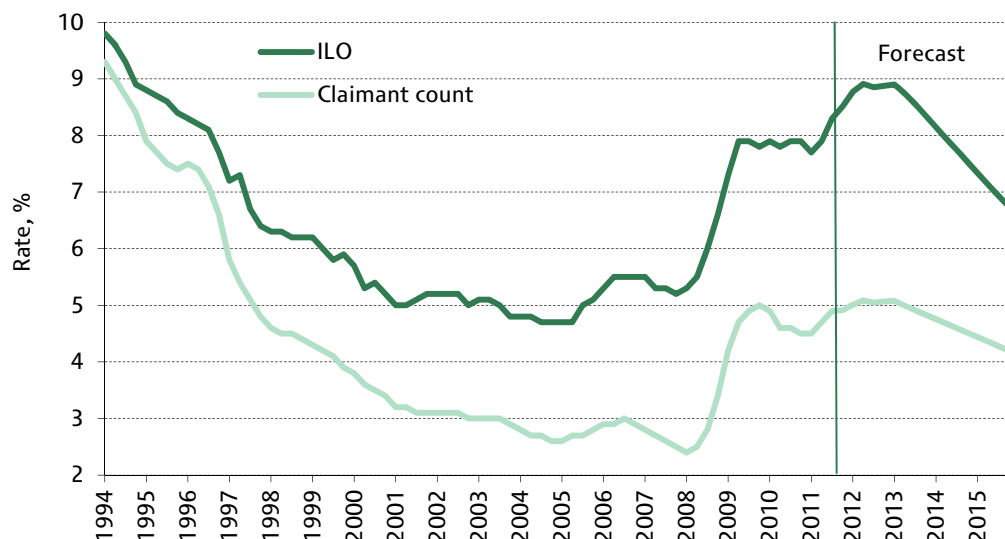
Domestic economy not yet able to offset external weakness

It is unlikely that the domestic economy will be able to offset weaker net trade performance in 2012. The corporate sector should be a bright spot, given the strength of company finances, but business confidence is unlikely to improve significantly so cash surpluses will not be used in the near future. Instead, until the outlook improves, firms are likely to continue to invest primarily on a 'care and maintenance' basis and to use surplus funds to pay down debts instead.

There is also likely to be some renewed tightening in credit conditions. Eurozone banks have already begun to restrict lending, reducing one source of funding for UK firms. And while UK banks generally appear to have a stronger financial position than their Eurozone counterparts, further tightening in domestic credit availability is also possible, particularly if the Eurozone crisis escalates, threatening to raise levels of bad debt. At the very least, firms will have to contend with higher costs of credit, as banks pass on increases in interbank lending rates.

Moreover, further job cuts are in the pipeline, putting a cap on pay settlements and hence households' income growth. It could be argued that the first year of the austerity programme was always likely to see the largest shake-out of public sector jobs, as the new plans were put into action. However, there is unlikely to be much let-up in the pace of job cuts this year given the scale of the savings required. And the poor growth performance is making it increasingly difficult for the private sector to create sufficient jobs to offset the drag from the public sector. We expect unemployment to increase sharply this year, to close to 9% on the International Labour Organisation (ILO) measure by the end of the year (Figure 2.4). Poor employment prospects will also restrict the bargaining power of workers and bear down on earnings growth. Thus, while the real wage squeeze is likely to ease compared with 2011, the recovery in real household disposable incomes is expected to be gradual.

Figure 2.4. Unemployment rates



Source: Haver Analytics, Oxford Economics.

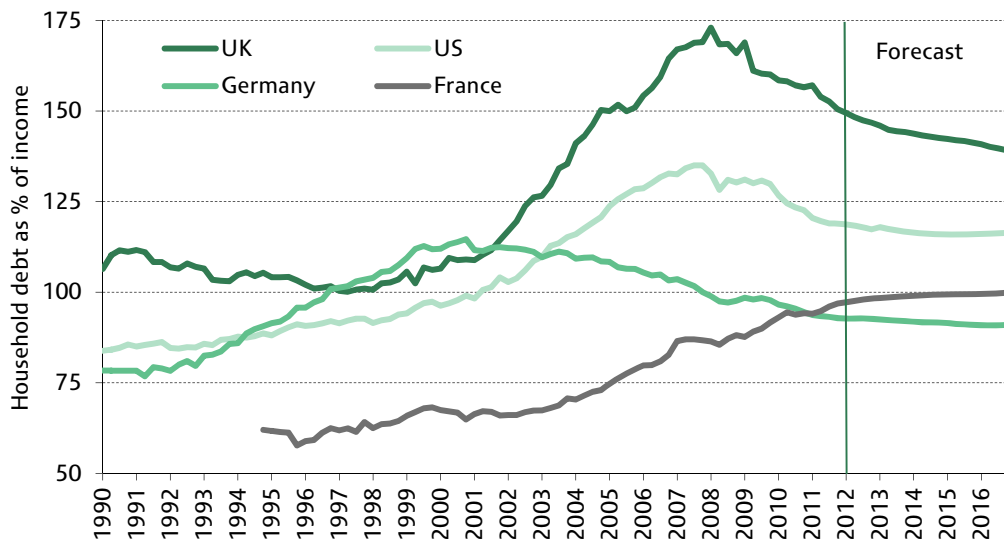
We are also gloomy about the short-term prospects for the UK housing market. Much of the recent resilience in prices has been founded upon a gradual improvement in mortgage availability, but this would be undermined by a renewed tightening in credit conditions and the deterioration in wider prospects. High rates of home ownership mean that the housing market plays a central role in the UK economy, particularly in terms of the consumer outlook, so the possibility that prices have further to fall will further undermine households' willingness to spend.

In addition, the period since the onset of the financial crisis has seen the private sector engaged in a process of deleveraging and we expect this to continue this year. While the household debt-to-income ratio has fallen over the last three years, it remains around 150%, significantly higher than those of our main European counterparts and the US

(Figure 2.5). The medium-term level of household debt is hard to judge, but both historical averages and international comparators suggest that UK households may reduce debt further. Debt reduction will be an additional factor weighing on consumer spending.

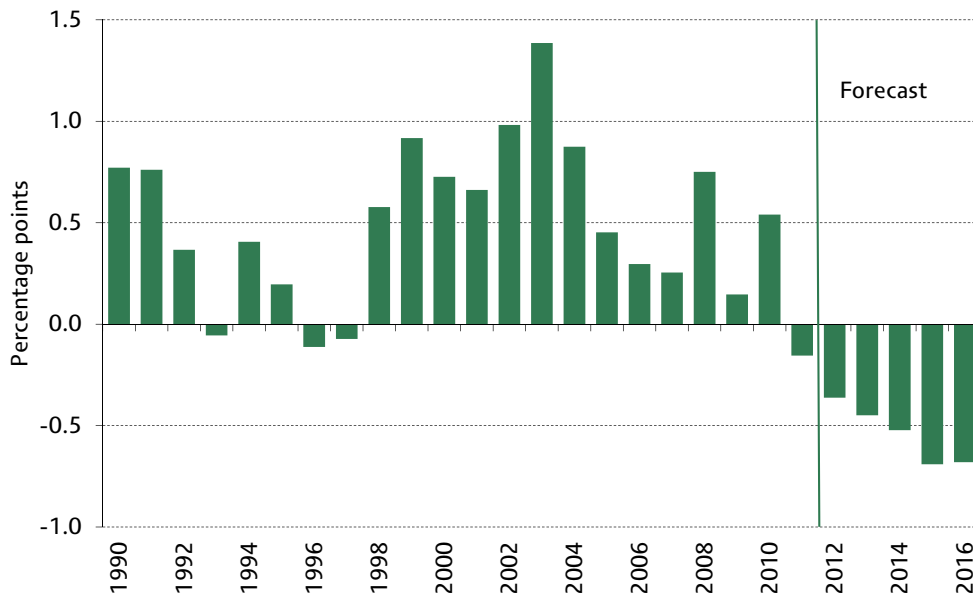
It is not only the private sector which is under pressure to deleverage. The vast majority of the planned cuts to public spending are yet to come into effect (see Chapter 3). We estimate that, taken together, general government consumption and investment reduced GDP growth by 0.2 percentage points in 2011 (Figure 2.6). However, the increasing

Figure 2.5. Household debt-to-income ratios



Source: Haver Analytics, Oxford Economics.

Figure 2.6. Direct contribution of general government to GDP growth



Note: General government = Government consumption + Government investment.

Source: Haver Analytics, Oxford Economics.

intensity of the austerity programme means that this drag is likely to rise to 0.4 percentage points this year and intensify further in the medium term.¹

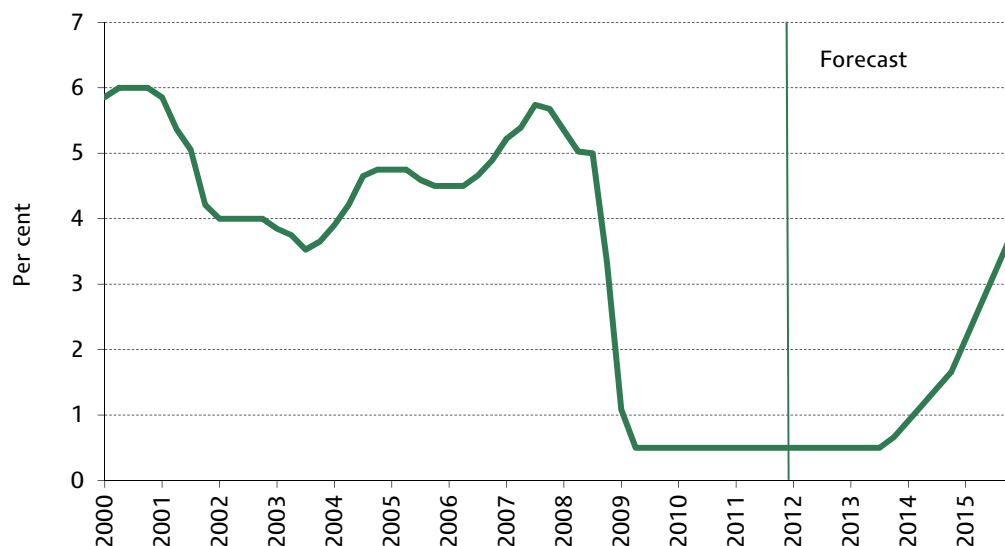
2.3 More favourable factors to help recovery next year

We expect growth to pick up in the latter part of 2012 as some supportive factors start to outweigh the short-term constraints discussed in the previous section.

Monetary policy is likely to remain supportive ...

One factor supportive to growth will be monetary policy, which is expected to remain very accommodative with the possibility of even further easing from the Bank of England (BoE).

Figure 2.7. Bank of England interest rate



Source: Haver Analytics, Oxford Economics.

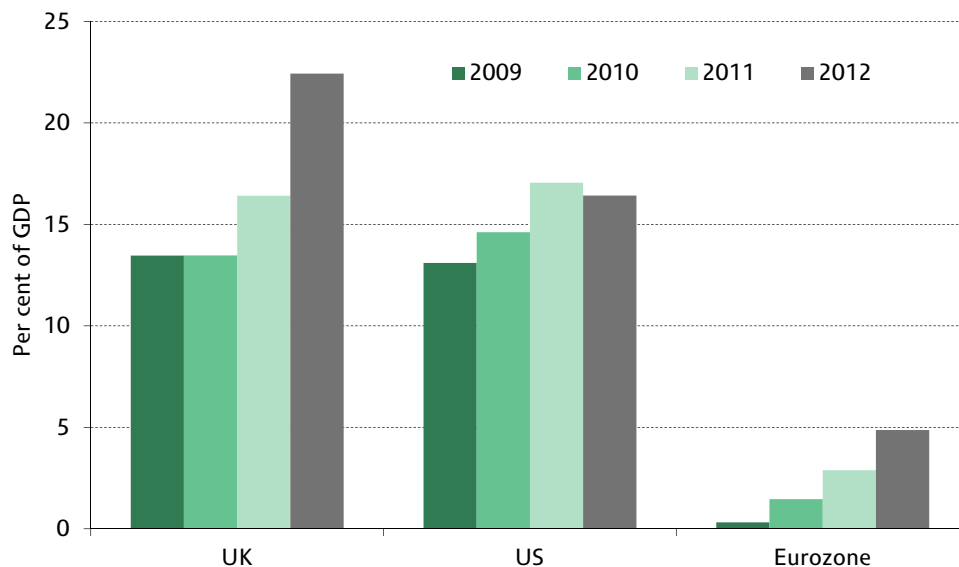
We expect the BoE's interest rates to remain on hold, at 0.5%, until the end of 2013, with only gradual increases thereafter (Figure 2.7). Moreover, it appears likely that the Monetary Policy Committee (MPC) will announce a further round of quantitative easing (QE) when the current round has been completed in early February 2012. Indeed, the November Inflation Report showed a forecast where inflation was well below the 2% target at the two-year horizon, based on the current level of asset purchases, suggesting that further stimulus would be needed for the Bank to fulfil its inflation targeting remit.

We expect the MPC to authorise a further £75 billion of asset purchases at its February meeting, to be completed over the following three months. By then, the BoE will have purchased £350 billion worth of assets under its successive QE programmes. This amounts to more than 22% of GDP. By comparison, we estimate that the US Federal

¹ These calculations cover the direct impact of the cuts to government consumption and government investment on GDP growth. However, this is likely to be offset by stronger contributions from the private sector because, for example, monetary policy is likely to be looser than would have been the case if government spending were not being cut.

Reserve has purchased assets worth around 17% of US GDP (Figure 2.8). The European Central Bank meanwhile has had a much more limited programme, worth less than 4% of GDP so far.

Figure 2.8. Quantitative easing



Source: Haver Analytics, Oxford Economics.

... as will low bond yields

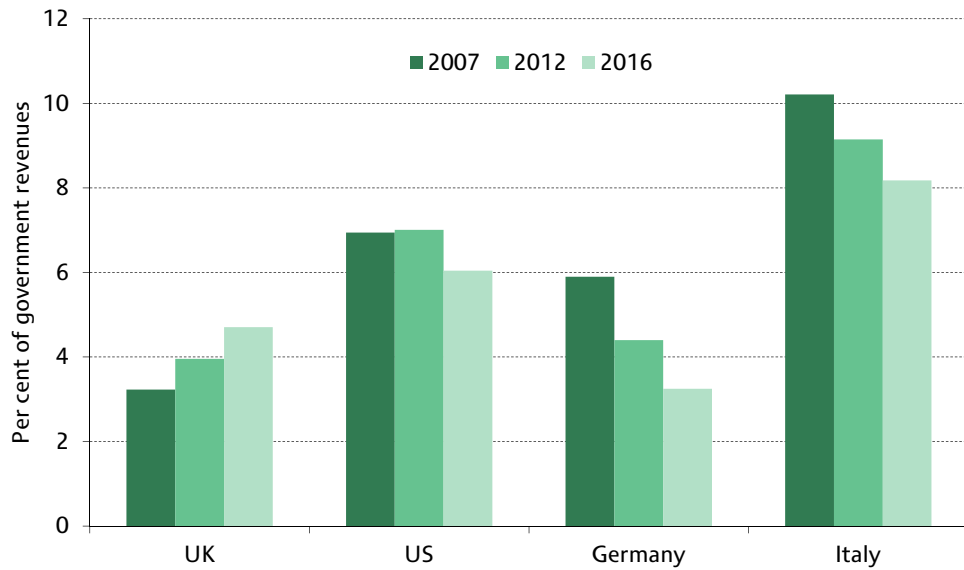
Our research suggests that quantitative easing has a significant impact on longer-term interest rates. We estimate that QE equivalent to 10% of GDP depresses 10-year government bond yields by around 1 percentage point (100 basis points). The BoE's programme has therefore been a key factor contributing to the significant fall in 10-year UK gilt yields, to below 2% in January 2012. As the QE programme remains active, bond yields should stay low.

In addition, UK gilts are benefiting from a safe haven status, as investors move away from riskier government bond markets, in particular in some Eurozone countries. With uncertainty about the resolution to the Eurozone crisis, or indeed the future of the Eurozone, likely to be high throughout the year, UK bond markets should remain very attractive.

Our forecast shows yields on 10-year UK gilt yields remaining below 3% until next year, before gradually rising as investors become more confident about the recovery.

In turn, low bond yields help to hold the government's debt interest payments at low levels. In 2012, we estimate that net interest payments on public debt will amount to 4% of government revenues (Figure 2.9). This is only slightly higher than before the global crisis, despite rising public debt (3.2% in 2007). And it compares favourably with other countries. For instance, the US government spends 7% of its revenues on interest. In Europe, some countries are spending close to, or even more than, 10% of their revenues on debt interest. We expect the share of revenues used up by debt interest payments in the UK to rise, to around 4.7% by 2016 as public debt increases and bond yields edge up. But this will remain easily affordable. It means that the government is not constrained on its fiscal policy by unsustainable spending on debt repayments.

Figure 2.9. Government debt interest payments



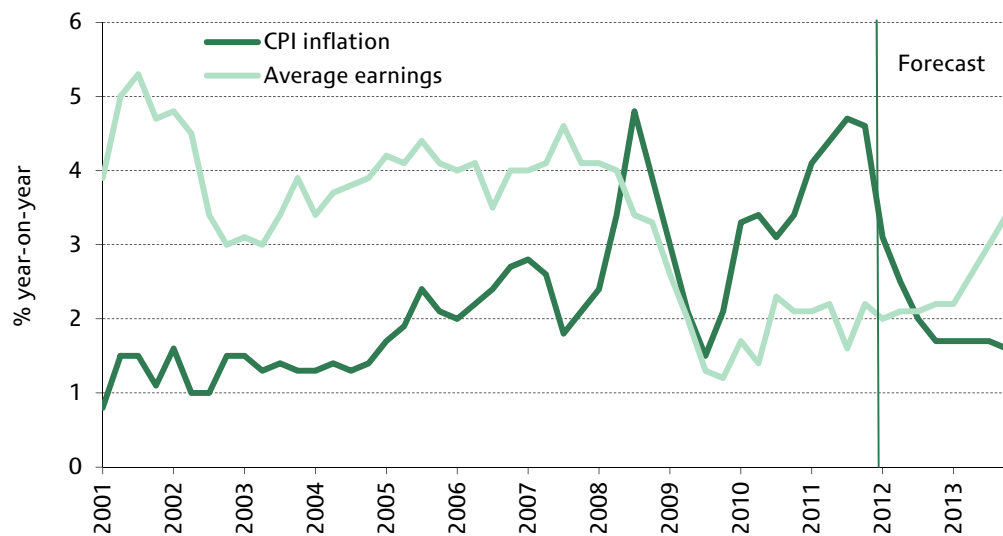
Source: Haver Analytics, Oxford Economics.

Inflation to fall sharply ...

Another support to growth is expected to come from a sharp fall in inflation, which has already begun. The bulk of the rise in inflation to over 5% during 2011 can be attributed to one-off or temporary factors, such as higher VAT or food and energy prices. As those increases fall out of the year-on-year calculation, inflation is set to fall under 2% (Figure 2.10). The most significant drop in inflation rates is likely to come in early 2012, as the impact of the increase in the main rate of VAT in January 2011 falls out.

In addition, we expect further falls in oil prices this year, which will also contribute to lower inflation. Assuming that concerns over oil supply abate, slowing demand should pull Brent prices down towards \$100 per barrel by the end of 2012. Non-oil commodity prices are also forecast to fall this year, on the back of weaker global demand.

Figure 2.10. Inflation and average earnings



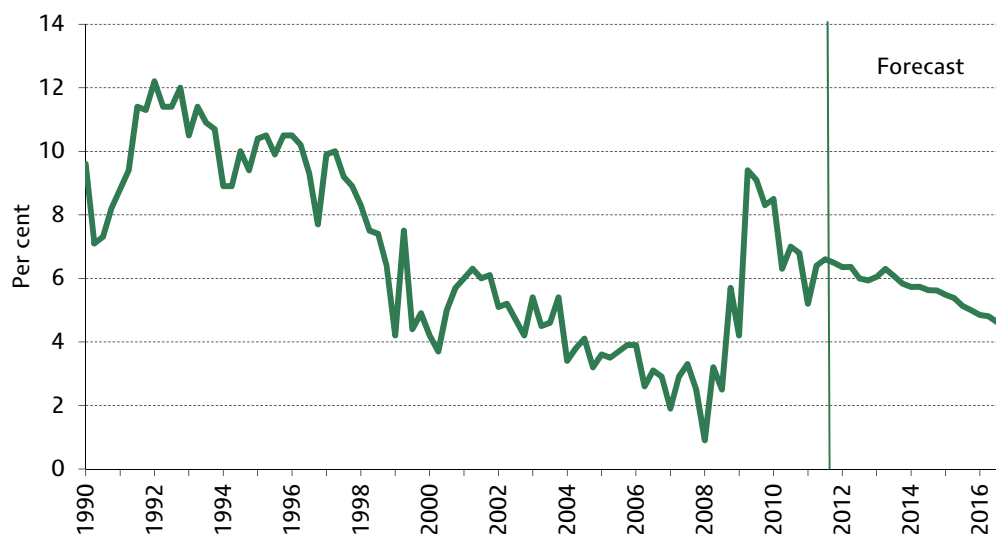
Source: Haver Analytics, Oxford Economics.

Moreover, ample amounts of slack in the economy (see Section 2.4) will continue to put downward pressure on profit mark-ups and prices. The impact of renewed recession is also beginning to be felt. There is a wealth of anecdotal evidence that suggests that retailers are being forced to discount heavily in an attempt to maintain sales. Meanwhile, a fragile labour market and rising unemployment will continue to push down on pay settlements.

... and boost incomes and confidence

Lower inflation will contribute to stabilising and then raising consumer purchasing power, after two consecutive years of falls in real incomes. We expect household real disposable income to rise by 0.5% in 2012 and 1.5% in 2013, having fallen by 1.5% in 2011. This in turn will underpin a slow acceleration in consumer spending growth to 1.5% in 2013 from just 0.4% in 2012 and a fall of 0.7% in 2011. Ongoing deleveraging will prevent a more significant revival in consumer spending, with the savings ratio remaining close to 6% over the next two years (Figure 2.11).

Figure 2.11. Savings ratio



Source: Haver Analytics, Oxford Economics.

Sentiment should be further supported by a gradual strengthening in the housing market. As credit conditions begin to loosen and mortgage availability improves, housing activity is likely to strengthen. Activity and prices are closely correlated, so this should then translate into a pickup in prices. The rebound in activity and prices could be particularly strong if banks also relax their lending criteria, thus freeing up the lower end of the market which has been constrained in recent years by banks insisting on lower loan-to-value ratios and lower income multiples.

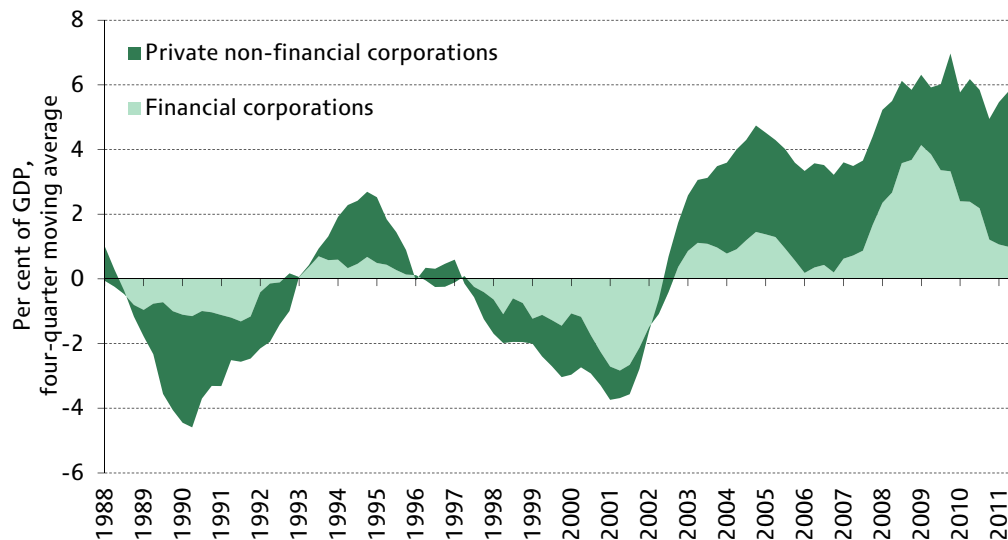
Businesses have the means to support growth

We also expect business investment to strengthen next year, assuming that confidence is restored during 2012. This presumes, in particular, that the Eurozone sovereign debt crisis is managed and that significant additional turmoil is avoided.

In that environment, companies should be able to use large profits and cash balances to finance investment spending. Corporate profits have not fallen sharply as a share of GDP

in this cycle, in marked contrast to the recession of the early 1990s and in 2000–02. Moreover, non-financial companies have accumulated further cash balances worth 4.3% of GDP in 2011 (Figure 2.12). While the company sector financial surplus last year was not as large as its peak in 2009, it is still very high by historical standards. With cost competitiveness very favourable, we would expect the UK to benefit once companies have the confidence to start to invest these funds. We therefore expect business investment to rise by close to 5% in 2013, having risen just 1.1% in 2011 and 1.6% in 2012. Even so, our forecast implies that the level of business investment will not return to its pre-crisis peak before 2014.

Figure 2.12. Corporate sector financial balance



Source: Haver Analytics, Oxford Economics.

Investment in dwellings is also likely to pick up strongly, from current very low levels. A recovery in housing activity and prices will be the prime motivation, but further public sector support is also likely given the need to substantially increase rates of house building to keep pace with demographics. Though government investment will continue to fall, as part of the government's austerity programme, the strength of business and housing investment is expected to drive an acceleration in total investment growth to 3.5% in 2013, after declines of 2.7% in 2011 and 0.2% in 2012.

2.4 Medium-term recovery slower than usual

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

How much spare capacity is there in the UK economy?

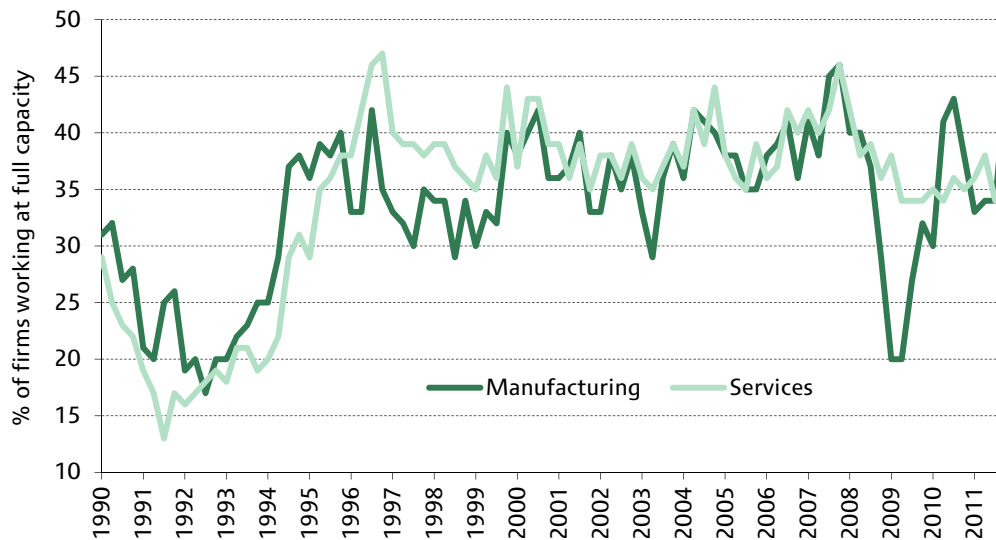
The question of the size of the output gap and forecasts for growth in potential output, have taken on added importance since the Chancellor adopted a cyclically-adjusted target for the public finances. Indeed, the importance of these estimates was demonstrated in November by the OBR's decision to revise its estimate of the size of the output gap. These revisions required the Chancellor to announce further fiscal tightening in order for the

OBR to judge that the government was still complying with its fiscal mandate (see Chapter 3 for further discussion).

Assessing the size of the output gap is far from a precise science and requires a high degree of judgement on behalf of the forecaster. As such, it is no surprise that there is a broad range of views amongst economists as to how much spare capacity there currently is. Most commentators agree that the best approach is to use a range of indicators.

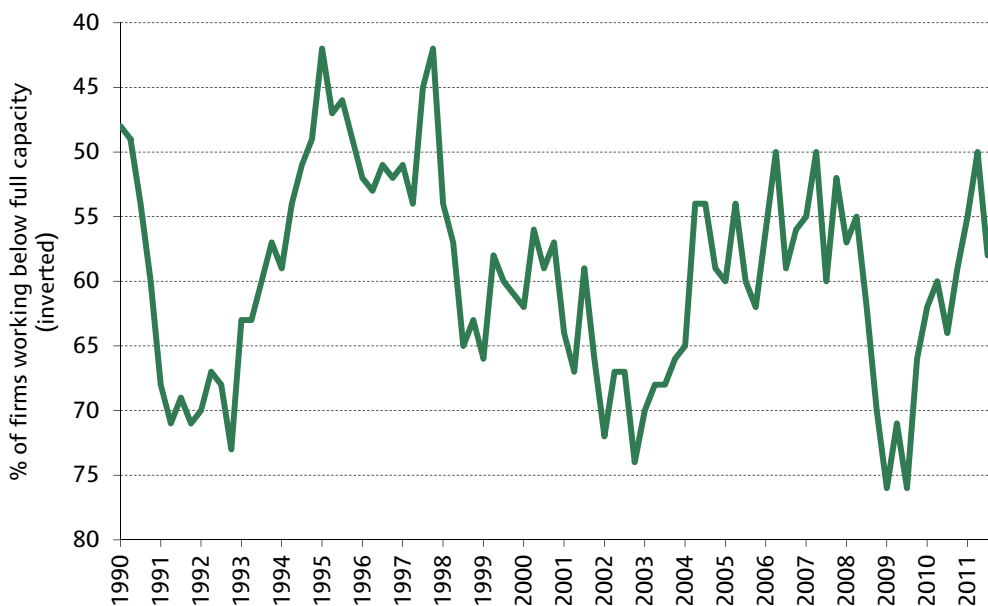
Analysis of the current size of the output gap is complicated by the fact that business surveys and labour market indicators are offering widely contrasting signals. The business surveys suggest that there is relatively little spare capacity, particularly in the manufacturing sector. Both the British Chambers of Commerce (BCC) survey and the

Figure 2.13. BCC survey – capacity utilisation



Source: British Chambers of Commerce.

Figure 2.14. CBI Industrial Trends Survey – capacity utilisation



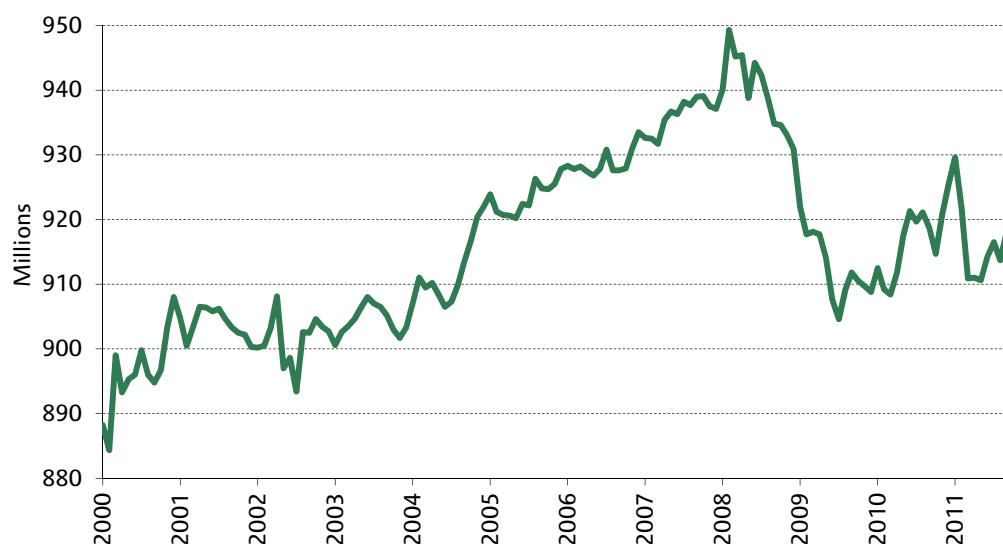
Source: CBI.

Confederation of British Industry (CBI) Industrial Trends Survey reported sharp increases in utilisation rates in manufacturing last year (see Figures 2.13 and 2.14 respectively). The BCC survey even pointed to above-average utilisation. These responses come as somewhat of a surprise given the extent to which output fell during the recession – manufacturing output fell by 14% from peak-to-trough and still remains 8.7% below its January 2008 peak. But with the Bank of England’s survey of regional agents telling a similar story, we are inclined to give them some credence.

In the services sector, survey results generally point to more ample spare capacity. The BCC survey reports that levels of capacity utilisation are merely in line with the long-run average, while the Bank of England agents’ survey reported that they are slightly below. However, the results are markedly stronger than they were at a similar stage during the last recession and are consistent with the notion that there is not a significant degree of spare capacity at present.

However, data from the labour market tell a very different story. At 8.4%, the unemployment rate is at its highest for almost 18 years, well above most estimates of the NAIRU.² Levels of inactivity have also increased, with a significant proportion of people who are not counted as unemployed (or employed) still wanting to work if the conditions were right. Other indicators also point to a significant amount of spare capacity in the labour market. The total number of hours worked has risen modestly during the recovery (Figure 2.15), but it remains more than 3% below the early-2008 peak, with many workers still on shortened working weeks or having been forced to switch to part-time employment because of a lack of full-time opportunities. The degree of slack is further demonstrated by how weak wage growth has been, with a lack of bargaining power leading workers to accept pay rises averaging around 2.3% last year, despite inflation rates of 4.5–5%.

Figure 2.15. Total hours worked per week



Source: Haver Analytics.

² NAIRU – non-accelerating inflation rate of unemployment. Even when the economy is operating at its long-run potential, there will still be some level of frictional unemployment – this is known as the NAIRU.

On balance, we place a slightly greater emphasis on the indicators of the labour market, which can generally be measured more accurately and which better fit with the anecdotal evidence. Based upon these data, we estimate that the output gap was around –3.2% of potential output at the end of 2011. That compares with a peak in the output gap of –6.1%, reflecting very slow growth in productive potential in the last few years as investment has fallen and the NAIRU has risen. But it does imply somewhat more spare capacity than estimated by OBR (–2.5% of potential output in 2011Q3).

Muted potential growth over the next five years

Having estimated how much spare capacity we believe there is in the UK economy at present, we must make a judgement on how potential output will evolve, in order to determine the scope for actual GDP growth to recover.

There are a range of views on how best to estimate potential output. We use a production function approach,³ which provides a framework that relates the level of potential output to contributions from factor inputs – labour and capital – and the efficiency with which those inputs are used (so-called ‘total factor productivity’). It provides a consistent method for forecasting future growth in potential output, taking into account important changes such as demographic trends.

Using this approach, we can quantify the contributions to potential growth over the two previous cycles from its key drivers (Table 2.1). This analysis shows that the significant improvement in performance in the last cycle was mostly due to a much stronger contribution from the labour supply – particularly reflecting growth in the population of working age as migration increased and a fall in the NAIRU – with some support from an improved contribution from the capital stock, underpinned by robust business investment growth.

Table 2.1. Contributions to potential output growth (percentage points per annum)

	1986Q2–1997H1	1997H1–2006H2
Employment at the NAIRU	0.2	0.7
Capital stock	0.9	1.2
Total factor productivity	1.3	1.2
Potential output	2.4	3.2

Note: Columns may not sum exactly due to rounding.

Source: Oxford Economics.

Applying this framework to the current economic cycle, we can assess how potential growth is likely to develop.

Growth in the labour supply

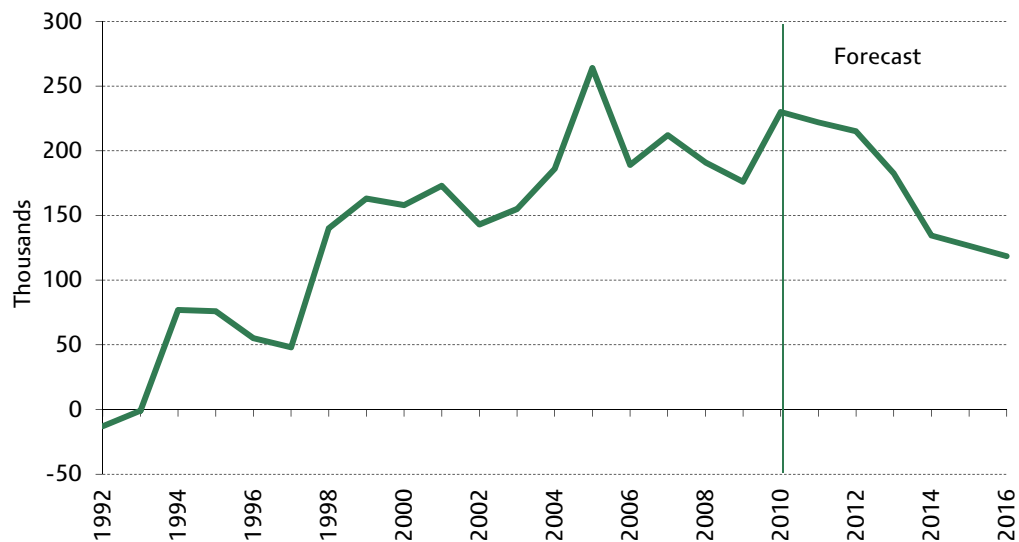
The most recent (2010-based) set of official population projections features an increase in the assumption for net in-migration flows. Migration is now projected to slow from the most recent figure of 230,000 in the year to mid-2010, to 200,000 by 2016–17; previously the ONS had adopted a medium-term assumption of 180,000 per year. Despite

³ In the Oxford Economics UK Model, we use a Cobb–Douglas production function, $Y^* = A + L^\alpha + K^{(1-\alpha)}$, where: Y^* is potential output; L is potential labour supply, which is equal to the labour supply at the NAIRU; K is the capital stock; and A is total factor productivity (TFP). This is rewritten in natural logs, with α equal to 0.65: $\ln(Y^*) = \ln(A) + 0.65\ln(L) + 0.35\ln(K)$.

the slowdown from current levels, this would still represent a prolonged period of in-migration at a level that the UK economy has never previously experienced over an extended period.

The OBR's forecast takes a different view, adopting the ONS low migration assumption of 140,000 per year. However, we would argue in favour of an assumption that is even lower still. Given that migrants are typically of working age, employment prospects tend to be the key driver of migration flows. As explained in the previous sections, for the UK, these are particularly weak: our forecast shows employment only regaining its pre-recession peak in 2015. This deterioration in employment prospects has already resulted in much lower flows of migrants from the European Union (EU), a trend which we expect to continue. Moreover, the government has made it clear that it will actively seek to restrict the flow of migrants from outside the EU. Data from the International Passenger Survey suggest that the bulk of long-term non-EU migrants are coming to the UK to study, with numbers having almost doubled over the past five years. Funding pressures for universities would imply a motivation to maintain these flows of overseas students, but the government has already suggested that the number of student visas approved will fall.

Figure 2.16. UK net in-migration



Source: Office for National Statistics, Oxford Economics.

We therefore expect net migration to drift downwards from current levels, eventually reaching 110,000 a year over the medium term (Figure 2.16). If we assume that, on average, 90% of migrants are of working age, this shortfall will have significant implications for the size of the workforce. We estimate that this assumption would reduce potential output growth by 0.1 percentage points per year over the 2012–16 period, relative to the OBR forecast.

Estimates of the NAIKU

There is empirical evidence – notably Blanchard & Summers (1986)⁴ and Ball (2009)⁵ – that links changes in the NAIKU to shifts in aggregate demand through hysteresis.⁶ While

⁴ O.J. Blanchard & L.H. Summers, 'Hysteresis and the European unemployment problem', *NBER Macroeconomics Annual 1986, Volume 1*, 1986.

⁵ L.M. Ball, 'Hysteresis in unemployment: old and new evidence', NBER Working Paper 14818, 2009.

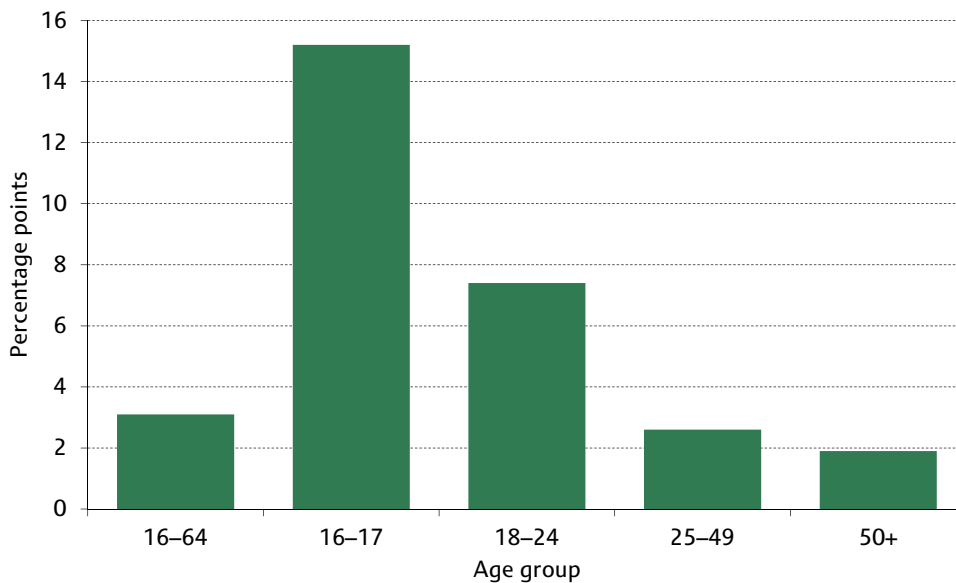
a period of steep declines in joblessness dragged the NAIRU down towards the actual unemployment rate over the last cycle, we expect the deep recession of 2008–09 and the increase in unemployment since then to push up the NAIRU.

Ball (2009) argues that the degree to which hysteresis occurs is a function of the time it takes for output to return to its previous trend, with longer periods of weak growth in aggregate demand yielding larger increases in the NAIRU. In this context, the current protracted period of weak or negative growth is a concern. As of 2011Q3, output was still 3.6% below its pre-recession peak and much further below its previous trend. As a result, we expect this to cause a shift upwards in the NAIRU to around 6% throughout the forecast period, up from 5% ahead of the recession.

High levels of long-term unemployment are likely to cause a rise in the NAIRU as those out of work for a prolonged period may see the value of their skills eroded and become detached from the labour market. The impact in this cycle may not be as marked as in previous cycles, however, because the increase in unemployment has been highly concentrated on the younger age groups (Figure 2.17). In general, we would expect that younger unemployed are better placed to retrain and re-enter the workforce than those from older age groups, particularly if schemes such as the ‘Youth Contract’⁷ are successful.

However, the shift in employment from the public to the private sector could lead to a mismatch between skills and opportunities. For example, a 2011 survey⁸ by the Financial

Figure 2.17. Increase in ILO unemployment rate by age, 2008Q1–2011Q3



Source: Haver Analytics, Oxford Economics.

⁶ Hysteresis is when changes have long-lasting effects. In this case, increases in the unemployment rate may lead to increases in the NAIRU in the future as the short-term unemployed lose skills, for example, and become long-term unemployed.

⁷ The ‘Youth Contract’ encompasses a range of initiatives announced in the November 2011 Autumn Statement, including the government funding wage incentives for 160,000 young people to make it easier for private sector employers to take them on and at least 40,000 incentive payments for small firms to offer apprenticeships.

⁸ ‘Hiring blow for public sector jobless’, *Financial Times*, 20 February 2011 (<http://www.ft.com/cms/s/0/a41baaac-3d06-11e0-bbff-00144feabdc0.html#axzz1ju75PpE4>).

Times and Barclays Corporate found that 57% of private sector companies in the UK are not interested in hiring people who have lost their jobs in the public sector, because of a perception that these people lack the necessary skills for their business. This mismatch could be exacerbated by the likelihood that the regional pattern of public sector job losses – and private sector opportunities – will be very uneven. The share of total employment accounted for by the public sector varies widely across the UK regions, from 32% in the North East to 23% in Greater London.

In addition, participation rates are likely to continue to nudge downwards in the short term, as poor employment prospects discourage people from seeking work, but should pick up as the economy recovers. There are two conflicting long-term trends affecting participation. On one hand, people are working longer, partly perhaps because the state pension age (SPA) for women is increasing and partly because of low levels of pension saving. On the other, the population itself is ageing, and labour market participation amongst those close to the SPA is still substantially lower than amongst younger individuals.

Capital stock

The last cycle was characterised by an increased contribution to growth from the expansion of the capital stock – i.e. capital deepening – with business investment growing at a rate of 4.4% a year between 1997H1 and 2006H2. However, the financial crisis has had a significant impact on both the funding of, and incentives for, investment. As of 2011Q3, business investment remained 16% below its late-2007 peak (Figure 2.18).

Our forecast shows a recovery in business investment. Nevertheless, at 6% a year over the period 2012–16, it is significantly weaker than the OBR's forecast (in excess of 10% a year). This, in turn, means that our forecast features a much lower contribution to potential output from capital deepening. We expect it to contribute 0.8 percentage points a year to potential output growth over the 2012–16 period, down from 1.2 percentage points a year over the previous cycle.

Figure 2.18. Business investment



Source: Office for National Statistics.

Total factor productivity

By its very nature, total factor productivity is very difficult to forecast. However, several factors suggest that the contribution from total factor productivity will be considerably weaker than in previous cycles, particularly in the short term. The most important factor is the lack of credit availability, a legacy from the financial crisis, with small and medium-sized firms particularly badly affected. While some of the effects are catered for within estimates of the capital stock, this will not cover less easily quantifiable effects, such as the impact on research and development activities and on the ability of firms to reallocate capital to more productive activities.

The shift in the sectoral focus of activity also has the potential to damage productivity growth. The financial services sector played a significant role in the strong performance over the last cycle, achieving output growth of 5.7% a year – almost double that of the economy as a whole – and financial services was supported by the growth of a range of associated professional service sectors (for example, legal, accountancy and consultancy). However, financial services output remains almost 15% below previous peaks and the ramifications of the financial crisis, in terms of greater regulation and risk aversion, mean that the sector is likely to grow at a much slower rate in the future. This is particularly important given that output per job in the financial services sector is more than double the whole-economy average.

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

Over the 2012–16 period as a whole, we assume that total factor productivity contributes 0.3 percentage points per year to potential output growth. However, this masks a significant acceleration through that period, as the legacy of the financial crisis fades.

A forecast of potential output and the output gap

Bringing these factors together, it is clear that growth in potential output is likely to be low, particularly in the short term. Our forecast shows potential output growing by 1.6% a year in 2012–16 (Table 2.2), with growth during that period accelerating from just 0.6% in 2012 to 2% a year in 2015–16, as some of the negative legacy effects of the financial crisis gradually fade.

Our forecast is around 0.4 percentage points a year lower than the OBR forecast, which means that by 2016 there is a cumulative shortfall of 2.3% of potential GDP.

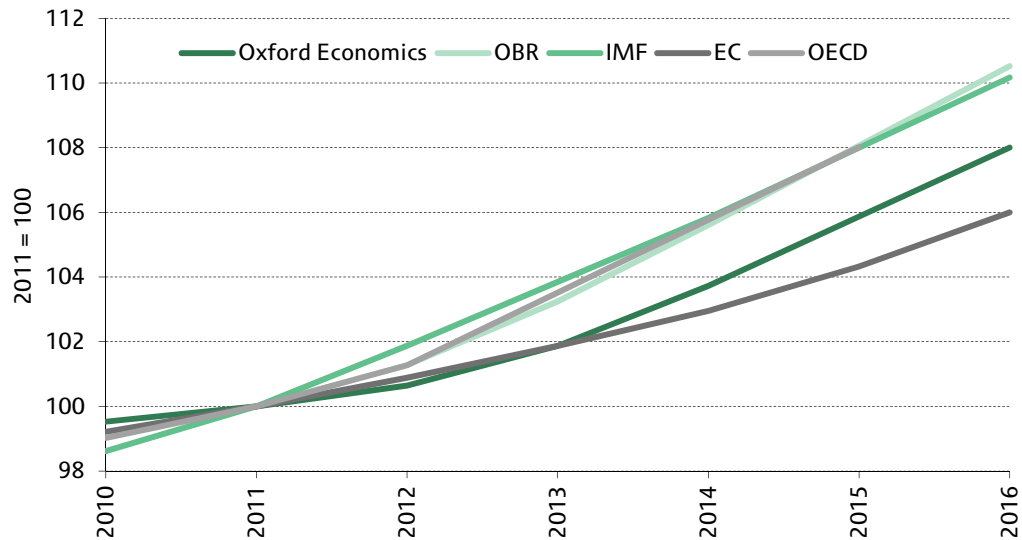
Table 2.2. Contributions to potential output growth (percentage points per annum)

	1997H1–2006H2	2006H2–2012	2012–2016
Employment at the NAIRU	0.7	–0.1	0.4
Capital stock	1.2	1.0	0.8
Total factor productivity	1.2	–0.2	0.3
Potential output	3.2	0.7	1.6

Note: Columns may not sum exactly due to rounding.

Source: Oxford Economics.

Figure 2.19. Forecasts of potential output



Note: Forecasts for OBR, IMF, EC and OECD calculated using data quoted in OBR, *Economic and Fiscal Outlook: November 2011*.

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

Given the uncertain nature of forecasting potential output, it is perhaps no surprise that there is a wide range of views across forecasters (Figure 2.19). The OBR forecast is at the upper end of the range, though the IMF and OECD assume a similar rate of growth. However, the European Commission (EC) is markedly more downbeat, assuming that potential output will grow by just 1.2% a year. This means that by 2016 the EC estimates imply a cumulative shortfall of more than 4% of potential GDP compared with the OBR forecast.

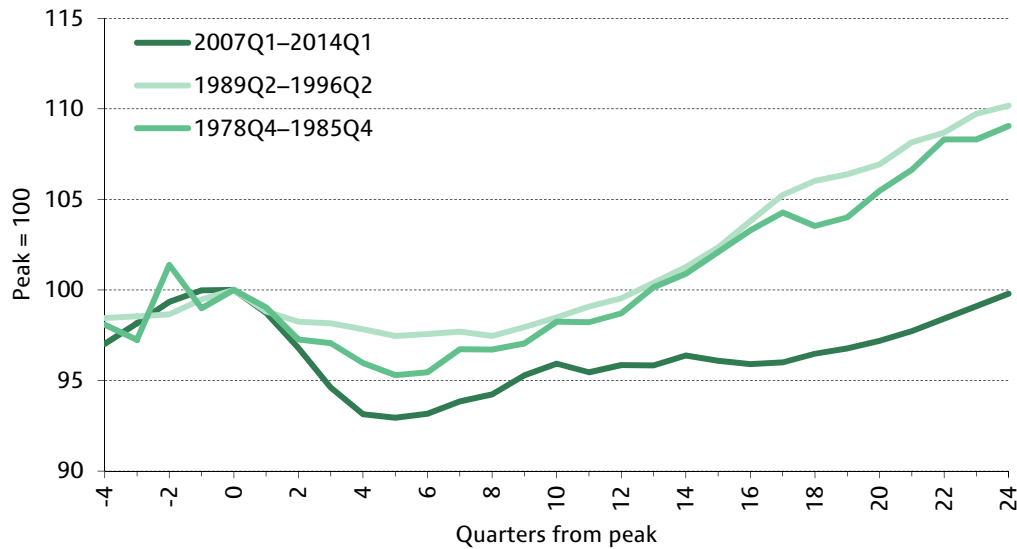
Weaker medium-term recovery than in previous upturns

As of 2011Q4, GDP was still 3.8% below its 2008Q1 peak even though the recovery had been underway for 15 quarters. Upward revisions to historical data over the past few months mean that this gap is smaller than we had previously thought it would be, but it is significantly wider than at the corresponding point of either of the previous two cycles (Figure 2.20). Following the recession of the early 1990s, GDP was 2.3% above its previous peak 15 quarters later, while the recovery of the early 1980s saw GDP 2.1% above its previous peak by this stage. Our forecast (Table 2.3) suggests that, this time around, GDP will not regain its previous peak until 2014Q1, a total of six years.

That the recovery has been particularly sluggish this time around is not surprising – recoveries that follow financial crises tend to be much slower than those that follow a more ‘normal’ recession caused, for example, by policy mistakes.⁹ However, it is notable that the UK recovery is also set to be significantly weaker than those of our peers (Figure 2.21). Of the G7 countries, only Japan and Italy report that GDP is further below its pre-crisis peak than the UK. In the case of Japan, the poorer relative performance is largely due to the impact of the tsunami in 2011 and we expect these positions to be reversed before the end of 2012.

⁹ See C.M. Reinhart and K.S. Rogoff, *This Time Is Different: Eight Centuries of Financial Folly*, Princeton University Press, 2009.

Figure 2.20. Comparison of UK economic cycles



Source: Haver Analytics, Oxford Economics.

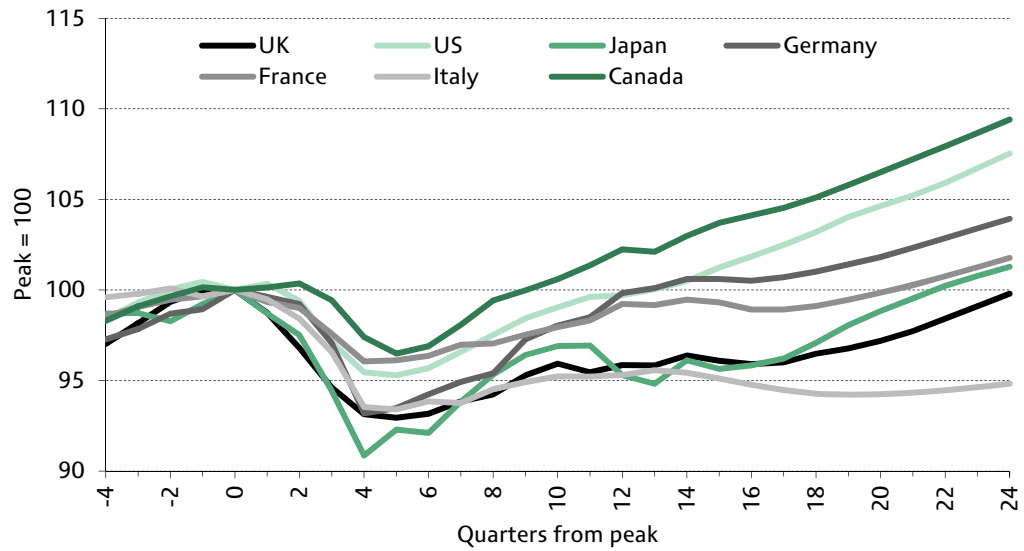
Table 2.3. Oxford Economics UK forecast (annual % change unless stated)

	2010	2011	2012	2013	2014	2015	2016
Domestic demand	2.9	-0.7	0.0	1.1	2.1	2.3	2.2
Private consumption	1.2	-0.7	0.4	1.5	2.6	2.9	3.1
Fixed investment	3.1	-2.7	-0.2	3.5	6.9	7.1	5.3
Stockbuilding (% of GDP)	0.4	0.2	0.2	0.2	0.2	0.2	0.2
Government consumption	1.5	0.8	-0.6	-1.6	-2.3	-3.2	-3.3
Exports of goods and services	7.4	4.8	1.9	6.4	6.2	5.5	4.9
Imports of goods and services	8.6	1.4	1.5	3.8	4.1	4.0	3.7
GDP	2.1	0.9	0.3	1.9	2.8	2.8	2.7
Industrial production	1.9	-0.8	-0.6	0.8	1.4	1.0	0.8
CPI	3.3	4.5	2.3	1.7	1.8	1.9	2.0
Current balance (% of GDP)	-3.3	-2.5	-2.3	-1.9	-1.5	-1.1	-0.6
Short-term interest rates (%)	0.69	0.89	0.99	0.98	1.64	3.15	4.45
Long-term interest rates (%)	3.61	3.12	2.38	3.68	4.73	4.95	5.00
Exchange rate (US\$ per £)	1.55	1.60	1.55	1.56	1.57	1.57	1.57
Exchange rate (euro per £)	1.17	1.15	1.22	1.18	1.24	1.27	1.27

Source: Oxford Economics.

The poor relative performance of the UK can be attributed to several factors. The fact that the financial services sector accounts for a much higher proportion of output in the UK than elsewhere has meant that the poor performance of the sector in the aftermath of the financial crisis has caused greater damage to overall output in the UK. The increase in household indebtedness prior to the crisis was also much greater in the UK than in many other countries, which we expect to lead to more aggressive deleveraging than elsewhere. This is particularly important given that consumer spending accounts for a high share of GDP in the UK, relative to most other advanced economies. Finally, the UK plans a far larger fiscal adjustment than most of its peers over the next four years, having seen its budget deficit widen during the financial crisis to become one of the largest of the developed economies.

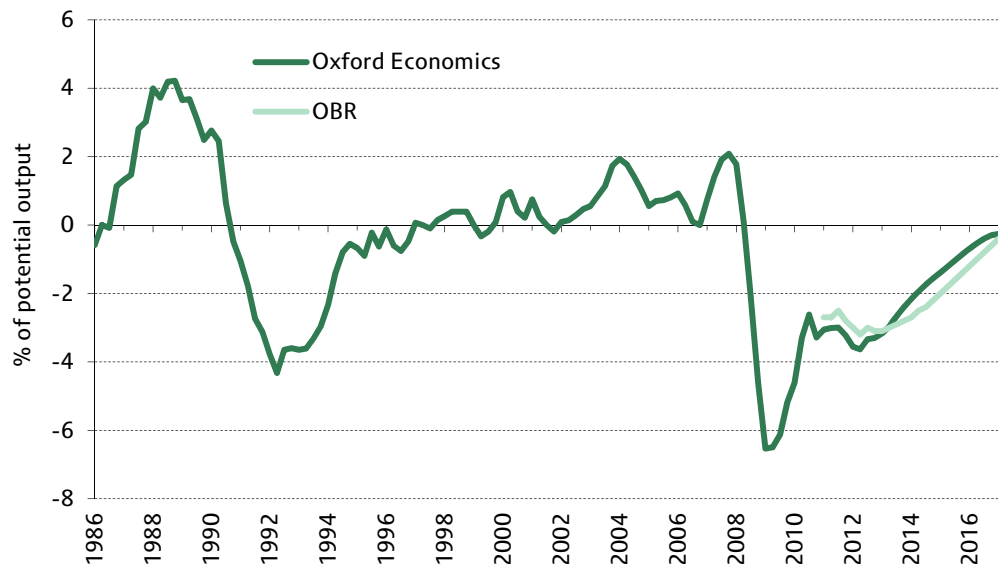
Figure 2.21. Comparison of current cycle across countries



Source: Haver Analytics, Oxford Economics.

The combination of our forecast for a slow recovery in GDP growth with weaker projected potential output growth means that our forecast for the output gap moves below that of the OBR during 2013 (Figure 2.22) and remains slightly smaller thereafter. By 2017Q1, the reference point for the fiscal mandate, our forecast shows an output gap of -0.3% , compared with the OBR forecast of -0.4% . However, our forecast shows a level of GDP that is almost 2.5% lower than that of the OBR.

Figure 2.22. Output gap



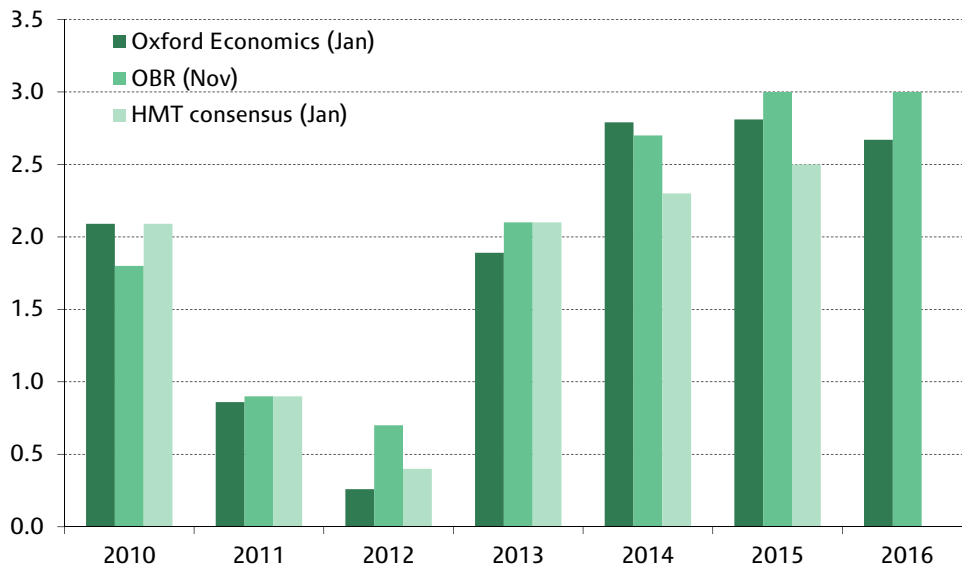
Source: Oxford Economics, OBR.

2.5 Comparison with other forecasts

Our short-term forecasts are somewhat weaker than those of the OBR and the market consensus (Figure 2.23). However, in our view, this is largely a question of timing: short-term prospects have worsened considerably in recent months and, in updating our forecast in January, we have had the opportunity to factor in these developments. We

would expect the OBR to make further downgrades to its short-term forecast when it publishes its next forecast in March, while the market consensus is also likely to drift downwards as other forecasters make revisions to their forecasts.

Figure 2.23. Comparison of GDP forecasts



Source: Oxford Economics, OBR, HM Treasury.

Over the latter years of the forecast horizon, our forecast is on average a little weaker than that of the OBR. This is because we have assumed lower growth in potential output over the next five years. The market consensus is lower still, although we consider the consensus forecast to be a less reliable indicator of longer-term forecasts, given that the sample size is considerably smaller than for the short-term forecasts.

Looking at the expenditure components, the key difference between our forecast and that of the OBR is that we are less optimistic about the prospects for business investment. Our forecast features a strong rebound in capital spending, underpinned by the strong financial position of UK firms and a gradual loosening in credit conditions. But it falls well below the OBR's forecast for business investment growth of nearly 11% a year between 2012 and 2016. Growth of this magnitude for such a prolonged period would be extremely rare in modern economic history¹⁰ and we are extremely sceptical that it could realistically be achieved.

2.6 Risks skewed to the downside: alternative scenarios for the UK economy

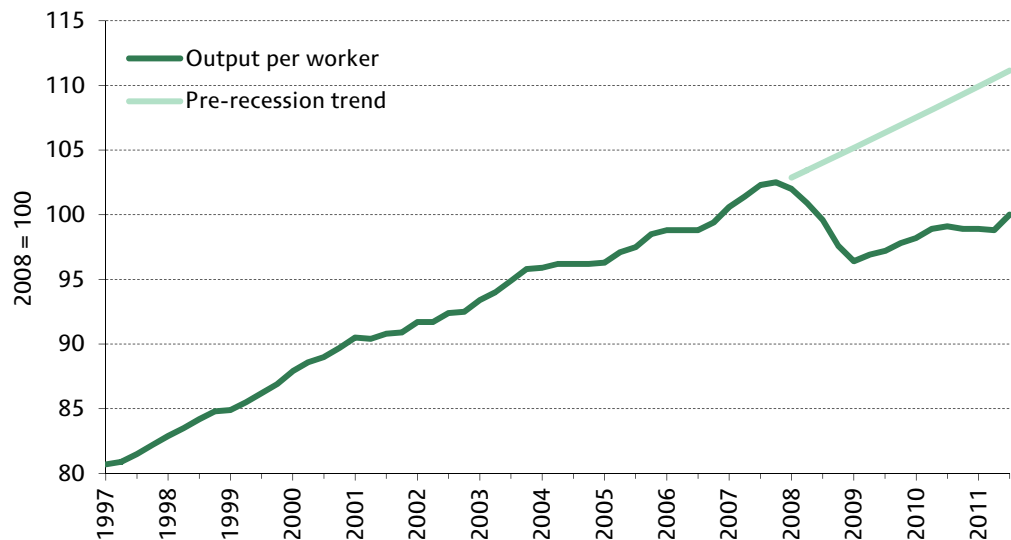
The level of uncertainty surrounding the forecast is almost without precedent. Indeed, we attach a probability of only 45% to an outcome similar to our baseline scenario. In normal circumstances, we might expect to assign a probability of at least 60% to our central forecast. Risks to the forecast have domestic and external origins.

¹⁰ The OBR forecasts that business investment will grow by 10.8% a year between 2012 and 2016. The ONS time series for business investment goes as far back as 1965 and on only one occasion has there been a four-year period where growth has been that strong (1994–98: 11.3% a year). The average annual growth rate over the period from 1965 to 2010 was 2.8% a year.

While the UK corporate sector is in relatively good financial health, the same cannot be said of UK households. The consumer continues to be hobbled by declining real incomes, rising unemployment, high debt levels that are still around 150% of disposable income, and house and equity prices that are, at best, moving sideways. Each of these factors could weigh on consumption by more than expected, leading the household sector to drag the UK into a deeper recession:

- Inflation has surprised on the upside and may continue to do so. Given wage inflation is likely to remain very modest with unemployment at high levels, this would squeeze back real income growth. This risk is compounded by current tensions between the US and Iran that could see a spike in oil prices which would also feed into UK inflation, cutting households' purchasing power.
- Although unemployment is expected to rise to almost 3 million, the level of employment is still very high given the level of output – output per worker is well below pre-recession levels (Figure 2.24). This could lead to employers significantly scaling back their labour force if the outlook looks set to worsen or the financial position of corporates starts to deteriorate.

Figure 2.24. Output per worker



Source: Haver Analytics, Oxford Economics.

- Household debt in the UK is higher than that in most other major economies (Figure 2.5 earlier) and UK households may decide – or be forced by tighter credit conditions – to deleverage faster than currently assumed, leading to lower spending and pushing the savings ratio higher.
- Asset prices – housing and equity – are vulnerable to changing economic sentiment and a sharp fall in these prices would have significant wealth and confidence impacts on the UK consumer.

UK households are therefore much more likely to be a significant drag on growth in 2012 than a driver of recovery and could even pull the UK into a deeper recession than we currently forecast. It is unlikely that further quantitative easing could be implemented quickly enough to prevent such consumer weakness from generating an even deeper double-dip recession this year.

The greatest threats to the outlook for the UK economy, though, come from abroad. In the rest of this section, we take the three alternative scenarios set out in Chapter 1 and consider how they might affect the UK economy.

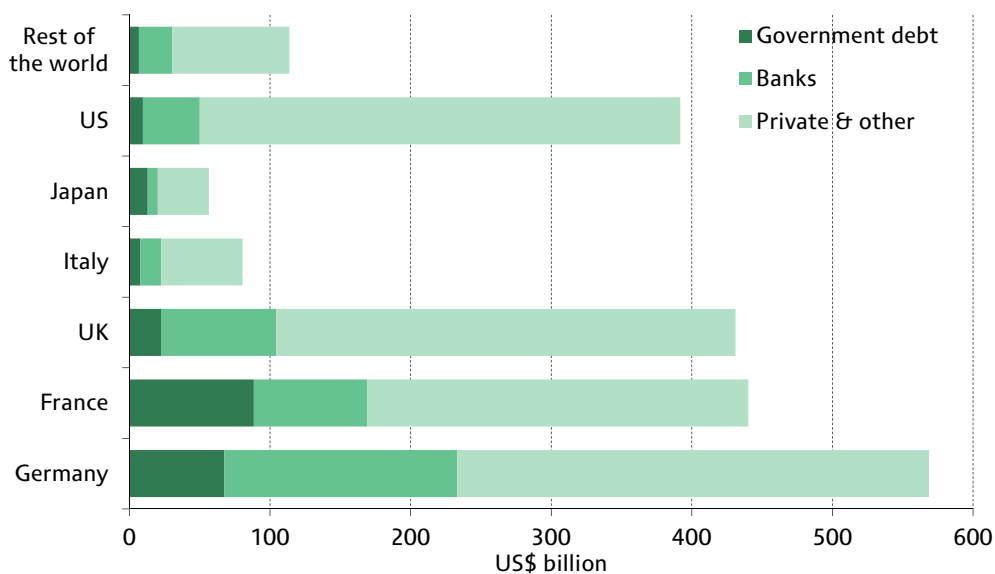
Disorderly defaults in the Eurozone

The escalation of the Eurozone sovereign debt crisis has already had a damaging effect on UK growth prospects, through the weakening in export demand and the dampening effect on business sentiment and, therefore, investment intentions. Our baseline forecast assumes that these pressures ease this year, as policymakers establish a solution that contains the financial crisis.

However, the UK would be particularly vulnerable to any escalation of the crisis and we estimate there to be a 30% probability that there will be one or more ‘disorderly’ defaults, including a potential for the Eurozone to fracture. In such a scenario, the UK would be one of the countries hardest hit outside of the Eurozone. This is partly because of its strong reliance on the Eurozone for exports and likely negative impacts on consumer and business confidence.

However, the strongest transmission would be through financial contagion and the credit crunch conditions that would ensue. While UK banks appear to be stronger than their European counterparts, having made significant efforts to recapitalise post-Lehmans, the close links mean that UK banks will not be immune to spillovers from increased stress in the European banking sector. As Figure 2.25 shows, the UK’s exposure to government debt of the Peripheral-4 (Greece, Spain, Portugal and Ireland) is relatively limited, especially compared with Germany and France, and the UK should withstand any orderly sovereign default of one or more of these countries relatively well. However, the UK’s exposure to bank and other private sector debt is much greater and a disorderly sovereign default in the periphery would lead to defaults in other sectors of the economy, as well as other parts of the Eurozone, which would hit the UK banking sector hard.

Figure 2.25. Bank exposure to peripheral debt



Source: BIS.

In a scenario where the Eurozone breaks up, we would expect the UK to endure a second deep recession, albeit not as dramatic as the 2008–09 recession because there is less scope for businesses to cut spending on inventories or business investment this time around. GDP would decline by 1.7% in 2012 and by a further 0.9% in 2013, with unemployment rising to a peak of 10.7% on the ILO measure.

China hard landing

Our ‘China hard landing’ scenario involves a more significant slowdown in Chinese growth triggered by problems in the local banking sector. Such a scenario would cause a slowdown in global economic growth which, in turn, would dampen demand for UK exports. However, the direct effects on the UK economy would be limited by its relative lack of exposure to the Asian economies, with just 2% of UK exports going to China. It is a similar story in terms of financial spillovers, with modest financial contagion spreading across the globe but the UK suffering less in relative terms because of its relatively weak links with Asia. In addition, the UK is likely to benefit from the drop in the oil price seen in this scenario, with a significant easing in the pressures on household finances.

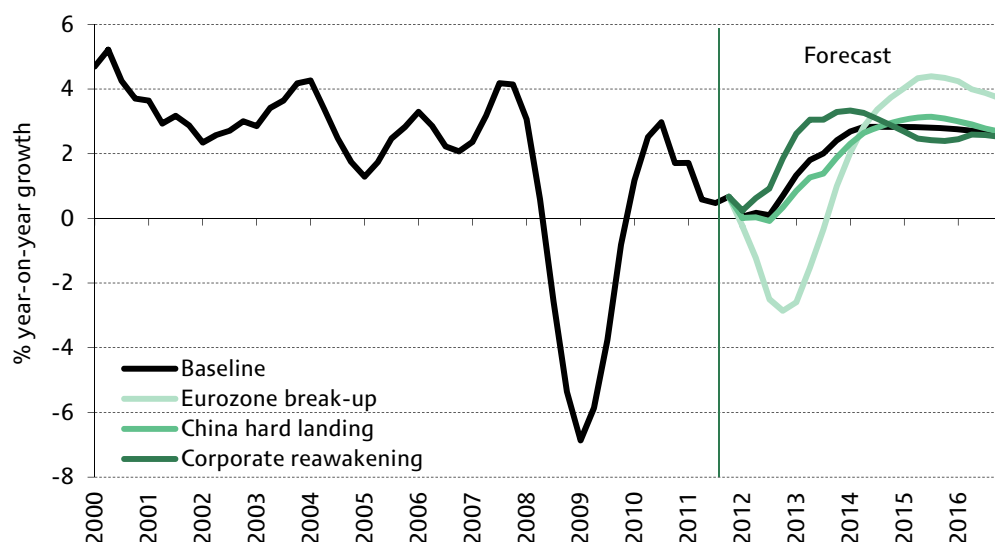
Under this scenario, we would expect UK GDP to grow by 0.1% this year and by 1.3% in 2013, modest downgrades on the baseline forecasts of 0.3% and 1.9% respectively. A lower oil price and looser monetary conditions would then see a degree of catch-up, relative to baseline, in later years.

Corporate reawakening

In addition to the downside risks, we do see some, limited, upside risks. One possible upside scenario might be generated by the development of credible plans to deal with fiscal problems and the financial crisis in the Eurozone and an easing of tensions in the Middle East which leads to oil prices falling back.

The UK would be at the forefront of such a scenario, given the extent to which UK firms have built up cash surpluses over the past four years. This scenario would see confidence restored, encouraging the corporate sector to use these large surpluses to invest and

Figure 2.26. GDP forecasts for alternative scenarios for the UK economy



Source: Oxford Economics.

boost its workforce. The drop in the oil price would ease pressures on the purchasing power of households which, combined with improved employment prospects and stronger sentiment, would generate a firmer contribution from the consumer sector, albeit this would remain constrained by the high levels of indebtedness. Under this scenario, we would expect the UK economy to grow by 0.9% this year and by 3.0% in 2013, somewhat stronger than the OBR forecast.

Figure 2.26 shows GDP forecasts for the UK economy, based upon these three alternative scenarios.

2.7 Conclusions

The escalation of the Eurozone sovereign debt crisis has caused short-term growth prospects to deteriorate significantly in recent months. Though the OBR slashed its forecasts for the 2011–13 period in November, these now look optimistic. We expect the UK economy to endure a short and mild recession from 2011Q4 to 2012Q1 before recovering, but growth is expected to reach just 0.3% this year and 1.9% in 2013. These forecasts are a little weaker than those of the OBR and the market consensus, though we expect these to move down over the next few months as forecasters adjust their forecasts to take account of the latest events.

We think that there is currently a significant amount of spare capacity in the economy. We expect potential output growth to average only 1.6% over the period to 2016, constrained by tight credit conditions and weak business investment. GDP, however, is expected to grow on average by 2.1% a year over the next five years as the output gap gradually closes.

While our baseline forecast may appear to be rather gloomy, particularly in the short term, we would stress that the risks remain heavily skewed to the downside. The most serious threat comes from the prospect of an escalation of the Eurozone sovereign debt crisis, with a series of defaults and exits from the Eurozone having the potential to cause another deep recession in the UK.

3. Fiscal repair: painful but necessary

Rowena Crawford, Carl Emmerson and Gemma Tetlow (IFS)

Summary

- Our latest estimates – based on official forecasts – suggest that the financial crisis and associated recession have punched a permanent hole in the public finances of 7.5% of national income, or £114 billion in today's terms.
- Measures announced by the previous Labour government and the coalition government are estimated to have the direct effect of strengthening the public finances by 8.1% of national income, or £123 billion in today's terms, by 2016–17.
- Official figures now suggest that the structural deficit was 0.8% of national income, or £12 billion in today's terms, larger in 2007–08 than the March 2008 Budget suggested. Even had the Labour government known and dealt with this problem, the need for a large fiscal repair job would still have become apparent post-crisis.
- The latest forecasts suggest that borrowing in 2016–17 will be £24 billion, which is not much lower than the £26 billion forecast by Alistair Darling in his March 2010 Budget, despite the large additional fiscal consolidation announced by the new coalition government. However, in the absence of these new measures, borrowing would now be forecast to be much higher.
- The additional spending cuts announced by George Osborne in the Autumn Statement for 2015–16 and 2016–17 mean that he continues to comply with his fiscal mandate. But the latest official forecasts suggest that he only has a fifty–fifty chance of meeting his supplementary target to have debt falling as a share of national income in 2015–16.
- One risk to the public finances is that the government fails to deliver its planned fiscal consolidation. By the end of 2011–12, 73% of the planned tax increases will have been implemented. The spending cuts, however, are largely still to come – only 12% of the planned total cuts to public service spending, and just 6% of the cuts in *current* public service spending, will have been implemented by the end of this financial year.
- The impact of the remaining cuts to the services provided is difficult to predict; they are of a scale that has not been delivered in the UK since at least the Second World War. On the other hand, these cuts come after the largest sustained period of increases in public service spending since the Second World War. If implemented, the planned cuts would, by 2016–17, take public service spending back to its 2004–05 real-terms level and to its 2000–01 level as a proportion of national income.
- Perhaps the only relevant example of such deep cuts being delivered elsewhere in recent decades is Ireland in the late 1980s. The rarity with which such cuts have been delivered no doubt reflects the fact that they have seldom been deemed necessary and therefore not attempted. Should they not be possible, further tax rises or welfare cuts would be needed to reduce borrowing as currently planned.

3.1 Introduction

The latest official forecasts suggest that public sector net borrowing (PSNB) will be lower in 2011–12 than in the last two financial years but still significantly higher than in any other year since the end of the Second World War.

Government borrowing increased rapidly during 2008–09 and 2009–10, as real economic activity in the UK – and particularly the fortunes of the financial sector – fell sharply. The official forecasts for the public finances changed from one of apparent sustainability in early 2008 to a large, unsustainable, structural imbalance between revenues and spending. The substantial challenge facing the current coalition government is to reduce public borrowing to a sustainable level while taking into account trade-offs between the level of household incomes, the quality and quantity of public services provided and, potentially, any permanent damage to the UK economy from the consolidation.

The coalition government plans to cut public borrowing over a seven-year period through to 2016–17. Some tax increases and spending cuts have already been implemented, but many more are yet to come. In order to increase confidence that the government will stay the course with this ambitious deficit reduction programme, the Chancellor, George Osborne, has committed to two fiscal targets for borrowing and debt levels.

The UK economy was more adversely affected than many other countries by the financial crisis and global recession of 2008 and 2009. In part because of this, the UK government's fiscal consolidation task is relatively large by international standards. However, though the UK is certainly not alone in the scale of the fiscal imbalance it currently faces, some other countries with similarly large fiscal imbalances – such as the United States – have yet to set out how they will address this problem.

There are a number of risks and uncertainties facing the UK's public finances over the next few years, including the possibility that the scope for future economic growth might be weaker than the official forecasts suggest and the possibility that the government is unable or unwilling to deliver the planned large cut to public service spending. Even once the immediate problems with the UK's public finances have been addressed, the UK – like most other developed countries – faces pressure on its public finances from an ageing population. While measures to address these pressures do not have to come into force immediately – certainly the problems resulting from the financial crisis are more pressing – they will need to be addressed eventually.

Section 3.2 starts by setting out the latest official forecasts for the UK's public finances and how these compare with the outlook before the financial crisis began and what the likely path for public borrowing and debt might have been had no policy action been taken. Section 3.3 describes the magnitude of tax increases and spending cuts that have been announced to reduce public sector net borrowing to a sustainable level. Section 3.4 discusses the government's fiscal targets for borrowing and debt levels, while Section 3.5 compares the UK's fiscal position and plans with those of other industrialised countries.

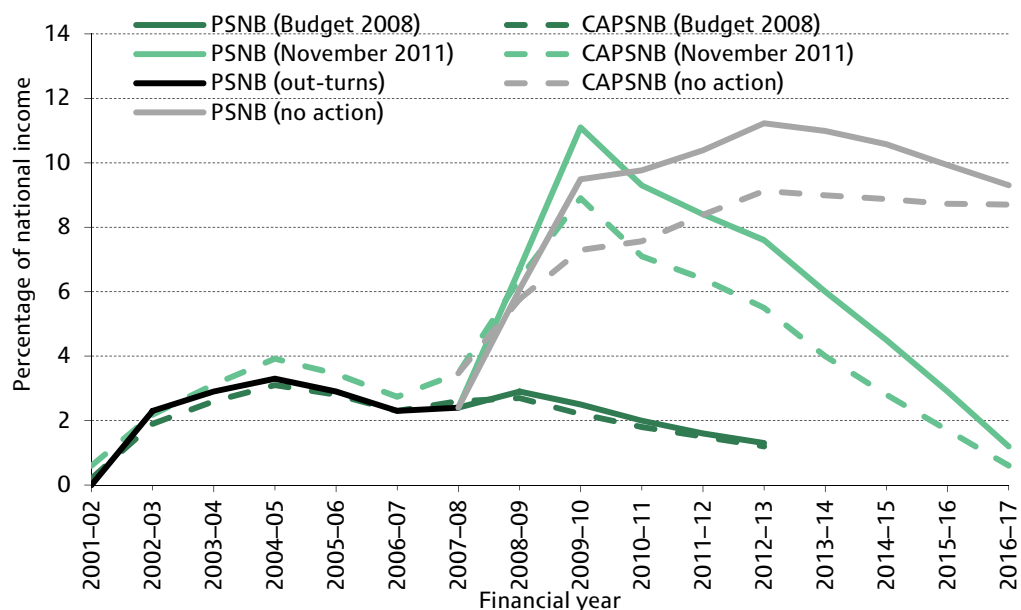
Section 3.6 discusses two of the risks associated with the UK's public finances over the next few years – the possibility that the scope for future economic growth might be weaker than the official forecasts suggest and the possibility that the government is unable or unwilling to deliver the planned large cut to public service spending. Section 3.7 discusses the longer-term pressures posed by an ageing population and Section 3.8 concludes.

3.2 The current state of the public finances and how we got here

The latest official forecasts suggest that PSNB will amount to 8.4% of national income this year (2011–12). The Office for Budget Responsibility (OBR) believes – and many independent forecasters concur – that the majority of this borrowing most likely reflects a permanent (rather than temporary) imbalance between the stance of public spending and tax policy in the UK. Figure 3.1 shows the OBR's latest estimates (November 2011) of and forecasts for PSNB – both the headline figure and the cyclically-adjusted figure, which strips out those elements of borrowing that are estimated to reflect temporary weakness in the UK economy. Largely as a result of the net tax increases and net spending cuts that have been announced by the current and previous government since late 2008, PSNB is expected to fall substantially over the next five years. Total PSNB is forecast to be 1.2% of national income in 2016–17, with cyclically-adjusted borrowing forecast to be 0.6%.

The current imbalance between tax and spending policy was not anticipated before 2008 either by the Treasury or by many independent forecasters; the recent financial crisis and associated recession radically altered the appearance of the strength of the UK's public finances. Before the crisis, in the March 2008 Budget, the then Chancellor Alistair Darling forecast that the UK's public finances were on a sustainable footing, with headline borrowing forecast to fall from its 2007–08 level of 2.4% of national income to just 1.3% of national income by 2012–13 (the end of what was then the forecast horizon).

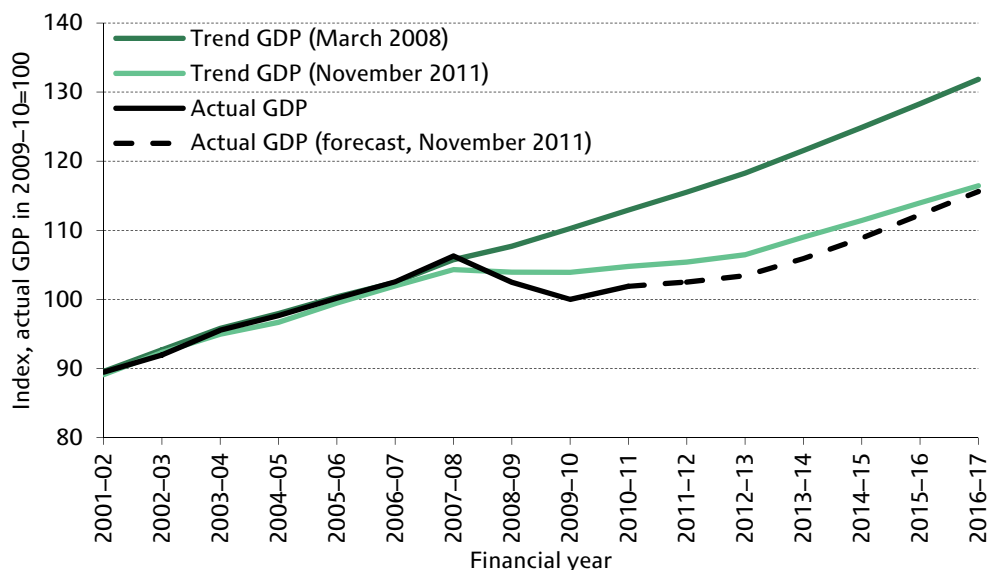
Figure 3.1. Public sector net borrowing with and without cyclical adjustment



Notes: CAPSNB denotes cyclically-adjusted PSNB. Figures for cyclically-adjusted PSNB from November 2011 use the OBR's Principal Component methodology for estimating the output gap. 'No action' ignores the direct impact of all fiscal policy measures that have been implemented since Budget 2008.

Sources: Out-turn figures for PSNB from Office for National Statistics, series J511. Out-turn figures for CAPSNB from HM Treasury, Public Finances Databank, January 2012. Forecasts for PSNB from HM Treasury, *Budget 2008*, HC 388 and Office for Budget Responsibility, *Economic and Fiscal Outlook: November 2011*. November 2011 CAPSNB are authors' calculations using data from T. Pybus, 'Estimating the UK's historical output gap', Office for Budget Responsibility, Working Paper 1, 2011.

Figure 3.2. Evolution of gross domestic product



Notes: Figures for trend GDP from November 2011 use the OBR's Principal Component methodology for estimating the output gap. Its alternative, Aggregate Composite, methodology produces very similar results. Sources: Trend GDP figures from chart 3.7 of T. Pybus, 'Estimating the UK's historical output gap', Office for Budget Responsibility, Working Paper 1, 2011. Forecasts for actual GDP from Office for Budget Responsibility, *Economic and Fiscal Outlook: November 2011*. Out-turn figures for real GDP from Office for National Statistics, series ABMI.

Cyclically-adjusted borrowing was forecast to fall from 2.6% of national income to 1.2% over the same period, as shown in Figure 3.1.

However, the economic outlook deteriorated rapidly after that and inflation turned out much lower than had been expected. The latter meant that the cash plans for spending on public services in 2008-09, 2009-10 and 2010-11 (that had been laid out, pre-crisis, in the October 2007 Comprehensive Spending Review) became more generous in real terms than had been intended. The last Labour government also intervened with a fiscal stimulus package in 2008 and 2009 to attempt to shore up aggregate demand in order to help limit the length and depth of the recession. We now know that borrowing rose substantially – reaching a post-Second World War high in 2009-10 – and now looks set to remain high for several years to come.

The main reason why a hole has opened up is that the official forecasts (initially from the Treasury and now from the OBR) suggest that the amount of output that the UK economy is capable of producing on a sustained basis (that is, the level of output that is consistent with stable inflation) – and thus the level of public spending that a given tax system could finance – is now expected to be permanently lower than had been thought before the crisis. Figure 3.2 shows how actual and trend levels of growth in UK national income, from different vintages of official forecasts, compare with one another. The latest estimate of gross domestic product (GDP) in 2009-10 is indexed to 100. The gap between actual GDP and trend GDP indicates how large a 'boom' or 'bust' the UK economy was thought to be experiencing at any particular time. The different views on the size of the UK's potential output thus give different impressions of the size of 'boom' or 'bust'.

In March 2008, the Treasury was expecting that the trend output of the UK economy in 2016-17 would be 13% greater than the latest OBR forecasts suggest it is actually going to be. That is, rather than the potential size of the UK economy being about £1,960 billion in 2016-17, as the latest OBR forecast suggested, the pre-crisis expectation was that it

would be around £2,220 billion (or roughly an extra £3,500 per person in the UK in today's terms). It is this 'loss' of productive capacity that has caused a hole to open up in the public finances and has similarly damaged the prospects for private consumption.

Our estimates, based on the OBR's latest official forecasts, suggest that the apparent 'hole' in the UK's public finances that has opened up since the March 2008 Budget – that is, the additional structural borrowing that is now forecast to persist in the medium term, over and above what was forecast in the March 2008 Budget – equates to 7.5% of national income (or £114 billion in today's terms).

A key issue – both of historic interest and also to help ensure that lessons are learned for the future planning of the public finances – is whether this is really a new problem that has been caused by the crisis or whether it was simply revealed when the crisis struck, and – if the latter – whether this is something that should also have been apparent back in 2008. In other words: was the Treasury (and many others) previously being unduly optimistic about the extent to which the performance of the UK economy before the crisis was permanent rather than temporary? Or was the crisis really a large (unpredictable) negative shock to our productive potential? This amounts to asking the questions: should it have been possible to predict, in 2007–08, how large the gap between the two green lines in Figure 3.2 was at that point, and how was it likely to evolve going forwards?

The OBR's revised estimates suggest that the potential output of the UK was slightly (1.4%) smaller in 2007–08 (prior to the crisis) than the Treasury previously thought. So the OBR now thinks that the economy was actually experiencing a larger (but still relatively small) boom in 2007–08 than the Treasury had thought at the time. This is shown by the fact that the pale green line lies below the dark green line in Figure 3.2. Thus the latest OBR figures suggest there was a positive output gap of 1.9% of national income in 2007–08, rather than the 0.5% the Treasury previously estimated.

In 2007–08, total PSNB stood at 2.4% of national income. Since, at the time, the Treasury thought that the UK economy was operating slightly above its productive potential, underlying structural borrowing was estimated to be a slightly higher 2.6% of national income. The larger output gap now estimated by the OBR implies that structural borrowing in 2007–08 in fact stood at around 3.5% of national income, as shown in Figure 3.1. In other words, 0.8% of national income of the current structural borrowing problem (or around £12 billion in today's terms) is, according to the OBR's figures, now apparent back in 2007–08. A structural deficit of 3.5% of national income in 2007–08 would have been the highest level since 1995–96 (when it stood at 3.8% of national income) but still far below its previous peak of 5.5% of national income in 1992–93.

So, with the benefit of hindsight, the OBR now thinks that the public finances were structurally weaker back in 2007–08 than the government believed (or at least admitted to) at the time. Had Mr Brown and Mr Darling based their policy on the OBR's latest estimate of the output gap in 2007, they would have needed to have tightened fiscal policy (i.e. increased taxes or cut spending) by around £12 billion in order to have forecast the fall in borrowing that they were projecting at the time.¹ While a fiscal tightening of this size is not insignificant in normal times, it is only a small fraction of the

¹ Whether an additional £12 billion fiscal tightening prior to the crisis would have been desirable would also depend in part on whether it would have induced a monetary policy response. Unless the Monetary Policy Committee of the Bank of England had also been convinced that the output gap was larger than it too thought at the time, the reduction in aggregate demand brought about by an additional pre-crisis tightening of fiscal policy might well have been offset through lower interest rates. This, in turn, could have boosted asset prices further and, potentially, worsened the subsequent financial crisis.

7.5% of national income (or £114 billion in today's terms) additional hole we estimate is implied by the November 2011 official forecast compared with the March 2008 one. So we would still have been left with a further £102 billion of fiscal austerity being required after 2008 to get the public finances back on track.

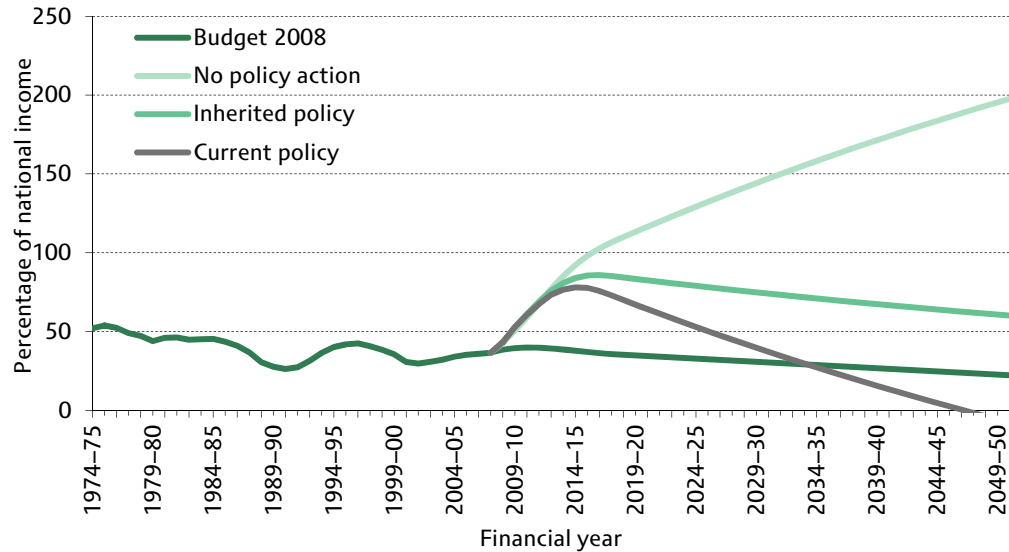
To assert that the Labour government should have done even more before 2008, while accepting the latest official estimates for the output gap up to 2007–08, one would have to believe that it should have been able to forecast more accurately the path of trend output growth beyond 2007–08. Over the period from 2007–08 to 2016–17, the OBR's latest figures imply that trend output will grow on average by just 1.2% a year. This compares with the 2½% a year that underpinned the official public finance forecasts produced prior to the crisis. While at the time Mr Darling's assessment of the path of trend growth was not seen as being particularly cautious, it also was not widely seen as being unduly optimistic either. For example, the estimates produced by Morgan Stanley in the January 2007 IFS Green Budget suggested that 2½% a year trend growth was not an unreasonable central forecast.²

Of course, in addition to the permanent hole in the public finances that has resulted from this revision to the trend level of UK output, there is some further additional borrowing expected over the next few years because the UK economy is expected to be operating somewhat below even this lower level of trend output. That is, the OBR expects there to be a negative output gap in each year until 2016–17. This is shown in Figure 3.2 by the fact that the latest official forecasts (November 2011) have actual GDP running below estimated potential GDP for each of the next five years.

The latest official forecasts, shown in Figure 3.1, suggest that borrowing will return to sustainable levels over the next few years. However, had the last Labour government and the current government not announced any permanent net tax increases or spending cuts over the last few years, public borrowing in the UK would have been left at an unsustainably high level (as shown by the grey lines in Figure 3.1). Figure 3.3 shows the estimated profile of public sector net debt both under current policies and assuming no fiscal action had been announced since March 2008 to reduce this level of borrowing. Under the scenario with no policy action, it is estimated that debt would have grown rapidly for the foreseeable future and passed 100% of national income in 2016–17, rather than peaking at around 80% of national income and then declining as it is forecast to do under current policy. In practice, the path for debt without any policy action would be even worse than suggested by Figure 3.3, as the interest rate that foreign investors charge the UK government for financing its borrowing would have risen and most likely risen so sharply that a fiscal tightening would in fact have been forced on the UK government.

² See D. Miles, M. Baker and V. Pillonca, 'The economic outlook', in R. Chote, C. Emmerson, A. Leicester and D. Miles (eds), *The IFS Green Budget: January 2007* (<http://www.ifs.org.uk/budgets/gb2007/07chap4.pdf>).

Figure 3.3. Debt forecasts – with and without policy action



Notes: Forecasts for debt levels assume that non-debt interest spending and revenues remain constant as a share of national income from 2018–19 onwards, while inflation is assumed to run at 2.7% a year and real growth in national income at 2.3% a year. Average nominal interest rates are assumed to remain at 3.7% (the level forecast in the November 2011 Economic and Fiscal Outlook for the end of the OBR's forecast horizon, 2016–17). 'No policy action' ignores the direct impact of all fiscal policy measures that have been implemented since Budget 2008. 'Inherited policy' takes policy as of the March 2010 Budget.

Sources: Authors' calculations using results set out in HM Treasury, *Public Finances and the Cycle*, Treasury Economic Working Paper 5, November 2008 (http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/prebud_pbr08_publicfinances.htm) (in particular tables 2.B, 2.C and 2.D) and the forecasts for borrowing, net investment and the output gap from Office for Budget Responsibility, *Economic and Fiscal Outlook: November 2011* (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2011/>).

3.3 Fixing the UK's public finances

In order to prevent debt reaching an unsustainable level, the Labour government and the coalition government that succeeded it in May 2010 announced a series of net tax increases and net spending cuts. The combined direct effect of policies announced since March 2008 is expected to reduce PSNB by 8.1% of national income (or £123 billion a year in today's terms) by 2016–17. This is slightly larger than the £114 billion extra hole in the public finances that has become apparent since early 2008 (described in Box 3.1). By aiming to more than offset the size of the permanent gap that has opened up in the public finances since 2008, Mr Osborne is now aiming for a slightly tighter fiscal position in the medium term than Mr Darling was in March 2008 – while Mr Darling forecast in March 2008 that cyclically-adjusted PSNB would be 1.2% of national income in the medium term, the latest official forecasts suggest that medium-term cyclically-adjusted PSNB will instead be 0.6% of national income.

As shown in Figure 3.5, the policies announced over the last few years served to increase PSNB in 2008–09 and 2009–10 – in order to provide additional stimulus to the UK economy – but from 2010–11 onwards, the new policies are set to reduce public spending and increase tax revenues each year. A fifth of the reduction in borrowing that will be in place by 2016–17 is planned to come from tax increases, 12% is to come from cuts to investment spending, 14% from cuts to benefit spending, 7% from lower debt interest payments as a result of reduced borrowing in the short term, and the remaining 48%

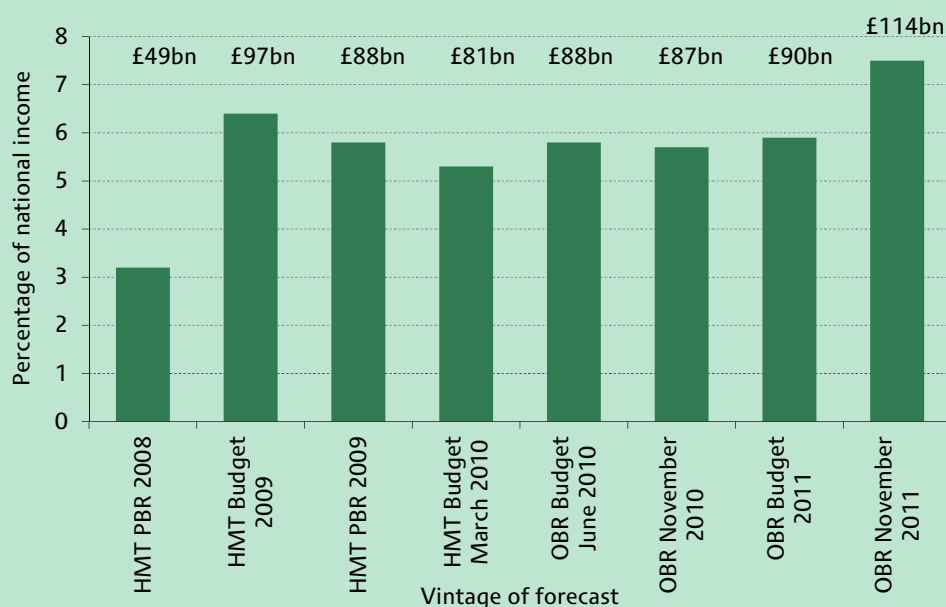
Box 3.1. The changing severity of the problem

Our estimates, based on the official forecasts, suggest that the apparent ‘hole’ in the UK’s public finances that has opened up since the March 2008 Budget equates to 7.5% of national income (or £114 billion in today’s terms).

This ‘hole’ is equal to the total level of borrowing now forecast, less borrowing that was implied by the plans set out in the March 2008 Budget and borrowing that has arisen since then but is believed to be temporary rather than permanent. An assessment of how much of the currently high level of borrowing reflects a permanent structural imbalance in the UK’s fiscal stance – as opposed to temporary weakness caused by currently weak economic activity – is central to understanding how much fiscal action is required by the government over the next few years to get the UK’s public finances back on track.

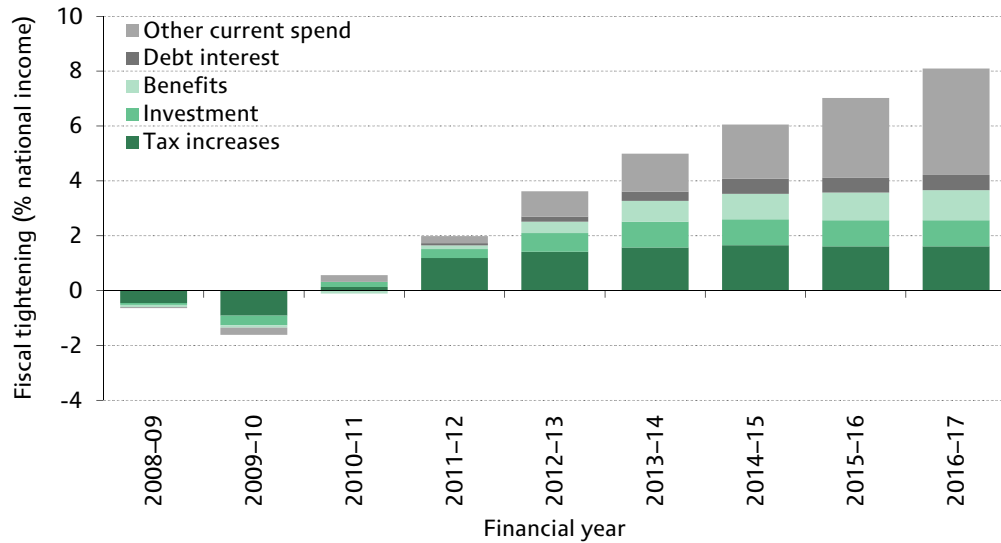
Early on in the financial crisis – at the time of the October 2008 Pre-Budget Report (which was in the immediate aftermath of the demise of Lehman Brothers) – our calculations suggested that Mr Darling thought that the hole amounted to 3.2% of national income (or £49 billion in today’s terms), as shown in Figure 3.4. However, subsequent forecasts increased this to around £90 billion before most recently being increased further to £114 billion (in spite of the fact that forecasts for total borrowing have actually been revised down on a number of occasions over the last few years). The larger this structural imbalance is thought to be, the more action is required by the government to increase tax revenues or cut public spending in order to get the public finances back to a sustainable position. Revisions to the estimated size of this hole are one major reason why we saw significant announcements of new (either explicit or implicit) medium-term tax increases and spending cuts in the 2008 Pre-Budget Report, the 2009 Budget and the 2011 Autumn Statement.

Figure 3.4. Disease: the changing size of the problem



Sources: Authors’ calculations using all HM Treasury Budgets and Pre-Budgets between November 2008 and March 2010 (all available at http://www.hm-treasury.gov.uk/budget_archive.htm) and all Office for Budget Responsibility Economic and Fiscal Outlooks between June 2010 and November 2011 (all available at <http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2011/>).

Figure 3.5. Timing and composition of the fiscal remedy



Notes: Bars represent the planned fiscal tightening (reduction in government borrowing), decomposed into tax increases and spending cuts, with the spending cuts further subdivided into benefit cuts, other current spending cuts and investment spending cuts.

Sources: Authors' calculations using all HM Treasury Budgets and Pre-Budget Reports between March 2008 and March 2011 (up to the March 2010 Budget are available at http://www.hm-treasury.gov.uk/budget_archive.htm; June 2010 Budget onwards available at <http://www.hm-treasury.gov.uk/budget.htm>) and all OBR Economic and Fiscal Outlooks between June 2010 and November 2011 (all available at <http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2011/>).

from cuts to other non-investment spending.³ In other words, the fiscal contraction is to rely much more heavily on spending cuts than on tax increases.

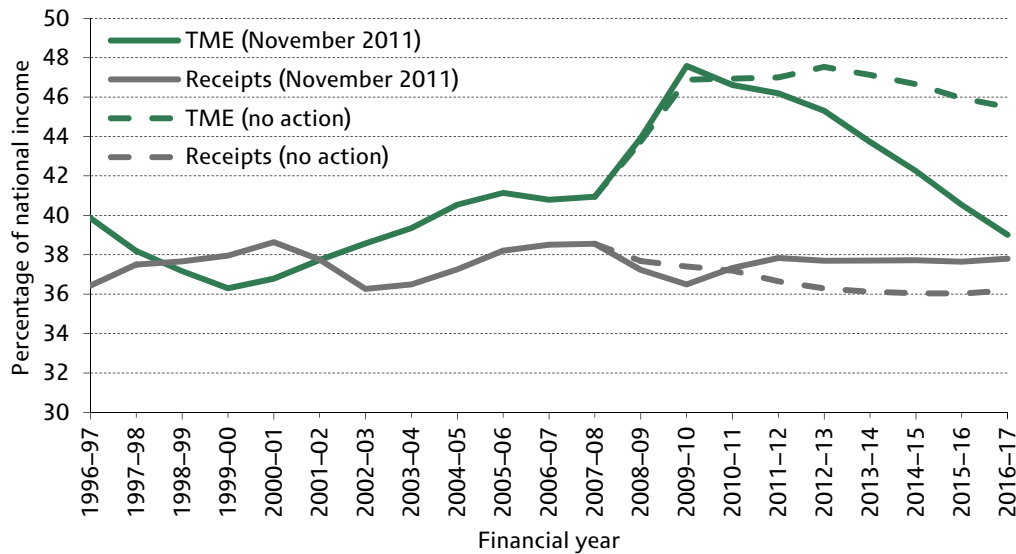
The composition of the planned tightening varies over time, with the tax rises being much more front-loaded than the spending cuts. By the end of 2011–12, the plans imply that we will have experienced 73% of the tax rises, 34% of the investment cuts, 12% of the benefit cuts, but just 6% of the cuts to non-investment spending on public services.

One potential justification for the chosen composition of the planned fiscal consolidation can be drawn from Figure 3.6. This shows figures for government revenues and spending as a share of national income over the period from 1996–97. The dotted lines show how tax revenues and spending would have evolved as shares of national income after 2007–08 if the direct impact of all policy action since the March 2008 Budget is ignored.

In the absence of policy action, spending would have increased from 40.9% of national income in 2007–08 to a peak of 47.5% in 2012–13, before falling slightly as the economy recovered from its temporary weakness. However, even after the economy returned to its trend level (forecast by the OBR to be in 2017–18), spending would still have been at around 45% of national income.

³ Figures do not sum to 100% due to rounding.

Figure 3.6. Revenues and spending



Note: 'No action' ignores the direct impact of all fiscal policy measures that have been implemented since Budget 2008.
 Sources: Out-turn figures for revenues and spending are from HM Treasury, Public Finances Databank, January 2012. Authors' calculations using all HM Treasury Budgets and Pre-Budget Reports between March 2008 and March 2011 (up to the March 2010 Budget are available at http://www.hm-treasury.gov.uk/budget_archive.htm; June 2010 Budget onwards available at <http://www.hm-treasury.gov.uk/budget.htm>) and all OBR Economic and Fiscal Outlooks between June 2010 and November 2011 (all available at <http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2011/>).

The amount of revenue yielded by the UK tax system is generally related to the level of national income and so, while the crisis lowered the forecast productive potential of the economy, revenues as a share of national income were relatively unaffected. Tax revenues as a share of national income would have fallen permanently in the absence of policy action, but only from 38.6% of national income in 2007-08 to around 36% from 2012-13 onwards.⁴

Therefore, while a much greater proportion of the fiscal consolidation is coming from spending cuts than from tax rises, this is forecast to bring tax receipts and spending as shares of national income back to around the levels that they were at before the financial crisis.

Making the patient sicker?

One of the charges laid at the door of the current government is that its fiscal consolidation package is having an unduly detrimental effect on economic growth. This debate has been rather muddled by a failure to consider properly what the appropriate counterfactual might be.

⁴ Tax revenues would not be forecast to regain their previous share of national income in the absence of policy changes largely for two main reasons: first, because the financial sector, which is relatively profitable and pays relatively more tax than other industries, is not expected to comprise as large a share of total output in future as it did before the crisis; and second, because property and equity prices are now forecast to be permanently lower than was expected pre-crisis, which reduces expected revenues from stamp duties, capital gains tax and inheritance tax.

Economic and fiscal forecasts have worsened since the coalition government took office. Specifically, the OBR's latest forecast for borrowing (made in November 2011), which takes into account actions by the new government and all other recent economic developments, was higher for many of the upcoming years than the forecast produced by the Treasury in March 2010, which was on the basis of the previous government's plans and other economic information available just before the 2010 general election. This is despite the additional tax increases and spending cuts announced since the general election. The Shadow Chancellor, Ed Balls, has made much of these upward revisions to borrowing, comparing the latest figures unfavourably with the 'balanced plan' set out by Alistair Darling before the last general election.⁵

Table 3.1. How borrowing forecasts changed between March 2010 and November 2011 (% of GDP unless otherwise stated)

	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17
PSNB, Budget March 2010							
£ billion	£163	£131	£110	£89	£74	£51	£26
% of GDP	11.1	8.5	6.8	5.2	4.0	2.7	1.3
Additional cyclical	-1.6	-1.2	-0.6	-0.1	0.2	0.3	0.4
Additional structural	0.3	1.9	2.7	2.6	2.4	2.2	2.2
November 2011 borrowing forecast, with no measures after 2010 general election							
£ billion	£145	£141	£141	£128	£114	£96	£76
% of GDP	9.8	9.2	8.9	7.7	6.6	5.2	3.9
Additional measures	-0.5	-0.8	-1.3	-1.7	-2.1	-2.3	-2.7
<i>Of which:</i>							
Tax	-0.2	-0.4	-0.4	-0.5	-0.5	-0.2	0.0
Spending	-0.4	-0.4	-0.9	-1.2	-1.6	-2.1	-2.7
PSNB, Autumn Forecast November 2011							
£ billion	£137	£127	£120	£100	£79	£53	£24
% of GDP	9.3	8.4	7.6	6.0	4.5	2.9	1.2

Notes: The March 2010 Budget assumed some extra 'unspecified' tightening in 2015–16 and 2016–17. In order to quantify how much of the specific spending cuts and tax increases announced by the coalition government were 'additional' to those implicitly assumed in the Labour government's forecasts, we need to make some assumption about how this additional unspecified tightening would have been split between tax increases and spending cuts: we assume that it would have had the same composition as the tightening introduced by the Labour government by 2014–15, i.e. 30% from higher taxes and 70% from spending cuts. Sources: Authors' calculations using all HM Treasury Budgets and Pre-Budget Reports between March 2008 and March 2011 (up to the March 2010 Budget are available at http://www.hm-treasury.gov.uk/budget_archive.htm; June 2010 Budget onwards available at <http://www.hm-treasury.gov.uk/budget.htm>) and all OBR Economic and Fiscal Outlooks between June 2010 and November 2011 (all available at <http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2011/>).

⁵ See, for example, the response from Mr Balls to the Chancellor's Autumn Statement, 29 November 2011: 'Higher borrowing than he promised a year ago – £158 billion more borrowing. And can he [the Chancellor] also confirm – despite the pain of £40 billion of extra spending cuts and tax rises the Chancellor boasted about a year ago – can he confirm that compared to the plans he inherited at the last election because the recovery he choked off and because unemployment is higher he is now set to borrowing more at the end of this Parliament than the balanced plan inherited from Labour' (<http://www.labour.org.uk/autumn-statement-shows-osbornes-plan-not-working.2011-11-29>).

In this subsection, we try to clarify what we know about the differences between current forecasts and those set out by the last government and the extent to which those differences arise from different policy prescriptions and from more recent economic news.

A comparison between the current government's plans and those set out by the last government is provided in Table 3.1, which decomposes the difference between borrowing as forecast in the March 2010 Budget (Labour's last) and borrowing as forecast by the OBR in November 2011. The change in the borrowing forecast is split into revisions that reflect the estimate of the direct impact of new policy announcements and revisions that reflect new information on the economic outlook. The latter include both additional cyclical borrowing – as a result of temporarily weaker-than-expected economic performance – and additional structural borrowing as a result of permanent reductions in economic activity relative to what was previously expected.

The official estimates of the direct impact of policy measures announced since the coalition government came to power are that these will reduce borrowing by 2.7% of national income a year by 2016–17. Over the same period, the Treasury's and OBR's forecasts suggest that underlying borrowing has been revised up by 2.6% of national income in 2016–17. In other words, the fact that borrowing for 2016–17 is now forecast by the OBR to be roughly the same as forecast by the Treasury in March 2010 reflects two offsetting factors: (i) the underlying economic outlook has weakened significantly and thus borrowing would be expected to rise; and (ii) the current government has taken action to cut public spending and increase tax revenues by more than had been committed to by the previous government, which the OBR expects will reduce borrowing.

Of course, there are uncertainties around any estimates of the impact of policy changes on overall borrowing and it is possible that some of the weaker outlook for the economy has actually been caused by a detrimental impact of the additional fiscal consolidation announced by the coalition government that is not captured in the official estimates of the measures' impact on revenues and spending. However, the error in estimating the size of the policy impact would have to be implausibly large to lead one to conclude that borrowing would actually have been lower in the absence of the additional tax rises and spending cuts that have been announced since May 2010. In addition, the largest revisions to borrowing forecasts occurred between March 2011 and November 2011, with the OBR revising upwards its forecast for structural borrowing by nearly 2% of national income in each year between 2011–12 and 2014–15, even though overall the new discretionary policies announced in the November 2011 Autumn Statement are unlikely to have had a significant negative impact on the outlook for the economy over this period.

All things considered, it seems likely that, in the absence of the additional fiscal tightening announced since the general election, borrowing would have been on course to be closer to £76 billion in 2016–17 than to the £26 billion that was forecast in the March 2010 Budget. What tax and spending plans a new Labour government would have followed had it been elected in 2010 cannot be known. The size of the hole in the public finances is now thought to be bigger than was estimated when Labour were in power before the election. Just as the coalition government has implemented policies to reduce borrowing that were not in either the Conservative or Liberal Democrat Parties' manifestos, Labour too may have raised taxes or cut spending further in areas they had not mentioned in their

manifesto, just as they did in the first year after the 1997, 2001 and 2005 general elections.⁶

That the scale of fiscal consolidation now planned by the government will have a significant negative effect on economic growth in the UK is, of course, a valid concern. Most economic models suggest that fiscal policy does have some effect on economic output in the short term – in particular, by temporarily affecting aggregate demand. When producing its forecasts for the UK economy, the OBR makes a judgement about the likely impact of any fiscal giveaway or takeaway. To help it do so, it makes use of fiscal multipliers, which are estimates of the direct short-run effect of fiscal measures on national income. These fiscal multipliers are different for different types of policies – for example, a change in the rate of VAT is assumed to have a multiplier of 0.35, while a change in investment spending is assumed to have a multiplier of 1. The OBR's figures suggest that the short-run impact of the package of additional tax increases and spending cuts announced by the coalition government for 2010–11 was to reduce economic output by 0.3% in that year.⁷

What is much harder to estimate is whether fiscal action has any effect on long-term economic output. On the one hand, there are good reasons to think that the impact of fiscal policy changes may diminish over time. For example, monetary policy may become looser to offset a tightening of fiscal policy and economic resources no longer employed in the public sector may eventually be absorbed productively into the private sector. On the other hand, cutting public spending could adversely affect the UK's supply-side potential, which could lead to a permanent loss of economic output. For example, cuts to public sector investment spending might lead to a permanent deterioration in the UK's infrastructure (for example, roads, railways, scientific research facilities); cuts to the education budget might reduce the productivity and wages of individuals in the future; or some individuals made unemployed in the short term could end up unable to find another job because their skills decline, thus increasing the level of long-term unemployment (and reducing the size of the productive workforce) in the UK.

The OBR believes that, over time, the fiscal multipliers fade, as monetary policy is able to respond to offset the impact on demand and as the economy moves to a new equilibrium. The OBR has assumed that the additional squeeze on public spending in 2015–16 and 2016–17 – announced in the November 2011 Autumn Statement – will have no impact on the path of national income as 'at this long time horizon, we would expect looser monetary policy to fully offset the effects of a pre-announced fiscal tightening of this size, leaving our forecast for overall GDP growth unchanged as a result of this measure'.⁸

3.4 The government's fiscal rules

Mr Osborne has chosen to adhere to two fiscal rules to constrain the government's behaviour. These were set out in the June 2010 Budget. The first, the forward-looking 'fiscal mandate', states that the structural current budget must be forecast to be in

⁶ See R. Chote and C. Emmerson, 'Taxes and elections: are they by any chance related?', IFS Observation, March 2010 (<http://www.ifs.org.uk/publications/4793>).

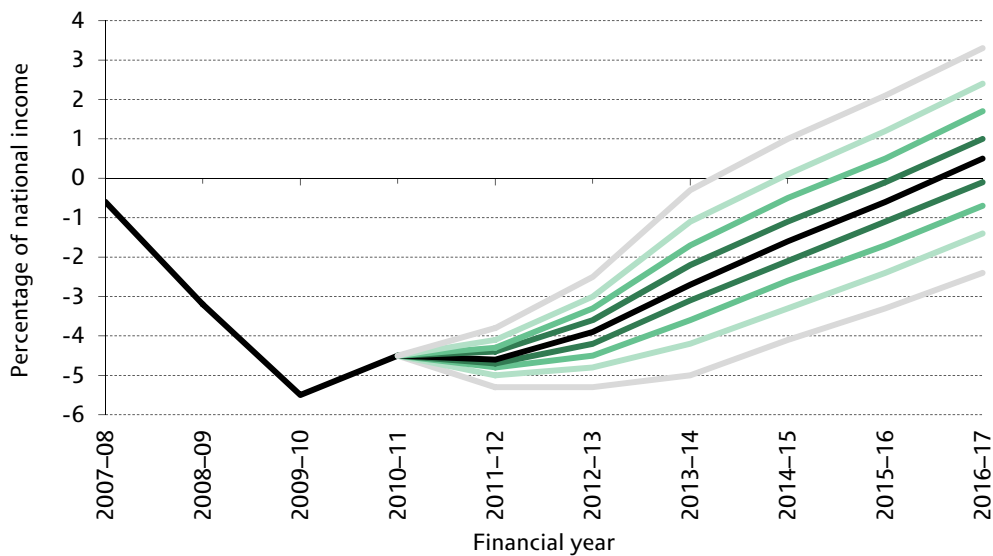
⁷ This is calculated as the difference between the two OBR forecasts for economic growth in 2010–11 that were published in June 2010 before and after the June 2010 Budget.

⁸ Source: Box 3.2 of Office for Budget Responsibility, *Economic and Fiscal Outlook: November 2011* (http://cdn.budgetresponsibility.independent.gov.uk/Autumn2011EFO_web_version138469072346.pdf).

balance or in surplus by the end of the rolling, five-year forecast horizon. In other words, after taking into account the estimated impact of the ups-and-downs of the economic cycle, government receipts should be projected to be equal to or greater than government non-investment spending. The second, the 'supplementary target', states that public sector net debt as a share of national income should be falling at a fixed date of 2015–16.

Compliance with these rules is adjudicated by the independent OBR. The government has required the OBR to publish (biannually) a judgement on whether current policy is consistent with these two fiscal rules. The black line in Figure 3.7 shows the OBR's latest 'central' forecast for the cyclically-adjusted current budget under current policies. In 2016–17, the end of the current forecast horizon, the cyclically-adjusted current budget is forecast to be in surplus by 0.5% of national income. The government is therefore complying with its fiscal mandate.

Figure 3.7. Cyclically-adjusted current budget fan chart



Notes: The lines around the central forecast indicate the range of values within which there is a 10% chance of the true out-turn for borrowing falling – for example, there is a 20% chance of the current budget surplus being between the innermost pair of (dark green) lines and an 80% chance of the current budget balance lying within the outermost pair of (grey) lines.

Source: Chart 5.2 of Office for Budget Responsibility, *Economic and Fiscal Outlook: November 2011* (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2011>).

However, forecasting borrowing several years hence is, even in the best of times, a difficult business and Figure 3.7 shows some indication of the degree of uncertainty around the OBR's latest central forecast. Based on past forecast accuracy, there is a 20% chance that the outcome will lie within the darkest green lines, a 40% chance the outcome will lie within the next-darkest bands and so on. There is, therefore, roughly a 40% chance that the cyclically-adjusted structural current budget will not in fact be in balance or surplus in 2016–17, assuming the OBR's latest forecast is as accurate as previous official forecasts have been over the last 30 years. (Of course, the current climate may be even more uncertain than normal – Section 3.6 discusses some specific risks facing the UK's public finances over the next few years, and Chapter 4 discusses the outlook for the public finances under some alternative scenarios for the macroeconomy.)

The pledge to meet this fiscal mandate explains why the government announced additional net spending cuts in its November 2011 Autumn Statement. At the time of the March 2011 Budget, the end of the forecast horizon was 2015–16, and the OBR forecast a

surplus on the cyclically-adjusted current budget of 0.8% of national income in that year. However, by November 2011, despite the fact that the forecast horizon had rolled forward one year, the OBR's expectations of the strength of the UK economy had worsened so significantly that, if no policy action had been taken, the OBR would have forecast a cyclically-adjusted current budget deficit of 1.1% of national income for 2016–17. Without policy action, the government would not have been complying with its fiscal mandate. In fact, the government announced additional spending cuts amounting to £30 billion (or 1.5% of national income) in 2016–17 and so the OBR's latest forecast (as shown in Figure 3.7) is for a cyclically-adjusted current budget surplus of 0.5% of national income instead.⁹

The government therefore now has some small room for manoeuvre on its fiscal mandate. The same is not true, however, for the supplementary target. Figure 3.3 showed that public sector net debt is forecast by the OBR to peak at 78.0% of national income in 2014–15 before falling to 77.7% in 2015–16. In other words, while debt as a share of national income is currently forecast to fall in 2015–16, the forecast is for a fall of just 0.3% of national income (or £4½ billion in today's terms). This could easily go the other way if economic growth in future turns out to be lower than forecast or if borrowing in 2014–15 (or 2015–16) turns out to be slightly lower (higher) than currently forecast. For example, over just an eight-month period between March and November 2011, the OBR's estimate of how much UK government borrowing would be in 2011–12 increased by £5 billion. Since the OBR's central forecast is for debt to be *just* falling in 2015–16, the government only has a very slightly better than fifty–fifty chance of meeting its supplementary target.

3.5 International comparison of the UK's fiscal position and future plans

The UK experienced a substantial deterioration in its fiscal position over recent years. Whilst many other countries also saw their fiscal positions weaken markedly, the UK saw one of the largest deteriorations. However, the UK has also set out plans to implement a relatively larger fiscal consolidation than most other countries (at least so far), and so – by 2016 – is currently forecast to rank more highly internationally in terms of its fiscal strength than it did before the crisis.

A summary of the UK's borrowing compared with that of other advanced economies, using data from the International Monetary Fund (IMF), is shown in Table 3.2. Prior to the crisis, the UK had the (joint) third-highest level of government borrowing among 28 advanced economies – only Portugal and Greece had higher levels of borrowing as a share of national income, while France and the US had the same level of borrowing. On a cyclically-adjusted basis, the UK had the fourth-highest level of borrowing – exceeded only by Portugal, Ireland and Greece. So compared with other advanced economies, the UK's fiscal position was relatively weak before the financial crisis struck.

⁹ The rolling nature of the forecast horizon could be interpreted as a weakness of the fiscal mandate – a government could keep promising to implement a tightening by the end of the forecast horizon but never actually deliver one without strictly violating the fiscal mandate. But such a rule does have advantages: for a fuller description of the pros and cons of the formulation of a fiscal rule in this way (and a fuller discussion of the supplementary target), see R. Crawford, C. Emmerson and G. Tetlow, 'The new fiscal framework: an assessment', in M. Brewer, C. Emmerson and H. Miller (eds), *The IFS Green Budget: February 2011* (<http://www.ifs.org.uk/budgets/gb2011/11chap2.pdf>).

Table 3.2. Borrowing as a share of national income in the UK compared with 28 advanced economies

	UK rank	Notes
Headline borrowing		
<i>Level</i>		
2007 (pre-crisis)	3 rd highest	United States and France the same; Portugal and Greece higher
Peak	6 th highest	Japan, Spain, United States, Greece and Ireland higher
2016	13 th highest	
<i>Change</i>		
Increase, 2007 to peak	12 th largest	
Reduction, peak to 2016	4 th largest	Iceland, Greece and Ireland larger
Reduction, 2011 to 2012	9 th largest	
Reduction, 2007 to 2016	4 th largest	France, Portugal and Greece larger
Cyclically-adjusted borrowing		
<i>Level</i>		
2007 (pre-crisis)	4 th highest	Portugal, Ireland and Greece higher
Peak	5 th highest	Spain, Ireland, Iceland and Greece higher
2016	15 th highest	
<i>Change</i>		
Increase, 2007 to peak	9 th largest	
Reduction, peak to 2016	5 th largest	Portugal, Ireland, Greece and Iceland larger
Reduction, 2011 to 2012	7 th largest	
Reduction, 2007 to 2016	4 th largest	Portugal, Ireland and Greece larger

Notes: Measures are general government balance as a percentage of GDP and general government cyclically-adjusted overall balance as a percentage of potential GDP. The 28 advanced economies on which comparable data to the UK are available are: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hong Kong, Iceland, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland and the United States. Peak levels of borrowing were reached in 2009 or 2010 for almost all economies. There are a few exceptions: for example, in Ireland and Iceland cyclically-adjusted borrowing peaked in 2008.

Sources: Statistical tables 1 and 3 of International Monetary Fund, 'Addressing fiscal challenges to reduce economic risks', *Fiscal Monitor*, September 2011

(<http://www.imf.org/external/pubs/ft/fm/2011/02/data/fmdata.xlsx>).

During the financial crisis and recession, the UK experienced the twelfth-largest increase in total borrowing and ninth-largest increase in cyclically-adjusted borrowing. The economies that experienced even worse problems include a number whose difficulties are well known and have led them to seek bailouts from multilateral organisations – Iceland, Ireland and Greece.

However, over the next few years, the UK government has committed to a programme of fiscal consolidation that the IMF forecasts will be sufficient for the UK to see the fourth-largest reduction in total borrowing (fifth-largest reduction in cyclically-adjusted borrowing) amongst this set of economies. Only Iceland, Ireland, Greece and Portugal

have so far committed to a larger consolidation of their public finances by 2016. A number of economies – such as the US, Spain and Japan – whose current levels of government borrowing are similar to those in the UK, have only so far set out limited plans for reducing their borrowing, and thus, unlike the UK, are currently forecast to continue to have relatively high levels of borrowing up to 2016.¹⁰ The US, for example, is forecast to have cyclically-adjusted general government borrowing of 4.9% of national income in 2016, compared with the 1.1% forecast by the IMF for the UK.

Although the UK had a relatively high level of annual government borrowing before the crisis, the stock of accumulated government debt was middling by international standards. In 2007, the ratio of government debt to national income in the UK was lower than that seen in 10 out of 23 other advanced economies on which comparable data are available.¹¹ However, because the UK government's levels of borrowing have increased sharply and will be higher than those of many other economies over the next few years, the UK is set to climb up the international league table of indebtedness by 2016, experiencing the seventh-largest overall increase in debt as a share of GDP between 2007 and 2016, resulting in the eighth-highest level of debt among 24 economies. However, UK debt – forecast to be around 75% of national income at that stage – would still be substantially lower than that forecast for the US and Italy (around 90%) and for Ireland, Portugal and Japan (all 100% or more).

3.6 Risks to the public finances

The government has ambitious plans to reduce public sector borrowing (discussed in Section 3.3), but there is much uncertainty surrounding the outlook for borrowing over the next few years. This section considers two risks to the government's fiscal plans. The first is that the output gap turns out to be smaller than currently thought and therefore the structural deficit bigger. The second is that the government might not be able (or willing) to implement as large a cut to public service spending as is currently planned.

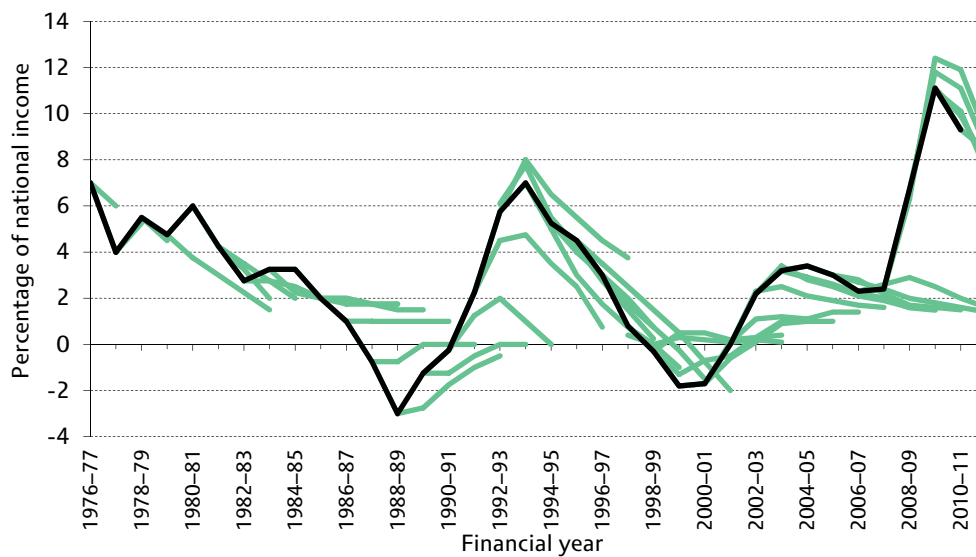
There are, of course, always risks to fiscal projections, even in more 'normal' times. Figure 3.8 shows the out-turns for borrowing since 1976–77 and how these compare with the forecasts that had previously been made. Past errors in borrowing reflect two broad factors: first, errors in forecasting the level of future macroeconomic activity; and second, errors in forecasting tax receipts and spending conditional on the macroeconomic position. Figure 3.8 suggests that, in general, past governments have tended to underestimate future borrowing levels when economic activity was weakening (for example, during the late 1980s and early 1990s) and overestimate it when economic activity was strengthening (for example, during the late 1990s).¹²

¹⁰ For additional discussion of these borrowing forecasts, see R. Crawford, C. Emmerson and G. Tetlow, 'How does the UK's planned fiscal consolidation compare?', IFS Observation, September 2011 (<http://www.ifs.org.uk/publications/5693>).

¹¹ The 23 advanced economies on which comparable data to the UK are available are: Australia, Austria, Belgium, Canada, Denmark, Estonia, Finland, France, Germany, Iceland, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, South Korea, Spain, Sweden, Switzerland and the United States. Source: Statistical table 8 of International Monetary Fund, 'Addressing fiscal challenges to reduce economic risks', *Fiscal Monitor*, September 2011 (<http://www.imf.org/external/pubs/ft/fm/2011/02/data/fmdata.xlsx>).

¹² Another reason why borrowing out-turns may have deviated from previous forecasts is, of course, that active policy changes were subsequently made that increased/decreased borrowing. But such changes might be expected to have a tendency to bring borrowing back into line with forecasts as governments give away unexpected improvements and take away in the event of unexpected deteriorations.

Figure 3.8. Revisions to borrowing forecasts



Notes: The black line shows estimated out-turn a year after the fiscal year in question had ended. More recent out-turns differ but often due to definitional changes, which are less of a fair reflection of the aggregate that was being forecast at the time. The green lines show forecasts from all previous Budget statements.

Sources: Office for Budget Responsibility, using data from various HM Treasury forecasts.

Errors in estimating the output gap

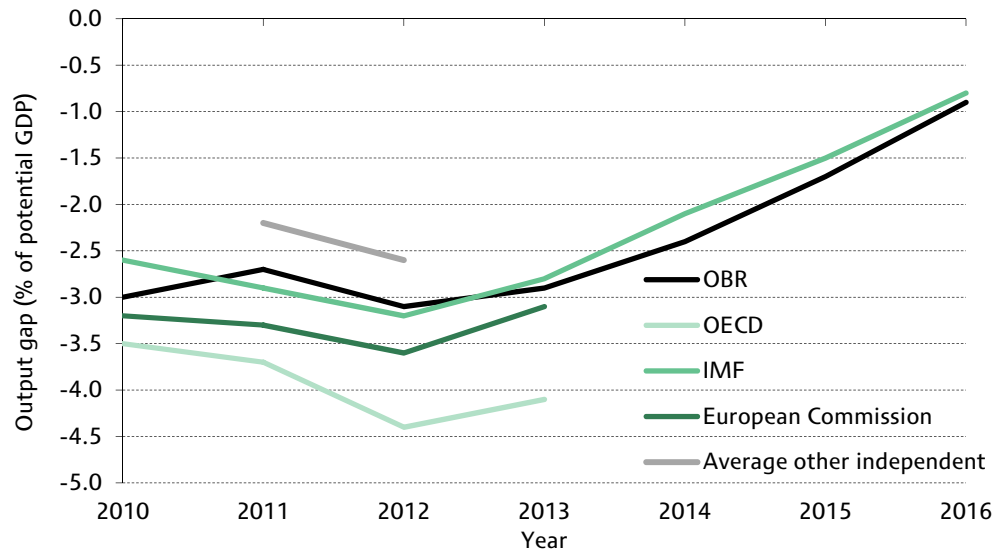
In November 2011, the OBR estimated that the output gap – that is, the gap between how much the UK economy is actually producing and the amount it is capable of producing while keeping inflation stable – would stand at -2.7% in 2011. It expects this gap to widen slightly next year before closing gradually over the following four years; this is shown in Figure 3.9.

Because the OBR thinks that the UK economy is operating below its full potential level this year, it also thinks that some of the borrowing that the government is doing this year is simply a temporary, rather than a permanent, imbalance. This is because, if all of the economy’s resources were being fully utilised, the OBR would expect tax revenues to be somewhat higher (for example, more people would be in work and thus earning income) and government spending to be somewhat lower (for example, fewer people would be claiming unemployment benefits).

The OBR’s estimate of how much unused capacity there is in the UK economy (2.7% this year) is somewhat lower (i.e. more pessimistic) than the IMF, OECD and European Commission’s latest estimates suggest but higher (more optimistic) than the average forecast among other independent forecasters. These are also shown in Figure 3.9. In other words, at the moment, the OBR’s view on the output gap lies somewhere in the middle of the range of publicly-available, independent estimates for the UK.

If the OECD’s estimate, rather than the OBR’s, is correct then more of current government borrowing is a temporary, rather than permanent, problem and there is more scope for borrowing to fall over the next few years than the OBR has forecast. Table 3.3 shows how cyclically-adjusted public sector net borrowing might evolve over the next five years if the OECD’s estimate of the output gap is correct, rather than the OBR’s. These figures show cyclically-adjusted net borrowing falling to zero in 2016–17. This would be a much tighter fiscal stance than any previous UK government – at least in modern times – has achieved over any sustained period of time. Therefore, if the OECD is right about the size

Figure 3.9. Alternative estimates of the output gap



Sources: Office for Budget Responsibility, *Economic and Fiscal Outlook: November 2011*; Organisation for Economic Cooperation and Development, *Economic Outlook No. 90*, December 2011; International Monetary Fund, *World Economic Outlook*, September 2011; European Commission, *European Economic Forecast – Autumn 2011*; ‘Average other independent’ from HM Treasury, *Forecasts for the UK Economy: A Comparison of Independent Forecasts*, No. 297, January 2012 (<http://www.hm-treasury.gov.uk/d/201201forcomp.pdf>).

Table 3.3. Implications of alternative estimates of the output gap for cyclically-adjusted public sector net borrowing

	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17
PSNB	9.3	8.4	7.6	6.0	4.5	2.9	1.2
CAPSNB:							
OBR output gap	7.1	6.4	5.5	4.0	2.8	1.7	0.6
OECD output gap	6.7	5.8	4.9	3.4	2.2	1.1	0.0
Output gap 0 in 2011–12	9.3	8.4	7.5	6.0	4.8	3.7	2.6

Notes: CAPSNB denotes cyclically-adjusted public sector net borrowing. The OECD output gap for fiscal years is authors’ calculation using the weighted sum of OECD published output gap figures for calendar years.

Sources: Office for Budget Responsibility, *Economic and Fiscal Outlook: November 2011*; Organisation for Economic Cooperation and Development, *Economic Outlook No. 90*, December 2011. Cyclical-adjustment methodology based on HM Treasury, *Public Finances and the Cycle*, Treasury Economic Working Paper 5, November 2008.

of the output gap (and no other adverse shocks to the UK’s public finances materialise), there may be scope for future tax cuts or spending increases (or, at least, less need for net tax rises or spending cuts to deal with the public finance implications of an ageing population, as discussed in Section 3.7).

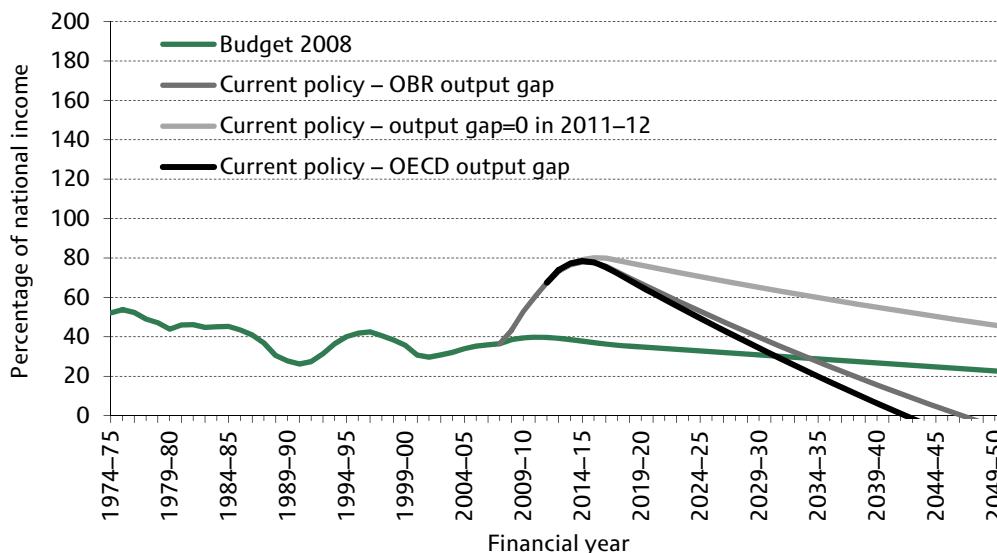
Conversely, if the output gap is actually smaller than the OBR thinks at the moment, there will be less scope for borrowing to fall over the next few years. If the output gap were in fact zero in 2011–12 and the economy grows according to the OBR’s assumption for trend growth thereafter, then the only reduction in borrowing we would see over the next few years would be that resulting from discretionary tax increases and spending cuts. The bottom row of Table 3.3 shows that, if this were the case, cyclically-adjusted

borrowing would be 2.6% of national income by 2016–17, which is the end of the currently-planned fiscal consolidation.

This level of borrowing would be consistent with gradually decreasing debt levels and certainly would not be historically unprecedented. Public sector net borrowing as a share of national income has been at least as high as this in 26 out of the last 63 years (the period for which comparable data are available). But it would leave debt as a share of national income on course to be at higher than pre-crisis levels even by 2050, as can be seen in Figure 3.10. It would also mean that this and future governments would be less well placed to accommodate any future shocks, and policy action would likely still need to follow to deal with the long-run pressures that are discussed in Section 3.7. Under this scenario, the Chancellor would also, in the absence of further fiscal tightening, fail to meet his fiscal mandate and supplementary target.

The figures presented in this subsection are merely intended to be indicative of the sensitivity of the public finance outlook to estimates of the current output gap. Chapter 4 explores in much more detail what our forecasts are for the public finances under the

Figure 3.10. Debt forecasts – under alternative assumptions about the size of the output gap



Notes: Forecasts for debt levels assume that non-debt interest spending and revenues remain constant as a share of national income from 2018–19 onwards, while inflation is assumed to run at 2.7% a year and real growth in national income at 2.3% a year. Average nominal interest rates are assumed to remain at 3.7% (the level forecast in the November 2011 Economic and Fiscal Outlook for the end of the OBR’s forecast horizon, 2016–17). ‘Output gap = 0’ figures are calculated assuming that the output gap is currently zero (i.e. there is no scope for a reduction in cyclical borrowing over the next few years) but that the OBR’s forecast for future growth in trend output (of 2.3% a year) does materialise. ‘OECD output gap’ figures are calculated assuming that the OECD is correct about the current size of the output gap but that the OBR’s forecast for future growth in trend output (of 2.3% a year) does materialise; we assume that the output gap also closes in 2017–18 under this scenario.

Sources: Authors’ calculations using results set out in HM Treasury, *Public Finances and the Cycle*, Treasury Economic Working Paper 5, November 2008 (http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/prebud_pbr08_publicfinances.htm) (in particular tables 2.B, 2.C and 2.D) and the forecasts for borrowing, net investment and the output gap from Office for Budget Responsibility, *Economic and Fiscal Outlook: November 2011* (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2011/>). Organisation for Economic Co-operation and Development, *Economic Outlook No. 90*, December 2011.

OBR's forecast for the macroeconomy and under three alternative macroeconomic scenarios, which are described in Chapter 2.

Difficulty of delivering tight public spending plans

A second risk to the planned fiscal consolidation is if the government is unable, or unwilling, to deliver the large cuts to public service spending that have been announced, but which have yet to occur. To give some indication of the potential difficulties in implementing the planned public spending cuts, we compare the size of the planned cuts with those currently planned in other advanced economies, and with those seen in the past both in the UK and overseas.

Prior to the crisis occurring, the UK was 'mid-table' compared with other advanced economies in terms of its level of public spending as a share of national income, as shown in Table 3.4. Fifteen out of the 29 other advanced economies for which comparable data are available had higher levels of spending than the UK. Over the crisis, the UK experienced the ninth-largest increase in public spending as a share of national income.

Over the next few years, the UK currently has the fifth-largest planned reduction in public spending as a share of national income. Only Iceland, Greece, Estonia and Ireland are planning larger cuts. (However, some countries have yet to announce full details of their fiscal consolidations and so may ultimately require larger reductions in spending than currently announced. But even between 2011 and 2012 – a period for which most countries have announced their fiscal plans – the UK is expected to experience a relatively large reduction in spending as a share of national income, with only five other economies forecast by the IMF to see sharper falls.)

Table 3.4. Spending as a share of national income in the UK compared with 29 advanced economies

	UK rank	Notes
Spending		
<i>Level</i>		
2007 (pre-crisis)	16 th highest	
Peak	16 th highest	
2016	22 nd highest	
<i>Change</i>		
Increase, 2007 to peak	9 th largest	
Reduction, peak to 2016	5 th largest	Iceland, Greece, Estonia and Ireland greater
Reduction, 2011 to 2012	6 th largest	Sweden the same; Portugal, Slovenia, Iceland, Hong Kong and New Zealand greater
Reduction, 2007 to 2016	5 th largest	South Korea, Iceland, Sweden and Greece greater

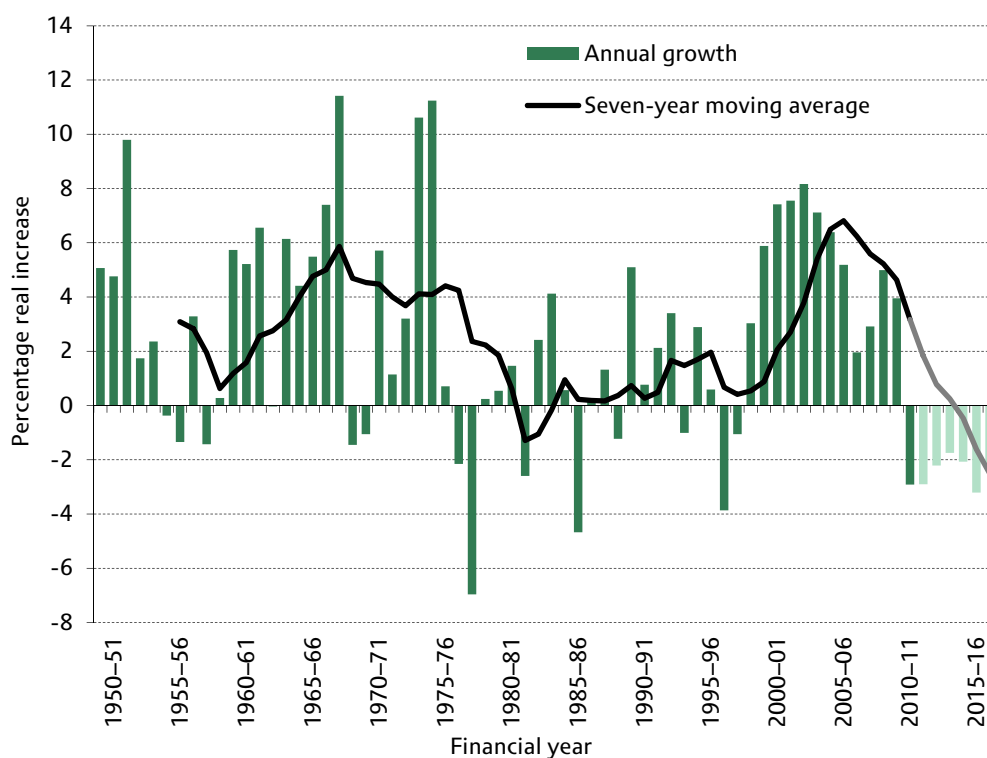
Notes: Measure is general government expenditure as a percentage of GDP. The 29 advanced economies on which comparable data to the UK are available are: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong, Iceland, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland and the United States.

Source: Statistical table 5 of International Monetary Fund, 'Addressing fiscal challenges to reduce economic risks', *Fiscal Monitor*, September 2011 (<http://www.imf.org/external/pubs/ft/fm/2011/02/data/fmdata.xlsx>).

So far, the government remains on course, broadly, to keep in aggregate to the spending plans that it set out in its October 2010 Spending Review: in 2010–11, there was even an overall underspend by central government departments. But, by the end of 2011–12, only 12% of the planned cuts to welfare spending and only 12% of the planned cuts to spending on public services (comprising 34% of the cuts to investment spending and just 6% of the cuts to non-investment spending) are forecast to have been implemented, as we saw in Section 3.3. Future implementation challenges therefore remain considerable.

The planned cuts to spending on public services are large by historical standards. The bars on Figure 3.11 show the increase in spending on public services (defined here as total public spending less spending on welfare benefits and spending on debt interest payments) after taking into account economy-wide inflation for each year since 1948–49. If the current plans are delivered, spending on public services will (in real terms) be cut for seven years in a row. The UK has never previously cut this measure of spending for more than two years in a row.

Figure 3.11. Planned cuts to spending on public services: has it been done before in the UK? (Total spending on public services)



Note: Spending on public services defined as total public spending less both gross interest payments and net social benefits spending.

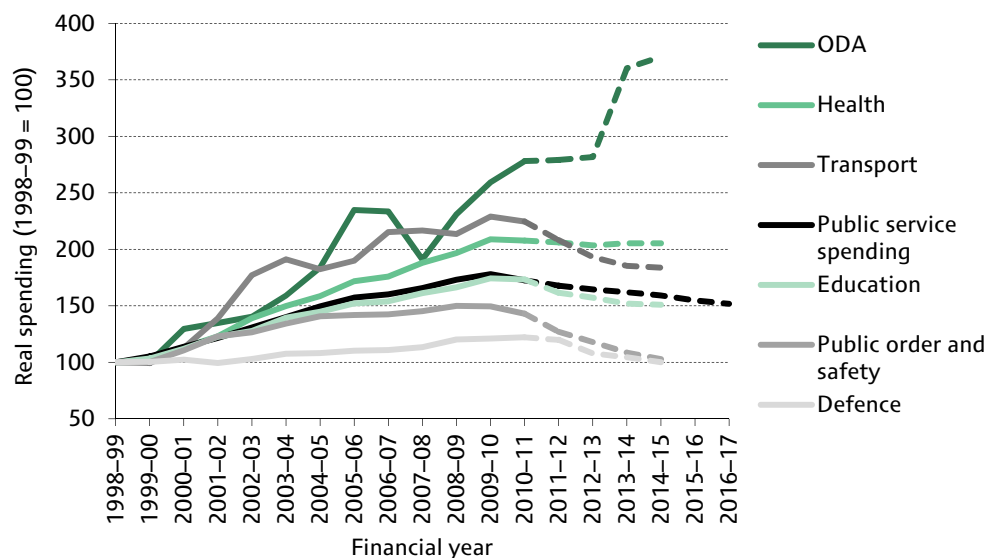
Source: http://www.ifs.org.uk/ff/lr_spending.xls.

Of course, it is likely to be the depth, rather than the length, of the cuts to spending on public services that matters more. The line on Figure 3.11 shows the average annual real increase in public service spending over the seven-year period up to that point. This shows that, if delivered, the government's plans would be the tightest seven-year period for spending on public services since the Second World War: over the seven years from April 2010 to March 2017, there would be a cumulative real-terms cut of 16.2%, which is considerably greater than the previous largest cut (8.7%), which was achieved over the period from April 1975 to March 1982. However, the currently planned cut does follow

the largest cumulative seven-year increase in public service spending since the Second World War: between April 1999 and March 2006, the Labour government oversaw an increase in public service spending of 58.6% after economy-wide inflation. The result is that the cuts would, if implemented, still involve public service spending being the same as a proportion of national income in 2016–17 as it was in 2000–01 (a third higher in real terms), and the same in real terms as in 2004–05.

The fact that the planned cuts in the UK follow a period of big spending increases might make them somewhat easier to achieve. However, the areas where the biggest cuts are planned are not, on the whole, the areas where the biggest spending increases occurred. Figure 3.12 shows the evolution of public service spending (as defined in Figure 3.11) and of spending in selected areas of government activity, in real terms, since 1998–99. Spending on official development assistance (ODA) is set to continue seeing its budget increase sharply (for a discussion, see Chapter 7), and health spending – which also benefited from large increases in spending under Labour – is not projected to be cut over the next few years. Spending on education and transport are both projected to be cut back to 2004–05 levels in real terms (i.e. in line with the average cuts to public service spending, although within the education budget much of the spending cut is focused on higher education, which did not see a sharp increase in spending under Labour, rather

Figure 3.12. Government spending in real terms in selected areas



Notes: Forecasts for health and defence spending are HM Treasury forecasts for central government spending on health and defence. Forecasts for transport and for public order and safety are based on the HM Treasury forecasts for central government spending on them, assuming that this continues to account for half of public sector spending on transport and on public order and safety. Forecasts for ODA spending assume that the government maintains ODA spending at 0.56% of gross national income (GNI) until 2013–14, when it is increased to 0.7% of GNI, as planned in Spending Review 2010.

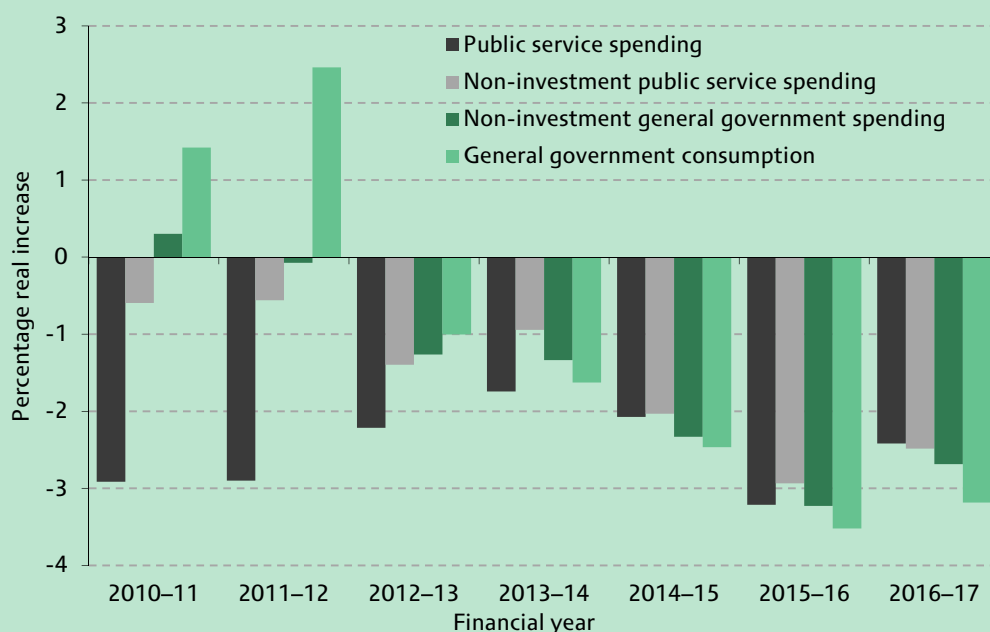
Sources: Forecasts for central government spending by function, apart from on education, are from table 6.4 of HM Treasury, *Public Expenditure Statistical Analyses 2011*, July 2011 (http://www.hm-treasury.gov.uk/pespub_pesa11.htm). Forecasts for education spending are from H. Chowdry and L. Sibieta, 'Trends in education and schools spending', IFS Briefing Note 121, 2011 (<http://www.ifs.org.uk/publications/5732>). Historical figures from http://www.ifs.org.uk/ff/lr_spending.xls and authors' calculations using table 7 of Department for International Development, *Statistics on International Development*, October 2011 (<http://www.dfid.gov.uk/documents/publications1/sid2011/SID-2011.pdf>).

Box 3.2. Internationally comparable spending data

Internationally comparable data on government spending on public services use a different definition of spending from that presented in Figure 3.11. The international data are for non-investment spending on public services rather than total spending, and the data are only for general government rather than the public sector (i.e. they include spending by central and local government but exclude spending by public corporations). The internationally comparable spending series are also deflated by a price index that is specific to the inflation rate of goods purchased by the government rather than using an economy-wide price index (which is what is done in Figure 3.11).

Figure 3.13 provides a decomposition of the differences between the change in our preferred series for public service spending for the UK and the measure that is available on a cross-country basis. The first series in Figure 3.13 is the same as that presented in Figure 3.11. The second series shows that the cuts to non-investment spending on public services are typically less deep than cuts to the overall spending. The third series shows that, in addition, excluding spending by public corporations makes relatively little difference to the overall picture. The final series shows the OBR’s forecast path for real-terms growth in general government consumption, using a price index specific to goods and services purchased by the government rather than using an economy-wide deflator. This shows relatively strong growth in spending in 2010–11 and 2011–12; in part, this will reflect the fact that the changing VAT rates over this period have raised economy-wide inflation but do not affect this government-specific price index. However, over the remaining five years (from 2012–13 to 2016–17), the use of a specific price index makes relatively little difference to estimated real-terms growth in government spending.

Figure 3.13. Planned changes in public spending, different definitions



Source: ‘Public service spending’ is as Figure 3.11. ‘Non-investment public service spending’ is public service spending less spending on public sector net investment from http://www.ifs.org.uk/ff/lr_spending.xls. ‘Non-investment general government spending’ is government consumption spending in current prices taken from table 1.2 of the Office for Budget Responsibility, *Economic and Fiscal Outlook Supplementary Economy Tables – November 2011* (<http://budgetresponsibility.independent.gov.uk/pubs/Economy-Supplementary-Tables-AS11.xls>) deflated by the GDP deflator. ‘General government consumption’ is taken from table 1.1 of the same OBR spreadsheet.

Table 3.5. Planned cuts to spending on public services: has it been done before elsewhere? (General government consumption)

Country	Years covered	Biggest cut		Other cuts $\geq 1\%$	
		%	When	%	When
Czech Republic	1990–2010	18.2%	1991 & 1992	5.0%	1995 & 1996
				2.5%	2004
				1.6%	2008
Slovakia	1992–2010	13.3%	1993 & 1994	7.3%	1999
				2.9%	2004
Ireland	1970–2010	10.7%	1987–1989	6.8%*	2009 & 2010
				1.1%	1983 & 1984
Finland	1970–2010	7.2%	1992 & 1993	None	n/a
Greece	1961–2010	7.2%*	2010	5.5%	1988
				4.5%	1991 & 1992
				2.1%	2008
				2.1%	1982
				1.1%	1994
Italy	1970–2010	6.3%	1993–1995	1.1%	1986
				None	n/a
Singapore	1975–2010	6.3%	1988	1.6%	1994
Iceland	1970–2010	5.1%*	2009 & 2010	None	n/a
Israel	1995–2010	4.6%	2003 & 2004	None	n/a
United States	1961–2010	4.0%	1970–1973	None	n/a
Canada	1970–2010	3.9%	1994–1997	None	n/a
Hong Kong	1965–2010	3.2%	2005	None	n/a
Germany	1970–2010	2.1%	1989	1.5%	1982 & 1983
New Zealand	1970–2010	2.1%	2000	1.3%	1979
Slovenia	1990–2010	2.1%	1991 & 1992	None	n/a
United Kingdom	1961–2010	1.9%	1969	1.2%	1977
Denmark	1966–2010	1.6%	1989 & 1990	1.6%	1984
Sweden	1961–2010	1.4%	1994 & 1995	1.2%	2000
Switzerland	1970–2010	1.2%	1993	1.1%	1998
Portugal	1970–2010	1.2%	1992 & 1993	None	n/a
South Korea	1961–2010	0.9%	1964	None	n/a
Netherlands	1970–2010	0.7%	1996	None	n/a
Belgium	1970–2010	0.7%	1988	None	n/a
Spain	1970–2010	0.7%*	2010	None	n/a
France	1961–2010	0.7%	1998	None	n/a
Austria	1970–2010	0.4%	2000 & 2001	None	n/a
Japan	1970–2010	0.4%	1974	None	n/a
Australia	1965–2008	None	n/a	None	n/a
Norway	1970–2010	None	n/a	None	n/a

Notes: * indicates where cuts include 2010 and therefore a deeper cumulative cut will occur if the cuts persist into 2011.

Sources: Authors' calculations using data on general government final consumption at constant prices from the World Bank national accounts data and OECD national accounts data accessed from http://data.worldbank.org/indicator/NE.CON.GOV.T.KN?cid=DEC_SS_WBGDataEmail_EXT.

than on non-investment schools spending, which did).¹³ In contrast, spending on public order and safety and on defence are projected to see their budgets cut back in real terms to the levels they were at in 1999–2000.

Given the lack of experience of delivering this scale of cuts in the UK, it is natural to ask whether such cuts have been delivered in any other countries. Box 3.2 describes how the available comparable cross-country data relate to the data we have been using for UK-level analysis.

On the internationally comparable measure, UK public service spending is set to fall by 11.3% over the five years from 2012–13 to 2016–17. This is large compared with the size of cuts to public spending experienced by other industrialised countries over the last forty years. Table 3.5 uses data from the World Bank to examine the deepest cuts seen in each of 29 advanced economies (including the UK) on this same measure of spending in the past; data for many of the countries cover the period from 1970 (and sometimes earlier) through to 2010. None of these countries has, for the periods for which we have data, cut this measure of public service spending for five consecutive years. In two instances, cuts have run for four years in a row: in the United States from 1970 to 1973 (cumulative cut of 4.0%) and more recently in Canada from 1994 to 1997 (cumulative cut of 3.9%).

Whilst the Czech Republic and Slovakia appear to have made cuts on a larger scale than that currently planned by the UK, these only occurred around the time of the end of Communism in, and the dissolution of, Czechoslovakia. The only more comparable example in the World Bank data of cuts being delivered on a similar (albeit still slightly smaller) scale to those currently planned by the UK government is in Ireland: general government consumption in Ireland was cut by 10.7% over a three-year period from 1987 to 1989. Of course, one cannot conclude from this that it is impossible to deliver such cuts: in most countries, in most periods such cuts will not have been delivered because they will not have been deemed appropriate and therefore will not have been attempted. In addition, some economies have seen relatively large cuts in general government consumption in the most recent year or so (for example, Greece, Iceland and Ireland); if these have persisted in 2011 (and potentially persist beyond that), they may end up being deeper than those planned by the UK government. Greece cut general government consumption by 7.2% in 2010, Ireland has cut it by 6.8% over 2009 and 2010, and Iceland has cut it by 5.1% over the same two years.

3.7 Longer-term pressures

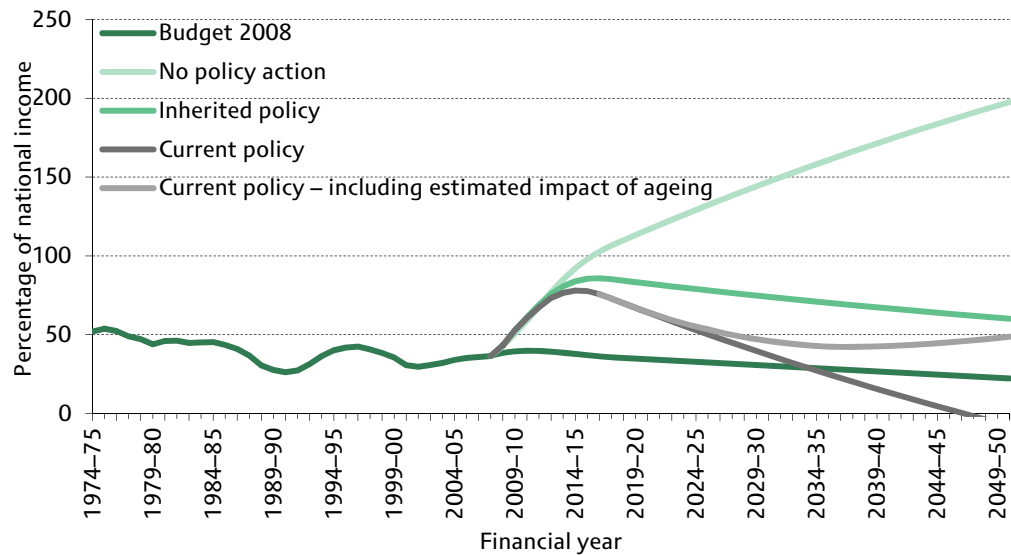
The government is intending to implement a large fiscal consolidation over the next few years, but the pain may not end with the end of the currently planned spending cuts and tax increases. The path for government debt shown by the dark grey line in Figure 3.14, which is typically presented as the forecast profile for debt under current policy, assumes that the government is able to maintain, in the longer term, its primary balance – that is, that it is able to maintain the difference between government revenues and non-debt interest spending at the level implied for 2018–19 by the latest official forecasts under current policy. However, demographic changes – specifically the ageing of the population

¹³ For a discussion of the pattern of cuts across different areas of education spending, see H. Chowdry and L. Sibieta, 'Trends in education and schools spending', IFS Briefing Note 121, 2011 (<http://www.ifs.org.uk/publications/5732>).

– will tend to increase public spending, particularly on health, long-term care and state pensions. In its first Fiscal Sustainability Report, the OBR’s central projection was that spending on health, long-term care, state and public service pensions and other pensioner benefits would increase from 17.1% of national income in 2015–16 to 22.3% by 2060–61.¹⁴ Of this 5.2% of national income increase in age-related spending, increases in spending on health and state pensions would each account for 2.4 percentage points.

If the government does not offset this higher spending by raising tax revenues or reducing spending elsewhere, then government borrowing will be higher. An estimate of the impact of these ageing pressures (assuming they are not offset) on debt is shown by the light grey line in Figure 3.14. From the 2020s, the increase in age-related expenditure would be sufficient to start a noticeable slowdown in the reduction of debt as a share of national income. From the start of the late 2030s, debt is likely to plateau and then start increasing again.

Figure 3.14. Debt forecasts – with and without policy action and the estimated impact of an ageing population



Notes: Forecasts for debt levels assume that non-debt interest spending and revenues remain constant as a share of national income from 2018–19 onwards, while inflation is assumed to run at 2.7% a year and real growth in national income at 2.3% a year. Average nominal interest rates are assumed to remain at 3.7% (the level forecast in the November 2011 Economic and Fiscal Outlook for the end of the OBR’s forecast horizon, 2016–17). ‘No policy action’ ignores the direct impact of all fiscal policy measures that have been implemented since Budget 2008. ‘Inherited policy’ takes policy as of the March 2010 Budget. ‘Including estimated impact of ageing’ uses the OBR’s latest forecasts for changes in age-related spending between 2015–16 and 2060–61; we have adjusted these figures to take account of the lower age-related spending now expected between 2026–27 and 2035–36 as a result of the acceleration in the increase in the state pension age announced in the November 2011 Autumn Statement.

Sources: Authors’ calculations using results set out in HM Treasury, *Public Finances and the Cycle*, Treasury Economic Working Paper 5, November 2008 (http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/prebud_pbr08_publicfinances.htm) (in particular tables 2.B, 2.C and 2.D) and the forecasts for borrowing, net investment and the output gap from Office for Budget Responsibility, *Economic and Fiscal Outlook: November 2011* (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2011/>). Estimates of future age-related spending from OBR, *Fiscal Sustainability Report*, July 2011 (<http://budgetresponsibility.independent.gov.uk/fiscal-sustainability-report-july-2011/>).

¹⁴ Table 3.4 of Office for Budget Responsibility, *Fiscal Sustainability Report*, July 2011 (<http://budgetresponsibility.independent.gov.uk/pubs/FSR2011.pdf>). For a more detailed discussion of these future spending pressures, see also R. Crawford and P. Johnson, ‘The changing composition of public spending’, IFS Briefing Note 119, 2011 (<http://www.ifs.org.uk/publications/5650>).

A combination of further net tax rises and/or spending cuts would be necessary if future governments wished to maintain a lower level of public sector net debt. While such measures do not need to come into force yet – certainly the problems resulting from the financial crisis are more pressing – they will need to be addressed eventually and there are clear advantages to announcing early when, and how, fiscal policy is intended to adjust to meet this challenge.

A welcome example of this is the policy of the planned increases in the state pension age for men and women from 65 to 68, which were initially legislated by the previous government in 2007 to be implemented between 2024 and 2046 and which have now been partially brought forward by the new government. The earlier policies such as these are announced the better, as individuals should then be more able to plan and adjust their behaviour in advance – for example, by saving more privately for retirement.

3.8 Conclusions

Official estimates suggest that the potential level of output of the UK economy in 2016–17 was forecast to be 13% larger before the crisis than it is now forecast to be. This has led to the structural budget deficit increasing by 7.5% of national income, or £114 billion in today's terms. The substantial challenge facing the current coalition government is to reduce public borrowing back down to a sustainable level while taking into account trade-offs between the impact that the fiscal consolidation will have on household incomes, the quality and quantity of public services provided and, potentially, any permanent damage to the UK economy.

The direct effect of policies announced by both the previous Labour government and the current coalition government is estimated to be sufficient to reduce borrowing by 8.1% of national income in 2016–17, or £123 billion in today's terms. Of this, 20% is to come from tax increases and 80% is to come from cuts to public spending. But this composition varies over time: by the end of 2011–12, most (73%) of the tax rises will already have been implemented, but only 12% of the cuts to welfare spending and spending on public services will have been delivered.

Much focus has been on the risk to the public finances posed by the possibility that the economy does not recover as the official forecasts suggest, or that the economy does recover but that tax revenues do not respond as strongly as the OBR expects. These risks are not insignificant.

There are also implementation risks. While the impact of the planned cuts to welfare spending on household incomes is relatively easy to model, there is considerable uncertainty about the impact of the planned deep cuts to spending on public services. The magnitude of cuts that the government is planning have not been implemented in the UK since at least the end of the Second World War, and data from the World Bank suggest that there are relatively few examples of such deep cuts to spending on public services being delivered in other advanced economies in recent decades. Perhaps the only relevant example of such large cuts being delivered is in Ireland in the late 1980s.

That is not to say that such cuts are impossible. They come after the largest sustained period of increases in public service spending since the Second World War and the rarity with which such cuts have been delivered more likely reflects the fact that such cuts have seldom been deemed necessary, and have therefore not been attempted, rather than that they have been attempted and failed. But, should the planned cuts to public services not

prove possible on the scale and timescale that are currently planned, a further squeeze on household incomes through a combination of tax rises and welfare cuts would be needed to keep to the planned path of deficit reduction.

The need to eliminate the increase in structural borrowing that has become apparent as a result of the financial crisis and associated recession, and to bring borrowing back to sustainable levels, is clear. But, even once these immediate issues have been addressed, a further fiscal tightening, albeit on a less stringent timetable, is likely to follow as the UK will need to decide how best to deal with the public finance implications of an ageing population. While the measures to tackle this do not need to come into force any time soon, announcing them early would allow individuals to plan and to respond appropriately in advance. A welcome example of this is the increases in the state pension age for men and women from 65 to 68, which were initially legislated by the previous government in 2007 to be implemented between 2024 and 2046 and which have now been partially brought forward by the new government. Giving individuals as much notice of this as possible will, for example, give them more time to adjust their retirement saving plans.

4. Green Budget public finance forecasts

Rowena Crawford, Carl Emmerson and Gemma Tetlow (IFS)

Summary

- The IFS Green Budget baseline forecast is for a current budget deficit in 2011–12 of £95.6 billion and for public sector net borrowing of £124.2 billion. These are £2.9 billion lower than the latest Office for Budget Responsibility (OBR) forecasts, due to a forecast £3.3 billion underspend by Whitehall departments.
- Assuming that the economy evolves broadly as the OBR expects, we forecast the cyclically-adjusted current budget will reach a surplus of 1.1% of national income in 2016–17, complying with the Chancellor’s fiscal mandate. This is 0.6% of national income, or £9 billion in today’s terms, larger than the latest OBR forecast, and arises largely from stronger forecast growth in tax revenues.
- Using the Oxford Economics central scenario for the economy makes relatively little difference to these estimates, as weaker economic growth than forecast by the OBR is partly offset by a higher oil price and greater North Sea oil and gas production.
- Under both the baseline forecast and the Oxford Economics central forecast, the Chancellor’s supplementary target to have debt falling as a share of national income between 2014–15 and 2015–16 would be on course to be only just met. Small changes would lead to it being missed.
- The differences between these forecasts are dwarfed by the uncertainties around them. The risks to the economy are skewed to the downside.
- Oxford Economics puts a significant probability on a ‘Eurozone break-up’ scenario. In this scenario, national income falls in the short run, public sector net debt rises and, despite a forecast strong bounce-back in growth towards the end of the forecast horizon, the cyclically-adjusted current budget is still forecast to be in deficit by 1.0% of national income in 2016–17.
- Given the uncertainties surrounding the public finances, and the longer-term need for a net fiscal tightening to offset the impact of an ageing population, there is a strong case for the Budget not to contain a significant permanent net giveaway.
- The case for a short-term fiscal stimulus package to boost the economy is stronger now than it was a year ago. Decisions made in the Autumn Statement are likely to have had a small but positive impact on growth. The case for taking this further is not clear-cut: ongoing uncertainty over the future fiscal situation and the importance of credibility argue against it, but the continued weakness of the economy and the low chance of monetary tightening offsetting it make a loosening look more attractive than a year ago. The case would be strengthened significantly were the outlook for the UK economy to deteriorate sharply.
- A cut to the main rate of VAT, a reduction in employer National Insurance contributions and a boost to investment spending plans all seem sensible choices for a temporary fiscal stimulus package, were one deemed necessary.

4.1 Introduction

This chapter presents the IFS Green Budget fiscal forecasts, and discusses them in the context of the Chancellor's fiscal mandate and his supplementary target. Our baseline forecast, which assumes that the Office for Budget Responsibility's (OBR's) forecasts for the economy are correct, is for borrowing to be slightly lower than the latest OBR forecasts suggest, largely as a result of slightly faster growth in tax revenues over the next few years.

Considerable uncertainty surrounds the outlook for the UK economy and public finances over the medium term. The extent of this uncertainty is demonstrated by the fact that our calculations suggest that the hole in the public finances that has appeared since the financial crisis began was increased from £91 billion a year in the OBR's March 2011 forecast to £114 billion a year in its November 2011 forecast (an increase of £23 billion). This was largely the result of changes to the macroeconomic outlook between March and November. We therefore also present alternative forecasts for the UK's public finances under different scenarios for the economy. These suggest that the risks to the public finances are skewed to the downside.

Section 4.2 presents our forecasts for 2011–12 and for the medium term. We present medium-term forecasts under two assumptions: first, a baseline assumption that the economy evolves as forecast by the OBR in its November 2011 Economic and Fiscal Outlook (EFO); and second, using the Oxford Economics central forecasts for the economy. Section 4.3 then highlights the uncertainty around these forecasts for the public finances, in particular by considering two alternative macroeconomic scenarios provided by Oxford Economics: one in which growth in the next few years is stronger than the OBR forecasts as company investment picks up more quickly; and one in which a Eurozone collapse leads to a contraction in the UK economy in 2012–13. (More details on the Oxford Economics forecasts can be found in Chapter 2.) Section 4.4 concludes with what all these projections imply for our 2012 Budget judgement.

A comparison of last year's Green Budget forecasts for receipts, spending and borrowing in 2010–11 with the latest estimated out-turns, and how our forecasting errors compare with those made by the OBR in its November 2010 EFO, is provided in Appendix A.

4.2 IFS fiscal forecasts

This section provides an overview of our fiscal forecasts for the next five years. The IFS Green Budget baseline fiscal forecasts assume that the economy evolves over the next five years largely as the OBR forecast in its November 2011 EFO. Additional detail on our methodology and individual components of our forecasts can be found in Appendix A.

Borrowing in 2011–12

The November 2011 OBR forecast for borrowing in 2011–12 was higher than its March 2011 Budget forecast – public sector net borrowing was revised upwards from £121.8 billion to £127.1 billion. This was almost entirely due to downwards revisions to the underlying economic forecast, rather than policy measures, since the discretionary policy measures announced in the 2011 Autumn Statement had no significant net direct effect on the public finances in 2011–12. The OBR reduced its forecast for growth in 2011–12 from 1.8% to 0.6% between March and November 2011. While this is partially reflected

in higher forecast borrowing for 2011–12, much of the effect on borrowing will not be felt until next year.

The Green Budget forecast for 2011–12, as shown in Table 4.1, is that receipts will be £0.4 billion lower than was forecast by the OBR in November 2011, current spending will be £3.3 billion lower than forecast, and investment spending will come in as forecast by the OBR in November 2011. Consequently, we forecast that the current budget deficit and public sector net borrowing will both be £2.9 billion lower than was forecast by the OBR last November (but borrowing will still be £2.4 billion higher than it forecast in March). The Green Budget baseline forecast is for a current budget deficit of £95.6 billion and public sector net borrowing totalling £124.2 billion, compared with the OBR’s November forecasts of £98.5 billion and £127.1 billion respectively.

Table 4.1. Comparisons of forecasts for government borrowing, 2011–12

£ billion	OBR March 2011	OBR November 2011	Green Budget February 2012	Difference between Green Budget forecast and:	
				March	November
Current receipts	588.6	575.5	575.1	-13.5	-0.4
Current expenditure ^a	678.6	673.9	670.6	-8.0	-3.3
Surplus on current budget	-90.0	-98.5	-95.6	-5.6	+2.9
Net investment	31.8	28.6	28.6	-3.2	0.0
Total Managed Expenditure	710.4	702.6	699.3	-11.1	-3.3
Public sector net borrowing	121.8	127.1	124.2	+2.4	-2.9

a. In line with the National Accounts, depreciation has been included as current expenditure.

Note: Figures shown in this table exclude the temporary effects of financial interventions.

Source: Authors’ calculations. Office for Budget Responsibility, *Economic and Fiscal Outlook*, March 2011 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-march-2011/>). Office for Budget Responsibility, *Economic and Fiscal Outlook*, November 2011 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2011/>).

The downgrade in growth between the March 2011 Budget and the November 2011 EFO led the OBR to revise down its forecast for receipts by £13.1 billion with, in particular, a £5.0 billion downwards revision to forecast corporation tax receipts. We forecast that receipts will be a further £0.4 billion lower than forecast by the OBR in November. Table A.3 in Appendix A shows both our and the OBR’s forecasts for receipts in 2011–12, broken down into the constituent taxes. The most significant – though still individually small – differences between our forecasts and the OBR’s are for VAT, fuel duties and capital gains tax.

We forecast that current spending in 2011–12 will be £3.3 billion lower than forecast by the OBR in November, at £670.6 billion (£8.0 billion lower than forecast in March). Central government spending excluding that on net social benefits and debt interest payments (broadly, spending by government departments on the administration and provision of public services) has been lower over the first nine months of 2011–12 than it was over the first nine months of 2010–11. This is in contrast to the OBR’s November 2011 forecast that it would grow by 1.4% over the year as a whole. One possibility is that government departments are on course to undershoot their budgets in order to ensure that they do not end up with an overspend. Some departments might also be

underspending in 2011–12 as they take more action now to help ensure that they are better placed to deliver their tight budgets for 2012–13, 2013–14 and 2014–15. Consequently, we forecast that government departments as a whole will underspend their current budget allocations by 1% (or £3.3 billion) in 2011–12.¹ We choose not to disagree with the OBR in our forecast for other components of spending, including debt interest spending, spending on net social benefits and public sector net investment (this is discussed in more detail in Section A.3 of Appendix A). Therefore, overall, we expect Total Managed Expenditure (TME) in 2011–12 to be £3.3 billion below what was forecast by the OBR in November, at £699.3 billion.

Medium-term prospects: overview

For 2012–13, we again forecast that tax revenues and spending will be slightly lower than what the OBR forecast last November. Therefore, our baseline forecast is that borrowing will be £1.0 billion higher next year than expected by the OBR.

From 2013–14 onwards, our baseline forecast is for borrowing to be lower each year than forecast by the OBR, with the gap between our baseline borrowing forecast and the OBR's increasing between 2012–13 and 2016–17. In 2016–17, we forecast that borrowing will be £11.2 billion (or 0.6% of national income) lower than the OBR's latest forecast. Forecasts for the key fiscal aggregates under both our baseline Green Budget forecast and the OBR's November 2011 forecast are shown in Table 4.2 (in £ billion) and Table 4.3 (as a percentage of national income).

Our baseline forecast is that the current budget will move from a deficit of 6.3% of national income this year to a surplus of 0.4% of national income in 2016–17. Of this 6.7% of national income (or £102 billion in today's terms) improvement, 0.6% of national income (or £9 billion in today's terms) comes from an increase in the tax burden and 6.2% of national income (or £94 billion in today's terms) from a fall in current spending as a share of national income. Over the same period, the OBR forecasts a similar (though slightly larger) fall in spending but no increase in the tax burden, and hence a smaller improvement in borrowing.

The lack of any increase in the tax burden under the OBR's forecasts is surprising, not least because of tax increases that have already been announced which it judges will bring in 0.4% of national income higher revenues in 2015–16 than in 2011–12 (see Figure 3.5). The IFS Green Budget baseline forecasts, by contrast, do project an increase in the tax burden over time, as fiscal drag in, for example, income tax and stamp duty land tax is sufficiently large to offset those taxes, such as council tax and fuel duties, where revenues are projected to fall over time as a share of national income. Our forecasts for the growth in revenues from individual taxes and our forecasts for spending are discussed in more detail below.

Given that our baseline forecast assumes that the economy evolves broadly as the OBR has forecast, the difference between our baseline forecast and its (while not small by the standards of more normal periods) may still miss an important element of uncertainty about the outlook for the public finances – namely, that the economy might evolve along a

¹ The Office for Budget Responsibility also now expects that central government departments will underspend their allocations. Specifically, it has stated that it 'looks likely that departments will underspend on their current expenditure by more than the £0.25 billion allowed for in the EFO' (Office for Budget Responsibility, *Commentary on the Public Finances Release*, January 2012, <http://budgetresponsibility.independent.gov.uk/category/topics/monthly-public-finance-data/>).

different path. Therefore, we have also produced fiscal forecasts using the Oxford Economics central forecast for the economy – the details of this economic forecast are set out in detail in Chapter 2. Tables 4.2 and 4.3 show our forecasts for the main fiscal aggregates from 2011–12 to 2016–17 assuming that the UK economy evolves, instead, as Oxford Economics expects.

Table 4.2. Medium-term public finance forecasts – £ billion

<i>£ billion</i>	2011– 12	2012– 13	2013– 14	2014– 15	2015– 16	2016– 17
IFS: baseline						
<i>Current budget</i>						
Current receipts	575.1	593.3	625.3	661.7	702.3	746.3
Current expenditure ^a	670.6	689.2	701.1	714.5	726.0	737.8
Surplus on current budget	–95.6	–95.9	–75.9	–52.8	–23.6	8.5
<i>Capital budget</i>						
Net investment	28.6	25.2	21.9	21.8	20.4	20.7
Public sector net borrowing	124.2	121.1	97.8	74.6	44.0	12.3
IFS: Oxford Economics central						
<i>Current budget</i>						
Current receipts	576.3	592.8	624.4	663.3	706.2	750.9
Current expenditure ^a	670.9	690.8	703.4	717.3	728.9	740.9
Surplus on current budget	–94.6	–97.9	–79.1	–54.0	–22.8	10.0
<i>Capital budget</i>						
Net investment	28.6	25.2	21.9	21.8	20.4	20.7
Public sector net borrowing	123.2	123.1	101.0	75.8	43.2	10.7
OBR forecasts						
<i>Current budget</i>						
Current receipts	575.5	594.4	623.6	657.4	693.5	735.2
Current expenditure ^a	673.9	689.3	701.2	714.6	726.2	738.0
Surplus on current budget	–98.5	–94.9	–77.6	–57.2	–32.7	–2.8
<i>Capital budget</i>						
Net investment	28.6	25.2	21.9	21.8	20.4	20.7
Public sector net borrowing	127.1	120.1	99.5	79.0	53.1	23.5
Difference in borrowing forecasts (IFS:B – OBR)	–2.9	1.0	–1.7	–4.4	–9.1	–11.2
Difference in borrowing forecasts (IFS:OE – OBR)	–3.9	3.0	1.5	–3.2	–9.9	–12.8

^a In line with the National Accounts, depreciation has been included as current expenditure.

Source: Authors' calculations. OBR forecasts from the Office for Budget Responsibility, *Economic and Fiscal Outlook*, November 2011 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2011/>).

Table 4.3. Medium-term public finance forecasts – % of national income

<i>% of national income</i>	2011– 12	2012– 13	2013– 14	2014– 15	2015– 16	2016– 17
<i>IFS: baseline</i>						
Current receipts	37.8	37.6	37.8	38.0	38.1	38.4
Current expenditure ^a	44.1	43.7	42.4	41.0	39.4	37.9
Surplus on current budget	–6.3	–6.1	–4.6	–3.0	–1.3	0.4
Cyclically-adjusted surplus on current budget	–4.3	–4.0	–2.6	–1.3	–0.1	1.1
Net investment	1.9	1.6	1.3	1.3	1.1	1.1
Public sector net borrowing	8.2	7.7	5.9	4.3	2.4	0.6
Cyclically-adjusted public sector net borrowing	6.2	5.6	3.9	2.6	1.2	0.0
Public sector net debt	67.4	73.3	76.6	77.8	77.1	74.7
<i>IFS: Oxford Economics central</i>						
Current receipts	38.0	38.1	38.5	38.9	39.4	39.9
Current expenditure ^a	44.2	44.4	43.4	42.1	40.7	39.3
Surplus on current budget	–6.2	–6.3	–4.9	–3.2	–1.3	0.5
Cyclically-adjusted surplus on current budget	–4.1	–4.0	–2.9	–1.8	–0.5	0.9
Net investment	1.9	1.6	1.4	1.3	1.1	1.1
Public sector net borrowing	8.1	7.9	6.2	4.5	2.4	0.6
Cyclically-adjusted public sector net borrowing	6.0	5.6	4.3	3.1	1.6	0.2
Public sector net debt	67.5	74.4	78.4	79.9	79.5	77.3
<i>OBR forecasts</i>						
Current receipts	37.8	37.7	37.7	37.7	37.6	37.8
Current expenditure ^a	44.3	43.7	42.4	41.0	39.4	37.9
Surplus on current budget	–6.5	–6.0	–4.7	–3.3	–1.8	–0.1
Cyclically-adjusted surplus on current budget	–4.6	–3.9	–2.7	–1.6	–0.6	0.5
Net investment	1.9	1.6	1.3	1.3	1.1	1.1
Public sector net borrowing	8.4	7.6	6.0	4.5	2.9	1.2
Cyclically-adjusted public sector net borrowing	6.4	5.5	4.0	2.8	1.7	0.6
Public sector net debt	67.5	73.3	76.6	78.0	77.7	75.8
<i>Difference in borrowing forecasts (IFS:B – OBR)</i>	–0.2	0.1	–0.1	–0.3	–0.5	–0.6
<i>Difference in borrowing forecasts (IFS:OE – OBR)</i>	–0.2	0.3	0.2	–0.1	–0.5	–0.6

^a In line with the National Accounts, depreciation has been included as current expenditure.

Source: Authors' calculations. OBR forecasts from the Office for Budget Responsibility, *Economic and Fiscal Outlook*, November 2011 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2011/>).

Under the Oxford Economics central scenario, headline borrowing and the current budget deficit are both forecast to be slightly better than under our baseline forecast this year and in 2015–16 and 2016–17, but worse in the intervening years, in £ billion terms. However, because the Oxford Economics forecast is for national income to be lower every year in future than forecast by the OBR, the forecast for borrowing as a share of national income in 2015–16 and 2016–17 is the same under both the Green Budget baseline forecast and our fiscal forecast using the Oxford Economics central macro forecast.

Using the Oxford Economics central scenario for the economy, our forecast is for a 6.8% of national income improvement in the current budget between 2011–12 and 2016–17, which is slightly greater than under our baseline forecast. However, while the overall change in borrowing is small, the composition is different: 1.9% of national income (or £29 billion in today's terms) improvement comes from an increase in the tax burden, and 4.9% of national income (or £74 billion in today's terms) improvement comes from a fall in current spending (compared with 0.6% and 6.2%, respectively, under our baseline forecast). The improvement under the Oxford Economics forecasts is, therefore, weighted more towards coming from an increase in the tax burden than under the IFS baseline scenario or the OBR's forecasts. The difference between our forecasts for spending and tax receipts under the OBR assumptions for the economy and under the forecasts of Oxford Economics are each discussed separately in more detail below.

Meeting the fiscal rules?

The Chancellor's fiscal mandate (discussed in Chapter 3) requires that the cyclically-adjusted current budget be forecast to be in balance or surplus by the end of the forecast horizon. Our baseline forecast – of a cyclically-adjusted current budget surplus of 1.1% of national income in 2016–17 – is slightly stronger (0.6% of national income, or £9 billion in today's terms) than the OBR's forecast of a 0.5% surplus. Since our baseline forecast is for a stronger cyclically-adjusted current budget in 2016–17 than that forecast by the OBR, if our baseline forecast were to prove correct then the Chancellor could loosen fiscal policy by £9 billion in 2016–17 and still achieve the 0.5% of national income surplus on the cyclically-adjusted current budget he is currently planning for 2016–17. Our fiscal forecasts using the Oxford Economics central forecasts for the economy are also more optimistic than the OBR's forecasts – under that scenario, we forecast that the cyclically-adjusted current surplus in 2016–17 would be 0.9% of national income (i.e. 0.4% of national income, or £6 billion in today's terms, larger than forecast by the OBR).

The Chancellor's supplementary target requires that debt as a share of national income falls between 2014–15 and 2015–16. Under our baseline forecast – where borrowing is slightly lower each year from 2013–14 – debt will peak at a slightly lower level than the OBR forecasts – at 77.8% of national income, rather than at 78.0% – in 2014–15. We forecast a 0.7 percentage point decline in debt as a share of national income between 2014–15 and 2015–16; this is larger than the 0.3 percentage point decline forecast by the OBR in its latest forecast. Under the Oxford Economics forecasts, the lower level of national income forecast for 2014–15 means that, despite slightly lower cumulative borrowing over the period from 2011–12 to 2014–15 than forecast by the OBR (see Table 4.2), debt will peak at a higher level, of 79.9% of national income, but still fall in 2015–16 (by 0.4% of national income). Under all of these forecasts, therefore, the supplementary target is on course to be met, but by a very small margin – even small errors in the forecast could lead to it being missed.

Medium-term prospects: detailed forecasts

Spending in the medium term

Following an overall underspend in 2011–12, we expect departments to keep to their budgets, as set out in the 2010 Spending Review, through to 2014–15.

As our baseline forecast assumes that the economy evolves largely as the OBR expects, we forecast that spending on social security benefits, and other non-debt interest, non-departmental spending, is the same as forecast by the OBR. Our lower borrowing forecast over the next three years feeds through into very slightly lower debt interest spending by 2014–15. Our baseline forecast for total current spending in 2014–15 is, therefore, essentially the same as the OBR's.

The Oxford Economics forecast for economic growth is weaker than that of the OBR, and this feeds through into higher social security spending. By 2014–15, we forecast that spending on net social benefits would be £219.1 billion under this scenario, rather than the £216.4 billion forecast by the OBR. As in our baseline scenario, we assume that departmental spending and other non-debt interest, non-social security spending evolves as the OBR has forecast from 2012–13 onwards. As shown in Table 4.2, based on the Oxford Economics forecasts for the economy, we forecast that borrowing will be (cumulatively) slightly lower over the period from 2011–12 to 2014–15 than the OBR forecasts, but the difference is marginal and so we forecast that debt interest spending would be almost exactly the same as the OBR forecast by 2014–15 under this scenario. Overall, we forecast that, if the world were to evolve as the Oxford Economics central forecasts suggest, total current spending in 2014–15 would be slightly higher than under the IFS baseline scenario, at £717.3 billion.

Under both scenarios for the economy, we assume that public sector gross investment (PSGI) spending in cash terms is as forecast by the OBR up to 2014–15 (which is based on the plans set out in the 2010 Spending Review). We therefore forecast that total public spending in 2014–15 would be £736.3 billion if the world were to evolve as the OBR expects and £739.1 billion if the world were to evolve as in the Oxford Economics central forecast.

For 2015–16 and 2016–17, under both scenarios, we assume that total public spending is cut by 0.9% in real terms each year and that, within this, PSGI is held constant in real terms, as was stated government policy in the 2011 Autumn Statement.² The higher nominal spending we forecast for 2014–15 under the Oxford Economics macro forecasts therefore feeds forward into 2015–16 and 2016–17. We forecast that, if the world were to evolve as forecast by Oxford Economics, total spending in 2016–17 would be £761.5 billion, £2.9 billion greater than under the IFS baseline scenario and £2.8 billion higher than the OBR's forecast. National income is forecast to be lower in 2016–17 under the Oxford Economics central scenario than under the OBR's forecast; therefore, this slightly higher cash spending translates into a larger difference in spending as a share of national income – total spending is forecast to be 40.4% of national income in 2016–17 under the Oxford Economics central scenario, compared with the OBR's forecast of 39.0%.

² Paragraph 4.89 of Office for Budget Responsibility, *Economic and Fiscal Outlook* (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2011/>).

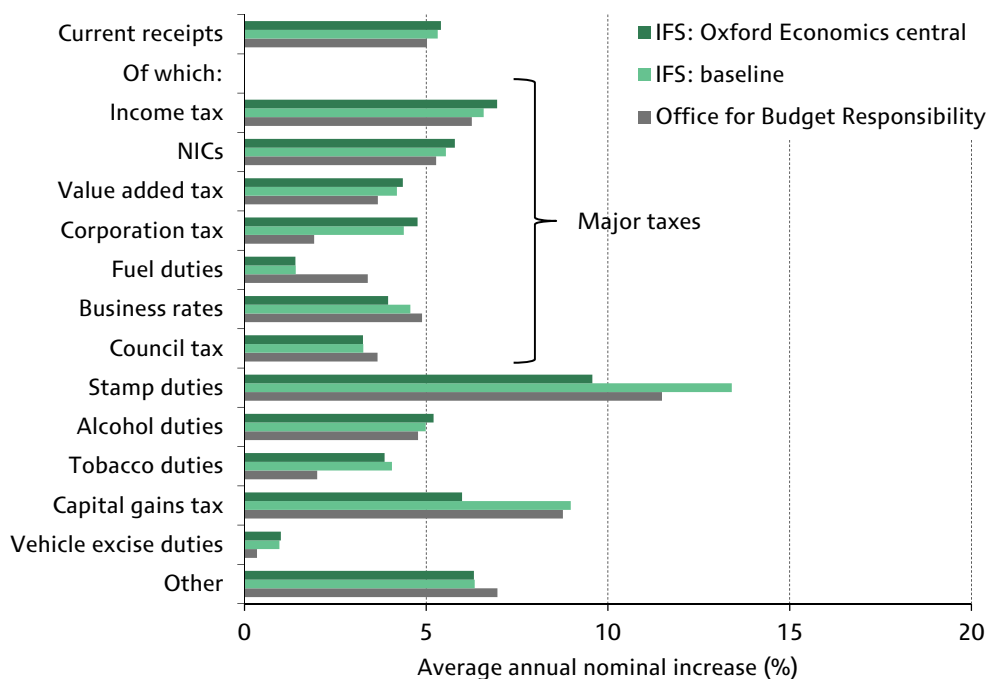
As mentioned above, if our forecasts were to prove correct, the Chancellor could loosen fiscal policy by £9 billion in 2016–17 and still achieve the 0.5% of national income surplus on the cyclically-adjusted current budget he is currently planning for 2016–17. If this fiscal loosening were all on the spending side, this could offset two-thirds of the additional £15 billion spending squeeze in 2016–17 that was announced in the Autumn Statement.

Revenues in the medium term

Overall, our baseline forecast is for slightly higher growth in tax (and non-tax) revenues between 2011–12 and 2016–17 than forecast by the OBR, although – as mentioned above – from a slightly lower base. Between 2011–12 and 2016–17, we forecast that, in nominal terms, receipts will grow by 5.3% a year on average, compared with the OBR’s forecast of 5.0% and compared with forecast average annual growth in nominal national income of 5.0%. (This overall forecast is the result of aggregating the individual forecasts for different tax receipts, which are discussed below.)

The Oxford Economics central forecast for average annual growth in nominal national income between 2011–12 and 2016–17 is lower than that forecast by the OBR, at 4.4%. Despite this, our view is that, if the world were to evolve as Oxford Economics forecasts, tax (and non-tax) revenues would grow by an average 5.4% a year in nominal terms between 2011–12 and 2016–17 – faster than we expect receipts would grow if the world were to evolve as the OBR expects. This highlights the importance of the composition, as well as the level, of economic growth for tax receipts.

Figure 4.1. OBR and IFS forecasts for revenue growth, 2011–12 to 2016–17



Notes: Income tax net of tax credits; corporation tax net of company tax credits. VAT includes VAT refunds. Taxes ranked in descending order of the November 2011 Economic and Fiscal Outlook forecasts of what they will raise in 2016–17, with all taxes that are forecast to raise less than vehicle excise duties (£5.9 billion in 2016–17) grouped together in ‘other’.

Figure 4.1 provides a breakdown of the forecast average annual growth rates for each of the largest taxes over the period from 2011–12 to 2016–17. Among the major taxes, compared with the OBR forecast, our forecast is for higher growth in income tax, VAT, NICs and – in particular – corporation tax, offset by lower growth in council tax, business rates, and – in particular – fuel duties.

Our forecasts for income tax and NICs receipts are based on the OBR's forecast for growth in nominal earnings and employment over the next few years, coupled with estimates of the extent to which an increase in earnings feeds through into increases in income tax and NICs revenues calculated using the IFS tax and benefit microsimulation model.

For corporation tax receipts, we forecast the growth in three components of these taxes separately: receipts from North Sea oil companies (offshore receipts), onshore receipts from the financial sector and onshore receipts from the non-financial sector. The IFS baseline forecast is for corporation tax receipts over this period to grow slightly less quickly than national income and, as a result, fall from 2.8% of national income in 2011–12 to 2.7% of national income in 2016–17. This reflects a slight increase in receipts from onshore corporation tax as a share of national income, offset by a slightly larger decline in offshore receipts. The OBR's forecast is also for corporation tax receipts to fall as a share of national income over this period, although it is forecasting a sharper decline – from 2.9% of national income in 2011–12 to 2.5% of national income in 2016–17.

Our forecast for revenues from fuel duties is based on the OBR's forecast for nominal earnings growth coupled with an estimate of the extent to which any increase in income feeds through into additional fuel purchases, which is taken from a previous IFS study.³

If the world were to evolve as in the central forecast from Oxford Economics, then amongst the major taxes our forecast is for higher growth in income tax, NICs, VAT and corporation tax. Despite the lower growth in national income over this period under the Oxford Economics central forecast, its forecasts for employment growth and nominal consumer spending growth are slightly more optimistic than those of the OBR, feeding through into higher revenues from taxes on employment and consumption.

Growth in onshore corporate profits is forecast to be lower by Oxford Economics than by the OBR, for both the financial and non-financial sectors. However, offsetting that is a higher forecast oil price, and higher levels of production of both oil and gas from the North Sea, than those forecast by the OBR. This leads us to forecast that overall corporation tax revenues would be greater under the Oxford Economics central macroeconomic forecasts than they would be using the OBR's macroeconomic forecasts (with a greater proportion contributed by offshore companies than by onshore companies).

Future policy changes

The forecasts we present here assume no further policy changes in addition to those already set out in the 2011 Autumn Statement or the previous Budgets, Spending Reviews and Pre-Budget Reports. However, there are some policy aspirations that would have implications for the public finances if implemented. One such example is stated in the section on taxation in the coalition agreement: 'We will further increase the personal allowance to £10,000, making real terms steps each year towards meeting this as a

³ L. Blow and I. Crawford, *The Distributional Effects of Taxes on Private Motoring*, IFS Commentary 65, 1997 (<http://www.ifs.org.uk/publications/1887>).

longer-term policy objective. We will prioritise this over other tax cuts, including cuts to Inheritance Tax'.⁴

Deputy Prime Minister Nick Clegg wrote, in an article in *The Sun* on 11 January 2011, that this policy would be in place before the next election.⁵ This would mean that it would need to be in place in the 2015–16 financial year at the latest. Mr Clegg reiterated his commitment to this policy in a speech at the Resolution Foundation on 26 January 2012: 'I want to make clear that I want the Coalition to go further and faster in delivering the full £10,000 allowance'.⁶

The personal allowance was increased by more than the usual inflationary increase in 2011–12, and a further above-inflation increase is due to happen in April 2012. In 2012–13, the personal allowance will stand at £8,105. Increasing this to £10,000 in 2015–16, in the same way as planned for April 2012, would result in a net cost to the government of £4.1 billion. If the policy were coupled with a reduction in the higher-rate tax threshold so that higher-rate income taxpayers did not benefit, then it would involve a net cost of £3.1 billion. However, this latter policy would also increase the number of higher-rate taxpayers by around 500,000.⁷ Incorporating this policy into our forecasts would clearly weaken the outlook for the public finances unless offsetting tax rises or spending cuts were introduced elsewhere.

In principle, the government also has a legally binding target to 'eradicate' child poverty by 2020.⁸ On current policies, the number of children living in relative poverty is forecast to increase by around 400,000 between 2010–11 and 2015–16,⁹ rather than fall. To stop it from rising by using tax and benefit reforms would require a significant giveaway and to meet the official target in this way over this timescale would be substantially more expensive than merely aiming to keep it constant.

4.3 Uncertainties around the central forecasts

Public finance forecasts rely heavily on forecasts for the macroeconomy. This makes them uncertain at the best of times, and these are far from the best of times. This section examines the uncertainties around our baseline forecast, particularly focusing on alternative scenarios for the performance of the UK economy.

Previous IFS Green Budgets have used the errors made in previous official fiscal forecasts to present a 'fan chart' around our central forecasts for borrowing. From its inception, the OBR has chosen to present its forecasts in the same way. This method of quantifying

⁴ http://www.cabinetoffice.gov.uk/sites/default/files/resources/coalition_programme_for_government.pdf.

⁵ See N. Clegg, 'We'll help the alarm clock heroes keep Britain ticking', *The Sun*, 11 January 2011 (<http://www.thesun.co.uk/sol/homepage/features/3341539/Well-help-the-Alarm-Clock-heroes-keep-Britain-ticking.html>).

⁶ Source: Nick Clegg's speech at Resolution Foundation, 26 January 2012 (http://www.libdems.org.uk/speeches_detail.aspx?title=Nick_Clegg%27s_tax_cut_speech_at_the_Resolution_Foundation&pPK=dd9bb7ba-4acb-4801-825e-ace76c4bbe76).

⁷ These figures are net costs and are lower than the reduction in income tax revenues because there would be a knock-on reduction in spending on Housing Benefit and Council Tax Benefit. In the case where there were more higher-rate income taxpayers, there would also be £200 million less spending on Child Benefit and some families would lose from the change. See J. Browne, 'Personal tax and benefit changes', 2011 Budget analysis and presentation slides, <http://www.ifs.org.uk/projects/347>.

⁸ See Child Poverty Act 2010 (<http://www.legislation.gov.uk/ukpga/2010/9/contents>).

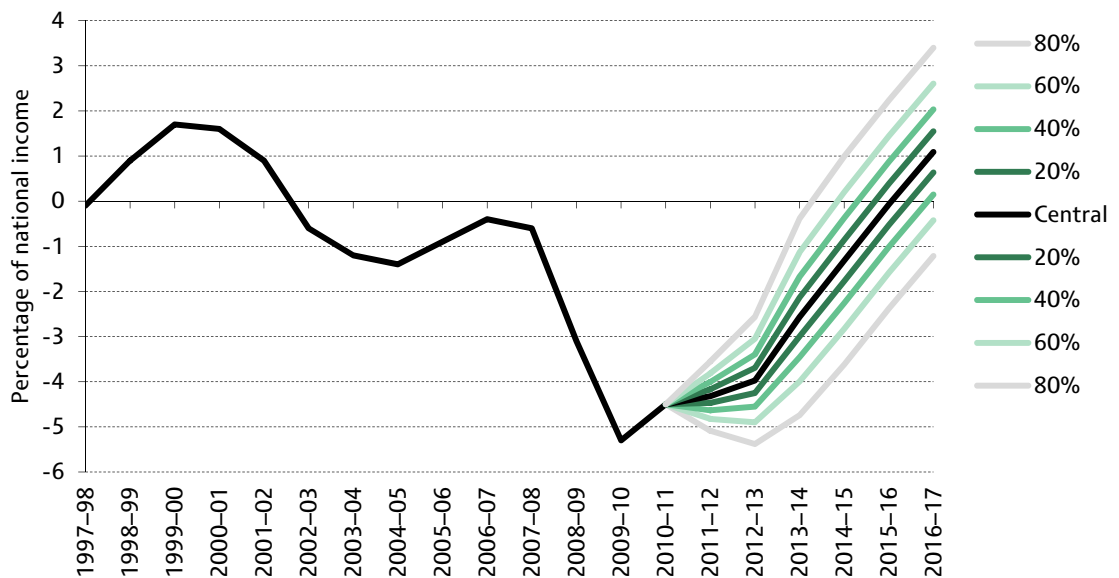
⁹ Source: J. Browne, *The Impact of Austerity Measures on Households with Children*, Family and Parenting Institute, 2012 (<http://www.ifs.org.uk/publications/5973>).

uncertainty relies on three key assumptions: first, that the central forecast is as likely to be an underestimate as it is to be an overestimate; second, that the latest forecasts are likely to be as (in)accurate as previous Pre-Budget Report forecasts made by HM Treasury; and third, that there are no further new policy announcements.¹⁰

This year's IFS Green Budget baseline forecast for the cyclically-adjusted current budget surplus is shown in fan-chart style in Figure 4.2. The uncertainty around the forecasts is taken from that used for the OBR's forecasts. The figure shows that, under the assumptions just described, there is an 80% chance – on our baseline IFS Green Budget forecast – that the cyclically-adjusted current budget in 2016–17 will be between –1.2% of national income and +3.4% of national income, with the narrower bands corresponding to ranges with lower likelihoods of occurring. The forecast surplus of 1.1% of national income for 2016–17 is consistent with a 73% chance of there being a balance or surplus on the cyclically-adjusted current budget in 2016–17. In other words, there is around a one-in-four chance that additional fiscal tightening – in the form of further tax increases and/or deeper spending cuts – would be required to prevent the cyclically-adjusted current budget from being in deficit in 2016–17.

If we were to assume that the world evolves as Oxford Economics has forecast rather than as the OBR expects, then the picture remains essentially the same: there is an 80% chance that the cyclically-adjusted current budget in 2016–17 will be between –1.4% of national income and +3.2% of national income, and the forecast surplus of 0.9% of national income in 2016–17 is consistent with a 69% chance of there being a balance or surplus on the cyclically-adjusted current budget in 2016–17.

Figure 4.2. Probabilities of cyclically-adjusted current budget balance outcomes (IFS: baseline)



Note: Central projection is taken from Table 4.3.

Source: Standard errors on forecasts taken from appendix B of Office for Budget Responsibility, *Economic and Fiscal Outlook*, November 2010

(http://budgetresponsibility.independent.gov.uk/docs/econ_fiscal_outlook_291110.pdf).

¹⁰ The fan charts assume a normal distribution for forecast errors with a mean of zero and a standard deviation calculated from comparing previous PBR forecasts with eventual out-turns.

However, the methodology just presented may not adequately reflect the true uncertainty that currently surrounds the fiscal forecasts. This year's Green Budget baseline forecast is for significantly higher borrowing over each of the next five years than we forecast in last year's Green Budget. The majority of these differences reflect changes in the macroeconomic outlook. Table 4.4 shows a comparison of our baseline forecasts for public sector net borrowing from the 2011 Green Budget and this Green Budget, with additional figures showing what our forecasting model would have predicted last year: (i) if we had known then what the OBR now thinks about the macroeconomic outlook; and (ii) if, in addition, we had also had perfect foresight of the additional policy measures announced over the last 12 months (in particular, the additional cut to public spending planned for 2015–16 that was announced in the November 2011 Autumn Statement).

Table 4.4. Explaining the differences between the 2011 and 2012 Green Budget baseline forecasts for public sector net borrowing

<i>% of national income</i>	2010– 11	2011– 12	2012– 13	2013– 14	2014– 15	2015– 16
IFS: baseline, GB 2011	9.8	7.5	5.6	3.4	1.9	0.8
Incorporating latest macroeconomic forecasts	9.9	8.1	7.1	5.5	4.0	2.6
Plus policy changes	9.9	8.0	7.3	5.5	3.9	2.1
IFS: baseline, GB 2012	9.3	8.2	7.7	5.9	4.3	2.4

Source: Authors' calculations. R. Crawford, C. Emmerson and G. Tetlow, 'Green Budget public finance forecasts', in M. Brewer, C. Emmerson and H. Miller (eds), *The IFS Green Budget: February 2011* (<http://www.ifs.org.uk/budgets/gb2011/11chap5.pdf>). Office for Budget Responsibility, *Economic and Fiscal Outlook*, November 2011 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2011/>).

In last year's Green Budget, we were forecasting that public sector net borrowing (PSNB) would fall from 7.5% of national income in 2011–12 to 0.8% by 2015–16. Had we known then what the OBR now predicts for economic performance over the next five years and also been perfectly informed about the policy changes that the government has made since last February, we would instead have forecast PSNB of 8.0% of national income in 2011–12, falling to 2.1% by 2015–16. The differences resulting from the altered macroeconomic outlook explain the vast majority of the difference between the forecast we published last year and the 2012 Green Budget baseline forecast. (The remaining difference not explained by the policy measures is from judgements made from data on receipts and spending over the financial year to date and other changes – hopefully improvements – that we have made to our forecasting model.) This highlights the fact that any consideration of the uncertainties around the fiscal forecasts should – particularly under current circumstances – take explicit account of the uncertainties surrounding the macroeconomic outlook.

As discussed in Chapter 2, not only is uncertainty about the macroeconomic outlook currently large but it is also asymmetric around the central forecast. To examine the implications of this for the public finances, we now consider fiscal forecasts under two alternative scenarios for the macroeconomic outlook provided by Oxford Economics.

Alternative macroeconomic assumptions

Presenting fiscal forecasts under alternative scenarios for the economy has been standard practice in IFS Green Budgets for many years, and again is something that the OBR has since adopted. Table 4.5 presents forecasts for the public finances under two

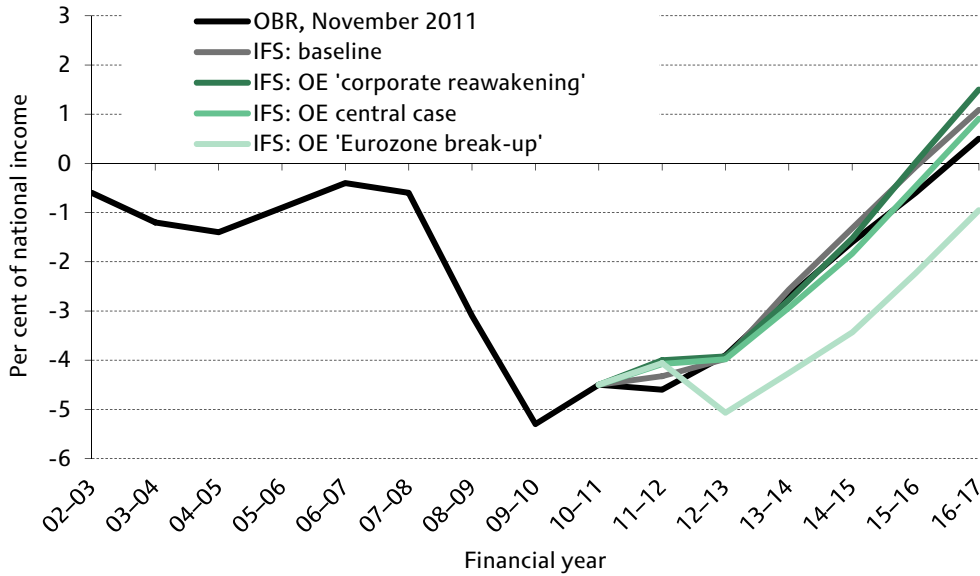
additional alternative scenarios for the economy. These alternative scenarios are the Oxford Economics 'corporate reawakening' case and its 'Eurozone break-up' case, as discussed in Chapter 2 (with some further details of the components of the forecasts shown in Table 4.5 and additional details provided in Appendix A). The forecast path of

Table 4.5. Public finance forecasts under various scenarios

<i>% of national income, unless otherwise stated</i>	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17
IFS: baseline						
Real GDP growth (%)	0.6	0.9	2.4	2.8	3.1	3.0
Output gap (% of potential)	-2.8	-3.1	-2.8	-2.3	-1.5	-0.7
Current budget surplus	-6.3	-6.1	-4.6	-3.0	-1.3	0.4
Cyclically-adjusted current budget surplus	-4.3	-4.0	-2.6	-1.3	-0.1	1.1
Net borrowing	8.2	7.7	5.9	4.3	2.4	0.6
Net debt	67.4	73.3	76.6	77.8	77.1	74.7
IFS: Oxford Economics central						
Real GDP growth (%)	0.4	0.6	2.2	2.8	2.8	2.6
Output gap (% of potential)	-3.2	-3.4	-2.5	-1.7	-0.9	-0.4
Current budget surplus	-6.2	-6.3	-4.9	-3.2	-1.3	0.5
Cyclically-adjusted current budget surplus	-4.1	-4.0	-2.9	-1.8	-0.5	0.9
Net borrowing	8.1	7.9	6.2	4.5	2.4	0.6
Net debt	67.5	74.4	78.4	79.9	79.5	77.3
IFS: Oxford Economics 'corporate reawakening'						
Real GDP growth (%)	0.5	1.5	3.2	3.0	2.4	2.2
Output gap (% of potential)	-3.2	-2.6	-1.2	-0.5	-0.2	0.0
Current budget surplus	-6.2	-5.9	-3.9	-2.0	-0.2	1.5
Cyclically-adjusted current budget surplus	-4.0	-3.9	-2.8	-1.5	0.0	1.5
Net borrowing	8.1	7.5	5.2	3.3	1.3	-0.4
Net debt	67.4	73.2	75.4	75.5	74.3	71.8
IFS: Oxford Economics 'Eurozone break-up'						
Real GDP growth (%)	0.4	-2.3	0.3	3.5	4.3	3.4
Output gap (% of potential)	-3.2	-4.4	-5.5	-3.3	-1.5	-0.5
Current budget surplus	-6.3	-7.9	-7.9	-6.2	-3.6	-1.5
Cyclically-adjusted current budget surplus	-4.1	-5.1	-4.3	-3.4	-2.2	-1.0
Net borrowing	8.1	9.6	9.3	7.5	4.8	2.6
Net debt	67.5	78.3	86.9	90.5	90.5	89.1
OBR, November 2011						
Real GDP growth (%)	0.6	0.9	2.4	2.8	3.1	3.0
Output gap (% of potential)	-2.8	-3.1	-2.8	-2.3	-1.5	-0.7
Current budget surplus	-6.5	-6.0	-4.7	-3.3	-1.8	-0.1
Cyclically-adjusted current budget surplus	-4.6	-3.9	-2.7	-1.6	-0.6	0.5
Net borrowing	8.4	7.6	6.0	4.5	2.9	1.2
Net debt	67.5	73.3	76.6	78.0	77.7	75.8

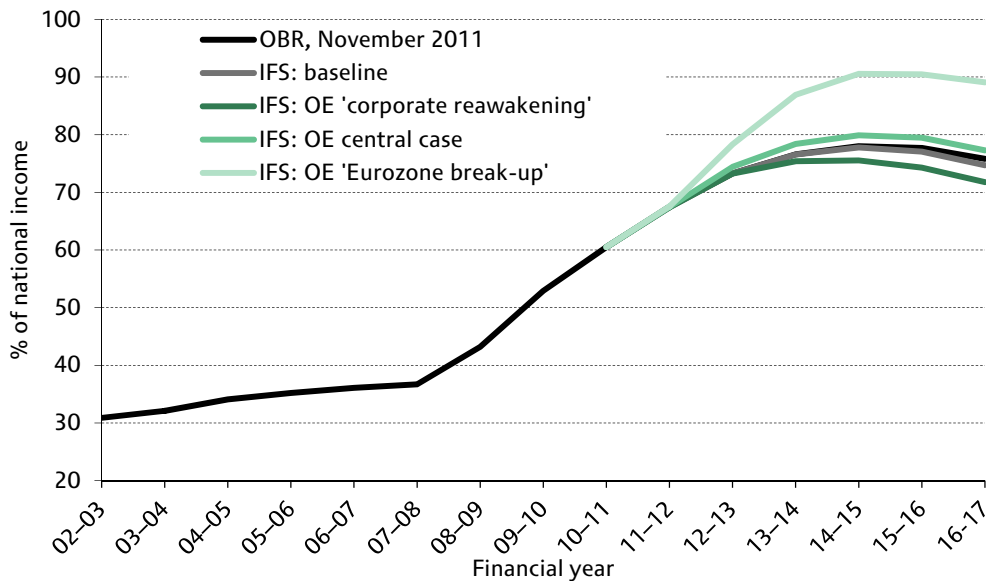
Sources: Authors' calculations. Oxford Economics. OBR forecasts from Office for Budget Responsibility, *Economic and Fiscal Outlook*, November 2011 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2011/>).

Figure 4.3. Cyclically-adjusted current budget balance forecasts



Source: Authors' calculations. Oxford Economics. OBR forecasts from Office for Budget Responsibility, *Economic and Fiscal Outlook*, November 2011 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2011/>).

Figure 4.4. Public sector net debt forecasts



Source: As for Figure 4.3.

the cyclically-adjusted current budget surplus under these two scenarios, along with the forecasts discussed above, are shown in Figure 4.3, while Figure 4.4 shows the forecast paths for public sector net debt.

There are some upside risks to the UK's economic performance and consequently to the public finances. The Oxford Economics 'corporate reawakening' scenario presents a slightly more optimistic (or perhaps better described as less pessimistic) outlook for the UK economy over the next few years. It features higher real GDP growth in the short term than under both its central forecast and the OBR's forecast, driven by increased business

investment. This feeds through into faster employment growth and faster growth in real consumer spending. The evolution of the public finances under this scenario is better than both the forecasts of the OBR and the IFS baseline case. The cyclically-adjusted current budget strengthens and reaches balance in 2015–16, and a surplus of 1.5% of national income in 2016–17. This compares with our baseline forecast of a 1.1% of national income surplus in 2016–17. Public sector net debt is forecast to peak at 75.5% of national income in 2014–15, slightly below the level we expect on our baseline forecast.

However, unfortunately, the biggest risks to the UK economy and hence to the path of the public finances are judged to be on the downside, as discussed in more detail in Chapter 2. The Oxford Economics ‘Eurozone break-up’ scenario forecasts a decline in national income between 2011–12 and 2012–13 and slow growth in 2013–14, due to the financial shocks and adverse trade effects of a Eurozone break-up on the UK. These lead to declining employment, real wages and real consumer spending in the short run, and the output gap grows until 2013–14. From 2014–15, the UK economy starts to bounce back, with high growth in national income and real consumer spending. This all feeds through into a higher current budget deficit in each of the next five years. Under this scenario, the cyclically-adjusted current budget is forecast to remain in deficit by 1.0% of national income by 2016–17 – a substantially weaker position than our baseline forecast suggests. In addition, under this scenario, we forecast that net debt would peak at 90.5% of national income – this is 12.5% of national income higher than the level forecast by the OBR. Higher levels of debt would increase the UK’s exposure to the whims of financial market players and there are studies that suggest that it could start to negatively affect potential growth.¹¹

While it is hard to quantify the likelihood of any particular events occurring, these scenarios suggest that the risks around our (and the OBR’s) baseline forecast are larger on the downside than the upside. Furthermore, the amount by which our baseline forecast differs from the OBR’s forecast (peak debt being 0.2% of national income lower, and the medium-term cyclically-adjusted current budget surplus being 0.6% of national income larger) is small relative to the differences forecast under the ‘Eurozone break-up’ scenario. This underlines the fact that any current fiscal plans should allow capacity to accommodate future adverse shocks of this type.

4.4 The Budget judgement

The forecasts presented in this chapter show that the UK needs to plan for a substantial fiscal tightening over the medium term. The current government has set out such a deficit reduction plan – building on the fiscal tightening plans inherited from the last Labour government – intended to total 8.1% of national income (£123 billion in today’s terms). By the end of 2011–12, one-quarter of this will have been implemented, with the remaining three-quarters to come over the next five years. This discretionary tightening explains the majority of the fall in public sector net borrowing over the medium term under all of the scenarios we consider (and therefore why the decline in borrowing is not too dissimilar in magnitude under each scenario).

¹¹ C. Reinhart and K. Rogoff, *This Time is Different: Eight Centuries of Financial Folly*, Princeton University Press, 2010. M. Kumar and J. Woo, ‘Public debt and growth’, IMF Working Paper WP/10/174, 2010 (<http://www.imf.org/external/pubs/ft/wp/2010/wp10174.pdf>).

There are two major choices about the fiscal stance that Mr Osborne should consider in his Budget, which is due on 21 March 2012. The first is whether the size of the medium-term fiscal consolidation remains appropriate. The second is whether it might be appropriate to implement a short-term fiscal giveaway in order to help the economy and, if so, what measures should be included in such a package. This section now turns to address each of these in turn in light of our baseline forecast and the risks around it.

The medium-term fiscal plans

Changing the size of the fiscal consolidation?

With both the IFS Green Budget baseline forecast and the IFS forecast based on the Oxford Economics central scenario suggesting that the public finances are in slightly better shape than the OBR expects, there might be scope for the Chancellor to implement a permanent net fiscal giveaway in the Budget. Under the IFS baseline forecast, Mr Osborne could announce a permanent net giveaway of £9 billion in today's terms and still expect the same level of borrowing in the medium term as he planned for in his November 2011 Autumn Statement. Under the Oxford Economics central scenario, this falls to £6 billion. In more normal times, margins of this size would allow tax cuts or spending increases that would be considered reasonably large: £9 billion would be sufficient to allow, for example, the basic rate of income tax to be cut from 20p to 18p.

However, given that the risks facing the UK economy appear skewed to the downside and that there are longer-term pressures on the public finances (as discussed in Chapter 3), there is a strong argument for Mr Osborne refraining from announcing any significant net permanent giveaway in his March Budget. Our view on this remains unchanged from last year's Green Budget when, under our baseline scenario, we also forecasted slightly lower borrowing over the medium term than the OBR but nonetheless advocated no significant permanent fiscal loosening. Should the downside risks not materialise, a permanent net giveaway could always be announced at a later date. For example, the spending cuts pencilled in for the next Spending Review, which total £15 billion in 2016–17 (relative to 2015–16), could be reduced, and/or the Chancellor could make further progress towards the coalition government's aspiration of an annual income tax personal allowance of £10,000.

A reason for the Chancellor not to implement a permanent net giveaway prior to 2016–17 is his supplementary target that debt should fall as a share of national income between 2014–15 and 2015–16. On the OBR's latest forecast, Mr Osborne has only a slightly better than fifty–fifty chance of meeting this target. This chance is not much improved under our baseline forecast. Implementing a permanent net giveaway prior to 2016–17 would, in the absence of a significant improvement in the OBR's forecasts for economic growth, reduce further the Chancellor's likelihood of meeting this target. Missing this target would have little economic consequence – as the target is not a sensible way to judge fiscal sustainability – but, having publicly set himself this goal, Mr Osborne presumably will want to meet it.

Of course, even in the absence of a net change in the medium-term fiscal stance, there are changes to the tax and benefit system that should still be made, as discussed in Chapter 8. These include changes to corporation tax, environmental taxes, and the incentives to work faced by different individuals. All of these reforms would promote stronger economic growth over the medium term without necessarily requiring any net fiscal giveaway.

Planning public spending

So far, the government has set out detailed spending plans through to 2014–15. Beyond this, it is assuming that total public spending will fall by 0.9% a year in real terms for another two years. However, no details have yet been published about how this will be achieved. At this stage, just one year through the current four-year Spending Review period, when much uncertainty remains both over the economic outlook and over what the impact of the currently-planned cuts on the quality and quantity of public services provided might be, it seems sensible not to draw up more detailed plans for public spending beyond 2014–15.

The government has not yet said when it intends to hold the next Spending Review, but there is a strong case for this being in Autumn 2013. An Autumn 2013 Spending Review could revise (if deemed necessary) the plans for spending in 2014–15 and set new spending plans for 2015–16 and 2016–17, in light of the information then available on the economic outlook and the impact of the cuts that will by then have been implemented. Delaying the next Spending Review instead to Autumn 2014 would mean that departments would have less time to plan how best to deliver the cuts that were required of them. The next Spending Review should consider all discretionary public spending – rather than just spending by Whitehall departments on the administration and delivery of public services – to ensure that the most appropriate mix of welfare spending and spending on public services is delivered over that period. The current government sensibly pursued such a strategy in the October 2010 Spending Review.

A short-term net giveaway?

The second key issue facing Mr Osborne regarding the current fiscal stance is whether it is appropriate to implement a short-term fiscal giveaway – measures that would increase government borrowing in, say, 2012–13 and 2013–14 but have no direct impact thereafter – in order to help boost demand in the economy and, if so, what measures such a package should include.

While the policy measures announced in the 2011 Autumn Statement for the period up to 2014–15 were estimated to be fiscally neutral overall, they are nonetheless expected to boost the UK economy. Planned cuts to public sector net investment were reduced, which should directly boost demand in the economy. This was financed through cuts to tax credits, a reduction in the planned increase in spending on overseas aid (see Chapter 7) and a continued squeeze on public sector pay (see Chapter 5), all of which are thought to have a smaller impact per pound on the UK economy than investment spending does.¹²

In addition, the government has also allowed the ‘automatic stabilisers’ to operate. The structure of the tax and spending regime in the UK is such that, when economic performance is weak, an automatic boost is provided to demand in the economy because government borrowing tends to rise, as (in particular) tax payments fall and demands on welfare spending increase. In November 2011, the OBR revised up its forecast for borrowing each year going forwards compared with its March 2011 forecast, as a result of its more pessimistic view of the economic outlook, but the government chose not to attempt to offset any of this automatic increase until 2015–16. As a result, borrowing is

¹² Official estimates of some fiscal multipliers can be found in table C8 of the Office for Budget Responsibility, Budget Forecast June 2010 (http://budgetresponsibility.independent.gov.uk/wordpress/docs/junebudget_annexc.pdf).

now forecast by the OBR to be £5 billion higher in 2011–12, £20 billion higher in 2012–13 and £30 billion higher in 2013–14 than thought at the time of the March Budget.

The Chancellor's decisions in November illustrate some willingness on his part to adjust plans in a way that is likely to boost growth, albeit modestly, and to allow public borrowing to rise temporarily in the face of a worsening economic situation, thus providing some additional support to the economy.

The planned fiscal tightening between 2011–12 and 2012–13 is expected to be broadly comparable in scale to that implemented between 2010–11 and 2011–12. This can be shown in two ways:

- The OBR's latest forecasts suggest that public borrowing will fall by 0.7% of national income between 2011–12 and 2012–13. In other words, overall, the public sector will be pumping 0.7% of national income (or £11 billion in today's terms) less into the economy next year than it is this year. This is slightly smaller than the 0.9% of national income fall in borrowing that occurred between 2010–11 and 2011–12.
- Discretionary policy measures are expected to have a slightly larger impact on borrowing between this year and next than they did between this year and last year: between 2011–12 and 2012–13 there is a 1.6% of national income planned fiscal tightening coming from new measures, whereas between 2010–11 and 2011–12 these were worth 1.5% of national income. In both cases, this is larger than the headline fall in borrowing due to other underlying changes in the economy, such as weak growth.

The direct impact of a temporary net giveaway in the March 2012 Budget would be to boost the economy. The argument for this is that the economy is, by most estimates, operating below its potential level and so additional fiscal stimulus could reduce the short-term pain of weak economic performance. This argument is strengthened if the stimulus could reduce any long-term harm resulting from low economic activity today, but would be weakened if the gap between current and potential output is not large.

The argument for a temporary net giveaway would be further weakened if: (i) it was believed that monetary policy would be tightened in response, thereby offsetting the impact on demand; or (ii) if the giveaway reduced international investors' confidence in the government's ability or willingness to reduce borrowing back to sustainable levels over the medium term and the cost of government borrowing rose as a result.

In last year's Green Budget, we concluded 'Given the importance of retaining credibility and the possibility that any fiscal loosening could prompt an offsetting monetary tightening, our judgement is that Mr Osborne might be best advised not to implement a significant short-term net loosening in the Budget'.¹³ The possibility that the impact of any temporary fiscal loosening would be offset by tighter monetary policy is less likely now than it was a year ago. At that time, many forecasters were expecting that the Bank of England base rate would be increased above 0.5% at some point during 2011, with two members of the Monetary Policy Committee (MPC) having already voted for such an increase (rising to three in February 2011). But this increase in interest rates never materialised and, in fact, the MPC instructed the Bank of England in October 2011 to undertake a second phase of quantitative easing, increasing the total amount of asset

¹³ Page 125 of R. Crawford, C. Emmerson and G. Tetlow, 'Green Budget public finance forecasts', in M. Brewer, C. Emmerson and H. Miller (eds), *The IFS Green Budget: February 2011* (<http://www.ifs.org.uk/budgets/gb2011/11chap5.pdf>).

purchases from £200 billion to £275 billion. A rise in interest rates is not now seen as imminent and, in fact, with the Bank of England's medium-term forecast suggesting that, under current policies, inflation is more likely to undershoot rather than overshoot the 2% target, a further loosening of monetary policy (such as an extension of planned quantitative easing) may follow.¹⁴

It continues to be important that markets remain confident that the government's fiscal consolidation plan will be delivered so that the risk of the UK government facing a higher interest rate is kept low. Over the five years from 2012–13 to 2016–17 (inclusive), the UK government is expected to have to issue £740 billion of new debt in order to cover the borrowing projected by the OBR and to refinance expected gilt redemptions; even a small increase in the interest rates at which this debt could be financed would result in a not insignificant increase in future debt servicing costs.¹⁵

In our view, the case for a temporary fiscal loosening is now much more evenly balanced than it was a year ago. But the dilemma is that a relatively modest loosening – say of a fraction of 1% of national income – would be likely to deliver only a modest boost to the economy, while a substantial loosening – say of the order of 1% of national income (£15 billion in today's terms) – would run a higher risk of international investors taking fright and demanding a higher interest rate from the UK government.

In the absence of significant changes to the OBR's forecast for the economy in March 2012 relative to the forecast made in November 2011, it seems unlikely that Mr Osborne will implement a significant net giveaway in the Budget. But measures that bring about a relatively modest short-term loosening, or perhaps a further growth-enhancing reshuffling of public spending plans as was seen in the November 2011 Autumn Statement, might not be unlikely. One possibility is that, if Whitehall departments do not exhaust their 2011–12 budget allocations (the IFS Green Budget baseline forecast is for a £3.3 billion underspend across their non-investment budgets), the Chancellor could use these funds to reduce further the scale of the planned cuts to public sector net investment in 2012–13. This would represent a modest fiscal loosening that could be easily explained to the markets and therefore would be relatively risk-free.

The case for a fiscal stimulus package would be strengthened considerably were the short-term outlook for the UK economy to deteriorate significantly – for example, if the Eurozone were to collapse. This is because it would lead to a much larger near-term gap between potential and actual output (the output gap) and further increase concerns that this could do permanent damage to the future potential output of the UK economy. The Oxford Economics scenario in which this occurs forecasts that the UK economy would decline by 2.3% in 2012–13 rather than grow by 0.9% or 0.6% as envisaged by the OBR and the Oxford Economics central scenario, respectively.

If the Chancellor were to set out now how fiscal policy would react if things turn out worse than the OBR currently expects, it could help boost investor confidence that the fiscal policy response would be appropriate. Setting this out in advance would also help to avoid accusations that he was changing direction if such an eventuality did occur.

¹⁴ See charts 5.6 and 5.8 of Bank of England, *Inflation Report: November 2011* (<http://www.bankofengland.co.uk/publications/inflationreport/ir11nov.pdf>).

¹⁵ See table 4 of Debt Management Office, 'Autumn Statement 2011: revision to the DMO's financing remit 2011–12', November 2011 (http://www.dmo.gov.uk/documentview.aspx?docname=remit/sa291111.pdf&page=Remit/full_details).

If the Chancellor did want to implement a short-term fiscal stimulus, he should ensure that it is:

- **timely:** the impact would need to be felt when it was intended, likely to be as soon as possible;
- **temporary:** the net fiscal impact should be, and be seen to be, temporary and disappear in the medium term; and
- **targeted:** it should deliver the maximum beneficial impact on the economy.¹⁶

The options for a fiscal stimulus package are: cuts to direct or indirect taxes, increases in benefits, increases in investment spending or increases in non-investment spending on public services. We briefly consider each in turn.

Tax cuts

The OBR's fiscal multipliers suggest that a temporary cut to the main rate of VAT (as, for example, was implemented by the last Labour government between December 2008 and January 2010) would have a larger impact on aggregate demand than cuts to any of the other major taxes. Crucial for the design of this is that the window during which VAT is cut must be carefully chosen and be credible.¹⁷ A cut to the main rate of VAT is also attractive because it could be implemented quickly. Reducing the main rate of VAT from 20% to 17.5% would have a direct cost of around £1 billion per month.

An alternative would be to cut direct taxes – perhaps through a cut to employer NICs. The OBR's model suggests this would have a lower fiscal multiplier than a VAT cut. But during periods when labour demand is depressed, and when some wages cannot adjust downwards quickly, cuts to employer NICs might be a more effective means to boost employment than under more normal circumstances. Reducing the rate of employer NICs by 1 percentage point would cost about £4.5 billion a year.

Spending increases

The spending increases that the OBR estimates have the largest short-term impact on the economy are increases in investment spending, followed by increases in benefit spending and in non-investment spending on public services. However, temporary increases in this last component of spending are less likely to be desirable.

The difficulty in using investment spending to deliver a fiscal stimulus lie in ensuring that the spending is done productively and in a timely manner. The risks are that either the resources would not be well spent or they would not materialise until it was too late to help the economy, or both. However, under the current circumstances – with sharp cuts to investment spending planned over the next three years – it may well be possible for the government to identify high-value projects that can be delivered quickly (as the Chancellor claimed in his November 2011 Autumn Statement). Another risk is that such an increase in spending might be considered likely to be permanent rather than temporary. But this is less likely to be a risk with investment spending than with non-investment public service spending.

¹⁶ See L. Summers, 'Risks of recession, prospects for policy', at *The State of the US Economy*, Brookings Institute, 19 December 2007 (http://www.brookings.edu/~media/Files/events/2007/1219_economy/20071219_summers.pdf).

¹⁷ See R. Blundell, 'Assessing the temporary VAT cut policy in the UK', *Fiscal Studies*, 30, 31–8, 2009 (<http://www.ifs.org.uk/publications/4479>).

Benefit spending increases also have a relatively high estimated fiscal multiplier, could be easily targeted at specific groups (such as those who are believed to have the highest propensity to spend this additional income) and could be implemented relatively quickly. The previous Labour government did, for example, include some temporary benefit increases of this type as part of the fiscal stimulus package implemented in 2008 and 2009; these benefit increases were delivered in a timely manner and did prove to be temporary. However, with the current government having announced significant cuts to benefit spending, of which only about 12% have so far been delivered, implementing any short-term giveaway might lead to suggestions that the government was not willing or able to deliver the ultimate savings it had promised in the medium term.

Budget judgement: conclusion

Under the IFS baseline forecast, Mr Osborne could announce a permanent net giveaway of £9 billion in today's terms and still expect the same level of borrowing in the medium term as he planned for in his November 2011 Autumn Statement. But much uncertainty remains about the outlook for the UK economy and, over the longer term, there are considerable pressures on the public finances from an ageing population. Therefore there is a strong argument for Mr Osborne to refrain from announcing any significant net permanent giveaway in his March Budget. Should the downside risks not materialise, a permanent net giveaway could always be announced at a later date.

A series of adverse shocks have weakened the economic outlook over the last year, and so the case for a further temporary fiscal stimulus package to boost the economy is stronger now than it was a year ago. However, in our view, neither the argument for nor the argument against doing so is clear-cut.

Unless the forecasts are significantly downgraded again, the Chancellor seems unlikely to implement a significant net giveaway in the Budget. But it is more likely that he might announce measures that bring about a relatively modest short-term loosening, or perhaps a further growth-enhancing reshuffling of public spending plans as was seen in the November 2011 Autumn Statement.

Regardless of whether or not Mr Osborne thinks that a substantial short-term fiscal stimulus is appropriate at the moment, he should set out now broadly what he would do under alternative scenarios where the economic outlook for the UK is sharply weaker – such as were the Eurozone to collapse. Under these circumstances, the arguments for a fiscal stimulus package would be greatly strengthened, as concerns that significant permanent damage was being done to the potential output of the UK economy would be increased. The most appropriate components of such a package would likely be a temporary cut to the main rate of VAT, a temporary cut in employer NICs and/or a short-term boost to public investment spending.

5. Public sector pensions and pay

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Summary

- Public spending on public service pensions, having risen dramatically over the last forty years, is set to fall as a share of national income. This is due to reforms already implemented by the last Labour government and the current government that will sharply reduce the generosity of these schemes for many members. Public sector workers will still have much more generous pensions than those typically available to their private sector counterparts.
- The two major structural reforms to public pensions – the move to career average from final salary pensions and the alignment of normal pension ages to the state pension age – are coherent changes, with the latter making sense in the context of increasing longevity at older ages.
- Decisions over the rates of accrual and indexation mean that the latest reforms might not save money in the long term. Lower earners are likely on average to benefit from the reforms, while higher earners will lose somewhat. These distributional consequences enhance rather than diminish the differences between public and private sector labour markets.
- Average hourly wages of public sector workers are 24.3% higher than those in the private sector. Most – but not all – of this difference can be explained by public sector workers typically having greater experience and more education. After taking into account these differences, average hourly wages are estimated to be 8.3% higher in the public sector than in the private sector.
- This estimated public sector pay premium has grown over the period since 2008, largely due to the fall in private sector earnings during the recession. The government’s proposed squeeze on public sector pay, which is to run until 2014–15, will roughly eliminate this unintended increase.
- After taking into account differences in age and education, lower-paid workers have a greater estimated public sector pay premium than higher-paid workers. The government is relatively protecting the lowest-paid in the public sector. Lower earners will also typically gain, and high earners lose, from the public service pension reforms. Both enhance rather than diminish the differences between public and private sector labour markets.
- The estimated public sector pay premium varies remarkably across regions. There is no evidence of a public sector pay premium in the South East of England, while in Wales the estimated premium is 18.0% for men and 18.5% for women. This provides a strong case for having regional variation in the pay awards that are set centrally. But there is also tentative evidence that the premium varies across different occupations within the same region; therefore any regional variation in public sector pay awards would need to be carefully designed.

5.1 Introduction

Public sector pensions and public sector pay have both been the subject of much recent discussion. Prior to the general election, both the Conservative Party and the Liberal Democrats called for a review of public sector pensions. After forming the government, they duly set up the Independent Public Service Pensions Commission, which was led by the former Labour Secretary of State for Work and Pensions, Lord Hutton.¹ This made a number of recommendations, most of which the government is now in the process of implementing. Given the large fiscal consolidation that is currently underway, and in particular the planned deep cuts to spending on public services (see Chapter 3), it is also unsurprising that the government is looking to control the size of the public sector pay bill both through reducing the numbers employed in the public sector and through tight control of public sector pay.

A joined-up approach to policymaking requires that the generosity of public service pensions – and the impact of any reforms on different groups – should be considered alongside public sector pay. What matters is the extent to which the overall remuneration package offered by public sector employers is well designed to attract, motivate and retain sufficient numbers of workers of the desired quality in a way that provides good value to the taxpayer. In general, this is likely to mean that public sector workers should have an overall package – in terms of financial and non-financial benefits – that is similar to that available for similar roles in the private sector.

Therefore this chapter considers both public service pensions and public sector pay. It starts in Section 5.2 by looking at the direction of reform of public sector pensions in recent years and the government's latest changes, in particular focusing on their impact on the average generosity (and therefore cost) of these schemes and their implications for different types of public sector workers. Section 5.3 then turns to examine public sector pay, providing a careful comparison with the pay of workers in the private sector. In particular, this section examines whether any differences in pay are long-standing or new, and the extent to which they vary across different types of workers or across regions of the UK. Section 5.4 concludes.

5.2 Public sector pensions

This section begins by looking at public spending on public service pensions over time and the impact of reforms already implemented on the projections for future spending. It then goes on to describe the latest set of reforms and the impact that they will have on the pensions that public sector workers accrue.

Aggregate cost of public sector pensions

One measure of the cost of public service pensions to the taxpayer is the amount spent on providing these pensions.² The cost to pay the pensions of former public sector workers

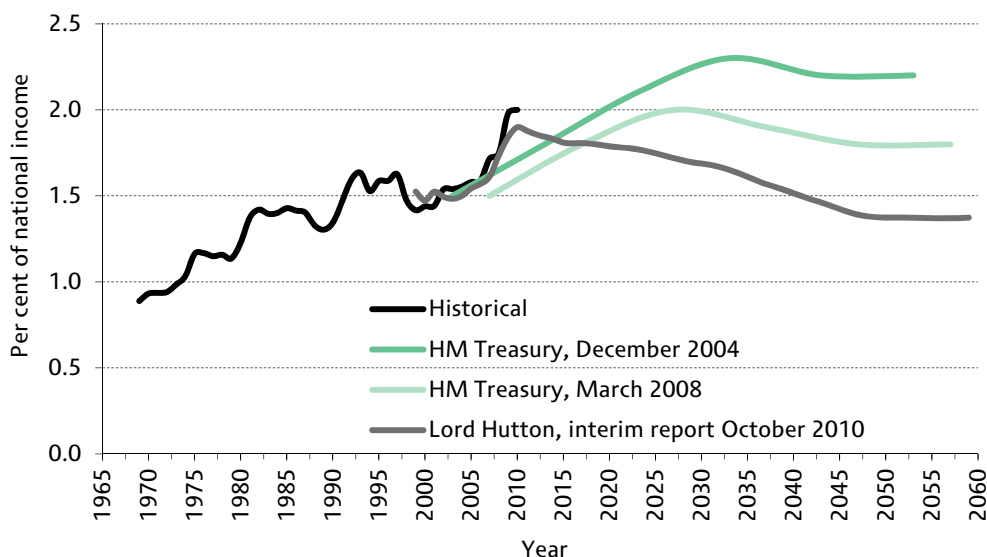
¹ See http://www.hm-treasury.gov.uk/indreview_johnhutton_pensions.htm.

² There are a number of other methods for valuing these schemes. See, for example, box 4.B on page 57 of Independent Public Service Pensions Commission, *Independent Public Service Pensions Commission: Interim Report*, October 2010 (http://www.hm-treasury.gov.uk/d/hutton_pensionsinterim_071010.pdf).

in 2011–12 is forecast by the Office for Budget Responsibility (OBR) to be £28.2 billion.³ The black line in Figure 5.1 shows that, over the last forty years, spending on these schemes has increased gradually from just under 1.0% of national income in the late 1960s to 2.0% of national income now. This increase reflects a combination of maturing of the schemes and greater longevity among retirees.

Figure 5.1 also shows three different vintages of forecasts for spending on public service pensions as a share of national income. The first is taken from the Treasury’s long-term public finance report of December 2004 (and is the earliest official forecast for the cost of these schemes that we have been able to find). This forecast implied that the cost of public service pensions to the taxpayer would be running at around 2.3% of national income in the middle of this century, a significant increase on the 1.5% of national income it was running at over the decade or so up to when this forecast was made. The second forecast is taken from the Treasury’s long-term public finance report of March 2008. By this date, the last Labour government had implemented reforms to public service pensions which, in particular, meant that most new entrants to these schemes would only be able to receive a full pension from age 65 rather than age 60. As a result, spending on public service pensions was forecast to peak at 2.0% of national income and then to fall back to 1.8% of national income in the middle of this century.

Figure 5.1. Public service pension spending over time



Source: Historical data on public service pension spending calculated from table 6.1.45 of Office for National Statistics, *Blue Book* (calculated as series QYJT plus NMWK less EWRO). Historical data on GDP from HM Treasury (http://www.hm-treasury.gov.uk/data_gdp_fig.htm). Projections taken from: table 5.1 on page 50 of HM Treasury, *Long-Term Public Finance Report: An Analysis of Fiscal Sustainability*, December 2004 (http://webarchive.nationalarchives.gov.uk/20100407010852/http://www.hm-treasury.gov.uk/prebud_pbr04_adlongterm.htm); table 4.1 on page 36 of HM Treasury, *Long-Term Public Finance Report: An Analysis of Fiscal Sustainability*, March 2008 (http://webarchive.nationalarchives.gov.uk/20100407010852/http://www.hm-treasury.gov.uk/bud_bud08_longterm.htm); and chart 4.B on page 66 of Independent Public Service Pensions Commission, *Independent Public Service Pensions Commission: Interim Report*, October 2010 (http://www.hm-treasury.gov.uk/d/hutton_pensionsinterim_071010.pdf).

³ See table 4.23 on page 149 of Office for Budget Responsibility, *Economic and Fiscal Outlook: November 2011* (http://cdn.budgetresponsibility.independent.gov.uk/Autumn2011EFO_web_version138469072346.pdf).

The final, and most recent, projection shown in Figure 5.1 is taken from the 2010 interim report of Lord Hutton's Independent Public Service Pensions Commission. By this date, another reform affecting the generosity of these schemes significantly had been implemented. The new government in the June 2010 Budget announced that in payment (and for uprating to retirement for deferred members⁴), these pensions would be indexed in line with a different measure of inflation: with the consumer price index (CPI) rather than the retail price index (RPI). Because the CPI is expected to increase less quickly than the RPI, this reform reduces the generosity of these schemes to their members and therefore the cost to the taxpayer of providing them. This reform has a more immediate impact on costs than the last Labour government's reform since it did not only apply to new entrants: current members will receive lower pensions, with future accrual and pensions paid relating to past service both being made less generous, and deferred members will receive lower pensions in relation to their accrued service.

Lord Hutton has suggested that this forecast might no longer be accurate as a result of the worsening outlook for the UK economy.⁵ It is true that national income is now expected to be lower going forwards, thereby increasing projected spending as a share of national income via the reduced denominator. However, it is also the case that projected spending in cash terms (the numerator) is also likely to be reduced as a result of two policies announced by the Chancellor, George Osborne, in his Autumn Statement: first, the additional squeeze on public sector pay in 2013–14 and 2014–15 (since lower pay will automatically lead to lower defined benefit pensions); and second, the additional reduction in the size of the public sector workforce that will likely arise as a result of the additional spending cuts planned for 2015–16 and 2016–17. Given the scale of these two policies, it seems unlikely that future spending on public service pensions as a share of national income would actually now be higher than it was forecast to be prior to the Autumn Statement.

The latest reforms

Lord Hutton's final report⁶ proposed further reform to public service pensions. In particular he recommended that:

- defined benefit schemes should remain in the public sector, but for future accrual these should be based on a career average rather than a final salary basis;
- with the exception of the uniformed services (police, firefighters and the armed forces), the normal pension age (NPA) – that is, the age at which a full pension can be received – should be aligned with the state pension age (SPA);
- existing public sector workers' accrued rights (but not their future accrual) should be protected from these changes.

There is a logic to these proposals.

⁴ That is, individuals who were previously members of a public service pension but are no longer accruing additional rights – for example, because they no longer work in the public sector but are also not yet drawing their pension.

⁵ See Lord Hutton's interview on 'The World This Weekend', BBC Radio 4, 4 December 2011 (reported at <http://www.bbc.co.uk/news/uk-politics-16022001> and <http://www.bbc.co.uk/news/uk-16021345>).

⁶ Independent Public Service Pensions Commission, *Independent Public Service Pensions Commission: Final Report*, March 2011 (http://cdn.hm-treasury.gov.uk/hutton_final_100311.pdf).

The state is able to offer defined benefit pensions as it is better able to manage, for example, longevity risk than are individuals or the private sector. A career average is arguably a more logical measure of earnings to use than final salary. In final salary schemes, two otherwise-identical employees doing the same job for the same pay will accrue different pension entitlements according to their future pay (so, for example, under a final salary scheme, teachers who go on to be headteachers accrue greater pensions than otherwise-identical teachers who do not go on to become headteachers).

Aligning the NPA to the SPA is a coherent response to the challenge of rising longevity at older ages (although it is less clear why the uniformed services, who are presumably also experiencing rising longevity, are best rewarded with a lower NPA than other public sector workers rather than, say, higher pay or more financial help with relocation and retraining should a career change prior to retirement be appropriate).

Aligning future pension accrual for both existing and new members of these schemes means that otherwise-equivalent individuals doing the same job, on the same pay, will also accrue the same pension entitlements. (At present, those who joined schemes after the implementation of the last Labour government's reforms can be accruing lower pension rights than otherwise-identical individuals doing the same jobs who joined the schemes earlier.)

The government accepted these recommendations, and in negotiations with the public sector unions also proposed that those within 10 years of their current NPA would be protected from any losses from these reforms.⁷ Note that this has the potential to create large differences in the value of the remuneration received by otherwise-identical individuals just a few weeks apart in age.

But how generous these schemes will actually be is determined by two crucial parameters: the accrual rate and the uprating factors. The accrual rate determines the proportion of each year's earnings that should be paid out each year as a pension. For example, an accrual rate of $1/60^{\text{th}}$ means that someone with 40 years of service would receive a pension worth $40/60^{\text{ths}}$ – i.e. $2/3^{\text{rds}}$ – of their earnings. Lord Hutton made no recommendation on what the level of the accrual rate should be. The uprating factors determine how earnings in each year are indexed to the year in which the pension is first received. Lord Hutton recommended that while an individual was an active member of their scheme, their earnings each year should be uprated in line with growth in average earnings. He did not make a recommendation on how the pension rights of deferred members (i.e. those who have left their scheme but are not yet drawing their pension) should be uprated each year.

As well as affecting the overall generosity of the scheme, the choice of accrual rate and uprating factors also affects the extent to which individuals with different earnings trajectories receive relatively more or less generous pensions. Individuals who experience relatively rapid earnings growth during their lifetimes benefit more from a scheme that puts greater weight on earnings towards the end of their careers and less weight on their earnings in earlier years. The most extreme form of this is a (literal) final salary scheme. Someone who experiences much lower earnings growth is relatively

⁷ See statement by Danny Alexander, Chief Secretary to the Treasury, 2 November 2011 (http://www.hm-treasury.gov.uk/statement_cst_021111.htm). For a recent and detailed discussion of the reform process, see D. Thurley, 'Public service pension reform – 2010 onwards', House of Commons Library, Standard Note SN05768, January 2012 (<http://www.parliament.uk/briefing-papers/SN05768.pdf>).

better off in a scheme that puts less weight on their final salary but has a higher annual accrual.

The government has now published its 'Heads of Agreement' on public service pension reform, which has been reached with the Principal Civil Service Pension Scheme, the NHS Pension Scheme, the Teachers' Pension Scheme and the Local Government Pension Scheme (which, in terms of numbers of active members, are the four largest public service pension schemes). The key details released by the government for the first three of these pension schemes are summarised in Table 5.1.

Table 5.1. Key features of the proposed latest public service pension reforms

Pension scheme	Principal Civil Service Pension Scheme	NHS Pension Scheme (England and Wales)	Teachers' Pension Scheme (England and Wales)
Gross cost ceiling	22.5%	21.9%	21.7%
Taxpayers' cost ceiling	16.9%	12.1%	12.1%
Employees' cost ceiling	5.6%	9.8%	9.6%
Career average	Yes	Yes	Yes
Normal pension age	SPA	SPA	SPA
Accrual rate	1/44 th	1/54 th	1/57 th
In-service uprating	CPI	CPI + 1.5	CPI + 1.6
Deferred members' uprating	CPI	CPI	CPI

Source: http://www.hm-treasury.gov.uk/press_146_11.htm.

While these three pension schemes will all operate on a career average basis, the other features of the schemes differ. In particular, the Principal Civil Service Scheme has a relatively more generous accrual rate and a less generous rule for uprating earnings in service (but note, unlike the NHS and the Teachers' Pension Schemes, the civil service already had a career average scheme (NUVOS) that operated with an accrual rate of 2.3% (roughly 1/43rd) and price indexation). Compared with the NHS Pension Scheme and the Teachers' Pension Scheme, this will be relatively less generous to those with low pay trajectories and relatively more generous to higher flyers and to those who leave to work for another employer. There are also small differences between the NHS Pension Scheme and the Teachers' Pension Scheme, with the latter having a slightly more generous uprating for benefits in service (CPI plus 1.6 percentage points a year rather than CPI plus 1.5 percentage points) and slightly less generous annual accrual (1/57th rather than 1/54th). It is unclear whether such small differences between these two schemes is justified on the basis of evidence on the typical career paths of the members of these schemes (or their responsiveness to the incentives implied by these schemes), or whether it would have been better, for simplicity, to have had the same rules for members of both schemes.

The government has decided that deferred members' pension rights should be uprated in line with the CPI. In the NHS Pension Scheme and the Teachers' Pension Scheme, the fact that uprating of pension rights is more generous for active members than for deferred members will provide a significant incentive for public sector workers to remain in the public sector.

The government has also agreed an overall cost ceiling, which sets a limit on the cost of these schemes as a share of earnings, for each of these schemes, along with a division of

how that should be shared between employees and taxpayers. These ceilings are intended to aid negotiations between the Cabinet Office and the relevant public sector unions, as they will allow different scheme options that fall within these ceilings to be considered as potentially viable options to the government. Out of the three schemes in Table 5.1, the ceiling on taxpayer contributions is highest for the Principal Civil Service Pension Scheme and the same for the NHS and the Teachers' Pension Schemes.

Public service pension reforms: impact on individuals

The government has not yet published estimates of the impact of the final reforms either on the estimated cost to the taxpayer or on how benefits are distributed across different types of members. Hopefully, such analysis will follow once the remaining details of how the schemes will operate are finalised. The size of the reduction in generosity – and therefore the cost to the taxpayer – will depend on a number of outcomes.

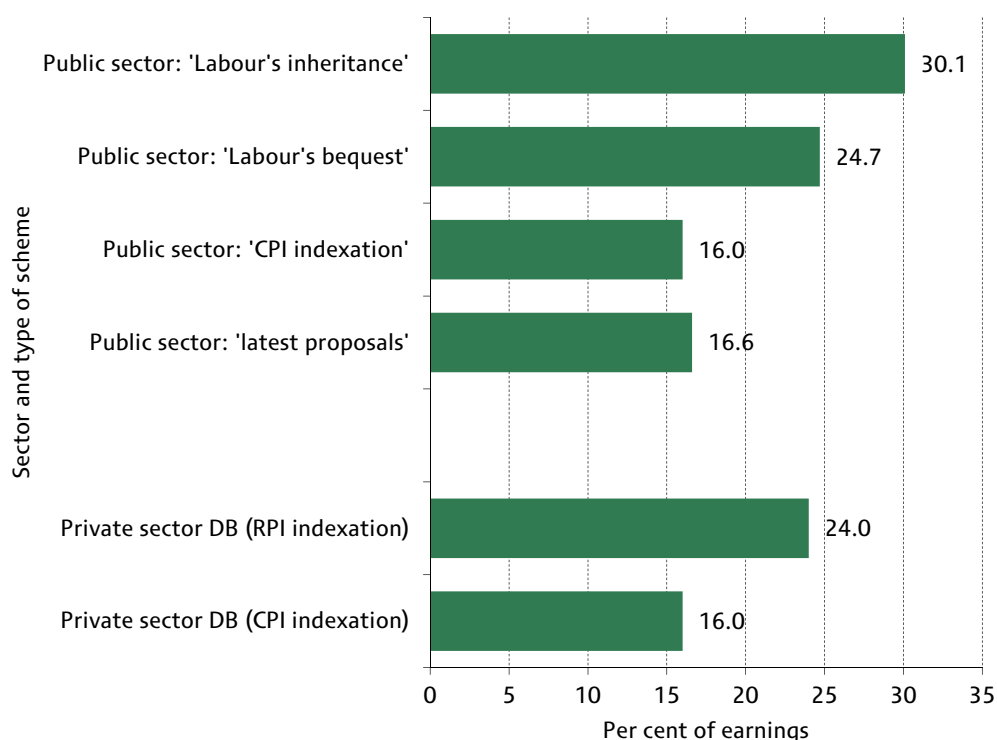
A crucial variable is the way in which public sector pay grows relative to the CPI. If pay grows relatively more quickly, then the reforms will have saved more money. This is because when public sector pay is growing relatively fast, this will increase the generosity of a final salary scheme relative to a career average scheme where in-service benefits are uprated by the CPI (or by the CPI plus a fixed amount). In a scenario of relatively high public sector pay growth, the government will have saved more from moving away from a final salary scheme. On the other hand, if earnings in the future grow less quickly than expected relative to the CPI, then it would have been relatively cheaper to have maintained final salary schemes.

The estimated generosity of some stylised example schemes is shown in Figure 5.2. These take data on public sector workers who are members of public service pension schemes and use information on their age, sex, pension tenures, estimated earnings trajectories (which are modelled allowing for variation by sex, age and years of education), social class, marital status and the age and social class of their partner (where relevant) to compute the one-period pension accrual as a share of current earnings. This is the increase in the present discounted value of pension rights, measured as a share of current earnings, that the individual will receive by working and remaining in the scheme for one more year. The figures shown in Figure 5.2 are the mean of the estimated values of the stylised public service pension scheme for a sample of members of public service schemes. These values include both the individual's own pension and, where relevant, the value of the pension that would be paid to their surviving partner. But they do not include the value of any other aspects of the pension, such as ill-health retirement provisions.

The first row shows the average generosity for public sector workers of a final salary scheme, with an NPA of age 60, that is RPI indexed in payment ('Labour's inheritance'). This is estimated to be worth 30.1% of earnings: i.e. on average, public sector workers in such a scheme see their pension rights increase by an average of 30.1% of their gross earnings in one year. The figure for an equivalent scheme with an NPA of age 65 ('Labour's bequest') is 24.7%. This suggests that the long-run effect of Labour's reform is to reduce the generosity of public service pensions by an average of 5.4% of earnings, or by 18%, of what it would have been without reform.⁸ Of course, in the near term, the

⁸ This assumes constant longevity at older ages. One of the reasons that the schemes have become more expensive is that longevity at older ages has increased and hence the value of the pension, measured in this way, will also have increased.

Figure 5.2. Mean one-period pension accrual under different example scheme rules (long-term impact)



Note: For details of the methodology and assumptions, see R. Crawford, C. Emmerson and G. Tetlow, 'Occupational pension value in the public and private sectors', IFS Working Paper 10/03, 2010, (<http://www.ifs.org.uk/publications/4804>) and R. Disney, C. Emmerson and G. Tetlow, 'What is a public sector pension worth?', *Economic Journal*, 119, 517–35, 2009 (<http://www.ifs.org.uk/publications/4666>). Source: Authors' calculations using data from the British Household Panel Survey combined with age–earnings profiles estimated from the Labour Force Survey.

complete protection for current members from this increase in the NPA means that the average reduction in generosity, and therefore the saving to the taxpayer, will be lower.

The third row assumes a pension scheme the same as 'Labour's bequest' but with CPI rather than RPI indexation. This assumes that the CPI runs 1.4 percentage points a year lower than the RPI, as suggested by modelling recently carried out by the Office for Budget Responsibility.⁹ This is estimated to represent a substantial reduction in generosity, making such schemes worth, on average, 16.0% of gross earnings. Those with longer life expectancies (women, younger individuals, and those from social class groups with greater average life expectancies) and those married to individuals who are expected to outlive them (and therefore to benefit from a dependant's pension) lose relatively more from this change.

Further to the June 2010 Budget decision to shift from RPI to CPI indexation, the Chancellor announced in the October 2010 Spending Review that the amount members of public service pension schemes contribute would increase by an average of 3% of earnings by 2014–15 (with members of the armed forces exempt from this increase). This does not affect the amount of pension accrued each year (and therefore does not

⁹ See R. Miller, 'The long-run difference between RPI and CPI inflation', Office for Budget Responsibility, Working Paper 2, November 2011 (<http://cdn.budgetresponsibility.independent.gov.uk/Working-paper-No2-The-long-run-difference-between-RPI-and-CPI-inflation.pdf>).

affect the estimated values in Figure 5.2), but it does represent a saving for the taxpayer and reduction in take-home pay for those public sector workers who are affected. The increase is being phased in gradually from April 2012 and is projected to save the taxpayer an estimated £1.8 billion annually from 2014–15.

The fourth row of Figure 5.2 takes the scheme rules as set out in the Heads of Agreement for the NHS Pension Scheme: that is, a career average scheme, with an annual accrual of 1/54th, in-service indexation of CPI plus 1.5 percentage points and an increased NPA.¹⁰ The calculations suggest that, at least on average, this reform does not significantly change the generosity of these schemes in the long run. This finding is in line with that of recent analysis by John Ralfe.¹¹

But this is not to suggest that there is no saving to the taxpayer. Existing members of public service pension schemes prior to Labour's reform could still have an NPA of age 60 – but under the current government's reforms will find that, with the notable exception of those working in the uniformed services, their future pension accrual is based on an NPA that is equal to their SPA (unless they are currently within 10 years of their NPA). This will be less generous for many individuals, and will – at least in the short and medium term (but not the long term) – deliver savings to the taxpayer.

The final two rows of Figure 5.2 show the estimated average generosity of defined benefit pension schemes in the private sector for the minority who are members of such a scheme. For members of private sector defined benefit schemes with RPI uprating of pensions when they are drawn, these are estimated to be worth, on average, 24.0% of earnings. This is comparable to the value of public sector schemes estimated under the 'Labour's bequest' scenario and is more generous than the estimated generosity of the 'CPI indexation' scheme. For those who are a member of a scheme with CPI uprating, this falls to an average of 16.0% of earnings, which is comparable to both the 'CPI indexation' and the 'latest proposals' public sector schemes.

But the key fact is that there are extremely large differences in the coverage of pensions between the public and private sector. In 2010 in the public sector, 79.0% were members of a defined benefit pension, compared with just 11.0% in the private sector. This latter figure is falling over time as private sector defined benefit schemes are typically closed to new entrants and it is increasingly the case that they are being closed to all future accrual – for example, the equivalent figure in 2009 was 12.4%, in 2008 13.6%, and back in 1997 it was at 33.9%.¹²

Overall, the value of a pension will depend on how much is being accrued, rather than on whether the scheme operates on a defined benefit or a defined contribution basis. Defined contribution schemes are more common in the private sector than in the public sector. But once membership of all types of workplace-based schemes is accounted for, there is still a stark difference between the public and the private sector. The vast majority of public sector workers (83.9%) are members of a workplace-provided pension

¹⁰ The NPA is to be increased to be in line with the SPA. But because the long-run impact of these changes is being modelled here, the NPA is set to be equal to 68.

¹¹ See R. Peston, 'Civil service pensions "still gold plated"', BBC Blog, January 2012 (<http://www.bbc.co.uk/news/16419885>).

¹² Authors' calculations using table P2 of the *ASHE Pension Tables*, available at <http://www.ons.gov.uk/ons/publications/all-releases.html?definition=tcn%3A77-27932>.

scheme, while only a minority (34.4%) are members of such a scheme in the private sector.¹³

In addition, the defined contribution (DC) schemes offered by the private sector are typically not as generous as the defined benefit (DB) schemes offered by either the public or the private sector. Once these huge differences in pension coverage are accounted for, the average pension accrual, including both DB and DC pensions, across all private sector employees in 2005 was just 7.3% of earnings assuming that those with DB pensions are receiving RPI indexation (and just 4.6% of earnings if private sector DB schemes all receive CPI indexation). Therefore while the estimates suggest that the public service pensions now on offer are, on average, less generous than those available before the recent reforms, they are still much more generous, on average, than those of private sector workers.

As stated above, the shift to career average schemes will benefit those who experience relatively low pay growth during their careers more relative to those who experience rapid pay growth. On average, graduates in the public sector experience higher pay growth over their lifetimes than those with lower levels of education (the same being true, on average, in the private sector too). Table 5.2 splits the average estimated accrual in each of the stylised schemes set out above by level of education. This shows that, as expected, final salary schemes ('Labour's inheritance', 'Labour's bequest' and 'CPI indexation') are found to be more generous, on average, to those with higher levels of education. However the career average scheme modelled here – 'latest proposals' (which follows the broad rules of the new NHS Pension Scheme) – is found to have similar levels of average pension accrual across each education group. While the 'latest proposals' scheme is found to be as generous as the pre-reform 'CPI indexation' scheme on average, it is much more generous for those with low levels of education and less generous to those with high levels of education.

Table 5.2. Mean one-period pension accrual under different example scheme rules (long-term impact), by education

	Low education	Mid education	High education	All
'Labour's inheritance'	20.1	30.0	32.4	30.1
'Labour's bequest'	16.4	24.3	26.6	24.7
'CPI indexation'	11.0	15.6	17.1	16.0
'Latest proposals'	17.4	15.3	16.6	16.6

Notes: Education is defined as follows: low for leaving full-time education at compulsory school-leaving age; mid for remaining in education until age 18; and high for continuing in education beyond age 18. Also see Note to Figure 5.2.

Source: As for Figure 5.2.

Finally, all of this analysis has assumed that average earnings in the public and private sectors grow at 2% above the RPI going forwards. This level of growth would be in line with the economy-wide productivity growth that the UK experienced over the whole of the twentieth century. But, as stated above, the relative generosity of these schemes will depend on the level of average earnings growth going forwards, with final salary schemes

¹³ See footnote 12.

being relatively more (less) generous than a career average scheme (with annual accrual less related to earnings growth) when real earnings growth is higher (lower). This is demonstrated in Table 5.3, which shows the estimated generosity of these schemes under different scenarios for average earnings growth. The shift from the ‘CPI indexation’ final salary scheme to the ‘latest proposals’ career average earnings scheme is, under the assumption of earnings growth running 2 percentage points above the RPI, associated with a slight rise in the average estimated generosity of the scheme (from 16.0% to 16.6% of earnings). But under the scenario where average earnings were only running 1 percentage point above the RPI, this changes to a larger increase in the estimated average generosity (from 14.1% to 16.5% of earnings).

Table 5.3. Mean one-period pension accrual under different example scheme rules (long-term impact), by average earnings growth

	Assumed average earnings growth			
	Lowest: RPI only	Lower: RPI plus 1ppt	Central: RPI plus 2ppt	High: RPI plus 3ppt
‘Labour’s inheritance’	23.9	26.8	30.1	33.7
‘Labour’s bequest’	19.6	21.9	24.7	27.6
‘CPI indexation’	12.5	14.1	16.0	18.0
‘Latest proposals’	16.3	16.5	16.6	16.8

Note: As for Figure 5.2.

Source: As for Figure 5.2.

Public service pensions: conclusions

The expected future cost to the taxpayer of public service pensions has been substantially reduced by the reform implemented by the last Labour government and the shift from RPI to CPI indexation implemented by the current government. These reforms will significantly reduce the generosity of these pensions for many public sector workers.

The latest set of reforms will improve the structure of public service pensions. The choice of parameters means that, over the longer term, the latest reforms will not further reduce the generosity – or the costs – of public service pensions (although people whose NPA will rise from 60, because they joined their scheme before Labour’s last reforms came into force, to be aligned with the SPA will, on average, lose from the reform). While the NPA has been increased, other parameters have been made more generous in a way that, on average, fully compensates for this increase in pension age. Within this, we expect there to be a substantial group of lower-paid public sector workers for whom the new schemes will be even more generous than those they are replacing.

Public sector workers will continue to accrue pensions that are dramatically more generous than those accrued, on average, by private sector employees, few of whom have access to a defined benefit pension. Those in the private sector least likely to have access to good employer provision are those on relatively low pay. Yet this is the group in the public sector for whom the reformed schemes are likely to be more generous than the final salary schemes they are replacing.

The Chief Secretary to the Treasury, Danny Alexander, has stated that one of the government’s objectives is ‘to put in place schemes that can be sustained for decades to

come'.¹⁴ But similar claims were made by the then Trade and Industry Secretary, Alan Johnson, when implementing the last reforms,¹⁵ so it remains to be seen whether we really have reached the end of the line on public service pension reform.

5.3 Public sector pay

This section begins by looking at recent trends in both public sector employment and public sector pay. It continues by comparing levels of pay between the public and private sector and considering the extent to which the difference between the two can be explained by individual characteristics. It then goes on to examine the extent to which this difference varies across the regions of the UK.

Recent trends in employment and pay

In recent years, the public sector and the private sector have seen quite different trends in both employment and pay. As Figure 5.3 illustrates, employment grew rapidly in the private sector until early 2008, fell significantly during the recession (by about 1 million from peak to trough) and started to recover in early 2010. In contrast, employment in the public sector was relatively flat between 2005 and 2009, with a slight decline for a couple of years before the start of the recession and a slight increase during the recession (at least in part due to the last government's decision to hire additional staff temporarily to work in Jobcentre Plus). Public sector employment peaked in December 2009 and then started to fall. Going forward, public sector employment is predicted by OBR to fall by 710,000 between the start of 2011 and the start of 2017, which is about 12% of the public sector workforce. This will roughly bring the size of public sector back to its level at the start of the 13-year Labour period. It is also worth noting that 12% is just the average; some parts of the public sector will face even deeper cuts.

Until March 2011, the fall in public sector employment was more than compensated for by employment growth in the private sector, so that total employment rose. It looks unlikely that this will be the case going forward. The most recent data (June 2011) point to a fall in public sector employment greater than the growth in the private sector. The OBR forecasts total employment to be broadly flat between 2011 and 2013 and only start to grow from 2014 onwards.¹⁶

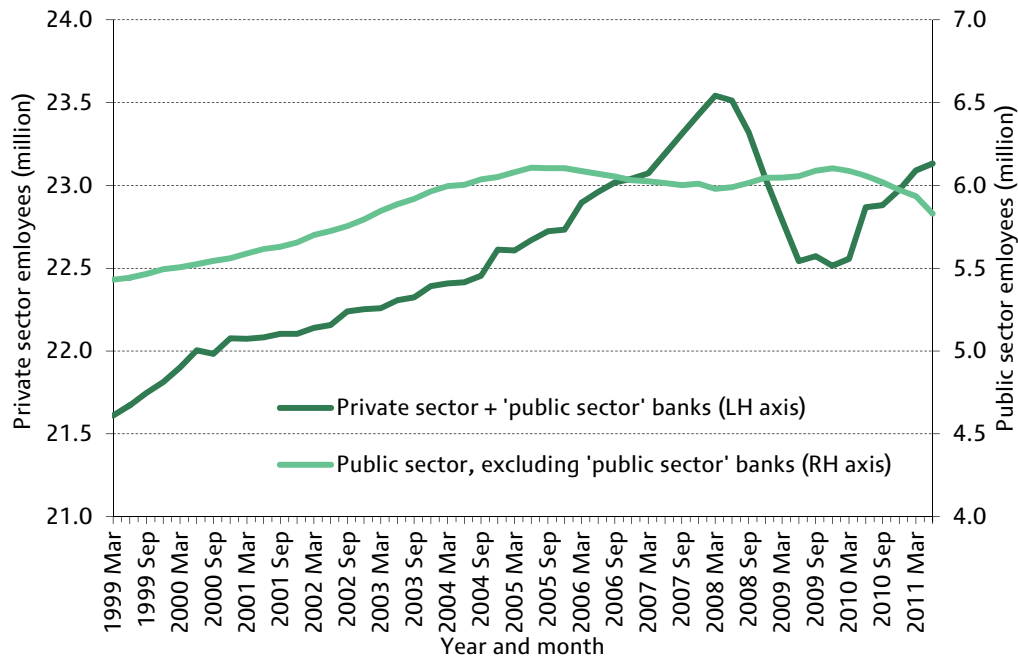
In terms of pay growth, the recession also had a stronger and more immediate impact on the private sector than on the public sector. In the couple of years leading to the recession (2006 and 2007), average weekly earnings were typically growing at just above 3% per year in the public sector, considerably slower than the just above 5% growth experienced in the private sector (see Figure 5.4). During the recession, however, average pay growth slowed down to near zero in the private sector, while public sector pay continued to grow at the pre-recession rate. The big drop in private sector pay growth (to -7.7%) in

¹⁴ See statement by Danny Alexander, Chief Secretary to the Treasury, 2 November 2011 (http://www.hm-treasury.gov.uk/statement_cst_021111.htm).

¹⁵ George Jones cites an interview given by Mr Johnson to the BBC Radio 4 'Today Programme': 'Asked it [sic] if he could give an absolute "guarantee" that the agreement would not be re-written, he replied: "Yes, I can". "It is a deal we reached with the unions. Every deal I have ever reached in my life, both as a trade unionist and as a politician, I honour," Mr Johnson said.' ('Turner dangles generous pension, but only if you work until 69', *Daily Telegraph*, 30 November 2005, <http://www.telegraph.co.uk/news/uknews/1504344/Turner-dangles-generous-pension-but-only-if-you-work-until-69.html>).

¹⁶ OBR's November 2011 employment forecasts from table 3.6 of <http://budgetresponsibility.independent.gov.uk/pubs/Autumn-2011-EFO-Charts-Tables129467.xls>.

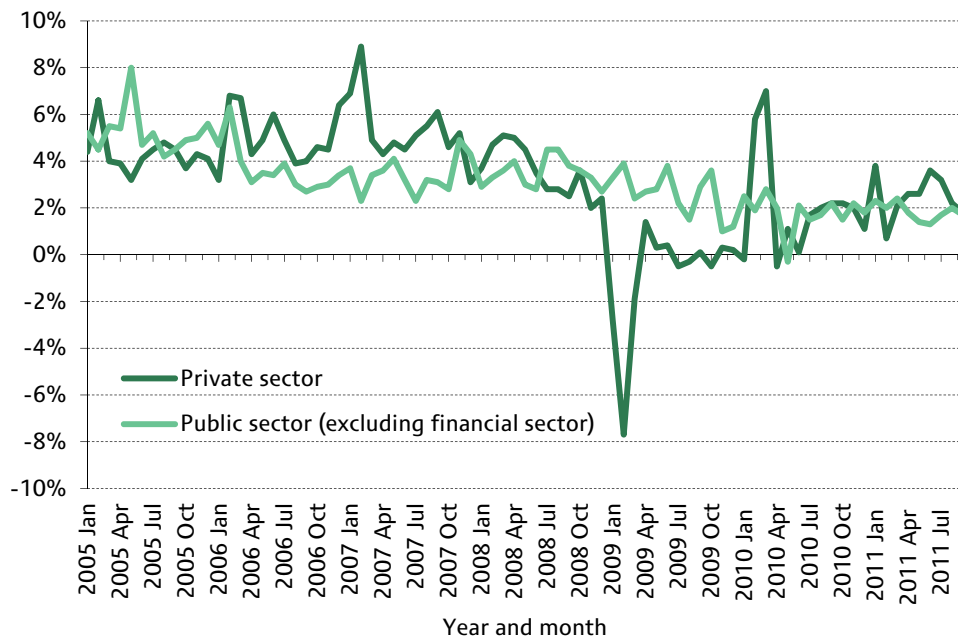
Figure 5.3. Employment by public and private sector, over time



Notes: For comparability over time, publicly-owned financial corporations (RBS and Lloyds Banking Group) are excluded in the public sector series and included in the private sector series. Both series are seasonally adjusted.

Source: Office for National Statistics (tables 2 and 4 at <http://www.ons.gov.uk/ons/rel/lms/labour-market-statistics/november-2011/index-of-data-tables.html#tab-Employment-tables>)

Figure 5.4. Growth in public and private sector pay



Notes: Average weekly earnings not seasonally adjusted and including bonuses (series KA5G for the public sector and KA5E for the private sector). The public sector series excludes publicly-controlled financial corporations.

Source: Office for National Statistics (table 2 at <http://www.ons.gov.uk/ons/rel/lms/labour-market-statistics/november-2011/index-of-data-tables.html#tab-Earnings-tables>).

February 2009 was largely driven by a fall in bonuses relative to 2008, which was particularly notable in the financial sector.¹⁷ As bonuses recovered partially in the following year, there was a positive spike of earnings growth in February 2010. Since early 2010, public sector pay growth has slowed down to about 2% per year, similar to the growth rate in private sector pay. Cumulatively, average pay in public sector has grown more than the private sector by 3.9 percentage points between financial years 2007–08 and 2010–11.

The government is currently implementing a two-year freeze on pay awards, covering 2011–12 and 2012–13. This excludes low-paid workers (those earning less than £21,000 a year at full-time equivalent), who have been guaranteed a pay rise of £250 per year in the two years (i.e. an increase of at least 1.2% per year). This exemption covers 1.7 million, or 28% of all public sector workers. Because of the exemption of low-paid workers, and because of changes in the composition of the workforce (for example, existing employees moving up the pay scale), the average public sector pay is still growing despite the pay freeze. The latest OBR forecasts suggest that it will grow in nominal terms by 2% in 2011–12 and 0.8% in 2012–13.

The government has decided to follow the pay freeze with another two years of pay restraint: growth in pay awards will average 1% for each of 2013–14 and 2014–15 with no exemptions currently announced. The government has not specified which (if any) groups of public sector workers will get more than a 1% pay rise and which will get less, so it is unclear how the distribution of public sector pay will change. It is possible that there will be political pressure to continue to be relatively generous to lower-paid public sector workers. Taking into account the pay restraint, the OBR expects the average public sector pay growth to be slower than the private sector growth by 1.2 percentage points in 2013–14 and 2.2 percentage points in 2014–15. As a result, the average public–private pay gap is forecast to fall by 4.4 percentage points between 2010–11 and 2014–15. This will bring the average public–private pay differential almost back to its level in 2007–08.

How do public and private sector pay levels compare?

It has previously been noted that there is an estimated pay premium for public sector workers compared with private sector workers.¹⁸ The average level of hourly pay is considerably higher in the public sector than in the private sector (£15.04 versus £11.69 for women, and £18.19 versus £15.51 for men).¹⁹ However, these raw differences mask a number of factors as they do not compare like with like.²⁰ Public sector employees tend to be older (and therefore, on average, have greater experience) and have higher qualifications than private sector workers. So we would expect average pay to be higher

¹⁷ While earnings including bonuses fell by 7.7% in February 2009 compared with February 2008 in the private sector, earnings excluding bonuses grew by 2.4%. Within the private sector, earnings including bonuses fell by more than 20% in finance and business services and by about 7% in services during the period.

¹⁸ See, for example, A. Bozio and R. Disney, 'Public sector pay and pensions', in M. Brewer, C. Emmerson and H. Miller (eds), *The IFS Green Budget: February 2011* (<http://www.ifs.org.uk/budgets/gb2011/11chap7.pdf>).

¹⁹ Based on table 13.5a of ASHE 2011 (<http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcn%3A77-235202>). Pay differences can also be measured from the Labour Force Survey (LFS). The LFS figures (weighted) from the first quarter of 2011 are £19.75 versus £14.77 for men and £13.54 versus £11.65 for women. The ASHE figures should be more reliable because the earnings data are taken directly from HMRC's PAYE system, whereas the LFS wage information is self-reported. In addition, sector is reported by the employer in ASHE, but by the employee in the LFS, with the former likely to be more accurate.

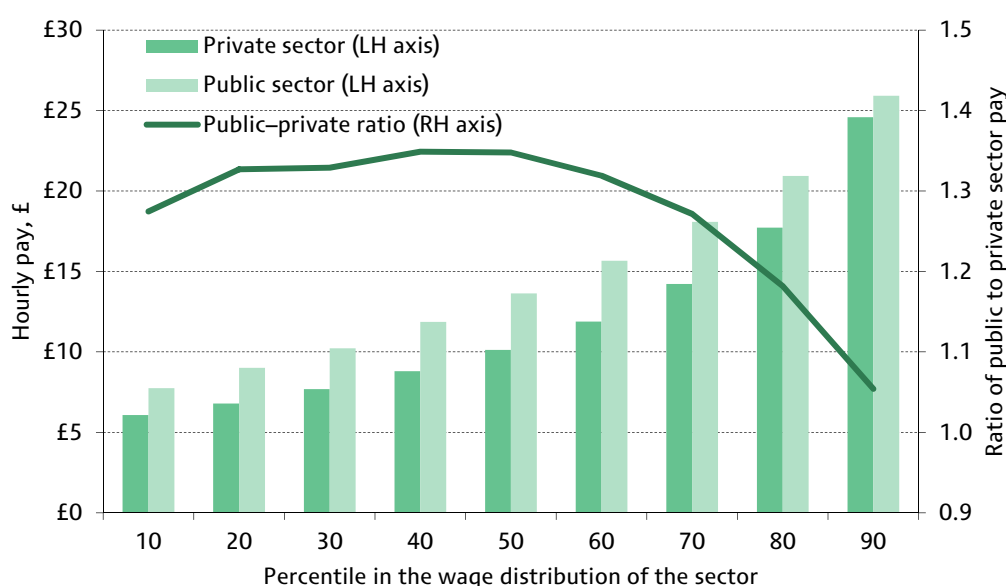
²⁰ The importance of comparing like with like is discussed in 'Public and private sector earnings: fact and fiction', *IDS Pay Report*, June 2010 (<http://www.incomesdata.co.uk/areas-of-expertise/pay-reward/private-public-sector-earnings.pdf>).

in the public sector even if there were no real public or private sector premium for any given individual.

In what follows, we use regression techniques to account for the differences in observed characteristics between public and private sector workers so as to uncover an estimate of the public sector premium. We also examine whether the estimated pay premium varies across the distribution of pay and whether it varies across regions of the UK.

First, let us look at the raw data. Figure 5.5 shows the recent distribution of gross hourly earnings by sector. At each percentile, public sector pay is higher than that in the private sector. The ratio of public to private sector pay is fairly similar across the lower and middle part of the distribution, but lower at the 80th and 90th percentile. In other words, the wage distribution is more compressed (with a thinner upper tail) in the public sector (though even at the 90th percentile, public sector pay is higher than private sector pay).

Figure 5.5. Distribution of hourly earnings, by sector



Source: Table 13.5a of Annual Survey of Hours and Earnings (ASHE) 2011 (<http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcn%3A77-235202>).

Table 5.4 examines the average public–private pay gap and the extent to which it can be explained by observed differences between workers. The first row shows the raw difference between average public and private sector pay, for men, women and all. On average, female public sector workers were paid 27.5% more per hour than female private sector workers in 2009–11, while the average raw differential was 20.2% for men. Once we control for years of education, the estimated public–private differential falls to 8.9% for men and 15.5% for women. This differential is further reduced to 5.5% for men and 11.3% for women when we also control for age, region and qualifications achieved.²¹ The overall average public sector premium is estimated to be 8.3%; this is the average public–private pay differential unexplained by education, region, age or qualifications. Our overall estimate is similar (statistically and economically) to those

²¹ We also examined whether the female premium was explained by a difference in the hourly wage premiums for full- and part-time workers, but we found no evidence that this was the case.

produced by the ONS (7.8% as of April 2010) and Policy Exchange (8.8% as of December 2010).²²

Table 5.4. Estimated average public–private hourly wage differentials (2009Q2–2011Q1)

	Male	Female	All
Raw differential	+20.2*** (1.1)	+27.5*** (0.9)	+24.3*** (0.7)
Controlling for education	+8.9*** (1.0)	+15.5*** (0.9)	+12.2*** (0.7)
Controlling for education, age and qualifications and region	+5.5*** (1.0)	+11.3*** (0.8)	+8.3*** (0.6)

Notes: The wage differentials controlling for various factors are estimated by ordinary least squares (OLS). Each number is the coefficient estimate from regressing log hourly wage on a dummy for public sector and controls as indicated in the left-hand column. Regressions for the last column also include a sex dummy. The numbers in the first row are different from the raw mean differences because of the log and because the data are weighted. The second row additionally controls for the age an individual left full-time education. The third row additionally adds two dummies for highest qualification an individual has obtained (degree or other higher education qualifications and NVQ Level 2 or 3 such as A levels, with the omitted group being NVQ Level 1 or below or no qualifications at all), age, age squared, dummies for the 12 regions in the UK, and interactions between age and age squared with age left full-time education. Hourly wages are computed using actual hours reported by survey respondents. Robust standard errors are reported in parentheses. *, ** and *** indicate statistical significance at the 10%, 5% and 1% levels respectively.

Source: Authors' calculations using weighted data from the Labour Force Survey, 2009Q2 to 2011Q1.

It is possible that public sector workers are on average more attractive employees than private sector workers in some other unobserved way (for example, how much effort they put in per hour of work), which would justify their pay premium. Alternatively, there could be other differences affecting the relative attractiveness between working in the two sectors. As we cannot observe those differences in the data, we cannot account for them. But if such differences are thought to be constant over time, then it is informative to see whether the estimated premium we now observe is a new phenomenon or whether it has been running at the current level for a considerable time (which might be considered more consistent with the idea that the estimated premium is justified by an unobserved difference between public and private sector employees).

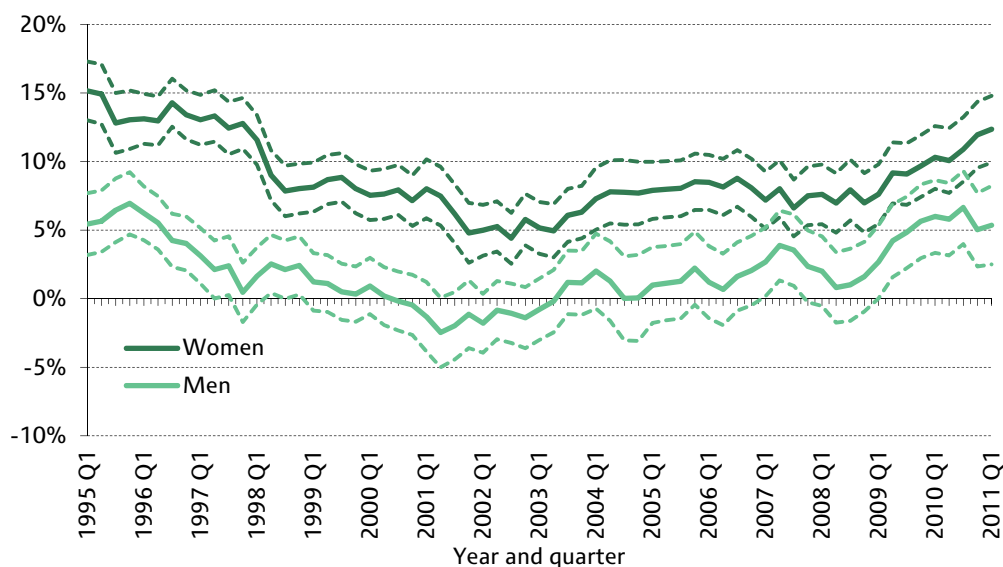
Figure 5.6 shows the estimated public–private hourly pay differentials (after controlling for individual characteristics) for men and women separately since 1995. The estimated public sector premium has always been higher for women than for men. In the 10 years leading to the start of the recession in 2008, there was no significant public sector pay premium for men and indeed a private sector premium in 2001–02. Since 2008, a public sector premium for men started to emerge and was at almost 5% by the start of 2011.²³

²² The ONS report is mainly based on ASHE and is conditional on age, occupation and region, and adjusted for qualifications using LFS. See Office for National Statistics, *Estimating Differences in Public and Private Sector Pay* (<http://www.ons.gov.uk/ons/rel/lmac/public-and-private-sector-earnings/2011/estimating-differences-in-public-and-private-sector-pay.pdf>). The Policy Exchange report discusses a range of public sector premium measures. The one most comparable to our measure also uses LFS and takes account of differences in the composition of workforces in the public and private sectors. See E. Holmes and M. Oakley, *Public and Private Sector Terms, Conditions and the Issue of Fairness*, Policy Exchange Research Note, May 2011 (http://www.policyexchange.org.uk/images/publications/pdfs/Public_and_private_sector_terms_conditions_and_the_issue_of_fairness_-_May_11.pdf).

²³ The Policy Exchange report also highlights a rapid increase in the public sector pay premium in 2009 and 2010. One concern with the use of LFS data over time might be the possible inclusion of parts of the financial sector in the public sector after the financial crisis. The proportion of public sector workers reporting that they worked in banking and finance increased from 2.8% in 2008Q2 to 3.5% in 2009Q2, but their average pay was only £1 an hour higher than the mean public sector pay.

This increase was unintended, resulting from the effects of the recession on private sector pay (shown in Figure 5.4), rather than a deliberate policy to attract, motivate and retain workers in the public sector with higher relative pay. The premium for women has increased by an amount similar to that for men since 2008.

Figure 5.6. Estimated average public–private wage differentials over time



Notes: As for the last row in Table 5.4. The dashed lines represent 95% confidence intervals. Each data point is based on a four-quarter LFS sample, ending in the labelled quarter.

Source: Authors' calculations using weighted data from the Labour Force Survey.

Table 5.5. Implications of the pay squeeze for public–private pay differentials

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17
<i>OBR assumptions</i>						
Total employment (million) ^a	29.2	29.1	29.3	29.5	29.8	30.0
GG employment (million) ^b	5.5	5.4	5.3	5.1	4.9	4.8
GG employment (share)	18.6%	18.6%	18.1%	17.4%	16.5%	15.8%
<i>Average growth in:</i>						
Earnings ^c	1.6%	2.2%	3.6%	4.4%	4.5%	4.5%
Public sector pay ^b	2.0%	0.8%	2.6%	2.6%	3.1%	3.1%
Private sector pay ^d	1.4%	2.5%	3.8%	4.8%	4.8%	4.8%
<i>Change in public sector pay differential^e (cumulative ppts)</i>	+0.5ppts	-1.1ppts	-2.3ppts	-4.4ppts	-6.1ppts	-7.8ppts

^a Weighted average of OBR's employment forecasts from table 3.6 of

<http://budgetresponsibility.independent.gov.uk/pubs/Autumn-2011-EFO-Charts-Tables129467.xls>.

^b GG = general government. GG employment growth is calculated from total public sector pay bill and pay bill per head. Public sector pay bill per head is directly from table 2.20 of OBR's fiscal supplementary tables published with *Economic and Fiscal Outlook*, November 2011, available at

<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2011/>. Our calculations assume that public sector pay growth is the same as the OBR's forecast for GG pay growth.

^c Source: Chart C3.31 of <http://budgetresponsibility.independent.gov.uk/pubs/Autumn-2011-EFO-Charts-Tables129467.xls>.

^d We calculate this line from the three lines above assuming that the share of general government in the UK workforce will follow OBR employment assumptions.

^e Estimated from average growth in public sector pay less average growth in private sector pay.

In the coming years, as the public sector implements the announced pay freeze and constraint, and if private sector pay growth recovers, the public sector premium is likely to disappear gradually for men. As shown in Table 5.5, the OBR's forecasts for public and private sector pay, taking into account the planned public sector pay squeeze, imply that the public–private pay differential will fall by 4.4 percentage points between 2010–11 and 2014–15, and by a total of 6.1 percentage points by 2015–16. On our estimates, this means that (assuming the public–private pay premium falls by an equal amount for both men and women) the average public sector premium for men is likely to return to its pre-crisis level by 2014–15, which was close to zero. The female premium is also likely to fall back to its pre-crisis level. Of course, such conjectures depend heavily on the OBR's assumptions and forecasts of future earnings growth. But, with this caveat in mind, given that the recent increase of the pay premium was unintended, its disappearance should not cause much concern.

So far, we have examined the average (mean) wage differential conditional on observed individual characteristics. We now compare the wage distribution in the public sector with that in the private sector, again conditional on observed individual characteristics.²⁴ The technique we use will predict percentiles²⁵ of the wage distribution for individuals with a given set of observed characteristics. This allows us to explore whether the estimated average public sector premium described in Table 5.4 is constant across the wage distribution or whether, for example, it is higher for those on lower levels of pay than for those on higher levels of pay (again after taking into account observed characteristics).

The results of this exercise are shown in Figure 5.7. Towards the lower end of the distribution, the public sector premium is estimated to be as high as 16%. This means that, given an individual's observed characteristics, at the 10th percentile of the wage distribution, public sector workers are paid 16% more than their private sector counterparts. The estimated premium falls gradually along the conditional distribution and is negative (but not statistically different from zero) among men at the 80th and 90th percentiles of the distribution.

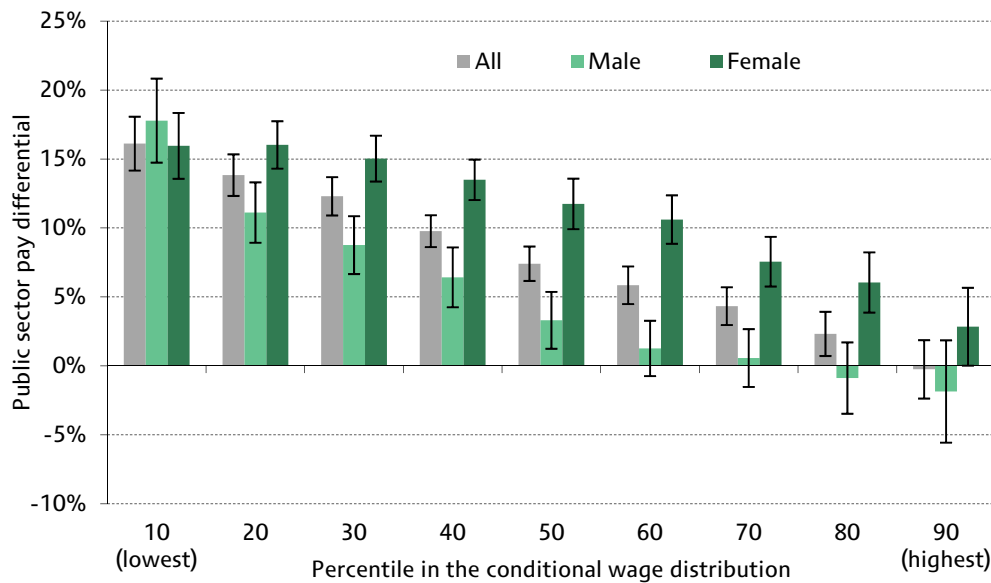
Further analysis²⁶ suggests that the slope of the estimated premium along the distribution has changed little over time. For both sexes, the premium since 1995 has been higher in the lower part of the conditional distribution than in the middle, and higher in the middle than in the upper part, and there is no obvious widening or narrowing trend of the premium across the distribution in the past 10 years, for either men or women.

²⁴ Using the same characteristics as in Table 5.4. The method we use is quantile regression. The same technique has been used to examine the distribution of the public sector pay premium in the UK by Disney and Gosling (1998), in Great Britain, France and Italy by Lucifora and Meurs (2004), and by other authors for other countries. R. Disney and A. Gosling, 'Does it pay to work in the public sector?', *Fiscal Studies*, 19, 347–74, 1998; C. Lucifora and M. Meurs, 'The public sector pay gap in France, Great Britain and Italy', IZA Discussion Paper 1041, 2004 (<http://www.econstor.eu/bitstream/10419/20276/1/dp1041.pdf>). See also, for example: R. Mueller, 'Public–private sector wage differentials in Canada: evidence from quantile regressions', *Economics Letters*, 60, 229–35, 1998; B. Melly, 'Public–private sector wage differentials in Germany: evidence from quantile regression', *Empirical Economics*, 30, 505–20, 2005; K. Leping, 'Public–private sector wage differential in Estonia: evidence from quantile regression', 2005, (<http://infutik.mtk.ut.ee/www/kodu/RePEc/mtk/febpdf/febawb39.pdf>); and A. Hyder and B. Reilly, 'The public sector pay gap in Pakistan: a quantile regression analysis', PRUS Working Paper 33, 2005 (<http://www.sussex.ac.uk/Units/PRU/wps/wp33.pdf>).

²⁵ The x^{th} percentile of a wage distribution is the wage level that is higher than $x\%$ of the population and lower than $(100-x)\%$ of the population.

²⁶ Available from the authors on request.

Figure 5.7. Estimated public–private wage differential by percentile in the wage distribution (2009Q2–2011Q1)



Notes: As for the last row in Table 5.4. Results are from a quantile regression. The estimates control for education, age, region and qualifications. The bar height at the x^{th} percentile represents the gap between the x^{th} percentile of the public sector conditional wage distribution and that of the private sector. The black bars show the 95% confidence intervals.

Source: Authors' calculations using weighted data from the Labour Force Survey, 2009Q2 to 2011Q1.

Overall, the falling slope of the estimated premium along the conditional distribution points to two (non-exclusive) possibilities. It could be that the wage distribution may be more compressed in the public sector as a result of unions, collective bargaining or the government being more concerned about pay inequality than private sector employers are. Alternatively, the public sector may need to pay more at the bottom, and is able to pay less at the top, for the unobserved quality that it wants.

It is hard to interpret this evidence in a way that would support the government's recent policy of providing some protection for lower-paid workers while squeezing more those on average and higher earnings. That is particularly true in the context of pension reforms, which look rather generous to the lower-paid group.

Regional analysis

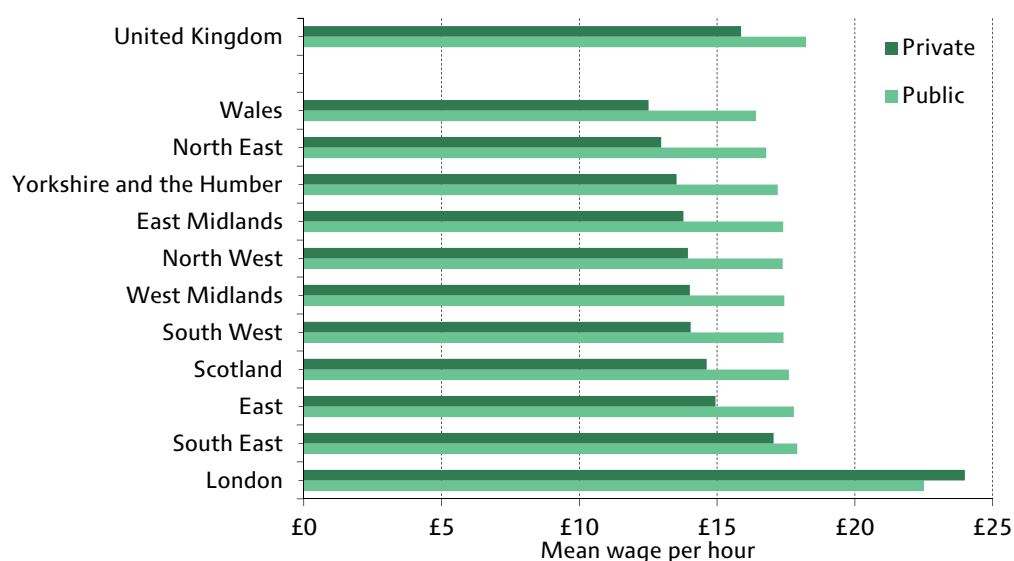
In the Autumn Statement, the Chancellor asked four Pay Review Bodies to consider making pay more responsive to local labour markets. Currently, around 2 million public sector workers' pay is set centrally based on the recommendations of the six independent Pay Review Bodies (PRBs).²⁷ Two of the six (covering doctors and dentists, and the armed forces) are exempted from considering regional pay. For workers covered by the remaining four PRBs, basic pay awards currently do not vary by region; but teachers and NHS staff in London and the fringe zones already get extra allowances/payments. Further, the prison service already has Locality Pay, which extends far beyond London.

²⁷ Six Pay Review Bodies cover workers in the NHS (other than GPs), doctors and dentists, schoolteachers, the armed forces, prison officers and some senior salaried staff. They make recommendations on pay scale rates to the government every year, based on their independent research and evidence from the relevant government departments as well as representative organisations and members within their remit groups. See Office of Manpower Economics for details (<http://www.ome.uk.com/>).

Thus, the announcement in the Autumn Statement will only affect, at most, a fraction of public sector workers.²⁸ In his letters to four Pay Review Bodies (covering the NHS, teachers, prison officers and certain senior staff in the public sector), the Chancellor argues that substantial variation in public–private pay differentials across regions may harm the private sector businesses which have to compete with higher wages.²⁹ He also argues that the variation in relative pay may lead to unequal quality of services across regions, and a smaller number of jobs than is potentially affordable for any given level of expenditure. Such concerns are not without evidence. For example, in London and the surrounding regions with relatively high private sector pay levels, the vacancy rates in the NHS remain well above those in other parts of the UK.³⁰ This suggests that relatively low levels of public–private pay differentials may be causing difficulties for recruiting and retaining public sector workers, which would be expected to affect the quality of public services.

This section uses recent data to assess regional variation in the public–private pay differential. Figure 5.8 compares average hourly wages among full-time male workers by sector, in each region. The darker bars illustrate the variation of private sector wages across regions, showing especially high wages in London. Excluding London, there is less regional variation in public sector wages (shown as the lighter bars) than in the private sector. As a result, in London, average hourly wages for full-time men working in the public sector are 6% lower than those of men working in the private sector. In contrast, in the North East and in Wales, they are 30% higher in the public sector than in the private sector.

Figure 5.8. Average hourly wages among men working full-time, by region



Note: Regions ranked by the percentage difference in mean public and private sector hourly wages.

Source: Table 25.5a of the 2011 ASHE (<http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tc%3A77-235202>).

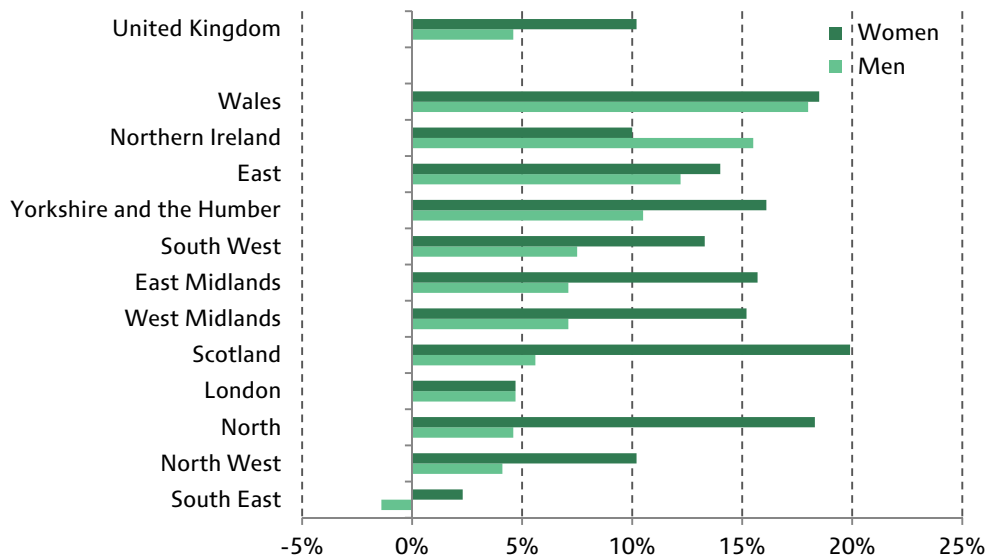
²⁸ There are around 1.7 million staff covered by the NHS and the teachers' PRBs.

²⁹ Letters from the Chancellor to the Pay Review Bodies can be found at <http://www.ome.uk.com/Article/Detail.aspx?ArticleUid=dfd0267d-9c7d-421b-80ba-71db9232f4b9>.

³⁰ A comparison of vacancy rates by region is presented in A. Bozio and R. Disney, 'Public sector pay and pensions', in M. Brewer, C. Emmerson and H. Miller (eds), *The IFS Green Budget: February 2011* (<http://www.ifs.org.uk/budgets/gb2011/11chap7.pdf>). The original data can be found at the NHS Information Centre: <http://www.ic.nhs.uk/statistics-and-data-collections/workforce/nhs-and-gp-vacancies>.

Figure 5.9 shows the estimated public sector premium by region, after controlling for age, education and qualifications, for men and women separately. There is clearly significant variation in the estimated pay premium across regions, and the regional patterns are different for men and women. Men working in the South East have a negative public sector pay premium. In London, the North and the North West, the estimated male premiums are all smaller than 5% and not statistically different from zero.³¹ Wales has the highest male public sector premium, of 18%, followed by Northern Ireland with an estimated premium of 15%. For women, the pay premium is estimated to be less than 5% and not statistically different from zero in London, the South East and Northern Ireland. The regions with the highest female public sector premiums are, in descending order, Scotland, Wales, the North, Yorkshire and the Humber, the East Midlands and the West Midlands. For both sexes, the public sector premium is very high in Wales, but small and not significant in London and the South East. In most other regions, the estimated premium varies considerably by sex.

Figure 5.9. Estimated average public sector hourly pay premium by region



Notes and sources: As for Table 5.4. Regions ranked according to the estimated differential for men. Estimated differentials control for education, age and qualifications. Underlying data, and standard errors, can be found in the annex to this chapter.

The above results confirm that there is indeed substantial variation in the public sector premium across regions. Assuming no significant regional variation in the desired quality of public sector workers in a way that is not reflected in their age, years of education or qualifications achieved, the analysis implies that there will be efficiency gains if public sector pay is more closely aligned with the local labour market. (Again we explored whether the variation in the estimated premium was a new phenomenon and found that it was not.³²)

There is also evidence that the regional variation in public-private pay differentials depends on the occupation. Figure 5.10 shows how wages in selected public sector occupations compare with the average male wage in the UK, or in each of the regions; the

³¹ Standard errors and significance levels of all the estimates are reported in the annex to this chapter.

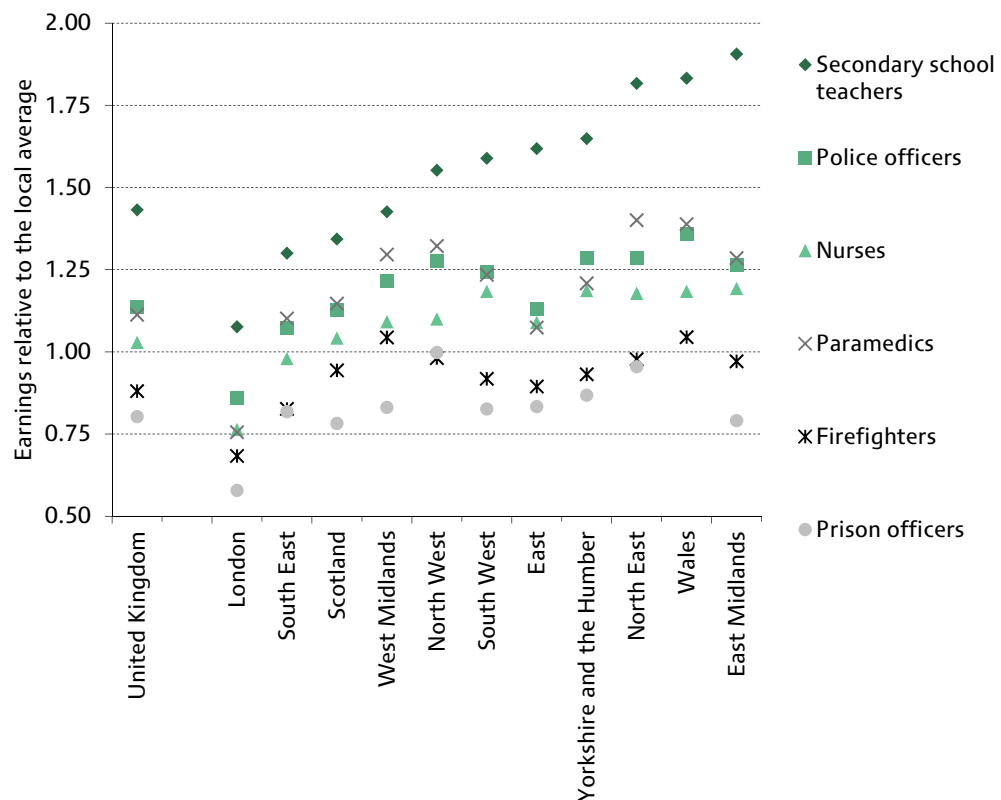
³² Results available on request.

equivalent data for women are presented in Figure 5.11. As shown in Figure 5.10, full-time male secondary school teachers earn 1.4 times what the average full-time male in the UK earns; male police officers, paramedics and nurses earn slightly more than the average, and firemen and prison officers less than the average. This is not surprising given that, on average, school teachers have more education than the average worker and more than these other groups.

If the average pay of an occupation relative to the local average is purely determined by the nature of the job and differences in labour quality, then we may expect to see little regional variation in the relative pay. However, as Figure 5.10 and 5.11 show, there is evidence that relative pay in each occupation varies to some extent across regions, even outside London. Further, the evidence suggests that the regional pattern within each public sector occupation is not the same across occupations. For example, the relative pay of male secondary school teachers is highest in the East Midlands, while the relative pay of male police officers is highest in Wales.

Unfortunately, the data that we are able to use to compare differences in pay levels by occupation across regions do not allow us to control for other characteristics, so it could be that differences can be explained by differences in the composition of the workforce. But even to the extent that the differences reflect different ‘qualities’ of teachers and so

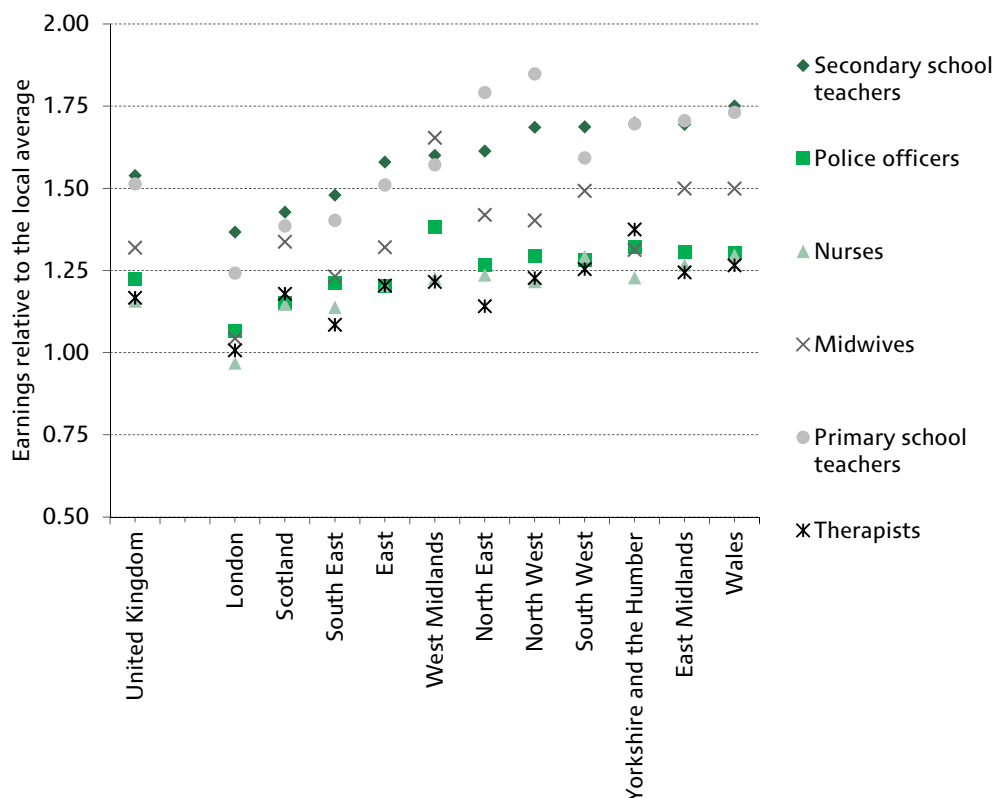
Figure 5.10. Average hourly earnings of full-time men in selected public sector occupations relative to average male full-time earnings, by region



Notes: Full-time male workers only. The height of each data point represents the mean wage of each occupation divided by the average male full-time wage in the same region. There are no data for male prison officers in Wales.

Source: Table 15.5a of the 2011 ASHE (<http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-235202>).

Figure 5.11. Average hourly earnings of full-time women in selected public sector occupations relative to average female full-time earnings, by region



Notes: Full-time female workers only. The height of each data point represents the mean wage of each occupation divided by the average female full-time wage in the same region.
 Source: As for Figure 5.10.

on in different regions, that does not imply this is an efficient or equitable outcome. There seems little to be said either for a system that rewards similar teachers very differently, relative to the labour market they are working in, in different parts of the country, or for a system that leads to very different qualities of teachers in different parts of the country. At the very least, the findings of this exercise are suggestive that an across-the-board regional pay policy, with all public sector workers in, say, Wales receiving a set amount of pay cut and all public sector workers in the South East getting a set amount of pay rise, would not be appropriate. The Pay Review Bodies that are investigating whether there should be greater local variation in pay should certainly investigate these descriptive findings further.

Public service pay: conclusions

The analysis in this section has found evidence of a public sector pay premium, after controlling for observed characteristics. This estimated premium has increased during the recent financial crisis as private sector earnings grew less quickly. Our calculations suggest that the government’s continued pay squeeze through to 2014–15 would roughly eliminate the unintended increase in the premium in recent years. This estimated public sector premium is, again after taking into account observed characteristics, larger for lower-paid workers than for higher-paid workers and there is no evidence that lower-

paid public sector workers have fared relatively badly in recent years. It is hard to interpret this in a way that would support the government's recent policy of providing some protection for lower-paid workers while squeezing more those on average and higher earnings. Lower earners will also typically gain, and high earners lose, from the public service pension reforms. Both enhance rather than diminish the differences between public and private sector labour markets.

We also find evidence of considerable variation in the estimated public sector pay premium across the regions of the UK. This suggests that, on average, more generous pay awards in, for example, the South East and less generous pay awards in, for example, Wales and Northern Ireland might be appropriate. But our analysis also suggests that the pattern across regions might not be the same for all public sector occupations. So while a shift to centrally-set, but regionally-varied, pay awards might be appropriate, these should be carefully implemented.

5.4 Conclusions

The analysis presented in this chapter has shown that reforms implemented by the last Labour government and the current government have significantly reduced, on average, the generosity of public service pensions and therefore their expected cost to the taxpayer in the long term. One key reduction in the cost in the long run comes from the decision, implemented by the last government, to increase the normal pension age for new entrants into most schemes from age 60 to age 65. Another key reduction arises from the current government's decision to switch from RPI to CPI indexation of pension benefits for those receiving pensions and for deferred members of these schemes. Public sector workers who were continuing to enjoy pension accrual based on an NPA of 60 because they joined their scheme prior to the last Labour government's reforms coming into force, and who now see their future accrual based instead on an NPA in line with their SPA, will typically also see the value of their pensions cut significantly. But, despite these cuts, members of public sector pensions will continue to accrue pensions that, on average, are far more generous than those enjoyed by their counterparts in the private sector.

The government's latest reforms to public service pensions will do much to improve the structure of these schemes, in particular by moving to a career average rather than a final salary basis and by aligning the NPA to the SPA. Aligning future pension accrual for both existing and new members of these schemes means that otherwise-equivalent individuals doing the same job, on the same pay, will also accrue the same pension.

On the other hand, the – perhaps surprising – consequence of the long-drawn-out negotiations over reform will be little or no long-term saving to the taxpayer or reduction in generosity, on average, of pensions for public service workers. The increase in pension age has, on average, been fully compensated through changes to indexation and accrual rates. But there will be distributional effects, with lower earners gaining from the changes and high flyers losing out. Since lower earners in the private sector are particularly unlikely to have access to a good-quality employer-sponsored pension, and especially a defined benefit pension, the latest reform will increase the difference between public and private sector labour forces.

The current government is also implementing a squeeze on public sector pay. After taking into account the fact that public sector workers typically have greater experience and

more education than private sector workers, average hourly wages are estimated to be 8.3% higher in the public sector than in the private sector. Moreover, this estimated public sector pay premium has grown over the period since 2008, largely due to the fall in private sector earnings during the recession. The government's proposed squeeze on public sector pay, which is to run until 2014–15, will roughly eliminate this unintended increase.

The estimated public sector premium is, again after taking into account observed characteristics, larger for lower-paid workers than for higher-paid workers and there is no evidence that lower-paid public sector workers have fared relatively badly in recent years. It is hard to interpret this in a way that would support the government's recent policy of providing some protection for lower-paid workers while squeezing more those on average and higher earnings.

Finally, the public sector pay premium varies remarkably across regions. There is no evidence of a public sector pay premium in London or the South East of England, while in Wales the estimated premium is 18.0% for men and 18.5% for women. This provides a strong case for having regional variation in the pay awards that are set centrally. But there is also tentative evidence that the premium varies across different occupations within the same region. For example, while male police officers appear to have the highest relative pay in Wales, for female primary school teachers the North West appears to have the highest relative pay, and for male paramedics the North East appears to be relatively the most generous. Therefore any regional variation in public sector pay awards would need to be carefully designed.

Annex

Table 5.A1. Raw and estimated average public–private wage differentials, by region

Region	Raw differential		Estimated differential	
	Men	Women	Men	Women
All UK	+20.2*** (1.2)	+27.5*** (0.9)	+4.6 (1.0)	+10.2*** (0.8)
Wales	+34.0*** (5.2)	+39.1*** (3.9)	+18.0*** (4.9)	+18.5*** (3.8)
Northern Ireland	+37.5*** (6.5)	+23.8*** (7.3)	+15.5*** (5.6)	+10.0 (7.2)
East	+25.7*** (4.5)	+32.9*** (4.1)	+12.2*** (4.4)	+14.0*** (3.8)
Yorkshire and the Humber	+29.9*** (3.3)	+34.9*** (2.7)	+10.5*** (3.2)	+16.1*** (2.8)
South West	+22.0*** (3.3)	+27.2*** (2.6)	+7.5** (3.2)	+13.3*** (2.7)
West Midlands	+21.7*** (3.6)	+31.4*** (2.8)	+7.1** (2.9)	+15.2*** (2.8)
East Midlands	+23.2*** (4.0)	+34.7*** (2.8)	+7.1** (3.4)	+15.7*** (2.8)
Scotland	+22.3*** (3.2)	+34.1*** (2.7)	+5.6** (2.8)	+19.9*** (2.6)
London	+13.9*** (3.6)	+19.2*** (3.0)	+4.7 (3.5)	+4.7* (2.8)
North	+20.3*** (4.6)	+36.7*** (3.4)	+4.6 (4.5)	+18.3*** (3.3)
North West	+22.4*** (3.2)	+28.4*** (2.5)	+4.1 (2.8)	+10.2*** (2.5)
South East	+12.2*** (2.5)	+19.6*** (2.0)	-1.4 (2.4)	+2.3 (2.0)

Notes and source: As for Table 5.4.

6. Local government spending: where is the axe falling?

Rowena Crawford and David Phillips (IFS)¹

Summary

- Local government spending varies significantly across England. Excluding education, local government expenditure per person in London in 2009–10 (£1,868) was much higher than that in the rest of the country, and almost double that in the South East of England (£976), the region with the lowest spending. Higher spending on transport and police in London explains a large part of this difference. More generally, spending is higher in poorer, more urban districts and lower in more affluent, rural and suburban districts.
- Local authority budgets for 2011–12 imply real-terms cuts in net current service expenditure (excluding education) of 9.4% since 2009–10, or 10.4% when expenditure on fire and police services is also excluded. This reflects both cuts in the amount provided by central government grants (13.3% in real terms) and reductions in the forecast revenue raised by the council tax (2.1% in real terms).
- The size of the cuts varies significantly across local authority areas. Planned cuts (excluding education, fire and police services) between 2009–10 and 2011–12 exceed 15% in around one-quarter of local authority areas, whilst in another quarter they are smaller than 6% (or spending is even set to increase). Increases in real-terms expenditure are planned in around one-tenth of local authority areas.
- The planned cuts are largest in both absolute and percentage terms in areas with higher expenditure in 2009–10. Amongst councils in the top quarter of spenders in 2009–10, the cuts average 16.8%, versus 5.5% amongst those in the bottom quarter of spenders. This means spending cuts are larger, absolutely and proportionally, in urban and poorer parts of England than in more affluent rural and suburban districts. It also means cuts are larger in London and the northern regions of England than in southern regions.
- The size of cuts varies significantly across service areas. Expenditure on planning and development services is hardest hit, with an average cut across England of 43% over the two years since 2009–10. Expenditure on this area, and on libraries and other culture and leisure, is set to be lower in real terms in 2011–12 than in 2001–02. Expenditure on police services, fire services and social services is relatively protected, and expenditure on environmental and refuse services is set to increase (by 1.7%). There is no clear pattern of whether services that previously saw the biggest increases in expenditure are now seeing the biggest cuts or vice versa.

¹ We thank Alissa Goodman for her helpful comments and suggestions. We also appreciate help and advice from staff at the Chartered Institute of Public Finance and Accountancy (CIPFA), in particular Chris Greene, Alison Scott and Sue Wren.

6.1 Introduction

The 2010 Spending Review set out deep cuts to the grants that central government provides to local governments in England for the four years 2011–12 to 2014–15: for example, funding to local government from the Department for Communities and Local Government (DCLG) was planned to be cut by 27.4% in real terms over this period.² The devolved administrations in Scotland, Wales and Northern Ireland have also announced cuts in grants to local government, although these vary in size (for instance, in Wales, the decision not to ‘protect’ the NHS from cuts has meant smaller cuts are required in other areas, such as local government).

While the majority of local government spending is funded using grants from central government, local authorities also raise revenue from council tax, user fees and charges, and other independent sources of income. These other sources of income also look set to be under pressure. In particular, the government has acted twice to make it less attractive to local authorities to raise council tax levels. First, it announced in June 2010 that any council deciding to increase the rate of council tax in 2011–12 would receive less grant funding (to the tune of 2.5% of their council tax revenues) in each year from 2011–12 to 2014–15 than it would have done had it not increased council tax (for example, if it had frozen council tax rates at their 2010–11 level). This would mean that, for instance, a council tax increase of 2.5% would have led to an equal-sized fall in grants, leaving the local authority with no additional net revenue. Then, in the 2011 Autumn Statement, the government announced that it would provide funding to encourage councils to freeze their council tax in cash terms for a further year in 2012–13. However, unlike the funding announced in the June 2010 Budget, which was available for all four years of the Spending Review period 2011–12 to 2014–15, the extra funding provided in the Autumn Statement is only for one year. Local authorities that choose to freeze their council tax rates in 2012–13 will therefore have lower incomes than they previously planned for the years after 2012–13, unless they choose (and are allowed) to implement a larger subsequent increase in council tax to compensate.

Using data from DCLG and the Chartered Institute of Public Finance and Accountancy (CIPFA), this chapter analyses how councils in England have chosen to distribute the cuts to their spending across the various services they provide during the first two years of fiscal retrenchment – 2010–11 and the current financial year, 2011–12.³ We place these cuts in the context of what local government was spending in 2009–10 and how this had changed since 2001–02.

The rest of this chapter proceeds as follows. Section 6.2 sets out how much local government in England was spending in 2009–10 and on what. Section 6.3 uses spending out-turn data for 2010–11 and planned budgets for 2011–12 to analyse the cuts: what areas of local government spending are being cut, and how this and the size of the cuts vary across the country. Section 6.4 puts these cuts in context by looking at how local government spending has been changing over the past decade and how this compares with the changes in overall government spending on services. Section 6.5 concludes.

² The local government component of the DCLG budget includes Revenue Support Grant, redistributed national non-domestic rates revenue, and related grants to local authorities in England that support services that are typically the overall responsibility of other government departments (such as police and social services).

³ Comparable data are available only for England from CIPFA and DCLG. For this reason, our analysis necessarily excludes local government spending in Scotland, Wales and Northern Ireland.

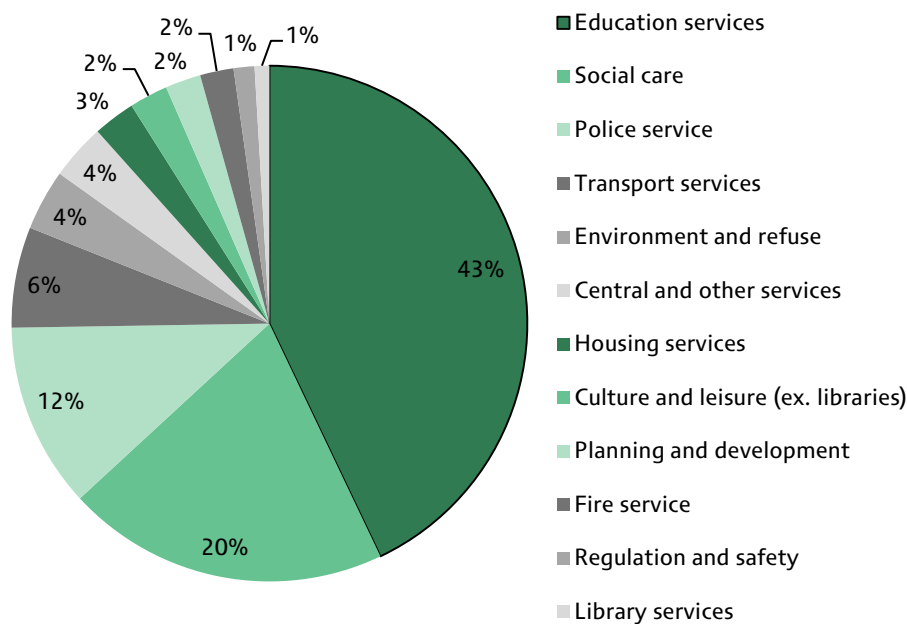
6.2 Spending by local government in 2009–10

Local government is responsible for ensuring the provision of a wide range of services, either directly or indirectly by commissioning the service from providers in the private or not-for-profit sectors. The main services provided are education, transport, social care and housing. Local government is also responsible for cultural services, environmental services, planning and development services, and regulatory and protective services.

Total net current spending on services in England amounted to £103.6 billion in 2009–10 (the last year prior to the current round of spending cuts), equivalent to £1,984 per person.⁴ Net current service spending is the overall level of spending on a given service *net* of any income from providing that service – in other words, it captures the amount spent by local government on local services, over and above that funded by other income streams such as user charges directly related to providing the service (for example, fees to use leisure centres or for ‘meals on wheels’).

As shown in Figure 6.1, net current spending on education was the largest single component of local government expenditure in England in 2009–10, accounting for £44.5 billion, or 43% of total expenditure. This was followed by spending on social care (£21.0 billion or 20%) and on the police (£12.0 billion or 12%). Between them, these three areas accounted for three-quarters of local government net current service spending in England.

Figure 6.1. Local government net current service spending in England, 2009–10



Notes: Net current service spending is the overall level of spending on a service net of any income from providing that service. ‘Central and other services’ includes corporate and democratic management and non-distributed costs.

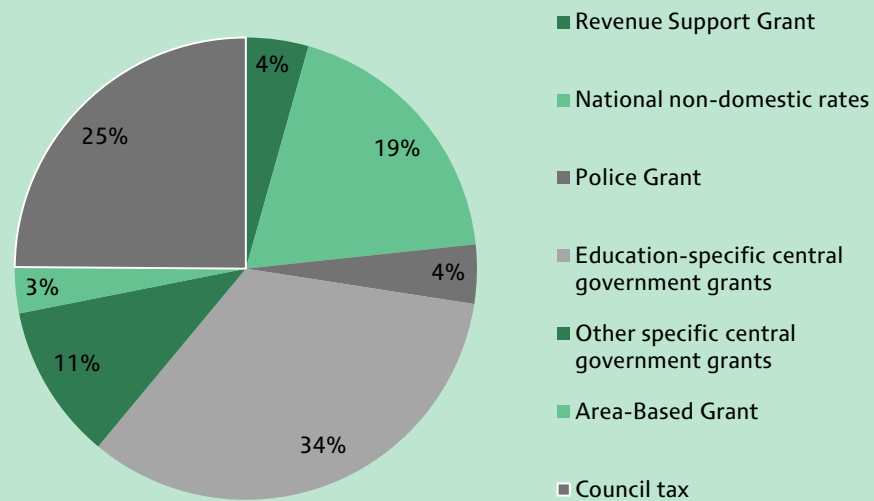
Source: Local government expenditure out-turns, 2009–10, available at <http://www.communities.gov.uk>.

⁴ This figure (like all others relating to spending per person in this chapter) is calculated using mid-2010 population estimates from the Office for National Statistics website.

Box 6.1. The structure of local government funding in England

When discussing local government funding, the measure of expenditure used in official statistics is ‘revenue expenditure’. This is different from the ‘net current service expenditure’ definition used in this chapter: revenue expenditure consists of net current service expenditure plus other elements of current spending (such as payments of Housing Benefit and Council Tax Benefit) and certain capital charges, offset by certain specific grants (the largest being to fund Housing Benefit and Council Tax Benefit) and excluding interest receipts. Figure 6.2 shows the contribution of each source of funding to total revenue expenditure in England in 2009–10. The majority (three-quarters) comes in the form of grants from central government, with just one-quarter coming from council tax.

Figure 6.2. Financing of revenue expenditure, 2009–10



Note: ‘Other specific central government grants’ includes expenditure on Sure Start and early years provision. Source: Local government expenditure out-turns, 2009–10, available at <http://www.communities.gov.uk>.

What is known as the ‘Formula Grant’ – comprising Revenue Support Grant, income from redistributed non-domestic rates (also known as business rates) and (for relevant local authorities) the Police Grant – contributed, on average, 27% of the financing required for revenue expenditure. This income is not, in principle, earmarked for a specific use by central government, and local authorities can choose how to distribute this money between different spending priorities. However, Formula Grant allocated to single-purpose authorities such as police authorities (which includes all of the Police Grant) is in effect ring-fenced for the single service they provide.

Nearly 45% of expenditure, on average, was financed through specific and special grants from central government. The majority of these, making up 34% of total funding, were grants ring-fenced specifically for schools (including the largest specific grant, the Dedicated Schools Grant (DSG), which amounted to £29.7 billion across all English local authorities in 2009–10). Whilst the names of the other specific and special grants indicate that central government wanted local government to spend resources in a particular area, many were not actually ring-fenced (meaning local councils could choose to spend them on different things). A further 3% of revenue expenditure was financed through Area-Based Grant, leaving, on average, 25% to be financed through council tax in 2009–10.

The Formula Grant is administered by the DCLG and is determined using four factors: a central allocation (which is the same for all local authorities that deliver the same services), a needs assessment (which is intended to reflect the different costs of providing the same services in different areas), a resource element (which subtracts the income that a local authority is assumed to be able to raise from council tax given its tax base) and finally a component that ensures that all local authorities get a minimum grant increase. The intended impact of deriving the Formula Grant in this way is that it will redistribute from local authorities that have high tax-raising ability relative to their funding needs to local authorities that have lower tax-raising ability relative to their needs. It also means that the extent to which spending is funded by grants versus council tax varies significantly across the country: for instance, council tax funded 33.1% of revenue expenditure in the South East of England, but only 17.5% in London, in 2009–10.

As discussed above, local government net expenditure is funded through a number of different sources, including council tax, and general grants and specific grants from central government. Box 6.1 provides more detail on the relative importance of these sources of funding and on how the amount of support through grants is determined.

As highlighted in Box 6.1, most grants by central government for schools and other education spending are ring-fenced. This means that the amount spent on these services is largely out of the control of local government, although it can be topped up with non-ring-fenced funding if desired. Furthermore, in recent years, significant expenditure on schools has been shifted from going via local government to being paid directly from central government to schools. This reflects the growth of the Academies Programme, where schools are given significant operational freedoms and are funded directly, which has accelerated since the coalition government came to power. With the number of academies varying significantly across local authorities and increasing substantially in recent years, differences in local authority spending on education in different parts of the country and over time may not reflect real differences in the amount spent on education, but instead differences in who is responsible for such spending.⁵ For this reason, we exclude education from subsequent analysis, where we turn to look at variation in local government spending in different parts of England and at changes in spending over time.⁶

Figure 6.3 shows how net current service spending per capita for each of the main service areas (excluding education) differs between each of the regions of England. The region with the highest level of spending per person was London, which had a higher level of spending for each service than the English average. Expenditure was especially high for transport (£358 versus an English average of £125) and police (£450 versus an average of £230). Higher spending on transport reflects, to a significant extent, the high costs associated with subsidising Transport for London's (TfL's) public transport networks,

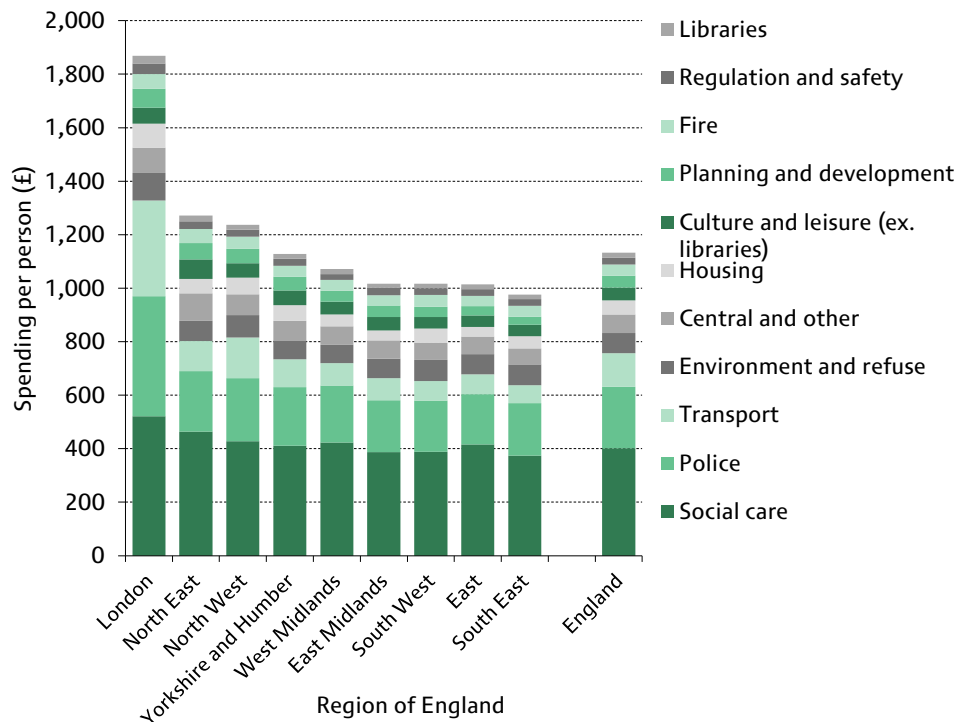
⁵ For instance, in 2009–10, local government spending on education, excluding the very small local authorities covering the Isles of Scilly and the City of London, varied from £592 per person in the London Borough of Westminster (and was under £700 per person in seven other local authorities) to £1,515 per person in the London Borough of Newham (and was over £1,200 per person in seven other authorities). However, because the organisation of education may differ significantly across areas (e.g. of Westminster's 10 secondary schools, four were academies in 2009–10, whilst none of Newham's 16 secondary schools was), this variation may not accurately reflect the true variation in spending on schools across local authorities.

⁶ Trends in education and schools spending over time, including forecasts up to 2014–15, can be found in H. Chowdry and L. Sibieta, 'Trends in education and schools spending', IFS Briefing Note 121, 2011 (<http://www.ifs.org.uk/publications/5732>).

while high costs for policing may reflect the urban and, in many areas, relatively deprived nature of London, as well as the Metropolitan Police’s significant national responsibilities (such as coordinating anti-terrorism efforts).

Outside of London, local government spending (excluding education) is highest in the North East of England, a relatively poor part of the country, and lowest in the South East, a relatively affluent part. Spending in the North East is at or above the English average for all services, apart from transport services and police services (where the especially high spending in London skews the national picture) and environmental and refuse services (where the difference is just £1 per person). Spending in the South East is at or below the national average for every service except environmental and refuse services.

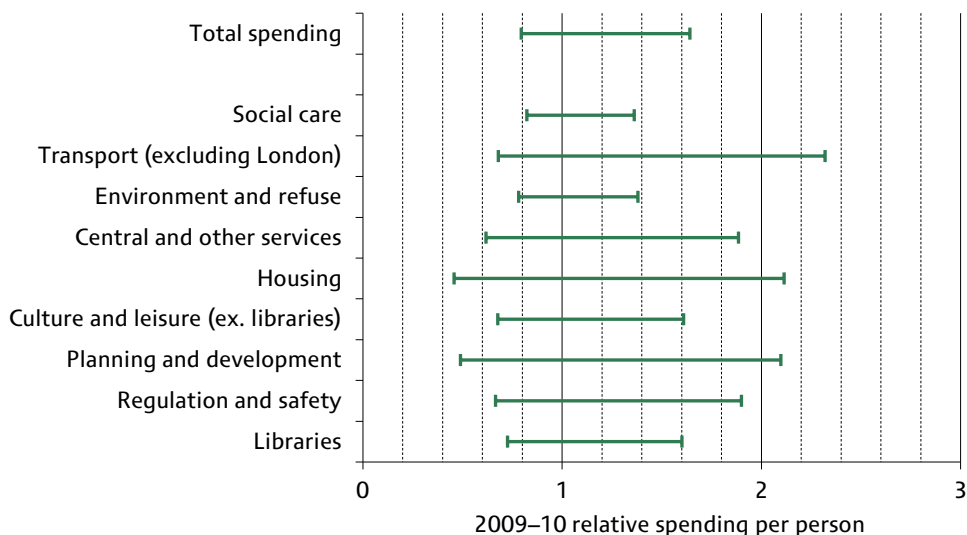
Figure 6.3. Spending per person by local government across the regions of England, 2009–10



Source: Local government expenditure out-turns, 2009–10, available at <http://www.communities.gov.uk>.

Of course, decisions on local government spending are made at the local authority level as opposed to the regional level. Figure 6.4 shows how varied local government spending per person is for each service and overall (excluding education, fire and police) across the unitary authorities, metropolitan districts, London boroughs and shire counties of England. Spending on police and fire services is excluded because these services are not provided by local councils but by single-purpose authorities that do not geographically align with the level of local government used for the other spending categories. So that spending on each service can be shown in one graph, the median level of spending (i.e. the level of spending in the ‘middle’ local authority, where 50% of authorities are spending more than that authority and 50% are spending less) is normalised to 1 for each service. The green lines then show the range of spending of the middle 80% of local authorities (in other words, 10% of local authorities are spending an amount relative to the median that is less than the left-hand end of the line and 10% of local authorities are spending more than the right-hand end of the line).

Figure 6.4. The distribution of local government spending, 2009–10



Notes: Total spending is net current service spending excluding education, police and fire services, and national parks. ‘Central and other services’ includes expenditure on corporate and democratic management and other non-distributed costs. Expenditure in two-tier areas is aggregated to the upper (shire county) level. Expenditure by single-function authorities (except police and fire) in metropolitan areas is allocated to metropolitan districts based on their contributions to the authority’s budget (called levies), with remaining expenditure (or surplus) allocated to districts based on population. Expenditure by the Greater London Authority (except police and fire) – which is predominantly spending by Transport for London – is allocated to London boroughs based on population. The set of local authorities included is therefore shire counties (27), unitary authorities (56), metropolitan districts (36) and London boroughs (33). The green lines show the range of spending of the middle 80% of local authorities.

Source: Local government expenditure out-turns, 2009–10, available at <http://www.communities.gov.uk>.

The median level of total net current service spending (excluding education, fire and police) in England in 2009–10 was £832 per person. One-tenth of local authorities had spending of less than 80% of this amount (£661 per person) and a further tenth of local authorities had spending of more than 64% above the median (£1,365 per person). Overall spending is highest in London (especially the inner boroughs) and urban areas in the North of England (such as Manchester, Liverpool and Newcastle). It is lowest in shire counties or unitary authorities covering more rural or suburban areas (such as Leicestershire, Windsor and Maidenhead, and Hampshire).

Spending varies the most, relative to the median, for transport, housing, and planning and development. London boroughs are excluded from the distribution of transport spending in Figure 6.4 because, as discussed above, transport spending in London is nearly three times the English average level of transport spending per head. However, even outside London, the distribution of transport spending is very varied: the highest-spending tenth of councils outside of London spend more than twice the median spending level. This is driven by other large urban areas such as Greater Manchester. Spending on housing and on planning and development are also both more than twice the median in the highest-spending tenth of councils: London boroughs and other urban areas are over-represented in this high-spending group. Spending on environmental and refuse services and on social care vary relatively much less across individual local authorities.

6.3 Where have the cuts fallen since 2009–10?

Cuts to overall spending

The two years since 2009–10 have seen downward pressure on local government budgets from both real cuts in central government grants and real falls in council tax revenues. These are discussed in turn below, before considering the aggregate effect on net current service spending.

The allocation of cuts to grants

Although the Formula Grant was increased from £28.3 billion in 2009–10 to £29.4 billion in 2011–12 (a cash increase, but a real-terms cut of 1.2% once economy-wide inflation is taken into account), this reflects the fact that a number of specific grants and funding streams previously paid through Area-Based Grant have been rolled into the Formula Grant in 2011–12. Taken together, grants from central government (excluding those specifically for education) were cut by 13.3% in real terms between 2009–10 and 2011–12.

The way the Formula Grant has been allocated means that the cuts faced vary across individual local authorities. As discussed in Box 6.1, certain local authorities (with high expenditure requirements, low council tax bases or both) rely on grants for a larger proportion of their overall budget. If the same proportional cut in central government grants had been applied to all local authorities, the total spending power (grants plus council tax revenues) of those authorities most reliant on grants would have been reduced much more than that of the authorities least reliant on grants. To reduce the extent to which this has happened, the government has grouped authorities into bands based on the proportion of their income that comes from Formula Grant, and the maximum percentage cut in grants that an authority may face has been made smaller for those more reliant on grants than for those less reliant on grants (this process is called ‘floor damping’). In addition, the government has set up a transition grant for 2011–12 and 2012–13, which will be used to ensure that no local authority will see a reduction in overall spending power (which is, broadly, the sum of council tax, government grants, and NHS spending for social care) of more than 8.8% – in nominal terms – in either year.

Despite these measures, it is still the case that the cuts in grants between 2009–10 and 2011–12 have generally meant that, across England, high-spending local authorities, which are typically relatively grant dependent, have seen larger cuts to their overall spending power than lower-spending authorities, and have therefore had to make larger spending cuts (both in absolute and in percentage terms).

Alongside the reduction in the size of grants, there has been a reduction in the targeting by central government of grants on specific functions. In the 2010 Spending Review, the government announced the ending of ring-fencing for most grants (the most notable exception being for the dedicated school grants) and the abolition of a large number of separate grants (where spending is earmarked for a particular purpose even if it is not ring-fenced), with the funding previously going to these being rolled into the Formula Grant. Together, these changes (the largest of which was the removal of the ring-fence around funding for Sure Start and other early years provision) have led to some increase in local authority discretion about how to allocate spending (and spending cuts) across services.

Changes in council tax revenues

In the June 2010 Budget, the government announced that grant funding on top of the Formula Grant (equivalent to 2.5% of council tax revenues in 2010–11) would be made available for the four years from 2011–12 to 2014–15 if local authorities froze their council tax rates in nominal terms in 2011–12. This offer was taken up by all local authorities, and indeed 43 authorities actually chose to reduce their council tax rates in nominal terms (for which they got the same grant from central government as they would have done if they had frozen their council tax rates).

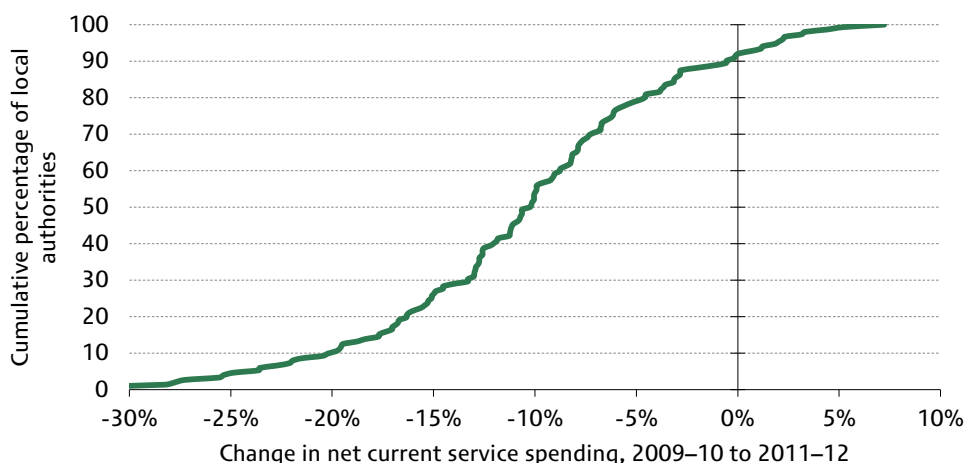
Coupled with the below-inflation increases in council tax rates in 2010–11, council tax revenues are predicted to have fallen by 2.1% in real terms between 2009–10 and 2011–12. While this is a real-terms decline in revenues, the relatively modest reduction does mean that the picture for local government financing as a whole does not look as bad as the large cuts to central government grants would on their own imply.

Resulting cuts to net current service spending

The published budgets of local governments in England estimate net current expenditure (excluding education) equal to £56.5 billion in 2011–12, compared with £57.3 billion in 2010–11 and £59.2 billion in 2009–10. After adjusting for economy-wide inflation (estimated at 5.4% between 2009–10 and 2011–12), this represents a real-terms cumulative reduction in net spending of 9.4% over the two years. Given the cuts to central government grants to local government set out in the 2010 Spending Review, further cuts to local government spending are forecast for at least the following three years (2012–13 to 2014–15).

As discussed above, different local authorities face different cuts to their grant income and rely to different extents on such grant income versus income from other sources such as council tax. Total spending cuts at the national level therefore hide a lot of variation in the level of spending cuts planned at the local authority level. Figure 6.5 shows the distribution of planned changes in net current service spending (excluding education,

Figure 6.5. The distribution of changes in local government current service spending in England (excluding education, police and fire), 2009–10 to 2011–12



Notes: Excludes police and fire authorities and national parks, as these do not geographically align with the 'upper tier' councils used in this analysis. See also notes to Figure 6.4.

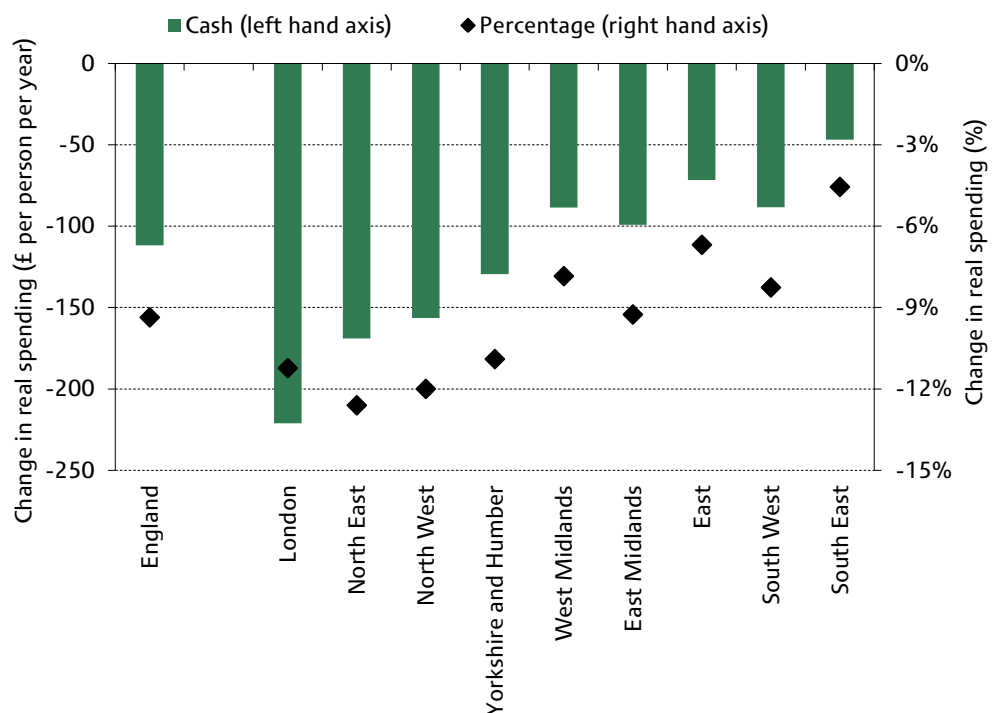
Source: Local government expenditure out-turns (2009–10) and budgets (2011–12), available at <http://www.communities.gov.uk>.

police and fire) between 2009–10 and 2011–12 across local authorities. The median local authority is planning to cut spending by 10.2% – in other words, half of local authorities are planning to cut spending by more than 10.2% and half of local authorities are planning to cut spending by less. This compares with a mean cut of 10.4%.⁷

Over one-quarter (26%) of councils are seeing real-terms cuts in net current service spending (excluding education, police and fire services) of 15% or more. Over-represented amongst this group are London boroughs, metropolitan districts, and unitary authorities covering urban areas in the North and Midlands. Around one-half of local authorities are making cuts of between 6% and 15%. On the other hand, around one-tenth of councils are planning real increases in their spending. Over-represented amongst this group are local councils covering more affluent areas, particularly in the South of England.

The spending cuts are larger in local authority areas where spending was initially higher. For instance, the average real-terms cut in current service spending (excluding education, police and fire services) in the quarter of local areas where spending was lowest in 2009–10 is 5.5%, versus 16.8% in the quarter of areas with the highest spending in 2009–10. This means that the extent to which local government spending varies across England is set to fall between 2009–10 and 2011–12. For instance, as shown in Figure 6.4, the top tenth of authorities were spending 64% more than the median and the bottom tenth 20% less than the median in 2009–10. Budgets for the current financial year imply that the corresponding figures for 2011–12 are 46% more and 18% less.

Figure 6.6. Cuts to local government net current service spending (excluding education), by region, 2009–10 to 2011–12



Source: Local government expenditure out-turns (2009–10) and budgets (2011–12), available at <http://www.communities.gov.uk>.

⁷ Note that 10.4% is the reduction in spending excluding education, police and fire. The 9.4% figure in the previous paragraph is the cut when only education is excluded.

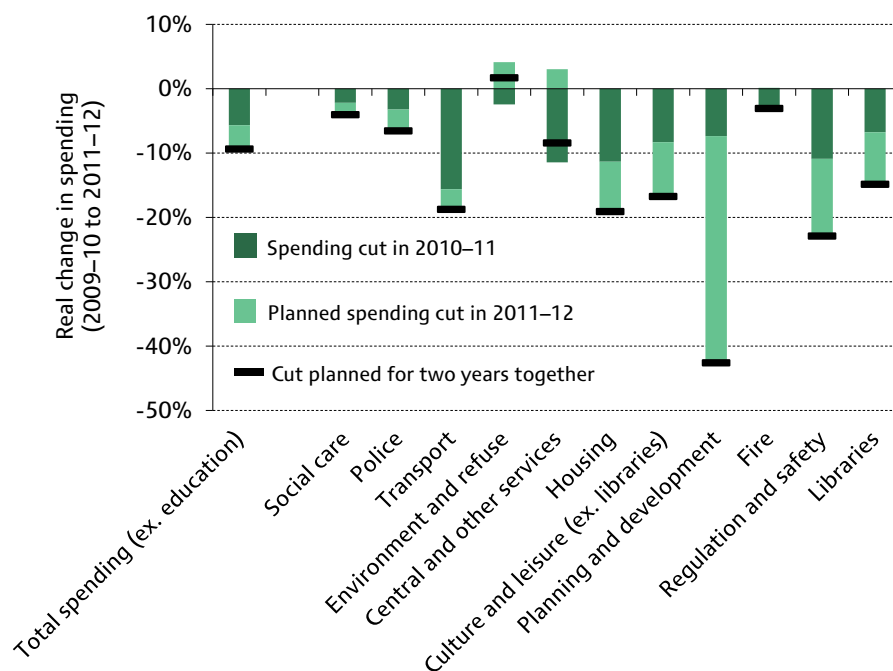
The result of this distribution of quite varied levels of cuts across local authorities is that there are different levels of average cuts across the regions of England. Figure 6.6 shows what the aggregated local authority decisions imply for the average cuts for each region, with the pounds-per-person change in spending shown by the green blocks and the percentage change in spending shown by the black diamonds. Net service expenditure (excluding education) – but including the police and fire services – was cut by £112 per person or by 9.4%.

Overall cuts in local government spending (excluding education) are largest in both absolute and proportionate terms in the high-spending regions of London (equivalent to £221 per person or 11.2%), the North East (£169 per person or 12.6%) and the North West (£156 per person or 12.0%). They are by far the smallest in the low-spending region of the South East (£47 per person or 4.6%). In general, the cuts in spending are larger in both absolute and proportional terms in those regions of the country with initially higher spending, and smaller in those with initially lower spending, reflecting a similar pattern found at the local authority level.

Cuts by service

Differences in how much central government has decided to allocate to different types of authorities responsible for different services (for example, police authorities versus local councils) and the use of discretion by local government in setting spending priorities mean that spending cuts vary by service. Figure 6.7 shows how the spending cuts made in 2010–11 (in dark green) and the cuts planned for 2011–12 (in light green) are allocated across services. The black lines show the cuts planned for the two years together, measured as a percentage of spending in 2009–10. As discussed above, in 2011–12 local government current expenditure on services (excluding education) will be 9.4% below its 2009–10 level. Over half of this fall (5.7 percentage points) took place in 2010–11.

Figure 6.7. Cuts to local government current service spending in England, 2009–10 to 2011–12



Source: Local government expenditure out-turns (2009–10 and 2010–11) and budgets (2011–12), available at <http://www.communities.gov.uk>.

Spending on planning and development services is set to face the largest cuts of any service area, equivalent to 43% over the two years, largely due to significant cuts in spending on economic and community development programmes. Only around one-sixth of this cut was delivered in 2010–11, with the rest planned to take place during the current financial year, 2011–12. Spending on regulation and safety, housing, transport, culture and leisure (excluding libraries) and libraries are also set to be cut back relatively significantly (by 23%, 19%, 19%, 17% and 15%, respectively) over the two-year period. These cuts are fairly evenly spread over 2010–11 and 2011–12, with the exception of the cuts to transport services: around five-sixths of the cuts in this area were delivered in 2010–11.

Spending on social services, the largest component of non-education service expenditure, fire services and police services have been relatively protected: they have been cut by 4%, 3% and 7%, respectively in real terms. Whilst there were cuts to spending on environmental and refuse services and on central and other services in 2010–11, spending in these areas is planned to increase during 2011–12. For the former, the increase will more than offset the earlier cut, leaving spending 1.7% higher in real terms in 2011–12 than in 2009–10.

The average real-terms cut in net current service expenditure (excluding education) of 9.4% is equivalent to £112 per person. On average across England, the function contributing the greatest amount to the overall cut, in £ terms, is transport (at £25 per person), followed by planning and development services (at £20 per person) and social care services (at £17 per person).

Real current expenditure is being reduced, on average, in all regions of England for the following services: planning and development, transport, housing, regulation and safety, libraries, culture and leisure (excluding libraries) and police services. However, the size of the cuts in these areas does vary across the country, reflecting the different needs and preferences of individual local authorities.

Cuts to planning and development services are larger in London and the northern and midland regions of England, and are smaller in the East, South West and especially the South East of the country. This regional pattern of cuts reflects initial levels of spending on planning and development: as with overall expenditure, high-spending regions are engaged in larger cuts (in cash and proportional terms). Real-terms cuts to transport are largest in both absolute and percentage terms in London and the North West of England, the two regions with the highest expenditure, and are lowest in the South East and the West Midlands, both of which have expenditure below the English average.

Real expenditure on social services is being cut in all areas except the South East of England (where it is increasing by 0.6%). Spending on environmental and refuse services is planned to increase in four of the nine regions of England, most notably in the North West of England (by 13.6%), with the largest falls in London (by 5.6%).

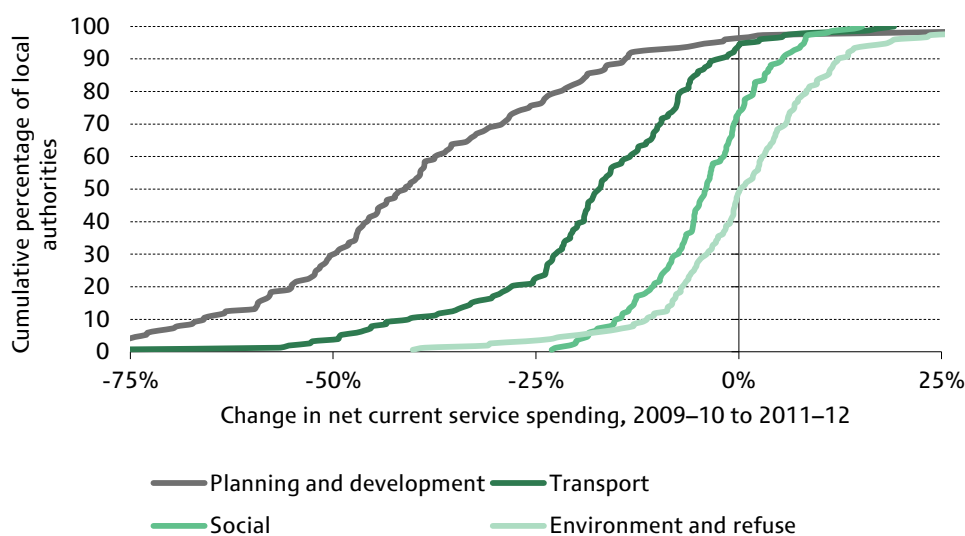
Figure 6.8 shows how the changes in spending vary across local authorities in England for four major service areas: social services, transport, environmental services and refuse, and planning and development.

Nearly all local authority areas are seeing real-terms cuts in their spending on planning and development services. The cuts are larger than 50% for around three-tenths of councils (with urban areas over-represented in this group) and over 40% for just over one-half of councils. The cuts are larger, on average, in those areas where spending on

planning and development services in 2009–10 was higher: for instance, 53% for the highest-spending quarter of local authority areas, versus 26% for the lowest-spending quarter of areas.

Nearly all local authority areas are also seeing a reduction in net current spending on transport services. The change in this expenditure varies significantly across the country: the quarter of council areas seeing the biggest cuts are seeing real-terms reductions in spending of more than 23.7%, while the quarter seeing the smallest cuts (or even increases in expenditure) face cuts of less than 7.8%. Again, cuts are higher, on average, in areas where initial spending on this service area was in the top quarter of local council areas (24%) as opposed to the bottom quarter of local council areas (14%).

Figure 6.8. The distribution of changes in local government net current spending on selected services in England, 2009–10 to 2011–12



Note: See notes to Figure 6.4.

Source: Local government expenditure out-turns (2009–10) and budgets (2011–12), available at <http://www.communities.gov.uk>.

Only half of local council areas are seeing real-terms cuts in their spending on environmental and refuse services. Urban areas (covered by unitary authorities, metropolitan districts or London boroughs) are over-represented in the group making the biggest cuts but also amongst those seeing the biggest increases in spending. More rural areas, covered by the shire counties, are generally seeing modest increases or reductions in expenditure on environmental and refuse services. However, again, the areas initially seeing high levels of spending are seeing cuts (3%), whilst those areas with initially low levels of expenditure will see real-terms increases in expenditure (3%).

Changes in current net expenditure on social care are least varied, although the degree of variation is still high: one-quarter of councils are making cuts of more than 9.0%, while one-quarter are seeing increases of 0.5% or more. Districts covering poorer urban areas are over-represented in the group making the largest cuts to social service expenditure: again this means those with initially high levels of expenditure will see substantial cuts (9.4%), whilst those with low levels of expenditure on social services will see only very modest cuts (0.6%).

Changes in income from service provision

All the figures discussed so far are for net current service spending – a measure of spending that excludes expenditure financed through income received for services, such as user fees and charges. Local authorities have not published forecasts for all income from services in 2011–12, and therefore it is not yet possible to assess to what extent the planned falls in net expenditure between 2009–10 and 2011–12 reflect changes in gross expenditure on services and to what extent they reflect changes in income from sales, fees and other (non-grant) sources. However, it is possible to examine whether income from fees, charges and other sources changed during 2010–11, and therefore whether the first year of cuts involved significant cuts to gross current service spending as well as net current service spending.

Table 6.1 shows the percentage of gross expenditure on each service funded by sales, fees and charges, and the percentage funded by all non-grant income as a whole in 2009–10. It also shows the percentage change in net expenditure, income and gross expenditure between 2009–10 and 2010–11.⁸

Table 6.1. Change in income and gross expenditure, by service

Function	Income as percentage of gross expenditure (2009–10)		Percentage real change between 2009–10 and 2010–11		
	Total	Sales, fees and charges	Net expenditure	Total income	Gross expenditure
Social care	20.9%	9.9%	–2.2%	4.1%	–0.9%
Police services	7.6%	3.3%	–3.2%	–2.5%	–3.2%
Transport	31.5%	22.8%	–15.6%	–7.8%	–13.2%
Environment and refuse	18.7%	10.0%	–2.4%	2.4%	–1.5%
Central and other services	48.2%	17.5%	–11.5%	5.2%	–3.4%
Housing services	30.9%	17.4%	–11.4%	–21.5%	–14.5%
Culture and leisure (ex. libraries)	34.9%	22.6%	–8.3%	–4.3%	–6.9%
Planning and development	33.7%	19.5%	–7.4%	–1.0%	–5.2%
Fire services	3.4%	1.3%	–3.2%	9.6%	–2.8%
Regulation and safety	33.6%	21.7%	–10.9%	4.9%	–5.6%
Libraries	10.7%	6.0%	–6.8%	1.0%	–5.9%
Total (ex. education)	23.8%	12.5%	–5.7%	–0.7%	–4.5%

Note: Total income includes income received from internal trading (e.g. provision of services to other departments) as well as external.

Source: Local government expenditure out-turns, 2009–10 and 2010–11, available at <http://www.communities.gov.uk>.

⁸ The income and gross expenditure figures for central and other services differ from those published by DCLG. This is because they have been adjusted to exclude income from (and spending on) providing the back-office functions that support other service areas (e.g. education). Inclusion of this income and spending (called ‘recharges’) would have led to double-counting of such administration costs.

The amount raised from sales, fees and charges, and non-grant income in general, varies significantly by service. For instance, around one-third of gross expenditure on transport, housing, other culture and leisure, regulation and safety, and planning and development is funded by non-grant income (or one-fifth from sales, fees and charges). On the other hand, around one-fifth of gross expenditure on social care and environmental and refuse services is funded in such a manner (or one-tenth from sales, fees and charges), with the proportion for most other service areas even lower.

Total income from the provision of services (excluding education) fell by 0.7% in real terms between 2009–10 and 2010–11. While it might be surprising that this did not increase significantly, on average, it is still a considerably lower cut than the 5.7% fall in net current service expenditure. This means that, on average across England, the cut to gross current spending was smaller than the cut to net current spending, at 4.5%.

For all services except housing, gross expenditure was reduced less than net expenditure in 2010–11, reflecting the more modest reductions in total income. Indeed, total income from the provision of social care, libraries, regulation and safety services, environmental and refuse services, and fire services all increased in real terms during 2010–11.

A small number of service areas actually provide local authorities with a *net income* on average – that is, the amount of money they get from charges associated with a service is greater than the cost of providing and administering it. Two examples of such services are parking services and cremations and burials. Net income generated from parking services is estimated to increase from £489 million in 2009–10 to £568 million in 2011–12 (or by 10.1% in real terms). Net expenditure on cremations and burials in 2009–10 of £8 million is estimated to have become net income of £21 million by 2011–12.

6.4 Putting the cuts in context

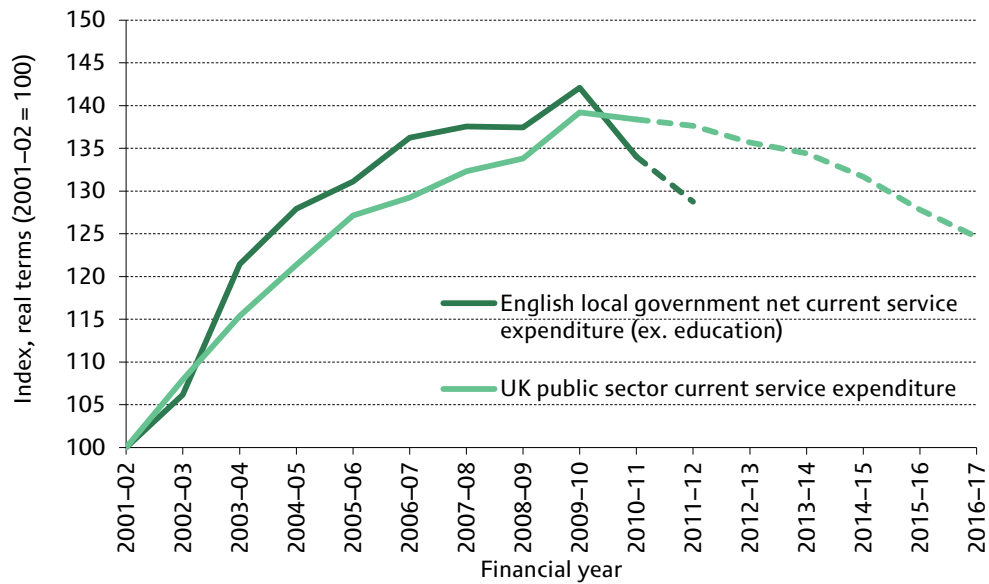
To put the cuts to local government spending over the last two years into context, it is useful to consider how local government spending has evolved over recent years. Figure 6.9 shows how changes in local government net service expenditure (excluding education) in England since 2001–02 compare with changes in total public current service spending in the UK.⁹

Local government net current service spending increased relatively rapidly between 2001–02 and 2006–07 (by over 36% in real terms), before growing more slowly. Spending fell in 2010–11, and it is forecast to fall to 29% above its 2001–02 level by 2011–12 (approximately the level of spending in 2004–05). This pattern, although less pronounced, is also found for UK public sector current service spending.

UK public sector current service expenditure is forecast to fall in real terms in each of the five years 2012–13 to 2016–17. The 2010 Spending Review set out significant cuts for the next three years (2012–13 to 2014–15) to the grants provided by central government to fund English local government expenditure. These cuts mean it is likely that the total cumulative cuts to local government spending will continue to outpace those expected of UK public sector current service spending as a whole to 2014–15. Furthermore, it is likely

⁹ The earliest year for which expenditure data allow the construction of comparable categories to the rest of the chapter is 2001–02; earlier data (going back to 1996–97) are only available for total net current service spending (excluding education).

Figure 6.9. Comparing English local government net current service spending (excluding education) with trends in UK public sector current spending, 2001–02 to 2016–17



Notes: Public sector expenditure includes spending by central government, local government and public corporations. UK public sector current service expenditure is Total Managed Expenditure, less public sector net investment, gross debt interest payments and spending on net social benefits.

Sources: Local government expenditure out-turns (2001–02 to 2010–11) and budgets (2011–12), available at <http://www.communities.gov.uk>. UK public sector expenditure out-turns and forecasts can be found at http://www.ifs.org.uk/ff/lr_spending.xls.

that at least some of the cuts to overall current service spending planned for 2015–16 and 2016–17 will take the form of cuts to local government current service spending.

Table 6.2 shows net current service expenditure for each service area in 2001–02 and 2009–10 and allows comparison of the average growth rate (in real terms) over that period with the cuts planned between 2009–10 and 2011–12. Total current service expenditure (excluding education) increased at an average annual rate of 4.5% per year in real terms in the eight years to 2009–10, with most of this increase concentrated during the early part of the period. It is planned to be cut by an average 4.8% a year in real terms between 2009–10 and 2011–12.

A number of functions saw relatively rapid average annual real growth in spending between 2001–02 and 2009–10 but are planned to see large cuts between 2009–10 and 2011–12. Expenditure on housing services rose most rapidly, at an average annual rate of 14.1% in real terms. The cuts in spending in this area in 2010–11 and planned for 2011–12 together undo around three-tenths of the real-terms increase in spending that occurred during the previous eight years. Net current spending on transport grew by an average of 7.3% per year in real terms, the second-fastest growth rate of any service area. The cut in 2010–11 and the planned cut in 2011–12 (which together average almost 10% per year) will undo nearly half of this growth. Net current spending on planning and development grew by an average of 7.0% per year between 2001–02 and 2009–10, but in this case the cuts since then (averaging over 24% per year) are set to leave spending in 2011–12 lower in real terms than in 2001–02.

Table 6.2. Local government spending (2011–12 prices), by function

Function	Spending (£m) in 2001–02	Spending (£m) in 2009–10	Spending (£m) in 2011–12	Average annual real spending change	
				2001–02 to 2009–10	2009–10 to 2011–12
Social care	14,713	22,090	21,201	5.2%	–2.0%
Police services	10,160	12,669	11,840	2.8%	–3.3%
Transport	3,920	6,893	5,602	7.3%	–9.9%
Environment and refuse	2,756	4,167	4,239	5.3%	0.9%
Central and other services	3,766	3,834	3,512	0.2%	–4.3%
Housing services	1,002	2,876	2,328	14.1%	–10.0%
Culture and leisure (ex. libraries)	2,250	2,642	2,200	2.0%	–8.7%
Planning and development	1,421	2,434	1,398	7.0%	–24.2%
Fire services	2,065	2,294	2,224	1.3%	–1.5%
Regulation and safety	922	1,427	1,100	5.6%	–12.2%
Libraries	904	1,009	859	1.4%	–7.7%
Total (ex. education)	43,879	62,336	56,503	4.5%	–4.8%

Notes: Expenditure on parks and open spaces was classified as part of environmental services expenditure in the 2001–02 local government financial statistics. In this table, this expenditure is classified as part of expenditure on other culture and leisure to ensure consistency with later years.

Source: Local government expenditure out-turns (2001–02 and 2009–10) and budgets (2011–12), available at <http://www.communities.gov.uk>.

The relative winners are those functions that saw high average annual real growth in spending between 2001–02 and 2009–10, but that are not planned to see large cuts between 2009–10 and 2011–12 – namely, social care and environment and refuse services. Akin to the NHS, social care is a key spending priority for central government over the current Spending Review period. The 2010 Spending Review planned increases to the social care grant from the Department of Health to local authorities (by £0.6 billion in 2011–12) – although it should be noted that this money is treated as part of the Formula Grant and can therefore be used for purposes other than social care if local authorities so wish. The Spending Review also set aside money within the NHS budget for social care (£0.8 billion in 2011–12).

Overall, there is no clear pattern that service areas that previously saw larger increases have also seen larger cuts. Sizeable cuts to real-terms net expenditure on libraries and on other culture and leisure follow eight years of only modest growth in expenditure, such that spending in these areas will also be lower in 2011–12 than in 2001–02. On the other hand, spending on social care grew at a faster rate than overall local government service expenditure and is set to see smaller-than-average cuts. Clearly, if local authorities continue to (relatively) protect spending on social care, cuts in the other spending areas will have to be significantly more than the overall spending cuts would seem to imply.

6.5 Conclusions

This chapter represents an early description of how the initial changes in local government spending that need to be delivered as part of the fiscal tightening are being

distributed across the country and across service areas. The cut to net service spending by local government in England is significant: around 9.4% excluding education, or 10.4% excluding education, police and fire services, between 2009–10 and 2011–12, after accounting for economy-wide inflation. But these averages mask a wide degree of variation in the cuts facing different parts of the country. Local authorities serving areas of England with higher initial levels of local government spending are making larger percentage cuts to their spending than authorities initially spending less. This means the cuts are larger in both proportional and absolute terms in local authorities covering poorer, urban districts than in authorities serving more affluent or rural districts of England.

The size of cuts varies not only across the country, but also by type of service. Expenditure on environmental and refuse services is actually set to increase slightly in real terms, on average, between 2009–10 and 2011–12. Social care is also a relative winner: while spending is set to fall by 4% in real terms between 2009–10 and 2011–12, this is considerably less than the average overall cut, and follows eight years with an average annual real growth rate of 5.2%. Net current expenditure on fire services and, to a lesser extent, police services also look to be relatively protected. On the other hand, net expenditure on planning and development services is being cut drastically and, along with libraries and other culture and leisure, expenditure in this service area is planned to be lower in real terms in 2011–12 than it was in 2001–02. At least in terms of the cuts planned between 2009–10 and 2011–12, it does not appear to be a general rule that those service areas that had previously seen the largest (smallest) increases will see the largest (smallest) cuts.

Further real-terms cuts to central government grants to local government are planned every year between now and 2014–15, and continuing cuts to overall public service expenditure mean it looks likely that there will also be additional cuts in grants in 2015–16 and 2016–17. Local authorities will therefore continue to have to make tough decisions in the coming years about which services to cut back spending on or, perhaps, where user charges can be increased or introduced in order to maintain service provision. What is clear is that individuals will need to either expect less from their local authority in terms of the services provided or the quality of those services, or be willing to pay more for them through higher council tax or higher user charges.

7. UK development aid

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Summary

- The government has ring-fenced the UK aid budget and committed to increasing expenditure to meet the international target of providing 0.7% of gross national income (GNI) as official development assistance (ODA) from 2013. In 2010, the UK government spent £8.45 billion on international development, equating to £321 for each household, and this is planned to rise to £12 billion in 2013.
- Sixteen European countries have committed to reaching a target of spending 0.7% of GNI on ODA by 2015. While this level has already been surpassed by five of these countries, the UK is among only a handful of others that have currently achieved a level near to the target.
- The majority of UK ODA is channelled through the Department for International Development (DfID). Of the aid that DfID delivers bilaterally, the largest share is allocated to Africa. The majority of multilateral expenditures are made through the European Commission and the World Bank.
- DfID expenditures were reviewed in 2011. As a result, DfID spending will now be focused on fewer countries, will be channelled through fewer multilateral organisations, and will be reported on more regularly and in a more detailed manner. This is intended to improve the value gained from ODA.
- Despite the recent reviews, there remains a need to evaluate the value for money achieved by UK ODA. To do this, a greater amount of information is needed, along with increased transparency, particularly relating to multilateral expenditures. The creation of the Independent Commission for Aid Impact, an independent aid watchdog, should go some way to achieving this.

7.1 Introduction

The UK has committed to meeting an international target to contribute 0.7% of gross national income (GNI) to development aid annually from 2013. In order to achieve this, the government has ‘ring-fenced’ aid spending from the cuts that are occurring elsewhere. In contrast to a real-terms reduction in total public expenditure of 11.5% between 2010–11 and 2014–15, development aid expenditures will increase by 40%. The Departmental Expenditure Limit for the Department for International Development (DfID), which is responsible for the majority of UK aid spending, is planned to increase in cash terms from £7.8 billion in 2010–11 to £11 billion in 2014–15.¹ This is a significant

¹ These plans were set out in the 2010 Spending Review. The Departmental Expenditure Limit for DfID is planned to increase to £8.1 billion in 2011–12, £8.8 billion in 2012–13, £11.3 billion in 2013–14 and £11.5 billion in 2014–15. As a result, in real terms, an extra £2.6 billion will have been expended by DfID over this period, compared with the case where DfID funding was frozen at 2010–11 levels. These are authors’ calculations based on data available in table 2.15 of the 2010 Spending Review (http://cdn.hm-treasury.gov.uk/sr2010_completereport.pdf). Real-terms figures are calculated using the latest GDP deflator

increase in spending; if DfID funds had been frozen at 2010–11 levels, the extra funds could have instead been used to reduce the real cuts to the Department for Education's expenditure by a third over this period.

The decision to protect aid spending from the cuts being made to other budgets has created some controversy and raised the question of why development assistance should be valued above domestic expenditures.

The aims set out by the previous government state that 'It is our duty to care about other people, in particular those less well off than ourselves. We all have a moral duty to reach out to the poor and needy'.² In recent years, this rationale has been augmented with the notion that poverty in the developing world is a direct threat to the UK's interests, even in the face of fiscal austerity.³ David Cameron has stated: 'I don't believe it would be right to ignore the difference we can make, turn inwards solely to our own problems and effectively balance our books while breaking our promises to the world's poorest'.⁴ In their 2010 election manifestos, all three main UK political parties included a pledge to meet the 0.7% target by 2013 at the latest. At present, there is a bill going through Parliament that would make meeting the target a statutory requirement.

The target to contribute 0.7% of GNI annually from 2013 onwards, which is endorsed by the United Nations (UN), has been adopted by 16 European countries. Of these, the UK is one of a handful of countries that have either met the target or attained a level close to it. The US, Japan and Canada have not made any commitment to the target. Indeed, by international standards, the UK's public aid spending appears relatively generous.

The 0.7% target is based specifically on increasing 'official development assistance' (ODA), an internationally-used measure of developmental aid adopted by the OECD's Development Assistance Committee (DAC) and used to monitor flows of development assistance. ODA mainly covers developmental aid from government sources that focuses on improving the long-term capabilities of poor people. Only a very small proportion is in the form of humanitarian assistance that focuses on alleviating short-term suffering.⁵

A key part of any debate on development spending is value for money – that is, ensuring that aid is being spent effectively to achieve its goals. This is especially true in a time of fiscal austerity. However, value for money can be difficult to assess. Conceptually, there are a number of ways in which one might proceed in deciding how to evaluate value for

available from HM Treasury. It should be noted that these figures have since been adjusted in the 2011 Autumn Statement, with an expected decrease of £525 million, to £11 billion, for the 2014–15 figure.

² See *Eliminating World Poverty: A Challenge for the 21st Century*, White Paper on International Development, 1997 (<http://webarchive.nationalarchives.gov.uk/+http://www.dfid.gov.uk/policieandpriorities/files/whitepaper1997.pdf>).

³ The Conservative Green Paper on International Development states: 'Poverty breeds extremism, incubates disease and drives migration and conflict. Instability around the world threatens us all'. Source: *One World Conservatism: A Conservative Agenda for International Development*.

⁴ This quote was part of an article in *The Observer*, 12 June 2011, available at <http://www.guardian.co.uk/global-development/2011/jun/11/david-cameron-international-aid-vaccine%20>.

⁵ The complete definition of official development assistance (ODA) is 'Grants or loans to countries and territories on the DAC List of ODA Recipients (developing countries) and to multilateral agencies which are: (a) undertaken by the official sector; (b) with promotion of economic development and welfare as the main objective; (c) at concessional financial terms (if a loan, having a grant element of at least 25 per cent). In addition to financial flows, technical co-operation is included in aid. Grants, loans and credits for military purposes are excluded. Transfer payments to private individuals (e.g. pensions, reparations or insurance payouts) are in general not counted' (http://www.oecd.org/document/32/0,3746,en_2649_33721_42632800_1_1_1_1_00.html#ODA). Aid from private sources, including non-governmental organisations (NGOs), is excluded.

money. For example, should money be used to improve the lives of the very poorest, or targeted to those where the spending will have the largest effect (which may not be where absolute poverty is highest)? There are also practical difficulties in collecting data on, and measuring, aid outcomes. But this is important: meeting a target to spend a certain amount can be distinct from achieving the goals underlying that target.

Our aim here is to describe what we currently know about how UK public aid is spent – who spends the money, in which countries do they spend it, what is it spent on, and how does the UK compare with other nations. We note that DfID recently reviewed aid expenditure with a view to ensuring that its aid is spent effectively, and that the Independent Commission for Aid Impact (ICAI) has recently been founded for this purpose. However, there is still more work to be done in setting out the aims of UK ODA and evaluating its efficacy.

Section 7.2 provides a broad overview of the trajectory of UK ODA spending, including a brief history of the 0.7% target. Section 7.3 provides a detailed discussion of DfID expenditure. Section 7.4 compares UK ODA expenditure with those of other countries, analysing the differences in both the amounts spent by each country and the locations in which this spending is targeted. Section 7.5 concludes with some discussion of the importance of evaluating aid spending.

7.2 UK ODA spending

In 2010, UK spending on ODA was £8.45 billion. This amounted to 0.57% of GNI and equates to approximately £275 per UK taxpayer.⁶ The government has committed to increasing ODA spending to meet the target of 0.7% of GNI by 2013. This follows a commitment originally made at the 2005 G8 Summit; see Box 7.1 for a brief history of the target. The 2010 Spending Review announced that total ODA spending will need to rise by £3.6 billion from 2010 to 2013 to reach the £12 billion required to meet the 0.7% target. From then on, ODA will have to grow in line with GNI to ensure the ongoing commitment is met. Following the 2006 International Development (Reporting and Transparency) Act, DfID has reported annually on progress towards the target and whether the UK is on track to meet it.

Figure 7.1 shows the evolution of UK ODA over the past five decades, both in terms of total amount (in real terms)⁷ and as a percentage of GNI. Real ODA was basically flat until 2000, despite steady nominal increases (not shown). After this, it increased significantly. As a proportion of GNI, ODA spending was falling until the late 1990s. Between 2000 and 2010, the ODA/GNI ratio has almost doubled.

At the time of the 2011 Autumn Statement, the Office for Budget Responsibility (OBR) forecast that GNI will grow at a slower rate than previously expected. This means that reaching the 0.7% target will require less spending on aid than previously thought. As a result, the Chancellor announced that the amount of ODA expenditure will be smaller than originally forecast so as not to overshoot the target. Although the amount spent on ODA is still increasing to meet the target, this will cost the government around

⁶ A taxpayer is taken as an individual who pays income tax. There were an estimated 30,600,000 taxpayers in the UK in 2010 (http://www.hmrc.gov.uk/stats/tax_receipts/table1-4.pdf). ODA and GNI data are sourced from the OECD DAC database.

⁷ This 'real-terms' measure uses UK economy-wide inflation. This definition applies to all cases within the chapter that use this term.

Box 7.1. History of the 0.7% official development assistance target

The '0.7% of GNI on ODA' target has diverse claims on its origin but can be concretely dated back to 1969. At that time, the Pearson Commission on International Development, set up by the World Bank to study aid effectiveness, proposed that ODA 'be raised to 0.7% of donor GNP by 1975, and in no case later than 1980'.^a The 0.7% figure was based on the estimated financial requirements of developing countries, historical commitments, and the capacity of the developed world to contribute to development. This target was endorsed by the United Nations (UN) in a 1970 General Assembly Resolution, though no explicit commitment to it was made.

By 1980, only four countries had reached this level. Renewed calls for countries to commit to the 0.7% target followed the Brandt Report, the outcome of an internationally-recognised independent commission on international development. Although widely discussed at the time, no formal agreements were made in response.^b This pattern continued throughout the 1990s with no fixed deadline ever set.

In 2002, the EU15 countries agreed collectively to reach an average level of 0.39% of GNI, and for each country to set out a timetable to reach 0.7%, by 2006. However, the 0.7% target was not part of a formal commitment until the 2005 G8 Summit in Gleneagles, Scotland.^c This included a pledge by the EU15 countries individually to reach the 0.7% target by no later than 2015. Individual countries pledged to meet this commitment by different dates, with the UK settling on 2013. There was also an interim target collectively to reach 0.56% of GNI by 2010. Outside of Europe, no countries have explicitly agreed to the 0.7% target.

The optimal target for aid is difficult to establish. Recent attempts to recalculate the 0.7% figure using the savings-based models referenced by the Pearson Commission suggest that required contemporary flows are much smaller than 0.7% of GNI.^d Using a different, needs-based model, Sachs et al. (2005) derive estimates of 0.54% of OECD nations' GNI as a minimum requirement for ODA spending by 2015.^e However, the appropriate methods for such calculations remain hotly debated.

In practice, the target reflects a political consensus based on donors' experiences and historical precedence. Even in 1969, the Pearson Report stressed that ultimately we rely on 'the experience of the major aid agencies, which suggest that the capacity of developing countries to use ... aid is well above current availabilities'.

^a Pages 148–149 of Lester B. Pearson et al., *Partners in Development: Report of the Commission on International Development* Praeger Publishers, New York, 1969. The target was originally based on GNP, but was replaced by GNI following the 1993 update of the UN's System of National Accounts.

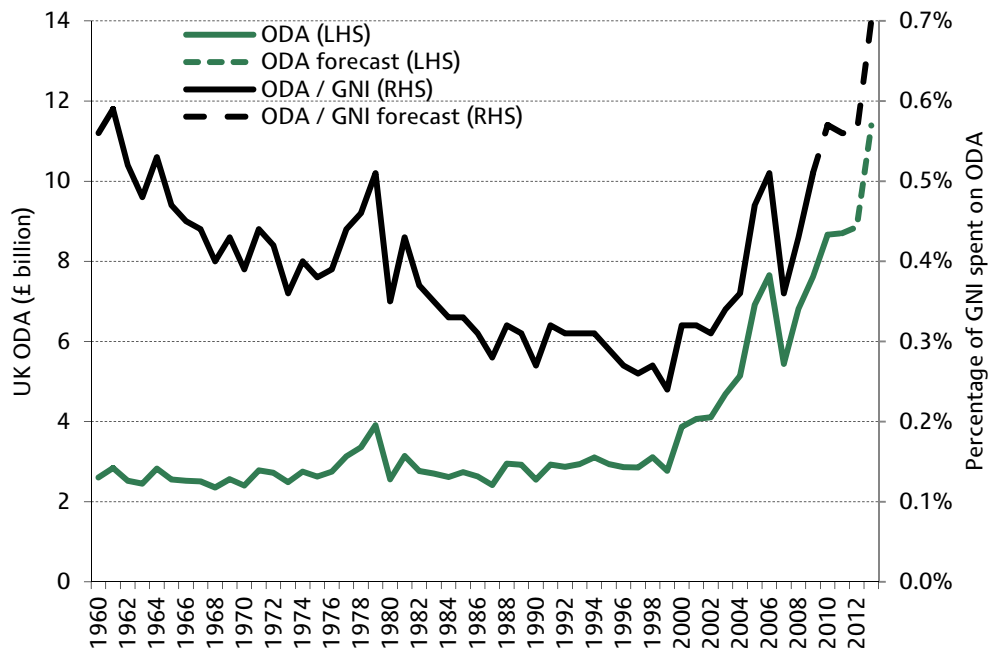
^b Page 43 of United Nations General Assembly, Twenty-Fifth Session, Second Committee, *International Development Strategy for the Second United Nations Development Decade*, October 1970 (available at <http://www.un.org/documents/ga/res/25/ares25.htm>).

^c The commitments were formalised in the 'Gleneagles Communiqué' (http://www.unglobalcompact.org/docs/about_the_gc/government_support/PostG8_Gleneagles_Communique.pdf).

^d See M. Clemens and T. Moss, 'Ghost of 0.7%: origins and relevance of the international aid target', Centre for Global Development, Working Paper 68, 2005 (http://www.cgdev.org/files/3822_file_WP68.pdf)

^e J. Sachs et al., *Investing in Development: A Practical Plan to Achieve the Millennium Development Goals*, Millennium Project, Report to the UN Secretary-General, 2005 (<http://www.unmillenniumproject.org/documents/MainReportComplete-lowres.pdf>).

Figure 7.1. UK ODA, 1960 to 2013



Notes: Figures are in 2011 prices. Forecasts are based upon the assumption that GNI will grow at the same rate as GDP, and use OBR forecasts for GDP and GDP deflators.

Source: Authors' calculations based on data from the OECD DAC Database, Autumn 2011 forecasts from the Office for Budget Responsibility, and the latest GDP deflator figures available from HM Treasury.

£1.2 billion less than previously thought over the next three years (£380 million less in 2012–13, £265 million less in 2013–14 and £525 million less in 2014–15). This means that the UK is on course to meet the target, spending 0.56% of GNI on ODA in 2012 and 0.7% in 2013 and thereafter, but it also means that this target level is not expected to be exceeded.

The majority of ODA spending (87% in 2010) is channelled through DfID.⁸ In 2010–11, DfID received 2% of total public spending, a similar proportion to that of the Ministry of Justice. In comparison, 27% is spent on the NHS, an amount approximately 14 times larger than DfID, and 16% on education. The DfID budget is expected to increase to 3% of overall public spending in 2014–15.⁹

The rest of ODA expenditure is carried out through a variety of other government departments. In 2010, 3% of ODA was attributable to the Department of Energy and Climate Change (DECC),¹⁰ 3% to the CDC Group PLC and 2% to the Foreign and Commonwealth Office (FCO).¹¹ The CDC Group is the state's development finance

⁸ Source: Table 3 of DfID, *Statistics on International Development 2011*, Statistical Release (<http://www.dfid.gov.uk/Documents/publications1/sid2011/Statistical-Release.pdf>).

⁹ Source: Table 1.8 of HM Treasury, *Public Expenditure Statistical Analyses 2011* (http://www.hm-treasury.gov.uk/d/pesa_2011_chapter1.pdf).

¹⁰ This is mainly through the joint DfID/DECC fund, known as the Environmental Transformation Fund, which supports development and poverty reduction through better environmental management, and helps developing countries respond to the realities of climate change. In addition to this, DECC makes contributions to the International Atomic Energy Agency and UN Framework Convention on Climate Change.

¹¹ Authors' calculations based on DfID data contained in table 2 of *Statistics on International Development* (SID), October 2011 (<http://www.dfid.gov.uk/documents/publications1/sid2011/SID-2011.pdf>). This figure excludes FCO spending on Conflict Pools, which it jointly funds alongside the Ministry of Defence. This accounted for 1.2% of UK ODA in 2010 but data are not available on how much of this is contributed by FCO.

institution, investing 'UK money in a commercially sustainable way in the poorer countries of the developing world'.¹²

7.3 Aid expenditure by DfID

DfID has spent the vast majority of the UK aid budget since the department's creation in 1997.¹³ Its share is set to remain the dominant component of ODA for the foreseeable future.

In this section, we discuss DfID expenditures. DfID provides increasingly comprehensive data on how and where its budget is spent, which are often unavailable for ODA spending from other departments.¹⁴ We use these data to investigate in detail the ways in which much of UK aid money is spent; in so doing, it is worth bearing in mind that, in this section, we are analysing 87% of UK overseas aid (as of 2010).

The data we use here differ from data from the Development Assistance Committee (DAC) of the OECD, which covers all ODA (but in less detail) and which we return to in the next section. Box 7.2 highlights the differences between DfID and DAC data.

Box 7.2. Measuring expenditure on aid: DAC vs DfID

Data on the level and nature of ODA across countries are collected by the OECD's Development Assistance Committee (DAC).^a It has created standardised definitions, templates and methodologies for collecting these data, which provide a platform for harmonising the distinct approaches to the ODA of different donor countries. DAC data are therefore seen as the most internationally comparable. A number of countries have harmonised their own approaches to data collection to meet the DAC standards. However, there are still differences at more disaggregated levels.

In the UK, DfID provides the most detailed data on where and on what UK aid is spent. The key differences between these data and those compiled by DAC are:

1. ODA includes expenditures on aid to recipients (countries and organisations) defined to be eligible by DAC. The DfID data include DfID aid expenditures to all countries (where 1.3% of DfID expenditures are not classified as ODA) and exclude ODA expenditures by other government departments.
2. ODA is a net figure, taking into account any loans repaid or grants recovered, whereas the DfID figures are gross flows. So it is even possible for ODA figures to be negative, though this is rare in practice.
3. DAC reports ODA on a calendar-year basis while DfID reports its expenditures for each financial year of the UK government.

^a See <http://www.oecd.org/dac>.

¹² Quote from CDC Group website, <http://www.cdcgroup.com/reducing-poverty.aspx>.

¹³ The UK government set up the 'Department of Technical Cooperation' in 1961 to pull together expertise on colonial development spread across diverse departments. In 1997, DfID was inaugurated as a separate entity from the Foreign and Commonwealth Office, where some of its new responsibilities had been housed, to 'refocus [the UK's] international development efforts on the elimination of poverty and encouragement of economic growth which benefits the poor' (*Eliminating World Poverty: A Challenge for the 21st Century*, White Paper on International Development, 1997, <http://webarchive.nationalarchives.gov.uk/+http://www.dfid.gov.uk/policieandpriorities/files/whitepaper1997.pdf>). A fuller history of DfID can be found at <http://www.dfid.gov.uk/About-us/History>.

¹⁴ Publicly-available data from DfID can be found at <http://www.dfid.gov.uk/About-us/Public-data/>. Details of all DfID projects can be found at <http://projects.dfid.gov.uk/>.

DfID classifies aid as bilateral or multilateral on the basis of definitions laid down by DAC. On the whole, bilateral aid is aid over which DfID has direct control, either in terms of choosing the recipient country or the purpose of the aid. Multilateral aid is provided as core contributions to international organisations (such as the European Development Fund and the World Bank's International Development Association), and becomes part of the pooled funds of each organisation. In 2010–11, overall DfID expenditure totalled £7.8 billion, of which 55% was classed as bilateral, 42% as multilateral and 3% as administration costs.¹⁵ However, as will be seen below, almost half of bilateral funds were channelled through multilateral organisations or non-governmental organisations (NGOs). As a result, around two-thirds of total DfID funds are delivered through organisations other than the UK government. The term bilateral therefore covers aid that is directed towards specific countries but delivered via a range of mechanisms.

How and where DfID distributes its aid is guided by a number of factors. The first is its own overall aim 'to reduce poverty in poorer countries, in particular through achieving the Millennium Development Goals (MDGs)',¹⁶ a series of internationally-agreed development targets to be achieved by 2015 that seek to address multiple forms of poverty. Thus, there is a focus on nations that are lagging behind in their achievement of international poverty targets.

A second factor is that 30% of UK aid is committed to conflict-affected countries, those in danger of falling into conflict or those deemed 'fragile'.¹⁷ One justification for this is that conflict abroad threatens the UK both through the threat of terrorism and because of the cost of any UK intervention potentially required if conflict escalates. A second justification is that states affected by conflict are typically unable to provide basic public services. Keeping nations from conflict is thus seen as a cost-effective investment in future development.

Other factors underlying the distribution of overseas aid include political considerations (for instance, Burma and North Korea receive very little aid) and other government commitments such as those relating to climate change.

Clearly, these rationales can be combined in multiple ways to determine different distributions of aid across countries. There does not seem to be a rigorously-documented process as to how each of these factors is weighted in distributional decisions.

With this in mind, DfID has recently provided more detailed information on its rules of disbursement in the 2011 Bilateral and Multilateral Aid Reviews (see Box 7.3). There was a focus in these reviews on identifying the areas in which UK aid spending would achieve the greatest value for money. The result has been to focus DfID expenditure in fewer countries and through fewer multilateral organisations.

¹⁵ Source: Table 1 of *Statistics on International Development (SID)*, October 2011 (<http://www.dfid.gov.uk/documents/publications1/sid2011/SID-2011.pdf>). It is interesting to note that DfID spends a considerable amount on development research, in both the bilateral and multilateral budgets. Between 2011–12 and 2014–15, DfID plans to spend £1.15 billion in this area; see DfID Research and Evidence Division, *Operational Plan 2011–2015*, April 2011 (<http://www.dfid.gov.uk/Documents/publications1/op/rsch-evi-div-2011.pdf>). There are important questions as to how this is expended in the most effective manner.

¹⁶ DfID Annual Report and Accounts 2010–11 (<http://www.dfid.gov.uk/Documents/publications1/departmental-report/2011/Annual-report-2011-vol1.pdf>).

¹⁷ This commitment is set out on pages 44 and 46 of the 2010 Strategic Defence and Security Review (SDSR) (<http://www.direct.gov.uk/sdsr>).

Box 7.3. 2011 Bilateral and Multilateral Aid Reviews

In March 2011, DfID published the results of the Bilateral and Multilateral Aid Reviews (BAR and MAR respectively). These are set to shape the focus of DfID spending over the coming years.

The BAR sought to identify the most cost-efficient ways for the UK to tackle extreme poverty, with the aim of prioritising DfID's bilateral expenditure in fewer places but where it could have the greatest impact. It also sought to enact DfID's commitment, set out in the 2010 Strategic Defence and Security Review, to spend 30% of its budget in fragile and conflict-affected countries by 2014–15.

Over the next four years, the number of countries that DfID will focus on will fall by a third, from 43 to 27. Prior to the report, it was decided that funding would cease for China and Russia, and the BAR announced that bilateral programmes will come to an end in another 14 countries by 2014–15: Angola, Bosnia and Herzegovina, Burundi, Cambodia, Cameroon, Gambia, Indonesia, Iraq, Kosovo, Lesotho, Moldova, Niger, Serbia and Vietnam. In 2010–11, these programmes accounted for 3.6% of DfID's total bilateral programme.^a

The selection of these 27 priority countries (as well as three regional programmes) was justified by comparing them with a 'need–effectiveness' index that judges both the potential effectiveness of aid spending within a country and the need of that country's population.^b Nineteen of the 27 priority countries are in the top quartile of this index and two in the second quartile; the remaining nations are ones that face 'substantial development challenges and are ones in which ... a distinctive British bilateral aid programme can make a significant impact'.^c

The MAR was conducted alongside the BAR. It reviewed 43 global development agencies through which DfID channels funds. Each of these multilateral organisations was judged against a number of criteria that were grouped into two distinct indices against which each was compared: 'contribution to UK development objectives' and 'organisational strengths'.^d

Out of the 43, nine were rated as 'very good', 16 as 'good', nine as 'adequate' and nine as 'poor' in terms of value for money for UK aid (with those classed as either 'very good' or 'poor' performing well or badly against both indices). As a consequence, the UK government stopped channelling funding through four of the 'poor' organisations (UN-HABITAT, ILO, UNIDO and UNISDR), while another four were placed under 'special measures' to encourage their immediate improvement (UNESCO, FAO, the Commonwealth Secretariat and the International Organisation for Migration). In contrast, funding has been increased to those organisations that were judged to give very good value for money (UNICEF and the International Development Association, at the time of writing, with others imminent). The remaining organisations will be monitored to decide on any future funding changes.

^a Tables 13 and 14.1–14.4 of SID 2011 (*Statistics on International Development*, October 2011, <http://www.dfid.gov.uk/documents/publications1/sid2011/SID-2011.pdf>).

^b For more detail on this index, see page 20 of DfID, *Bilateral Aid Review: Technical Report*, March 2011 (http://www.dfid.gov.uk/Documents/MAR/FINAL_BAR%20TECHNICAL%20REPORT.pdf).

^c Paragraph 21 of 2011 *Bilateral Aid Review: Technical Report*.

^d For more details of these indices, see pages 13–14 of DfID, *Multilateral Aid Review*, March 2011 (http://www.dfid.gov.uk/Documents/publications1/mar/multilateral_aid_review.pdf).

In what follows, we discuss the distribution of bilateral aid, in terms of what regions and countries benefit from it, and how this is due to change. We then discuss the distribution of multilateral aid across organisations.

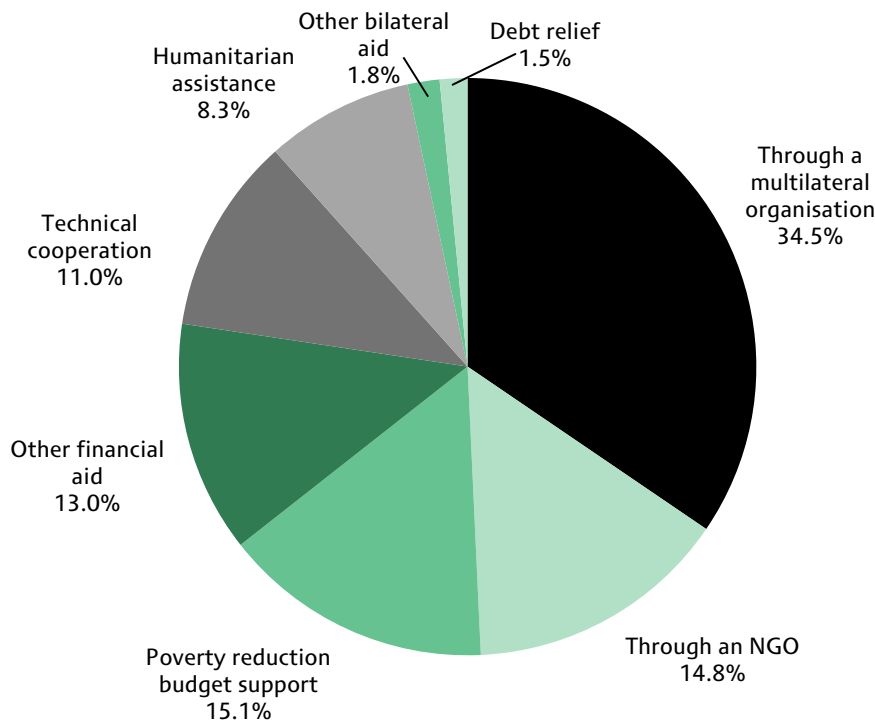
Bilateral aid

DfID's bilateral aid programme totalled £4.3 billion in 2010–11. The programme can be disaggregated between Country Programmes (divisions that work in specific countries or regions), which as of 2010–11 account for two-thirds of expenditure, and International/Policy Programmes (divisions that work on policy areas or with international organisations, and that benefit many different countries or regions).¹⁸ In 2011, the BAR set out plans to focus bilateral expenditures in 27 priority countries in the near future. Here we consider how bilateral aid funds are disbursed, to whom and for what purpose.

How is bilateral aid disbursed?

Figure 7.2 shows how bilateral aid is disbursed. In 2010–11, the largest share of bilateral aid (34%) was delivered through a multilateral organisation. It is classified as bilateral because DfID has control over the country, sector and/or theme that the funds will be spent on (unlike, as we will see, multilateral aid). Indeed, delivery of bilateral aid through a multilateral agency has increased in recent years, with its current share over double its 2008–09 level.¹⁹ A further 15% of aid is distributed through both UK and foreign non-

Figure 7.2. Breakdown of DfID bilateral spending, 2010–11



Source: Figure 4 of SID 2011 (*Statistics on International Development*, October 2011, <http://www.dfid.gov.uk/documents/publications1/sid2011/SID-2011.pdf>).

¹⁸ Source: Page 5 of SID 2011.

¹⁹ This rise was due to a number of new bilateral contributions to multi-donor pooled funds that are managed by a multilateral organisation – for example, the Global Trade Liquidity Programme (GTLP), the Environmental Transformation Fund and the IDA Social Protection & Crisis Response Fund.

governmental organisations. Together, these figures imply that roughly half of UK bilateral aid is spent by organisations that are not the UK government and is not directly transferred to a recipient government.

A further 28% of DfID funds are delivered directly to national governments: 15% is delivered through 'poverty reduction budget support', where funds are provided directly to recipient governments and pooled with their own funds to be spent on home-grown development programmes, and 13% ('other financial aid') is devoted to direct aid for funding sector-specific projects and programmes.

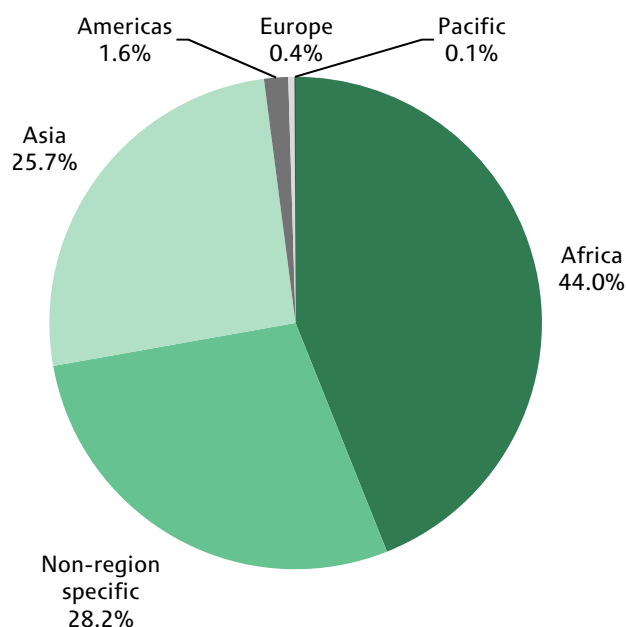
DfID also provides technical cooperation to overseas governments (11%), which includes activities designed to enhance the knowledge and skills of individuals in recipient countries, and the funding of services to help design or implement development programmes.

The remainder of bilateral aid is distributed as humanitarian assistance, debt relief or otherwise. Humanitarian aid – the provision of, for instance, food, shelter, medical care and advice in emergency situations and their aftermath – is often seen as a relatively high-profile component of ODA. However, it only accounts for 8% of bilateral aid and 7% of all UK ODA.²⁰

Who are the recipients of this bilateral aid?

Figure 7.3 shows the recipients of DfID bilateral aid in 2010–11. Africa currently receives the largest share (44%). The region also dominates DfID's future plans for its aid as the UK government sees it as the area most in need of assistance. Asia receives around a quarter. Just under 30% of bilateral aid expenditure is non-region-specific; rather, it is allocated for specific purposes through bilateral pooled funds. As a result, it is not

Figure 7.3. Breakdown of DfID bilateral spending by region, 2010–11



Source: Table 13 of SID 2011.

²⁰ Authors' calculations based on OECD DAC data, available at <http://stats.oecd.org/qwids/#?x=1&y=6&f=4:0.2:0.3:0.5:0.7:0&q=1:2+2:1+4:1+5:3+3:51+6:2005,2006,2007,2008,2009,2010+7:1>.

Table 7.1. DfID bilateral spending, selected countries, £ million

Country	2005–06 to 2009–10 (Average)	2010–11 (Allocated ^a)	2014–15 (Forecast)
Africa	1,182	1,518	2,208
Ethiopia	134	241	390
Tanzania	124	150	168
Nigeria	94	141	305
Democratic Rep. of Congo	84	133	258
Sudan	123	132	140
Uganda	71	90	90
Mozambique	63	88	85
Kenya	68	86	150
Ghana	92	85	100
Malawi	70	72	98
Rwanda	53	70	90
Zimbabwe	47	70	95
Sierra Leone	44	54	77
Zambia	49	53	63
Somalia	28	26	80
South Africa	29	17	19
Liberia	10	10	0 ^b
Asia	753	1,037	1,543
India	271	274	280
Pakistan	109	215	446
Afghanistan	117	178	178
Bangladesh	129	157	300
Occupied Palestinian Territories (OPTs)	35	74	88
Nepal	51	57	103
Yemen	19	50	90
Burma	22	32	58
Total priority spending^c	1,934	2,555	3,751
Total DfID spending (excluding admin costs)	5,196	7,470	11,053

^a 2010–11 figures refer to the amount allocated for this period at the time of the 2011 BAR. Actual spend may be different over this period.

^b Under current plans, Liberian aid will be frozen between 2011–12 and 2013–14, and will cease completely in 2014–15. However, this is set to be reviewed following the planned elections in 2012.

^c Excludes Kyrgyzstan and Tajikistan.

Notes: No budget data are available for two of DfID's 27 'priority countries' named in the 2011 Bilateral Aid Review – Kyrgyzstan and Tajikistan. Countries are ranked from highest to lowest funding in 2010–11, within each region. Full reports on future budgets and the underlying decision processes can be found at <http://www.dfid.gov.uk/barmar>.

Source: Annex F of DfID, *Bilateral Aid Review: Technical Report*, March 2011

(http://www.dfid.gov.uk/Documents/MAR/FINAL_BAR%20TECHNICAL%20REPORT.pdf).

possible to track directly the funding to a particular country from the available data. Based on the distribution of the region-specific aid, it is likely that much of this non-region-specific aid is also spent in Africa and Asia. This would suggest that the regional figures under-report the true amount of aid given to these regions.

Current and projected expenditures in 25 of the 27 priority countries are listed in Table 7.1 (data are not available for Kyrgyzstan and Tajikistan). In 2010–11, the total budget allocated to these countries was £2.6 billion. This is forecast to rise substantially to £3.8 billion by 2014–15.

In 2010–11, India was allocated the largest amount of bilateral expenditure (£274 million), Pakistan the third largest (£215 million), Afghanistan the fourth

(£178 million) and Bangladesh the fifth (£157 million). These allocations account for just over 75% of DfID bilateral expenditures in Asia. Thus, despite Asia being allocated just a quarter of bilateral aid, four Asian countries alone are allocated large quantities of DfID's aid spending (19.4%).²¹ Turning to Africa, Ethiopia was allocated the second-largest portion (£241 million) of bilateral expenditure and Tanzania the sixth (£150 million), while Ethiopia and Nigeria are set to receive the largest amounts in Africa by 2014–15. African aid is more evenly spread across countries, although the distribution is set to change slightly over the next couple of years, as a result of the findings of the BAR. For example, Tanzania, which in 2010–11 was allocated a larger amount of aid than Nigeria, will be allocated a smaller share of African aid in the future.

As a consequence of these funding changes, the relative rankings in terms of the amount of aid will change. Pakistan will become the largest recipient of UK bilateral aid, with Nigeria moving up to third and India falling to fifth. Pakistan and Nigeria, both notably 'fragile', as well as Bangladesh, can be seen as the big 'winners' from the BAR. Each of these countries' budgets will roughly double over the period and by 2014–15 will account for 11.9%, 8.1% and 8.0% of the priority budget respectively. By the same measure, the relative 'losers' are India and Afghanistan. In 2010–11, India accounted for 10.7% of planned bilateral spending on these priority countries, and this will fall to 7.5% by 2014–15, while the freeze on allocated expenditure in Afghanistan will reduce its share by 2.2 percentage points to 4.8% in 2014–15.

To this list of 'losing' countries should, of course, be added the 16 countries in which the bilateral programmes are closing. In 2010–11, 3.6% of DfID bilateral spending was channelled to these countries, with just over a third of this allocated towards Vietnam.²² As a result, Vietnam loses significantly. The BAR justifies this decision on the basis that Vietnam is no longer an aid-dependent country, and is instead moving towards being classified as 'middle-income'.

The relative gains experienced by some of the priority countries in comparison to others can be clearly seen in Figure 7.4. This displays the percentage change in the expenditure allocated to each country between 2010–11 and 2014–15, ranking countries by the size of the change. With the exception of Liberia and Mozambique, which stand to lose funding, and Afghanistan, India (from 2012–13) and Uganda, for which funding is frozen, DfID expenditure will rise. Somalia will benefit the most, with expenditure tripling over the period. Nigeria and Pakistan are the two next-largest beneficiaries, with both experiencing greater than 100% increases in their funding.

These results suggest that the decisions behind the funding shifts are driven by a number of criteria. The BAR cites need and effectiveness, measured by DfID's 'need-effectiveness index', as two major factors. However, it is clear from some of the funding shifts being made that these are not the sole factors driving these decisions. For example, those ranked highest in the index, where additional aid expenditure is most needed and is likely to be most effective, should expect to receive greater funding, but this is not always the case: India, which ranks top of the index, along with Uganda and Afghanistan, which are ranked in the top decile, face funding freezes. In contrast, one would not expect countries

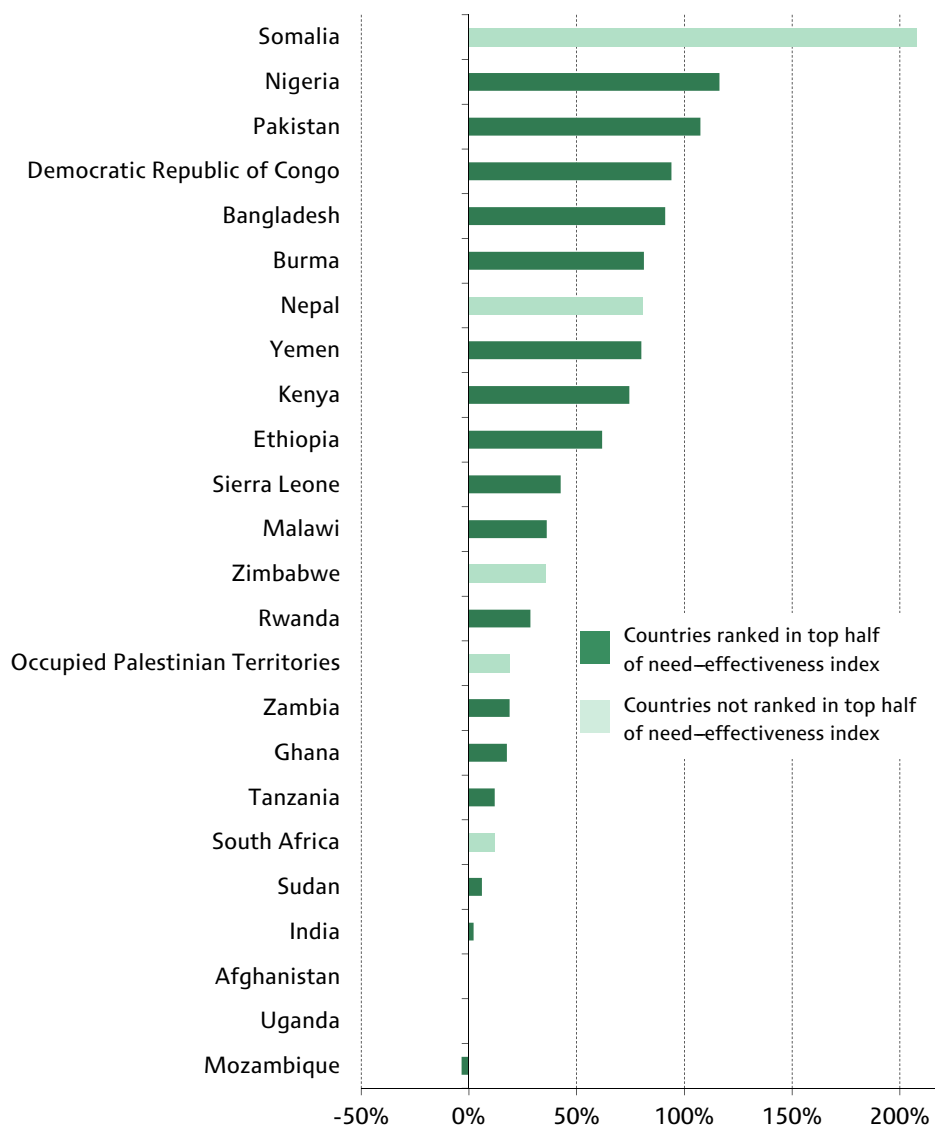
²¹ Authors' calculations using data on final bilateral expenditure in 2010–11 available in table 13 of SID 2011 and data on allocated country budgets in 2010–11 in annex F of the BAR Technical Report 2011. Note that it is likely that a significant amount of non-region-specific aid is also allocated to these countries, but this is not included in these calculations due to data constraints.

²² Source: Tables 13 and 14.1–14.4 of SID 2011.

ranked lower in the index to receive large funding increases. However, Somalia, ranked in the third quartile, experiences a tripling in funding over this period. This is clearly shown in Figure 7.4, where countries ranked outside of the top quartile of the need-effectiveness index are highlighted (in pale green).

Other factors are clearly important, though it is not clear what exactly these are. This suggests that there is a need for DfID to document better how it maps its priorities into an allocation mechanism, in the interests of transparency and accountability.

Figure 7.4. Change in country allocations from DfID country-specific budget, 2010–11 to 2014–15



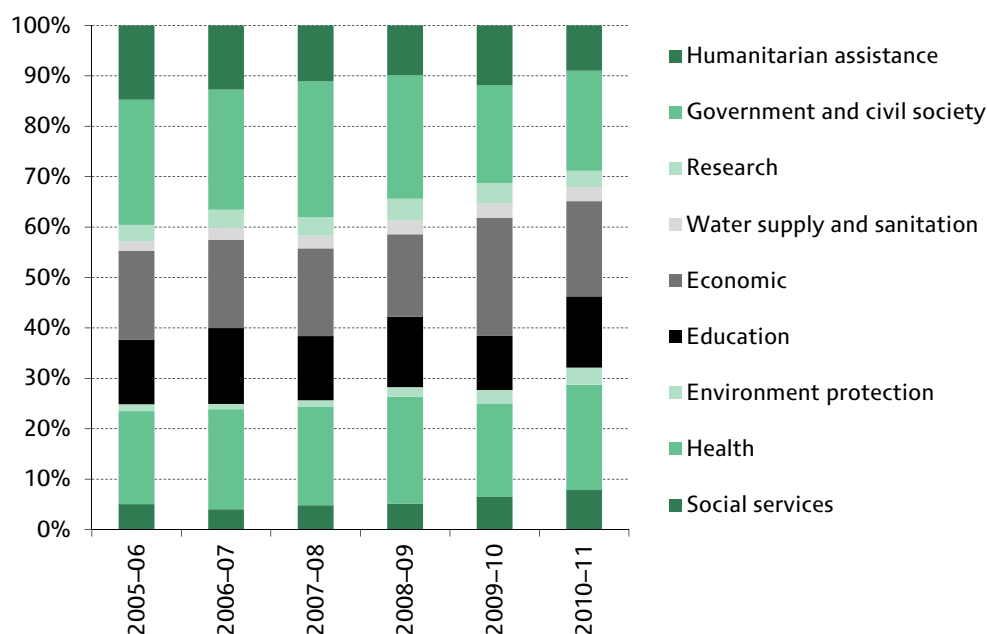
Notes: No budget data are available for two of the priority countries: Kyrgyzstan and Tajikistan. Liberia is also excluded as current data suggest that it will lose 100% of its funding. However, this is likely to change after review. Countries are ranked by changes in allocated budgets between 2010–11 and 2014–15, from highest to lowest.

Source: Authors' calculations based on data from annex F of DfID, *Bilateral Aid Review: Technical Report*, March 2011 (http://www.dfid.gov.uk/Documents/MAR/FINAL_BAR%20TECHNICAL%20REPORT.pdf).

To what purpose is the aid put?

The vast majority (93.3%) of DfID expenditure is allocated across nine broad sectors, with the share of allocable funding that each sector received in each year between 2005–06 and 2010–11 shown in Figure 7.5. The remaining 6.7% of expenditures in 2010–11 are non-sector-allocable, including those funds that are directed towards debt relief and Programme Partnership Agreements.²³

Figure 7.5. Breakdown of DfID spending by sector, 2005–06 to 2010–11



Source: Table 20 of SID 2011.

Over the period 2005–06 to 2010–11, the allocation of funds has remained roughly constant. The greatest shares in 2005–06 were attributed to the areas of: health (18%), with a focus on communicable disease control and maternal health; economics (18%), aimed at creating the correct conditions for economic growth and investment; and government and civil society (25%), which aims to help avert conflict and encourage stable institutions in fragile countries. These sectors remain the largest in 2010–11. The greatest gains have been made by social services, focusing on providing social protection, shelter and housing, and food security, which grew by 2.8 percentage points. The other areas where funding increased the most are health (2.4 percentage points) and environmental protection (2.0 percentage points). The biggest relative reductions occurred in humanitarian assistance and government and civil society, which both fell by roughly 5 percentage points.

Multilateral aid

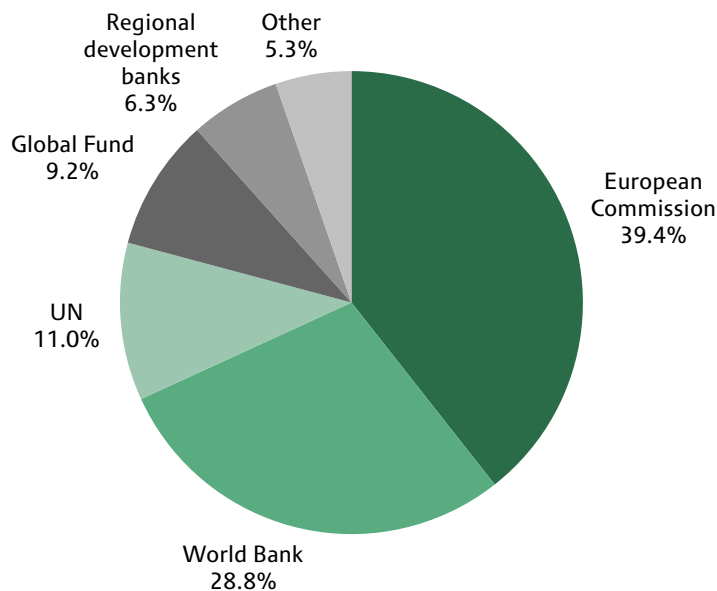
Funds are deemed to be multilateral if they are channelled through an organisation classed as multilateral by DAC; organisations must be engaged in development work to be included on the list. Unlike bilateral funding, multilateral funds are typically

²³ Source: Table 20 of SID 2011. Programme Partnership Agreements (PPAs) are a way in which to help fund NGOs. This involves agreement over a number of targets that the NGO must report against annually. PPAs typically award funding for three years, allowing NGOs to plan future projects, and are largely used toward achieving the Millennium Development Goals.

provided with little to no conditions attached to how the funds are spent, and are used to support the guiding objectives of the recipient organisation. There are many rationales for providing funding in this way. Specifically, multilateral organisations are present across the world, and often have greater capacity to work in politically sensitive contexts. They may be able to exploit scale economies, in terms of financing and coordinating development assistance (for example, in humanitarian crises). They can draw on a large pool of technical assistance and share knowledge across extended networks.

DfID's multilateral aid programme totalled £3.2 billion in 2010–11. Figure 7.6 shows the organisations that receive this aid, highlighting that DfID's multilateral assistance is channelled primarily through the European Commission (EC) and the World Bank Group.²⁴ The United Nations and the Global Fund to Fight Aids, Tuberculosis and Malaria (GFATM) also receive significant shares. The MAR is set to change the distribution of funding across organisations slightly between now and 2014–15, though it is difficult to predict just how at this stage.

Figure 7.6. Recipients of DfID multilateral spending (2010–11)



Source: Figure 4 of SID 2011.

When DfID provides contributions to multilateral organisations, it is not possible to track the funding to the country or sector level. Not only are UK funds pooled with those of other countries, but also imputing the 'UK share' of impact can be complex and thus opaque. This creates a gap in our understanding of how multilateral aid is spent. While DfID provides some indication as to the destination and sector of UK multilateral aid (by using the overall proportions of ODA reported by the relevant agencies to impute a UK contribution), it will be important going forward to understand better how to evaluate

²⁴ The UK is responsible for a large share of European Commission and World Bank overall aid funding. In 2010, 15% of total European Commission funding and 17.4% of World Bank funding was contributed by the UK government. (Figures are authors' calculations based on OECD DAC data.)

the use of the UK's funds, particularly as multilateral spending is an increasingly large part of UK aid expenditures.²⁵

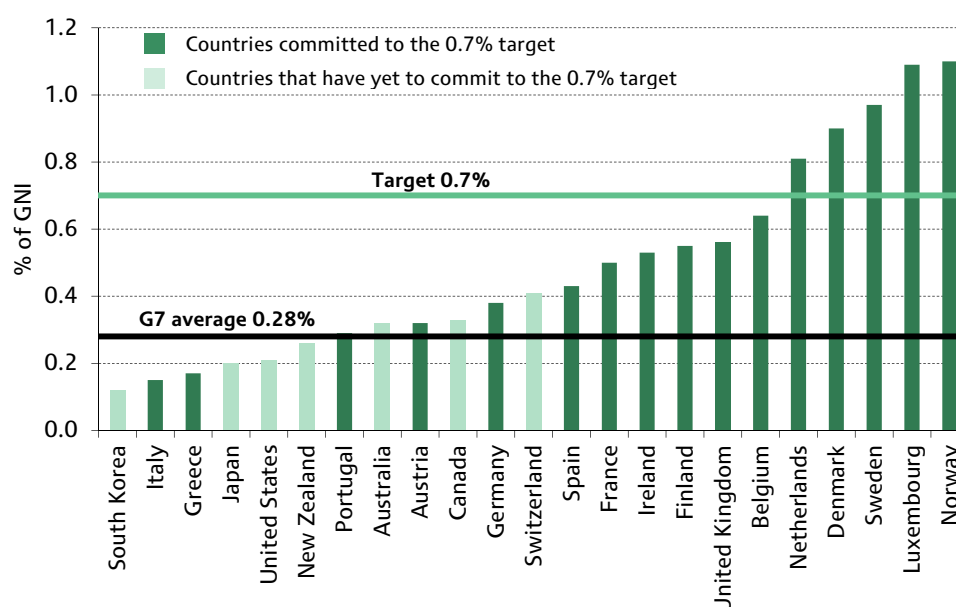
7.4 International comparisons

This section sets UK aid expenditures in an international context by comparing the level and nature of spending on ODA across developed countries. This includes both countries that have and have not committed to reaching the 0.7% target.

ODA as a proportion of GNI

The relative performance of the UK can be judged by examining how close the UK is to reaching the 0.7% target, and by viewing this alongside the same information for other developed countries. This can be seen in Figure 7.7, which displays ODA as a percentage of GNI for 23 developed countries, with the countries that have not committed to the 0.7% target highlighted in light green.

Figure 7.7. Proportion of GNI spent on ODA across countries, 2010



Notes: The G7 are Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States. The G7 average shows total ODA spending across the G7, as a proportion of the combined GNI of these countries. Source: Authors' calculations based on OECD DAC data.

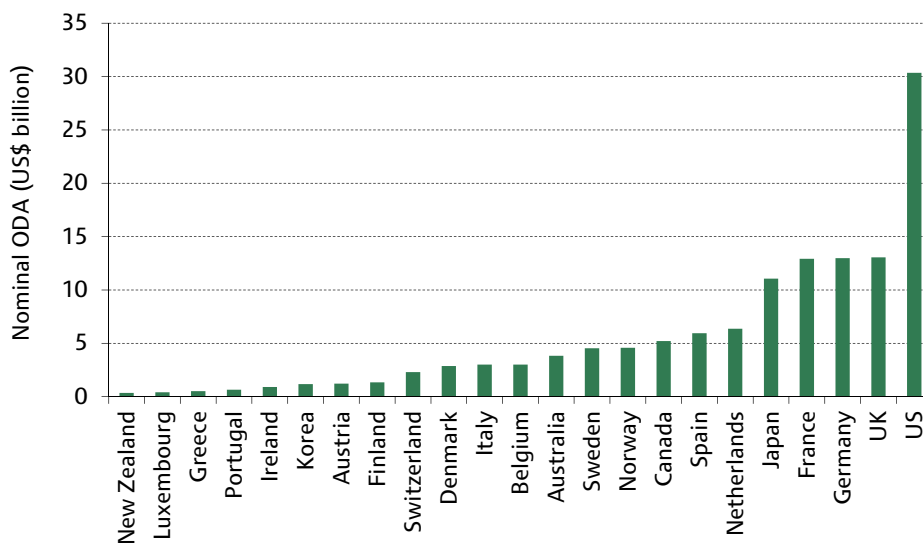
In 2011, all EU15 countries and Norway implemented a detailed schedule to achieve the 0.7% commitment no later than 2015. Figure 7.7 shows that, as of 2010, five countries had already reached the 0.7% target. Among the others, Belgium is closest to the target, followed by the UK, Finland and Ireland, all of which contributed over 0.5% GNI to ODA. Of the 16 countries with an explicit commitment to meet the target by 2015, Italy spent the lowest share of GNI in 2010 (0.15%) and therefore missed its interim target of 0.51% by 2010. In 2010, the United States spent just 0.21% on ODA, while Japan spent 0.2%. It

²⁵ Current figures suggest that, in 2009–10, approximately 43% of UK multilateral aid was allocated to Africa, 21% to Asia and 19% was non-region-specific. However, as noted before, these figures are quite unreliable and are only rough estimates. (Source: Table 13 of SID 2011.)

should be noted, however, that although performing relatively poorly by this measure of public aid expenditure, data indicate that the US gives a significant amount in private flows.²⁶

This suggests that the UK spends a relatively large share of national income on ODA compared with other developed countries. Among the G7 members, the UK spends the highest proportion of GNI on ODA, and thus, of the G7 countries committed to the 0.7% target (recall that no country outside of Europe has committed to it), the UK looks best placed to reach it. We note, however, that the G7 countries rank considerably higher when looking at nominal aid flows. Figure 7.8 shows that, in 2010, US ODA was \$30.4 billion, by far the largest and well over twice the nominal expenditure of the next-highest country, the UK (\$13.1 billion).

Figure 7.8. Nominal ODA across countries, 2010



Source: Authors' calculations based upon OECD DAC data.

The distribution of ODA across countries

The UK differs from other countries in terms of the regions to which it allocates ODA. Table 7.2 displays the regional distribution of ODA spent by each of the G7 countries on average between 2005 and 2009.

As we would expect from the analysis of the DfID figures in Section 7.3, the largest share of UK ODA was channelled to Africa between 2005 and 2009, with the majority of this going to sub-Saharan countries. The next-largest share was allocated to Asia. It is interesting to note that ODA during this period was *negative* in the Americas as a result of loan repayments exceeding the amount given in aid (recall that ODA is a net flow; see Box 7.2).

There are some notable differences in the distribution of spending across the G7 countries. With the exception of France, which allocates almost 60% of its ODA to Africa, the UK spends a higher proportion of its aid in Africa than does any other G7 country. The

²⁶ DAC data suggest that, in 2010, private US aid flows equalled \$22.8 billion, or 0.16% of GNI, an amount double that of the entire Japanese public aid programme (\$11.1 billion) (OECD DAC data).

Table 7.2. Average regional ODA of the G7 countries, 2005 to 2009

Country	Africa (sub-Saharan)	Americas	Asia	Europe	Oceania	Developing countries – unspecified
UK	45.9% (44.0%)	-0.3%	31.2%	1.3%	0.1%	21.8%
US	26.1% (24.6%)	7.7%	43.8%	2.3%	0.8%	19.2%
Germany	34.9% (29.9%)	7.9%	39.6%	5.1%	0.0%	12.5%
France	59.5% (48.5%)	3.9%	19.9%	4.4%	1.8%	10.6%
Japan	23.7% (22.1%)	4.1%	50.3%	2.7%	1.2%	18.1%
Canada	39.5% (30.7%)	14.2%	33.4%	2.1%	0.3%	10.4%
Italy	38.6% (36.3%)	5.4%	43.3%	5.1%	0.4%	7.2%

Note: Countries are ranked by total nominal ODA. UK regional shares are different in this table, which examines the regional shares of ODA, from those contained in Section 7.3, which only analysed DfID data, so figures should not be directly compared (see Box 7.2 for more information).

Source: Authors' calculations based on OECD DAC data.

other countries have, in contrast, a larger focus on Asia, with over 50% of Japanese aid focused in this region.

These distributions seem to be largely linked to historical ties. Both France and the UK had a large colonial presence in Africa, and this appears to be connected to the areas in which they currently spend aid. In fact, over half of DfID's bilateral aid expenditures that were allocated to specific countries in 2010–11 were expended in Commonwealth countries.²⁷ Similarly, Japan, which has far greater historical and geographical ties with Asia, spends the largest share of any G7 country in that region. Historical connections appear to play a large role, to date, in deciding which countries receive aid.

A note on the quality of UK aid

There is evidence that the quality of UK aid is high by international standards. For example, in a 2010 peer-reviewed report by DAC, the UK was recognised as an international leader in development.²⁸ The evaluation of the Paris Declaration, an international effort to improve aid effectiveness, is replete with examples of best practice from the UK.²⁹ While there is little academic literature on the subject, the UK is ranked second out of 39 donor agencies assessed by Easterly and Pfitze (2008) for aligning to best practices in aid expenditure.³⁰

²⁷ Source: Table 13 of SID 2011.

²⁸ The report for the UK began: 'The United Kingdom is a recognised international leader in development'. The full report can be found at <http://www.oecd.org/dataoecd/49/20/45519815.pdf>.

²⁹ The Evaluation of the Paris Declaration and associated documents can be found at <http://pd-website.inforce.dk/>.

³⁰ Top ranked is the International Development Association (IDA) of the World Bank. The US comes 16th. The full paper is W. Easterly and T. Pfitze, 'Where does the money go? Best and worst practices in foreign aid', *Journal of Economic Perspectives*, 22, 29–52, 2008 (<http://www.aeaweb.org/articles.php?doi=10.1257/jep.22.2.29>).

7.5 Conclusions

In 2010, the UK government spent £8.45 billion – 0.57% of GNI – on ODA, mainly through DfID. This is set to rise to £12 billion in 2013 in order to fulfil the commitment to spend 0.7% of GNI on ODA, something that is particularly controversial against the backdrop of fiscal austerity for almost all other areas of public expenditure.

The decision to increase aid spending raises some obvious questions and concerns.

First, government spending driven by input targets (to increase the amount of money spent) rather than by outcome targets is at particular risk of being poorly directed. This can be a particular problem when spending levels are increased rapidly. The capacity to spend wisely may come under some strain, and a clear plan for scaling up expenditures should be made public.

Second, as spending increases, it is particularly important that its value is kept under constant review. The coalition government has emphasised its focus on performance and accountability from increases in aid money.³¹ The Bilateral and Multilateral Aid Reviews were welcome in setting some clearer bases for decisions on how and where money should be spent, and resulted in some budgetary consolidation. However, the Public Accounts Committee has commented that

The Department still has insufficient data to make informed investment decisions based on value for money. The Department's Bilateral Aid Review was supported by only limited data, and relied on people's experiences of what they could deliver with the resources available. The Department also had insufficient data on its projects and programmes, including a lack of timely data and information on unit costs.³²

There is clearly room for better collection of data on the value for money the UK receives for DfID investments. Going forward, an important step in tracking commitments on effectiveness is the recent setting-up of the Independent Commission for Aid Impact (ICAI) on 12 May 2011.

Third, there is still scope for greater consistency and transparency in decisions over where spending occurs. The BAR states that from now on there will be a greater focus on 'identifying and scrutinising from the bottom-up the results that UK assistance could achieve in each country'. Bilateral aid will be more tightly focused on 27 priority countries. However, the underlying selection process is not clearly defined and further efforts to clarify it would be welcome.

Fourth, a recent focus of UK public aid expenditure is on fragile and conflict-affected states, shown by the commitment within the Strategic Defence and Security Review to deliver 30% of UK ODA in such countries from 2014–15 onwards, with Pakistan set to receive the largest share. This will create challenges to ensuring value for money in these countries. One of the ICAI's first reports argued that '[an increase in] the proportion [of

³¹ As argued in the Conservative Green Paper on International Development (*One World Conservatism: A Conservative Agenda for International Development*), 'As taxpayers feel the pinch, maintaining public support for our aid programme will require a much greater focus on performance, results and outcomes. Our bargain with taxpayers is this: in return for your contribution of hard-earned money it is our duty to spend every penny of aid effectively'.

³² Paragraph 18 of Public Accounts Committee, Fifty-Second Report, *DfID Financial Management*, October 2011 (<http://www.publications.parliament.uk/pa/cm201012/cmselect/cmpubacc/1398/139802.htm>).

the aid budget] going to fragile and conflict-affected states ... will expose the UK aid budget to higher levels of corruption risk'. It went on to argue that there is a lack of strategic response to this threat.³³ DfID has since responded positively to the recommendations of the ICAI, which focused on how DfID can minimise the risks to UK aid funds from corruption and how it can better assist countries to address corruption.³⁴ Such expenditures will require particularly astute monitoring.

Fifth, DfID has consciously decided to become increasingly reliant on multilateral organisations to disperse the monies it makes available. While many of these organisations are well placed to deliver aid in particular regions, with existing infrastructure and networks in many of the world's poorest and fragile countries, this inevitably involves some loss of control and accountability. Indeed, it is hard to follow through quite what happens to that money and how effectively it is spent. As a result, efforts must be made to improve the transparency of such organisations so that how the money is spent can be better understood.

Sixth, because the spending occurs elsewhere in the world, there is a relative lack of public scrutiny of the budget's effectiveness – voters can't experience the effectiveness of aid spending in the way they can experience their local school, hospital or police force. This argues for an even greater degree of transparency and clarity about spending decisions and effectiveness than is seen in the rest of public spending. DfID has an important role to play to bridge this gap in accountability.

There is clearly an ethical case for increased spending on international development. However, that case can only stand if the spending is well targeted and effective and is seen to be well targeted and effective. While there is evidence that the UK is relatively good at directing its aid spending effectively, there remains a need for more public understanding of the underlying objectives, for more clarity over how prioritisation occurs and for better and more transparent documentation of how priorities are mapped into an allocation mechanism and the effectiveness of spending. The dangers of not doing this are perhaps best spelt out in a 2009 Ipsos MORI poll which suggested that overseas development was the most popular choice for being cut to help restore the health of the public finances.³⁵

³³ ICAI, *The Department for International Development's Approach to Anti-Corruption*, November 2011 (<http://icai.independent.gov.uk/wp-content/uploads/2010/11/DFIDs-Approach-to-Anti-Corruption.pdf>).

³⁴ The DfID management response can be found at <http://www.dfid.gov.uk/Documents/publications1/ICAI/Man-response-anti-corruption.pdf>.

³⁵ The Ipsos-Mori results can be found at <http://www.ipsos-mori.com/Assets/Docs/poll-public-spending-charts-june-2009.pdf>. They are consistent with previous polls that found mixed public support for international aid. The results of the most recent YouGov poll on the subject state that 55% of people are either indifferent or unfavourable towards aid (http://www.politicshome.com/documents/PoliticsHome_International_Aid_Report.pdf).

8. Tax reform and growth

Stuart Adam and Paul Johnson (IFS)

Summary

- The tax system takes on average £4 of every £10 of income in the economy. Its design matters a great deal for economic welfare and for growth.
- This chapter focuses on reforms that could increase national income in the medium term, not on possible short-term stimulus to promote economic recovery. We emphasise that economic growth (i.e. increases in national income) and increases in welfare are not synonymous. There are many welfare-enhancing reforms to the tax system which should be pursued even if they don't promote growth. And there are growth-promoting but welfare-reducing reforms which should not be pursued.
- In general, a tax system that is significantly more neutral than the current one would do less to distort economic activity, would involve lower administration and compliance costs, and would increase both national income and welfare. The scope for reform in this direction is substantial.
- One set of reforms that would raise levels of economic activity over the medium term would involve strengthening financial work incentives for groups that are particularly responsive to them. We suggest changes that could lead to increased employment among mothers of school-age children and among people aged between 55 and 70, two groups known to be particularly responsive to incentives.
- The design of business taxes is important. By discouraging investment in the UK and favouring some forms of investment and finance over others, corporation tax has direct effects on economic activity. Moving to a system that exempts a 'normal' return to capital from taxation would reduce these problems. Replacing business rates with a land value tax, meanwhile, would remove a damaging bias against property-intensive production.
- We can also improve the design of environmental taxes in the UK in ways that would both boost output and improve their effectiveness in dealing with the externalities they are designed to tackle. Replacing much of fuel duty with a system of congestion charging would have major economic benefits. Reforming and simplifying carbon taxation would help to minimise the cost of reducing emissions.
- International studies suggest that moves away from income taxation and, in particular, corporate income taxes, towards consumption and property taxes would enhance growth. In part, this reflects the structure of corporate taxes which, as currently designed, are relatively damaging to growth. But one of the reasons that consumption taxes may be more growth-friendly than income taxes is that they are generally less progressive. And there is a clear balance to be struck between a focus on progressivity and a focus on growth. In general, reducing the amount of redistribution done in the tax system would increase aggregate income, but at the cost of greater inequality. That is a trade-off that all governments face.

8.1 Introduction

The government is looking for ways to promote economic growth. Given that it takes nearly 40p in tax for every pound generated in the economy, an obvious place to look is the structure of the tax system. When taking this amount, inefficiencies in design clearly have the potential to affect economic performance. In this chapter, we consider what economic research can tell us about how reforms to the structure of the tax system could enhance the UK's medium-run economic performance, drawing particularly on lessons from the recent IFS-led Mirrlees Review of the tax system, the final report of which, *Tax by Design*, was published last year.¹

We should emphasise from the outset that this chapter does not address the question of what could be done to stimulate economic recovery in the short term – the subject of much debate at the moment. We are focusing on how the tax system affects the productive capacity of the economy in the medium run, not on how it might be used to stimulate demand in the short run. The policies that would be called for to stimulate the economy in that short-run sense are not necessarily the same policies discussed here, which are about reforms to the supply side of the economy, which is what determines the long-run income of any nation.

We also eschew any discussion of the effects of the overall level of taxation on the economy. That is a difficult question to answer because the effect of increasing taxes will depend on how the revenue raised is then spent by government, and in any case the total size of the state is at least as much an issue of social preferences as it is economics. We focus on the way the tax system is structured, not on its overall size.

In Section 8.2, we set out some of the key conceptual issues, in particular distinguishing between 'economic growth', the focus of much political discussion, and 'welfare', the real focus of economics. We also draw a distinction between policies that have a one-off effect on the level of economic activity and policies that raise the trend rate of growth.

In Section 8.3, we set out some general guidelines for reforming the tax system in such a way as to increase national income and welfare. We draw heavily on the conclusions of the Mirrlees Review, arguing for a system that minimises undesirable distortions and achieves progressivity in the most efficient way possible. Section 8.4 takes us to a set of specific proposals. First, we indicate how we can use what we know about labour supply responsiveness to suggest reforms to the personal tax and benefit system which could increase employment levels. Second, we consider the structure of business taxation, arguing that it could be improved to reduce its impact on investment decisions. We include proposals to replace business rates with a land value tax. Third, we look at ways in which environmental taxation could be reformed that both increase output and achieve environmental objectives.

Section 8.5 considers the tax mix, and Section 8.6 concludes.

¹ J. Mirrlees, S. Adam, T. Besley, R. Blundell, S. Bond, R. Chote, M. Gammie, P. Johnson, G. Myles and J. Poterba, *Tax by Design: The Mirrlees Review*, Oxford University Press for the Institute for Fiscal Studies, 2011 (<http://www.ifs.org.uk/mirrleesReview>).

8.2 Welfare, output and growth

In any discussion of growth, and especially one focused on the design of the tax system, it is important to recognise that growth of national income (or output)² is not in fact what we, or economists generally, believe we should be trying to maximise. What really matters is welfare. As we shall see, this is a crucial distinction for tax policy. Reforms that will increase welfare will not necessarily have a direct effect on national income, but are nevertheless desirable in themselves. And there are some reforms that would increase national income which would be welfare-reducing. These are not desirable.

First and most obviously, the distribution of national income matters as well as the overall level. Governments care about inequality and poverty; generating an extra pound of national income is less valuable if it accrues to someone who already has a lot. There is a basic trade-off in the tax and benefit system between redistributing income and strengthening work incentives: crudely, taking money off rich people and giving it to poor people reduces the incentive for the poor to become rich. Making the tax and benefit system less progressive and thereby encouraging work is thus a straightforward way to increase national income which is always open to governments. But it is at best arguable whether society would always be better off moving in this direction – richer on average but more unequal.

Second, and perhaps more fundamentally, money is not all that people care about: they care about all sorts of other things, from how hard they have to work to the quality of their environment, which may also be influenced by taxation (in addition, of course, to caring about the quality of the public services financed by taxation). Economists are often unfairly caricatured as valuing only money. But, in fact, the central approach of public economics focuses not on maximising national income but on maximising social welfare – well-being – defined simply as whatever people value for themselves, and taking account of the distribution of welfare as well as its aggregate level. Broadly speaking, this involves interfering with people's choices as little as possible, so that they can arrange their affairs (and make mutually beneficial transactions) in whatever way pleases them best, subject to two important caveats: first, an acknowledged need for some redistribution from those who are born talented or otherwise lucky to those who are less fortunate; and second, a potential role for the government to step in where free markets fail (such as when one person's freely-chosen actions would be damaging to others, as in the case of pollution). Consequently, many of the central recommendations of *Tax by Design* are not reforms that would increase national income, but reforms that would make people better off in other ways – by removing distortions to people's free choices or by correcting market failures.

Consider the abolition of stamp duty land tax (SDLT) on housing. SDLT is charged on – and therefore discourages – property transactions. It is often noted that this reduces labour mobility, discouraging people from moving to where suitable jobs are available and therefore reducing national income. While true, this is only a secondary effect of the tax. Its more fundamental weakness is simply that the transactions it discourages are mutually beneficial, and thus it makes both parties worse off. If a family in a small house want to move to a larger one (because they are having children, for example) while a neighbouring family in a large house want to move to a smaller one (perhaps because

² In this chapter, we use national income and output interchangeably: broadly speaking, under national income accounting rules they are the same by definition.

their children have grown up and left home), SDLT might discourage them from buying each other's houses. National income would not be affected by this, but it is clear that both families could be made worse off.

Conversely, some tax reforms that increase national income may be undesirable. One easy example relates to environmental taxes. Taxes on pollution will discourage the polluting activity and are therefore likely to reduce total measured output. But they may leave people better off overall because of the reduction in pollution, and so their abolition would not necessarily be desirable.

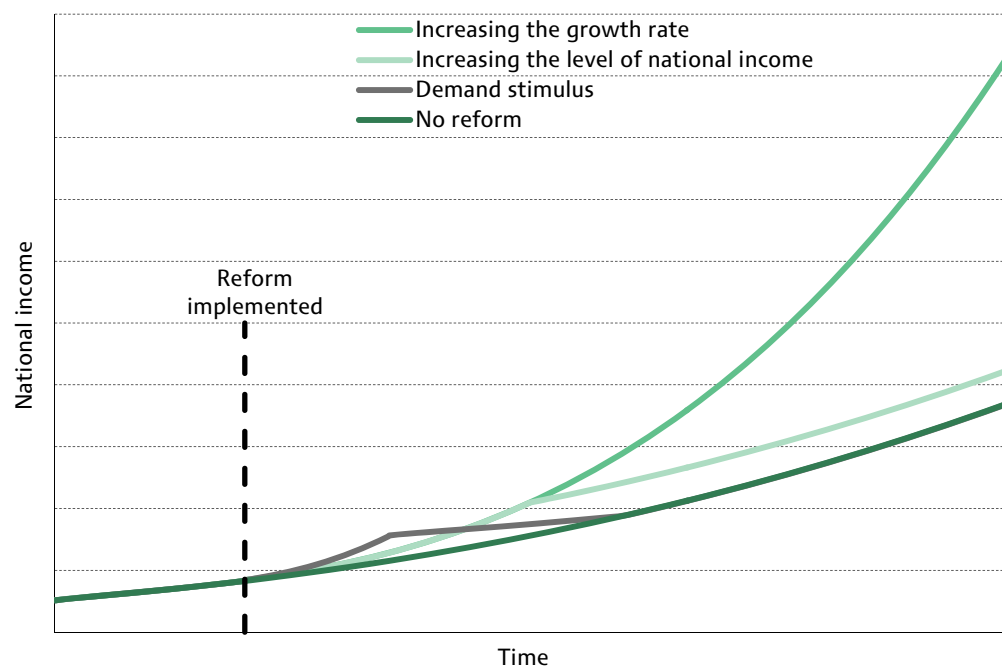
Requiring all adults to work 80-hour weeks until the age of 80 would no doubt increase national income, but it is by no means clear that society would be better off for it.

As well as distinguishing between income and welfare, it is important to understand the distinction between temporary and permanent effects on the growth rate (or, equivalently, between effects on the long-run level of, and the long-run growth rate of, national income).

Policies that permanently increase a country's rate of economic growth are particularly valuable, because the gains get larger and larger over time. Over the long term, the effects can be truly staggering. If real income in the UK grows at 1% a year, it will double in 70 years; if it grows at 3%, it will double in only 24 years. It is this that led Nobel laureate Robert Lucas to declare: 'once one starts to think about [growth], it is hard to think about anything else'.³ Sadly, such policies are as elusive as they are valuable.

While some tax measures might permanently change the trend rate of growth – for example, if tax breaks for R&D increase the rate of technological innovation in a country – in general the most we can hope for is to reallocate resources to more productive uses, and therefore permanently increase the *level* of national income. Because the economy

Figure 8.1. Level and growth effects



³ R.E. Lucas Jr, 'On the mechanics of economic development', *Journal of Monetary Economics*, 22, 3–42, 1988.

takes time to adjust, the rate of growth will be temporarily higher during a transitional period while the economy moves towards this new, higher level of output.⁴ But encouraging more people into work, or increasing the level of investment, would not permanently increase the growth rate of national income.

Policies that have a permanent effect on the level of output (a temporary effect on the rate of growth) can in turn be contrasted with demand stimulus policies, which have only a temporary (albeit rapid) direct effect on the level of output – though may indirectly have longer-run effects when used in a recession if, for example, unemployment damages people's future prospects. Ignoring such indirect effects for simplicity, the differences between these kinds of policy effects are illustrated in Figure 8.1.

8.3 Principles of a good tax system

Focusing for now on welfare, there are several key principles to which a tax system should adhere. *Tax by Design* summed them up by saying we should be aiming for a progressive, neutral system. Those three words – progressive, neutral and system – encapsulate a great deal.

It is important to consider the tax system as precisely that: a whole system. We mean that in two main senses:

- First, not all taxes need to address all objectives. Not every tax needs to be 'greened' to tackle climate change, as long as the system as a whole does so. And not all taxes need be progressive as long as the overall system is.
- Second, the different taxes need to fit sensibly together. For example, personal and corporate taxes need to fit together such that the form in which income is received does not imply very different amounts of tax paid. Otherwise, some forms of activity are favoured over others and people are led to alter the legal form of their activity for tax reasons rather than underlying commercial considerations.

Core to reforming the tax system to increase welfare, and often economic output, is the concept of neutrality – meaning treating similar activities similarly. In general, a system that treats similar economic activities in similar ways for tax purposes will tend to be simpler, avoid unjustifiable discrimination between people and economic activities, and help to minimise economic distortions.

Treating different sorts of saving differently results in much effort being put into choosing savings vehicles on the basis of tax treatment rather than on the basis of underlying merits. Treating different forms of corporate finance differently distorts companies' choices over how to raise capital. Taxing different goods and services at different rates in the way the UK VAT does distorts the choices that consumers make.

Neutrality is a rule of thumb: it is not a good in itself, and is not always desirable. It can be efficient to discriminate between different activities for tax purposes. Higher taxes on alcohol and tobacco and on activities that damage the environment are justifiable. Arguments can also be made for taxing pensions more favourably than other forms of saving. Providing tax advantages for research and development (R&D), and perhaps other

⁴ It is also possible for changes that ultimately increase output to reduce it for a short period while resources are being reallocated to more productive uses – for example, while people retrain to work in ultimately more productive areas.

activities that have clear spillovers into growth, might be an important feature of a good tax system.

But defining and policing boundaries between differently-taxed activities is fraught with difficulty: it increases administrative and compliance costs, and creates perverse incentives to dress up one kind of activity as another. Lack of neutrality is behind many of the problems with the current system. It can create unfairness, complexity, high administrative and compliance costs, inefficient behaviour change and significant welfare loss. It diverts resources away from their most productive uses.

Finally, the tax (and benefit) system needs to be progressive. Quite how progressive is a decision for governments and electorates. But however progressive we want the system to be, it is important that progressivity be achieved as efficiently as possible. Crucially, efficiency-enhancing reforms should not generally be eschewed because of their distributional impact. It is nearly always possible to offset, at least on average, any undesirable distributional effect of an efficiency-enhancing reform by adjusting personal tax and benefit rates.

There is an inevitable trade-off between redistribution and work incentives. One cannot tax the rich, or top up the incomes of the poor, without affecting incentives. But one can design the system carefully to minimise the efficiency loss associated with achieving progressivity. Any desired degree of progressivity is generally best achieved by adjusting the rate schedule for personal taxes and benefits. But the rate schedule still needs to be designed to minimise efficiency costs. This can be achieved by designing a rate schedule that reflects knowledge of the shape of the income distribution and the responsiveness of people to taxes and benefits at different income levels. It also implies taking into account decisions over both whether to be in paid work (including when to retire) and how much to work, in addition to other responses such as tax avoidance and migration.

There are ways in which we can achieve progressivity more efficiently in the tax system. For example, ending differential VAT rates and offsetting the regressive impact through changes in the personal tax and benefit system would achieve this.⁵ Reforming the personal tax and benefit system to improve work incentives for mothers with school-age children and for those around typical retirement ages – two groups that are particularly responsive to incentives – is another route.

A tax system that is neutral except in very specific circumstances, which uses information about people's behaviour in its design, and which is designed to be stable and fit together as a system, will tend to increase both welfare and output. In broad terms, *Tax by Design* identified seven major flaws in the UK tax system when set against these principles:

1. Despite improvements for some groups in recent years, the current system of income taxes and welfare benefits creates serious disincentives to work for many with relatively low potential earning power. The benefit system in particular is far too complex (though the proposed Universal Credit will help to some extent).
2. Many unnecessary complexities and inconsistencies are created by the fact that the various parts of the tax system are poorly joined up. These range from a lack of integration between income taxes and National Insurance contributions (NICs) to a lack of coherence between personal and corporate taxes.

⁵ See chapter 9 of *Tax by Design* for a detailed analysis and discussion.

3. The present treatment of savings and wealth transfers is inconsistent and inequitable. There is no consistent tax base identified, saving is discouraged, and different forms of savings are taxed differently.
4. We remain some way short of having a coherent system of environmental taxes to address imperatives around climate change and congestion. The effective tax on carbon varies dramatically according to its source, and fuel duties are a poor substitute for road pricing.
5. The current system of corporate taxes discourages business investment and favours debt finance over equity finance. Its lack of integration with other parts of the tax system also leads to distortions over choice of legal form.
6. Taxation of land and property is inefficient and inequitable. There is a tax on business property – a produced input – but not on land, which is a source of rents. Taxation of housing involves both a transactions tax and a tax based on 20-year-old valuations.
7. Distributional goals are pursued in inefficient and inconsistent ways. For example, zero and reduced rates of VAT help people with particular tastes rather than being targeted at those with low overall resources; and council tax is regressive for no obvious efficiency-improving reasons.

Addressing all of these issues would dramatically improve the tax system and increase welfare. More often than not, reforms that tackle these problems would also increase economic output, in one of three ways.

First, they can reduce opportunities for tax avoidance and the costs of tax administration and compliance. This will result in resources being devoted to more economically productive activities. Reforms that move towards neutrality will usually have this effect. Alignment of tax rates across different sources of income and legal forms of activity, moving towards a single rate of VAT, integrating income tax and National Insurance, would all achieve this and would improve economic performance as a result.

Second, reforms can promote the devotion of more resources towards production – labour supplied and capital invested. This is likely to involve minimising disincentives to work and invest, especially among those who respond most to incentives.

Third, reforms can ensure that the resources are devoted to their most productive uses. Having different rates of tax on different forms of savings and investments, on different forms of energy use and on different types of corporate activity can all divert resources away from where they could be used most productively.

In the next section, we focus on three particular areas for reform which address the second and third of these. We don't set out the wide range of reforms that would improve economic performance by reducing complexity and increasing neutrality. Rather, we look specifically at how labour supply might be increased by changing the personal tax and benefit system, how the corporate tax system might be reformed, and how dealing more efficiently with environmental externalities could increase national income as well as welfare.

8.4 Reforming individual areas of the tax system

Labour supply and the personal tax and benefit system

At the moment, labour demand may be more of a concern than labour supply, with the priority being to reduce unemployment. This might also have longer-run implications if those out of work see their skills stagnate (or even deteriorate) or their attachment to the labour market weaken.

However, in the long run, increasing output depends more on increasing the amount that people choose to work. In crude terms, the tax and benefit system creates financial disincentives to work because taking money off rich people and giving it to poor people reduces the incentive for the poor to become rich. This disincentive can only be reduced by giving less support to the poor (hurting a vulnerable group) or by taking less from the rich (costing money). Unless tax rates start off so high, and people are so responsive, that cutting tax rates could stimulate a large enough response to pay for itself, raising revenue will involve a trade-off between average work incentives and overall redistribution. (We examine the first possibility in the context of the 50% income tax rate in Chapter 9).

However, the average is not all that matters. Research has shown that some groups are more responsive to work incentives than others. This means that the government could increase overall labour supply – even without strengthening incentives on average – by ensuring that the most responsive groups face the strongest incentives. To a significant extent, it is already true that financial work incentives are stronger for more responsive groups. Nevertheless, there is considerable scope for improvement by making more systematic use of our knowledge about different groups' responsiveness.

In particular, we know that people are typically more responsive to incentives at some stages of the life cycle than at others. Taking advantage of this, reforms can be designed that are neither progressive nor regressive overall – redistributing mainly across the life cycle – but which would nevertheless significantly increase employment rates and thus national income. The Mirrlees Review simulated two illustrative reforms of this kind:⁶

- First, work incentives could be strengthened for families whose youngest child is of school age, reflecting the finding that the mothers of older children are more responsive to the incentives in the tax and benefit system than are mothers of younger children. To illustrate one way this could be done, the Mirrlees Review simulated a reform to Child Tax Credit that would make it more generous (and so means-testing more extensive) for families whose youngest child is aged under 5, and less generous (with less means-testing) for families whose youngest child is aged 5 or over. Although there is substantial uncertainty, Mirrlees et al. estimated that these reforms could lead to a net increase in employment of around 52,000 (or roughly 0.2% more workers) and an increase in aggregate annual earnings of around £0.8 billion. In a life-cycle sense, these reforms would have offsetting effects once in place, with families who receive Child Tax Credit gaining when children are younger and losing later. Effectively, income is shifted earlier in the family's life, to the time when they have pre-school children.

⁶ See section 4.4 of *Tax by Design*.

- Second, work incentives could be strengthened for those in their later working life, aged 55 to 70 – a group that is highly responsive to incentives. To illustrate one way this could be done, the Mirrlees Review simulated the impact of reducing the age at which employee and self-employed National Insurance contributions stop being payable from state pension age to age 55, reducing the age at which a higher tax-free personal allowance is available from 65 to 55, and increasing the age of eligibility for Pension Credit to 70 – all with offsetting reforms for under-55s (increasing NICs rates, reducing the personal allowance and increasing Income Support and Jobseeker's Allowance rates). The simulations pointed to an increase in employment of about 157,000 (or 0.6% of the workforce) and an increase in aggregate annual earnings of just under £2 billion. As with the Child Tax Credit simulations, much of the distributional impact would consist of offsetting effects over the life cycle.

Age-related tax and benefit reforms are not the only area where evidence on people's responsiveness and the tax rates they face could be used to increase labour supply – but the feature that reforms can be balanced out at different points in the life cycle does make it rather simpler than in other areas. Labour supply could also be increased by reducing some of the highest effective tax rates facing some low earners as a result of means-testing, at the expense of increasing them for others, but taking particular account of the mounting evidence that decisions over whether to work are more responsive to incentives than decisions over how much to work. The Mirrlees Review examined one possible reform that involved targeted adjustments to means-tested benefits and tax credits – increasing incentives for responsive groups to take low-paid work by increasing Working Tax Credit rates (except for lone parents), increasing the amount that can be earned before means-tested benefits (and, for two-earner couples, tax credits) start to be withdrawn, and withdrawing tax credits more slowly with income – paid for by a more broad-brush cut in means-tested benefit and tax credit rates and an increase in the basic rate of income tax. With no net revenue cost and no increase in overall inequality, Mirrlees et al. estimated that this reform could lead to a remarkable 1.1 million (or 4.2%) net increase in employment and a £3.5 billion (0.5%) increase in aggregate earnings.⁷ However, unlike the age-related reforms, this reform was targeted at a particular part of the earnings distribution rather than a particular stage in the life cycle, so it cannot escape the trade-offs between incentives and redistribution. In particular, the reform simulated would redistribute to low earners at the expense of both the better-off and the very worst-off; it would also involve extending means-testing to many (around a million) more families than currently face it. The pros and cons of such a reform are finely balanced, and making firm recommendations would require political value judgements that we are not in a position to make. This is just one illustration of how proposals to increase national income by changing the rate schedule of personal taxes and benefits need to be judged against other criteria as well.

Investment and business taxation

The UK's economic output depends directly on the amount of capital invested here. Corporation tax discourages people from investing in the UK by taking a slice of the returns that their investments earn. But not all forms of corporate taxes reduce investment equally and not all investments are equally responsive to taxation.

⁷ See section 4.2 of *Tax by Design*.

Consider first an internationally closed economy where all investment is domestic. In such a world, the investments that government must be most wary of discouraging are those that are only just worthwhile: those whose return is barely enough to persuade investors to part with their money (a level termed the ‘normal return’ to capital). Taxation can easily deter investors from undertaking such projects. By contrast, if an investment offers returns substantially in excess of that, the excess can be heavily taxed and the investment will still be worth undertaking.⁸

This suggests that a corporate income tax will reduce investment least if it is designed to tax only ‘excess’ returns to investments, exempting a ‘normal’ return. *Tax by Design* proposed a reform to corporation tax which would achieve exactly that: introducing an Allowance for Corporate Equity (ACE), broadly along the lines of that currently in place in Belgium.⁹ An ACE is an annual allowance against taxable profits, equal to a risk-free interest rate (representing the normal rate of return) multiplied by a measure of the stock of shareholders’ funds tied up in the firm. With this allowance in place, investments that earned just the normal rate of return would go untaxed; only profits in excess of the normal rate would be taxed.

Of course, we do not live in a closed economy: capital is increasingly mobile across borders. But if we consider the opposite extreme of a pure open economy in which capital can flow costlessly across borders (but labour cannot), the case for exempting the normal return is even stronger. In this world, if UK corporation tax reduces the return to certain investments below that which is available in other countries (which is now the ‘normal return’), the capital simply moves (or stays) abroad, leaving a lower capital stock in the UK. With less capital to work with, UK workers would be less productive and earn lower wages. Thus investors who can earn the same returns elsewhere do not bear the burden of the tax; instead, it is felt by immobile UK workers in the form of lower wages.¹⁰ This is, in effect, a highly inefficient way to tax workers.¹¹ By taxing wages directly, the government could collect the same revenue with more capital per worker, higher productivity and higher output.

Greater international capital mobility thus strengthens the case for an ACE-type reform to exempt the normal rate of return to capital from taxation. But with international mobility of capital, the case for heavy taxation of returns in excess of this becomes weaker. Investments earning high returns may still be worthwhile in the presence of heavy taxation; but if the same investments can be undertaken in other countries where they are *more* worthwhile because of a more favourable tax regime, heavy taxation could be

⁸ We should be cautious about taking this argument for heavy taxation of ‘excess’ returns too far. High returns may partly reflect efforts of entrepreneurs or innovators that are not fully reflected in the compensation paid to them – taxing these activities at very high rates may then be undesirable, although taxing them at rates close to labour income tax rates may still be appropriate.

⁹ See chapters 17–19 of *Tax by Design*. The ACE had previously been proposed in IFS Capital Taxes Group, *Equity for Companies: A Corporation Tax for the 1990s*, Commentary 26, Institute for Fiscal Studies, 1991 (<http://www.ifs.org.uk/publications/1914>), building on work in R. Boadway and N. Bruce, ‘A general proposition on the design of a neutral business tax’, *Journal of Public Economics*, 24, 231–9, 1984.

¹⁰ For recent empirical evidence that standard corporate income taxes depress real wages, see, for example, K. Hassett and A. Mathur, ‘Taxes and wages’, American Enterprise Institute, Working Paper 128, 2006 (<http://www.aei.org/paper/24629>) and W. Arulampalam, M. Devereux and G. Maffini, ‘The direct incidence of corporate income tax on wages’, Oxford University Centre for Business Taxation, Working Paper WP07/07, 2007 (<http://www.sbs.ox.ac.uk/centres/tax/papers/Pages/PaperWP0707.aspx>).

¹¹ R. Gordon, ‘Taxation of investment and savings in a world economy’, *American Economic Review*, 76, 1086–102, 1986.

counterproductive, with implications for capital per worker and domestic wages similar to those outlined above.

The choice of tax rate to apply to above-normal profits therefore depends on how mobile such profits are. Some highly profitable activities may not be easy to shift out of the UK, because they are based on UK natural resources (such as North Sea oil and gas), workers with particular skills, or proximity to final markets, and in those cases a substantial corporation tax rate might still be an efficient source of revenue. Other highly profitable activities may be very mobile, such as a multinational company deciding where to make a unique product for worldwide sale. In some cases, governments may try to tax more and less mobile activities at different rates: the special regime applied to North Sea profits is one example of this, and Chapter 10 discusses whether the reduced tax rate on patent income that the government proposes to introduce – and potentially a lower rate of corporation tax in Northern Ireland – should also be seen in this light. But such examples are rare and often problematic in practice; for the most part, a single corporation tax rate is applied to all types of activity, and the government faces a tension between wanting to tax above-normal returns relatively heavily when they are immobile and relatively lightly when they are mobile. But whatever balance is reached in the choice of corporation tax rate to apply to above-normal profits, this does not weaken the case for introducing an ACE to take the normal return to equity capital out of tax.

As discussed in the previous section, the tax system should be considered as a whole. Economically – albeit perhaps not politically – there is no reason that the revenue cost of introducing an ACE would need to be recouped through the corporate tax system, by raising the statutory rate. If corporation tax on the normal return to capital acts in large part as an inefficient tax on labour income, an ACE financed by increasing labour income taxation or VAT would be an improvement, irrespective of whether the statutory rate of corporation tax was increased or decreased.

So far, we have discussed how corporation tax affects the overall level of investment. But introducing an ACE would have additional – arguably even more important – benefits in reducing inefficiencies in the form that investment takes. It can be shown that introducing an ACE would largely or wholly resolve four substantial problems with the current system:

- a bias towards using debt rather than equity finance – borrowing rather than using the firm's own funds to finance an investment – since the costs of borrowing (i.e. interest payments) are tax-deductible whereas, without an ACE, the cost of equity finance is not;
- distortions to the choice between assets caused by capital allowances being more generous (relative to true 'economic' depreciation) for some assets than others;
- a bias towards current expenditure (which is fully tax-deductible) over capital expenditure (which is not) – an awkward boundary to define and police;
- a lack of any allowance for inflation, which implies a disincentive to undertake equity-financed investment far larger than might be thought from looking at the statutory tax rate, and a correspondingly large bias towards using debt rather than equity finance.

On top of the issues that an ACE would address, other aspects of the corporation tax regime are plausible candidates for reform:

- There is a strong case for phasing out the small profits rate of corporation tax, which makes it more difficult to achieve coherence between personal and corporate taxation by making it more beneficial for people to set up companies purely as a tax-planning device. Other things equal, it is inefficient to disincentivise large firms' activities more heavily than small firms', and there is little evidence that applying a lower rate of tax to small companies brings other benefits such as encouraging entrepreneurship. Indeed, the OECD goes further, arguing that young and small firms are less responsive to corporate tax rates than more established firms, making the case for preferential tax treatment of small firms (such as the UK's small profits rate of corporation tax) doubly weak: as the authors put it, 'special tax reliefs based on firm size could result in economic inefficiencies as resources may be wasted'.¹²
- Risk-taking will be discouraged by the tax system if losses are not relieved to the same extent that profits are taxed. Governments may be wary of providing quite that degree of relief in case it opens up scope for abuse, but there may be potential for moving some way towards the symmetric treatment of profits and losses.
- Encouraging innovation is one of the few ways that the government can really hope to increase the UK's long-run trend rate of economic growth through the tax system. The R&D tax credit and the Patent Box are both aimed (at least partly) at this goal – though the Patent Box in particular is a strikingly ill-designed way to pursue it, as noted in Chapter 10.

So there is a range of reforms to corporation tax that could promote output and efficiency. Apart from specific reforms in these areas, investment would be encouraged by having greater certainty and predictability in the corporate tax regime. And simplification of the system would, of course, be welcome, reducing the resources that are diverted from productive activity into tax administering and compliance.

But there is another tax on businesses, much less discussed than the corporation tax, which is nevertheless large and ripe for reform. Business rates, a tax on the rental value of business property, raise around half as much revenue as corporation tax. They violate one of the most basic tenets of the economics of taxation, and undoubtedly reduce national income.

A mainstay of the economics of taxation is that taxes should not be levied on produced inputs (i.e. inputs to production that are themselves outputs of an earlier production process). If, left to themselves, firms would produce goods and services in the cheapest, most efficient way possible, all that taxes on produced inputs can achieve is to distort firms' choices so that they produce goods and services in more costly ways – a clear waste of resources.

Business rates are a tax imposed on one particular input to production: property. As a result, economic activity in the UK is artificially skewed away from property-intensive production, and development of business property is discouraged (indeed, the current structure of business rates actively encourages demolition of properties – it has been cited as a reason in a number of high-profile cases – which seems particularly perverse). All this could be avoided if business rates were replaced with a land value tax on business property: taxing all sites designated for commercial (or agricultural) use according to the value of the land itself, irrespective of what buildings are on it. Since the same tax would

¹² Paragraph 95 of Å. Johansson, C. Heady, J. Arnold, B. Brys and L. Vartia, 'Taxation and economic growth', OECD Economics Department, Working Paper 620, 2008 (<http://dx.doi.org/10.1787/241216205486>).

be payable regardless of what was built on the land or how it was used, development of business property would not be discouraged. And since land itself is not a produced input but a natural resource in fixed supply, its 'production' cannot be discouraged. With a fixed amount of land available, people would not be willing to pay any more for it than if there were no tax, so (the present value of) a land value tax would be reflected one-for-one in a lower price of land, felt by owners as a windfall loss in the value of their asset (offset by gains from the abolition of business rates, so that overall owners of highly-developed properties would gain while owners of undeveloped land would lose). But unlike with business rates, the incentive to buy, develop or use land would not be affected by the presence of a land value tax.¹³ Economic activity that would be worthwhile without a land value tax remains worthwhile with it. Indeed, a land value tax is a rare example of a tax that does not meaningfully discourage any valuable activity at all – about as 'pro-growth' as it is possible for a tax to be. There are practical obstacles to implementing land value taxation, since assessing how valuable a plot of land would be in the absence of the building on it is not always easy; but it is by no means clear that these practical obstacles are insurmountable, and at the very least a thorough official investigation of the possibility is warranted.

Environmental taxation

Environmental taxation may seem an odd place to look for ways to support growth. But the structure of current taxes on transport and energy could be improved to achieve their environmental ends more effectively and to boost national income.

Congestion imposes obvious costs on the UK economy, in the form of time lost in traffic jams (not to mention the associated stress and misery). Motoring is discouraged by fuel duties (and, to a lesser extent, vehicle excise duty), but the congestion caused by any given journey bears little relation to the amount of fuel burned: the contribution to congestion depends heavily on where and when the journey takes place, while important determinants of fuel consumption (such as the fuel-efficiency of the vehicle) are irrelevant from the point of view of congestion (electric cars do not provide fuel duty revenue, but still contribute to congestion if driven on commuter routes at rush hour). Fuel consumption is, of course, much more closely related to the carbon emissions from motoring, but fuel duties are far higher than could be justified by any plausible estimate of the damage caused by carbon emissions alone. Congestion is by far the largest cost to society imposed by motoring: a study for the Department for Transport put the likely cost of congestion in 2010 at 12.3p per kilometre driven, compared with 1.6p for all other environmental and safety costs put together.¹⁴

An obvious improvement to the tax system would therefore be to relate motoring taxes much more closely to the congestion caused by driving: to replace much of fuel duty by a system of congestion charging that varies by time and place. The potential benefits are large: a study for the Department for Transport suggested that a national road pricing

¹³ While land is in fixed supply (aside from minor issues such as contaminated land and land recovered from the sea), land designated for business use is not; so a land value tax that applied only to business property would leave open the possibility that land might be shifted between business and residential use in response to taxation. However, this can be minimised by ensuring that council tax (which *Tax by Design* argues should be reformed but not abolished) applies to residential land as well as to the houses built on it. Land and property taxation is discussed in detail in chapter 16 of *Tax by Design*.

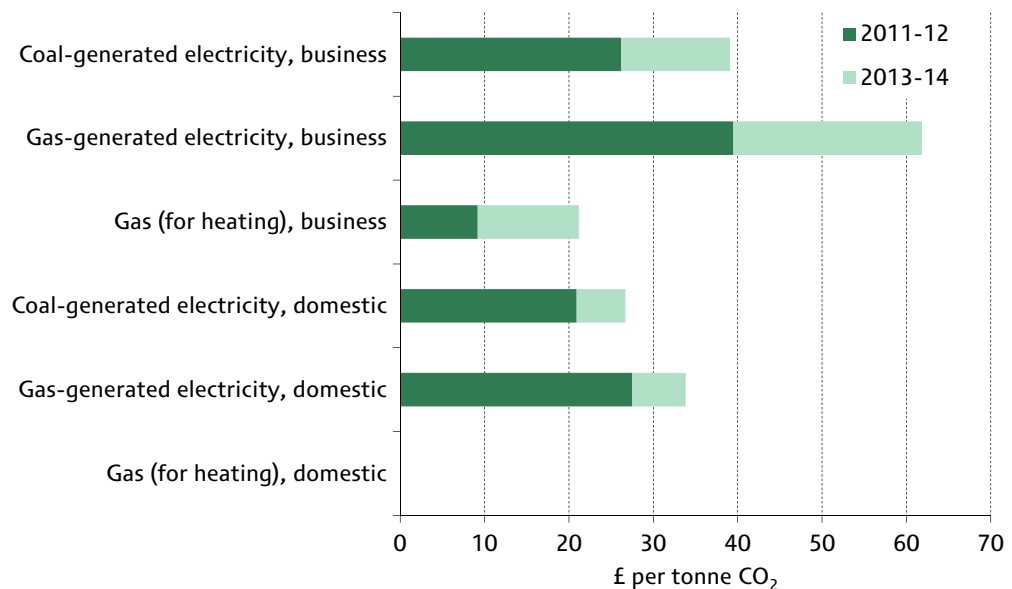
¹⁴ Department for Transport, *Feasibility Study of Road Pricing in the UK*, London, 2004 (<http://webarchive.nationalarchives.gov.uk/+http://www.dft.gov.uk/pgr/roads/introtoroads/roadcongestion/feasibilitystudy/studyreport/feasibilityfullreport>).

scheme with charges varying by time and place could bring annual welfare benefits of around 1% of national income by 2025, around half of which would show up in the form of higher national income.¹⁵ The technological and political obstacles to introducing road pricing are formidable, but the economic case for it is overwhelming and it would make sense for the government to start preparing the ground now.

The other major area where reform of environmental taxation could significantly improve economic performance is in establishing a more consistent price for greenhouse gas emissions. Reducing greenhouse gas emissions involves making it more expensive to burn fossil fuels, an increase in production costs which will inevitably reduce output – though if implemented worldwide these costs would be outweighed by the gains from mitigating climate change (some of which would manifest themselves in higher economic output). The economic cost of a given reduction in total carbon emissions would be far lower if the reductions occurred wherever they were cheapest. This would happen almost automatically if policy simply taxed all carbon equally, regardless of where it came from or how it was used: the price increase would mean that polluting activity of marginal value would no longer be worthwhile and would cease (or shift to using alternative fuels), leaving only those activities for which burning fossil fuels was so important that it was worth bearing the higher price.

As it stands, we are far from that position. Figure 8.2 shows that the implicit tax paid for emitting a tonne of carbon dioxide varies widely according to the fuel used and whether it was used by households or businesses. (Emissions from petrol and diesel, not shown, are taxed at a massive £252 and £219 per tonne respectively, but as discussed above, in those cases there is congestion to consider as well as carbon emissions.) This variation arises from the interaction of a bewildering array of overlapping policy initiatives – from the EU

Figure 8.2. Implicit carbon taxes



Note: Thanks to Arun Advani, Peter Levell and George Stoye for providing these figures. For details of sources and calculations, see appendix B of M. Brewer, C. Emmerson and H. Miller (eds), *The IFS Green Budget: February 2011* (<http://www.ifs.org.uk/budgets/gb2011/11apps.pdf>).

¹⁵ Department for Transport, *Transport Demand to 2025 & the Economic Case for Road Pricing and Investment*, London, 2006 (<http://webarchive.nationalarchives.gov.uk/+http://www.dft.gov.uk/about/strategy/transportstrategy/eddinhtonstudy/researchannexes/researchannexesvolume3/transportdemand.pdf>).

Emissions Trading Scheme to the Carbon Reduction Commitment, the Climate Change Levy and the Renewables Obligation – each raising the price of some sources of emissions but not others.¹⁶ Indeed, the variation is greater than that shown in the figure if one includes the large implicit subsidy to domestic energy consumption entailed by applying the reduced (5%) rate of VAT to it rather than the standard (20%) rate. Thus we are in the ludicrous position that the carbon dioxide emissions from domestic gas consumption are not merely untaxed (as shown in the figure) but positively subsidised relative to other goods and services. As shown in the figure, further reforms due to take effect by 2013–14 – an expansion of the Renewables Obligation and the introduction of the Carbon Price Support Rate – will do little to reduce this variation.

As a result, instead of choices being made on the basis of prices that reflect the underlying commercial and environmental costs of different activities, energy-intensive business activity is much more strongly discouraged than household energy use; households and businesses have a strong incentive to use gas rather than electric heating; electricity generation is biased towards coal rather than gas as a fuel; and so on. Heavily penalising some forms of carbon emissions, while leaving others untouched even if they would be much easier to reduce, is an immensely costly way to reduce greenhouse gas emissions.

This is also a good example of unnecessary complexity in the system. Aside from the actual money handed over, complying with all these different schemes is expensive for businesses; administering them is expensive for the government; and their effectiveness is further blunted by the difficulty of translating the raft of complicated incentives and disincentives into a simple price that people ultimately making business decisions can take into account. Since it would be preferable on economic grounds to set a more consistent price for all emissions, as well as its being a simplification, there are clear improvements available.

Finally, policy does have to recognise the international context. If the UK were the only country applying a carbon tax (which it is not), then one obvious consequence would be the movement abroad of industries heavily dependent on energy. This concern explains a number of the special provisions for such industries within the current tax framework and is an undoubted constraint on what can be achieved within the domestic tax structure without damaging output.

8.5 The tax mix

The previous section considered how various parts of the tax system could be reformed to make them more efficient and increase national income. Might a significant shift in the relative contributions of different taxes towards total revenue also deliver a boost to national income?

A widely-cited study for the OECD¹⁷ claimed to establish

¹⁶ Still other initiatives, such as the Carbon Emissions Reduction Target and the Feed-In Tariff, have effects not included in these figures. For more discussion, see A. Leicester and P. Levell, 'Environmental policy', in M. Brewer, C. Emmerson and H. Miller (eds), *The IFS Green Budget: February 2011* (<http://www.ifs.org.uk/budgets/gb2011/11chap11.pdf>).

¹⁷ J. Arnold, 'Do tax structures affect aggregate economic growth? Empirical evidence from a panel of OECD countries', OECD Economics Department Working Paper 643, 2008 (http://www.oecd-ilibrary.org/economics/do-tax-structures-affect-aggregate-economic-growth_236001777843).

a ranking of tax instruments with respect to their relationship to economic growth. Property taxes, and particularly recurrent taxes on immovable property, seem to be the most growth-friendly, followed by consumption taxes and then by personal income taxes. Corporate income taxes appear to have the most negative effect on GDP per capita. These findings suggest that a revenue-neutral growth-oriented tax reform would be to shift part of the revenue base towards recurrent property and consumption taxes and away from income taxes, especially corporate taxes.

While this is only one study, other studies that do exist tend either to point in similar directions to the OECD paper or to be unable to detect clear effects;¹⁸ there are certainly no convincing studies finding, for example, that consumption taxes reduce output more than income taxes, or that corporate taxes are the most growth-friendly of all. Even before the OECD study, a thorough review of existing literature to that time came to the conclusion that ‘A change in the tax mix that increases the importance of consumption taxes relative to income taxes will raise growth’.¹⁹

The ranking proposed in the OECD study – weakly supported by other empirical research – matches what one would expect from economic efficiency considerations such as those discussed in the previous section.

One would expect recurrent taxes on immovable property to be the least damaging to output as the demand for and (especially) supply of immovable property are highly inelastic. Indeed, a large proportion of property values stems from the value of the land, which (as discussed above) is in largely fixed supply and can therefore be taxed with little discouragement to economic activity.

And we have already argued that corporate income taxes, insofar as they apply to the normal return to internationally mobile capital, in effect act like particularly inefficient taxes on workers’ wages, so we should not be surprised if corporate income taxes reduce output more than personal income taxes. More generally, if UK corporate profits respond more to taxation than other tax bases – perhaps because they are more internationally mobile than other tax bases – then corporate income taxes have to be set at higher rates (causing more distortion) for a given revenue yield than other taxes.

It is worth dwelling a little longer on the conclusion that personal income taxes are less growth-friendly than consumption taxes. Crucially this is *not* because consumption taxes do not discourage labour supply. They do. By raising prices, consumption taxes make wages less valuable – just like an income tax – and so make work less worthwhile. But there are three features of consumption taxes that may make them more growth-friendly:

¹⁸ For a recent contribution to the field by researchers at CPB Netherlands, which was unable to find conclusive evidence of an effect of the tax mix, see chapter 11 of *A Retrospective Evaluation of Elements of the EU VAT System: Final Report*, TAXUD/2010/DE/328, European Commission, Brussels, 2011 (http://ec.europa.eu/taxation_customs/resources/documents/common/publications/studies/report_evaluation_vat.pdf).

¹⁹ Paragraph 209 of G.D. Myles, ‘Economic growth and the role of taxation – disaggregate data’, OECD Economics Department Working Paper 715, 2009. See also the two companion papers by the same author, ‘Economic growth and the role of taxation – theory’ and ‘Economic growth and the role of taxation – aggregate data’, published as working papers 713 and 714 respectively. All three are available at <http://www.oecd.org/dataoecd/49/29/48490984.pdf>.

1. Income taxes are more progressive than consumption taxes (they have tax-free allowances and higher rates for those on higher incomes) and so do more to discourage people from increasing their income. So a move from income taxes to consumption taxes may increase incomes, but will tend to be regressive.
2. Income taxes are levied on the full nominal return to many forms of saving and therefore discourage saving and investment.
3. Part of the revenue from consumption tax hikes comes from effectively imposing a windfall tax on existing wealth (the value of which is reduced by the tax levied when it comes to be spent); this component of the revenue does not discourage growth since existing wealth holdings depend on past activities, not on decisions about how to behave in future.

Considering the specific design factors that might explain why some taxes reduce output more than others highlights the fact that how much a tax reduces output depends on how it is designed. For a given revenue yield, an income tax will reduce output less if it is less progressive; a property tax will reduce output less if it is based on land values than if it incorporates the value of buildings too. The likely effects of a tax shift thus depend on the details of the taxes in question, in a way that cannot fully be taken into account in a broad cross-country study.

Similarly, the likely effects of a shift in the tax mix depend on what tax mix the country starts with. The picture in the OECD study may be true on average for OECD countries at present, but that does not mean that shifts from income towards consumption taxes would continue to deliver increases in national income forever. The UK starts from a position where it already raises more than most from property taxes and less than most from social security contributions. As the author of the OECD study acknowledges, 'a closer look at the specific situation of a given country is therefore needed before making policy recommendations on the basis of the empirical analysis presented here'.

Finally, we emphasise – as the OECD author does – that national income should not be the only criterion for judging the merits of a shift in the tax mix. Shifting the tax mix would change the distribution of the tax burden; for example, people might reasonably have strong views on the fairness (or otherwise) of imposing losses on home owners by shifting towards more reliance on property taxes, or on wealth owners by shifting towards consumption taxation.

8.6 Conclusions

Ongoing concerns about the current state of the economy – high unemployment, falling real wages and a large budget deficit – and a Eurozone crisis which threatens further problems ahead, are rightly the focus of most current attention among policymakers and commentators. However, it pays to start planning for the longer term as well – to think now about how economic performance could be bolstered beyond the present crisis. This chapter has suggested how tax reform could make a contribution.

With the government taking nearly 40p in tax for every pound generated in the economy, the tax system inevitably has large effects on the behaviour of individuals and firms. Yet the Mirrlees Review has shown how the tax system could be reformed to do far less damage than it does at present. Many of the reforms would be politically difficult – introducing congestion charging, for example, or shifting away from taxes 'on companies'

towards taxes 'on people' (when in the end the burden of all taxes must be felt by real people). And while adjustments to personal tax and benefit rates can generally offset unwanted distributional effects on average, meaningful reforms always create losers as well as winners. But when the case for reform is overwhelming, governments should have the courage to make the argument.

The government has taken welcome steps towards improving the way in which tax policy is made, including publishing a *Corporate Tax Road Map*,²⁰ consulting on proposals and publishing draft legislation earlier, setting up the Office of Tax Simplification,²¹ providing more analysis of tax reforms in Budget documentation, having policy costings audited by the Office for Budget Responsibility, and the very act of setting out in a series of documents how tax policymaking is to be conducted.²² And the government's *Plan for Growth* did contain some things the government has done and is doing on tax reform that could help to boost output.²³ But in last year's Green Budget, we called for the government to set out a comprehensive strategy for the tax system as a whole.²⁴ We still await one.

²⁰ HM Treasury and HM Revenue & Customs, *Corporate Tax Reform: Delivering a More Competitive System*, 2010 (http://www.hm-treasury.gov.uk/corporate_tax_reform.htm).

²¹ See <http://www.hm-treasury.gov.uk/ots.htm>.

²² See http://www.hm-treasury.gov.uk/tax_policy_making_new_approach.htm.

²³ HM Treasury and Department for Business, Innovation & Skills, *The Plan for Growth*, March 2011 (http://cdn.hm-treasury.gov.uk/2011budget_growth.pdf).

²⁴ P. Johnson, 'Defining a tax strategy', in M. Brewer, C. Emmerson and H. Miller (eds), *The IFS Green Budget: February 2011* (<http://www.ifs.org.uk/budgets/gb2011/11chap9.pdf>).

9. The 50p income tax rate: what is known and what will be known?

Mike Brewer, James Browne and Paul Johnson (IFS)

Summary

- There has been much discussion about the impact on tax revenues of the 50p income tax rate above £150,000 that was introduced in 2010–11, but, as we lack robust evidence, this is currently a debate characterised by much heat and little light.
- The impact of the 50p tax rate on revenues will depend not just on how many taxpayers there are with incomes above £150,000, but also on how taxpayers react to the increased rate of tax (the so-called behavioural response).
- The HM Treasury (HMT) estimate of how much revenue the 50p rate will raise assumes a lower level of behavioural response than previous UK and US studies have found, and does not allow for any impact on indirect tax revenues. This might imply that the 50p rate is raising less than HMT was expecting. On the other hand, the HMT estimate does not take account of the possibility that more tax will be raised later on, or through other taxes such as capital gains tax.
- It is important not to fixate just on whether any revenue is raised. Even if HMT's estimate is right, there will be a great deal of avoidance activity and changed economic behaviour. There are costs to this and there might well be better ways of raising a similar amount of revenue from a similar group of people.
- Experience from reforms to higher rates of tax in other countries suggests that most of the behavioural response to the 50p rate will take the form of increased (legal) tax avoidance. With or without the 50p tax rate, an effective way of increasing the tax take from high-income individuals would be to remove opportunities for tax avoidance.
- The Chancellor has asked HM Revenue and Customs to estimate the impact of the 50p tax rate on tax revenues and to report to him in time to inform his Budget 2012 decisions. The first shreds of evidence will appear shortly, once tax returns for the 2010–11 tax year have been processed. However, this will tell us, at most, only the very short-run impact of the 50p tax rate on revenues; the true impact in the long run could be higher or lower. If the future of the 50p rate is to be determined on the basis of evidence about its impact, then Budget 2012 will be too soon to form a robust judgement.

9.1 Introduction

Rarely has there been such a wide debate about an issue of tax policy based on so little empirical evidence as there has been over the 50p income tax rate applying to incomes above £150,000. Much of the discussion has focused on whether the increased rate will raise any revenue, as it is feared that those affected will reduce their taxable incomes to

such an extent that the lost revenue from the reduced income will exceed the additional tax paid on the income that remains.¹ However, despite the stridency of these calls, there is little robust evidence on how those affected have responded to the increased rate, and comprehensive evidence on this matter is unlikely to become available for some time. It is also the case that this is a narrow criterion on which to judge a particular tax: even if a given tax raises money, there may be more efficient ways of raising the same amount of money from the same (or, at least, very similar) people.

A 45p tax rate on incomes over £150,000 was announced by Alistair Darling in the Pre-Budget Report of November 2008 to take effect from April 2011. He then increased it to 50p and brought it forward to April 2010 in Budget 2009. This was accompanied by other measures to raise revenue from those with very high incomes, including the withdrawal of the income tax personal allowance from those with incomes greater than £100,000 (which creates a small band of income where the marginal income tax rate is 60p²) and a reduction in the generosity of tax relief on pension contributions made by high-income individuals. At the time, both Mr Darling and the two other main political parties agreed that the 50p rate should not be a permanent feature of the tax system, though Ed Miliband has since argued that it should remain permanent.³

The reason it is difficult to predict the impact of the 50p tax rate on tax revenues is that it will depend not just on how many taxpayers there are with incomes above £150,000, but also on whether (and how) actual or potential taxpayers react to the increased rate of tax. Section 9.2 discusses who has an income over £150,000, and Section 9.3 sets out in brief the sorts of ways in which very rich individuals might respond to the new tax rate. Section 9.4 examines empirical evidence on the likely scale of behavioural responses, and Section 9.5 discusses whether HM Treasury's (HMT's) original estimates of the amount of revenue raised are plausible. Section 9.6 discusses what we will learn when HM Revenue and Customs (HMRC) has received data from self-assessment forms covering 2010–11, and whether that would provide strong enough evidence on which to base firm conclusions about the future of the 50p rate. A final section concludes.

9.2 Who pays the 50p rate?

Only 1% of UK income taxpayers (or around 2/3% of adults in the UK) have incomes high enough to pay the 50p rate (this rises to 2% of those in London and the South East). The fraction of the population who would have an income of above £150,000 at some point in their life is higher than this – for example, 1.5% of 35- to 55-year-olds' incomes exceed this amount, and the proportion of households affected at some point will be higher still.⁴ But these statistics do not give the most important sense in which choices about the top rate really matter: in 2011–12, this richest 1% of income taxpayers are forecast to receive

¹ These arguments have been made by economists and business leaders on numerous occasions over the last year in the letters pages of the national press. See, for example, <http://www.ft.com/cms/s/0/d92b0bc4-d7e9-11e0-a5d9-00144feabdc0.html#axzz1iPOlpID6> and <http://www.telegraph.co.uk/comment/letters/8882298/British-business-urges-the-Chancellor-to-invest-in-infrastructure-cut-taxes-and-simplify-regulations.html>.

² This arises because 50p of personal allowance is withdrawn for each pound of income above £100,000: since 50p of personal allowance is worth 20p to a higher-rate taxpayer (40% of 50p), this means that total income tax rises by 60p for each additional pound earned once the usual 40p higher income tax rate is added on.

³ See <http://www.telegraph.co.uk/news/politics/7833345/Ed-Miliband-50p-tax-should-stay.html>.

⁴ Source: M. Brewer, L. Sibieta and L. Wren-Lewis, 'Racing away? Income inequality and the evolution of high incomes', IFS Briefing Note 76, 2008 (<http://www.ifs.org.uk/bns/bn76.pdf>).

12.6% of total UK taxable income and to contribute nearly 28% of the total income tax revenue.⁵ They have become increasingly important over time to the health of the exchequer as the share of total income that they receive has grown: in 1978–79, the richest 1% of taxpayers received only around 6% of total taxable income and contributed 11% of total tax revenues.⁶

Crucial to understanding this group, and the source of tax revenues from them, are the huge inequality within the group, and the sources of their income. The median income of 50p taxpayers is just over £200,000 a year – that is, half have incomes between £150,000 and just over £200,000. But the mean income of this group is nearly £400,000 a year and around half of the tax paid by additional-rate payers is forecast to be paid by the very small group of 43,000 taxpayers with incomes greater than £500,000 a year, who stand to lose an average of £100,000 each from the reform in the absence of any behavioural response.⁷ The behavioural responses, and opportunities for behavioural response, may differ substantially between those with the very highest incomes and the others.

Responses may also depend on the source of the income. On average, the top 1% received around 15% (and the top 0.1% 17%) of their income from investments in 2004–05, compared with just 10% for the next-richest 9%. Employment income for this group comes mainly from work in financial intermediation, real estate and other business activities (including the law and consultancy).⁸

The income share of the richest 1% increased by 2.6 percentage points between 1998 and 2007. Evidence suggests that almost all of the increase in incomes of the top 1% in this period came from earned income, and that the increase in income share of the top 1% entirely came from increases in bonuses and other performance-related incentive pay. This accrued substantially to workers in the financial sector: although this group only formed 12% of the top 1% in 1998, they received 60% of the increase in income among this group.⁹

9.3 How might the very rich respond to the 50p rate?

This section briefly considers possible ways in which individuals could change their behaviour in response to the 50p rate. Almost all taxes distort economic activity in some way, and can therefore lead to economic inefficiencies. Put simply, a rise in the income tax rate makes it less worthwhile to earn money (or otherwise accrue income) and increases the incentive to try to avoid paying tax. This distinction is important because the amount of tax lost for each pound of real activity that is lost entirely is more than the amount of tax lost for each pound that avoids tax. This is because avoidance activities usually

⁵ Source: Tables 2.4 and 2.5 of HMRC statistics (http://www.hmrc.gov.uk/stats/income_tax/table2-4.pdf and http://www.hmrc.gov.uk/stats/income_tax/table2-5.pdf).

⁶ Source: *Inland Revenue Statistics 1994*, A. Atkinson, 'The distribution of top incomes in the United Kingdom, 1908–2000', in A. Atkinson and T. Piketty (eds), *Top Incomes over the Twentieth Century: A Contrast between Continental European and English-Speaking Countries*, Oxford University Press, Oxford, 2007.

⁷ Source: Table 2.5 of HMRC statistics (http://www.hmrc.gov.uk/stats/income_tax/table2-5.pdf).

⁸ Source: M. Brewer, L. Sibieta and L. Wren-Lewis, 'Racing away? Income inequality and the evolution of high incomes', IFS Briefing Note 76, 2008 (<http://www.ifs.org.uk/bns/bn76.pdf>).

⁹ See B. Bell and J. Van Reenen, *Bankers' Pay and Extreme Wage Inequality in the UK*, CEPSP21, Centre for Economic Performance, London, 2010.

involve delaying income to future periods or shifting income to bases on which the tax rate is lower.

However, both forms of behavioural response represent some form of economic inefficiency: in the first form, the higher tax is inducing very rich individuals to make choices that they would not have made had the higher tax not existed; in the second, the very rich and their advisers are wasting resources on avoiding taxes – resources that could otherwise be put to productive use. Assessing the future of the 50p tax rate solely on the basis of whether it raises any net revenue is too narrow an approach to tax policy: even if it raised money, it may not be the least socially harmful way of raising the same amount revenue, even from the same or similar people.

Below, we discuss these two forms of behavioural response.

Responses that involve a real reduction in income in the UK

There are numerous ways in which high-income individuals could respond to the 50p tax rate that would involve a real reduction in the total amount of income generated in the UK. These include:¹⁰

- undertaking fewer hours of paid work each week;
- putting less effort into their work, causing them to earn less;
- retiring from paid work earlier;
- choosing a career that has lower remuneration;
- moving to a foreign country.¹¹

These behavioural responses all represent a genuine reduction in income for those concerned, and so, if they are occurring, they will probably reduce not only direct tax revenue, but also indirect tax revenue, as, presumably, the expenditure in the UK of the individuals concerned would also fall.

Responses that reduce taxable income but do not represent a real reduction in income in the UK

Individuals can also seek to reduce their taxable income in ways that do not involve a real reduction in the amount of income earned in the UK through various forms of legal tax avoidance. These generally involve shifting income to different time periods or to different tax bases where it will be taxed at lower rates. Of course, there would also be a greater incentive to engage in illegal tax evasion.

The main techniques individuals are likely to use (or to have used) to avoid paying the 50p income tax rate include (but are definitely not limited to) the following:¹²

¹⁰ The existence of the 50p tax may also deter those whose income is not currently subject to the 50p rate from undertaking more hours of paid work, putting more effort into their work, retiring from paid work later, choosing a career that has higher remuneration or migrating to the UK if that might mean they have to pay the 50p rate in the future.

¹¹ In principle, firms could also change their location if they feel that a sufficiently high fraction of their workforce is likely to be affected by this tax. This will presumably only apply to firms that pay their employees or managers very high incomes, and where the country in which they are based is largely irrelevant; hedge funds might be one example.

¹² A rise in the income tax rate also means that affected taxpayers now face a stronger incentive to make charitable donations, as these are tax-deductible and hence the cost of donating a pound in terms of the amount of after-tax income forgone is reduced.

- *Increasing contributions to private pensions.* Since contributions to private pensions attract tax relief, but pension income in retirement is subject to income tax, this is effectively a way of deferring paying tax on income until an individual's marginal income tax rate is lower. The extent to which this can be used as an avoidance mechanism has been reduced by the government's decision to limit the total amount of pension contributions an individual can make to £50,000 per year. This is still a large proportion of income for those with incomes just above the additional-rate threshold, but is likely to be a binding constraint for many of those with much higher incomes.
- *Bringing forward income to 2009–10, before the 50p rate was put in place, or delaying income in the hope that the 50p rate is abolished (or reduced) in the future.*¹³ Doing this can be particularly trivial for some of the incorporated self-employed as they can simply adjust their dividend payouts. There is evidence of this happening: the *Financial Times* reported on 24 March 2011 that 'Bigger or accelerated dividend payments by companies where directors own substantial chunks of equity were announced by companies including Hargreaves Lansdown, HomeServe, Pennon Group and Beazley' before the increase in the top tax rate in April 2010.
- *Converting income to capital gains.* The difference between the top income tax rate of 50% and the top capital gains tax (CGT) rate of 28% provides a strong incentive for individuals to obtain remuneration in the form of capital gains rather than income. This option may be available to the self-employed, who can forgo some or all of their salary to increase the value of their business and then sell it on,¹⁴ and to those who use service companies, who can put a proportion of their income – perhaps from personal endorsements – into a company that will pay corporation tax and allow income to be deferred. It also applies to groups such as private equity fund managers who receive much of their income as 'carried interest', which is treated as a capital gain rather than income.¹⁵ It is also relatively easy to convert investment income to capital gains: individuals can shift their asset portfolios towards assets that give returns in the form of capital gains rather than income. In some cases, income from employment can take the form of capital gains: UK governments have been keen to encourage company managers to align their interests with those of the company by introducing various tax-favoured forms of share-based remuneration such as Company Share Option Plans (CSOPs). Gains made when options are realised are taxed at CGT rather than income tax rates, giving substantial tax savings. In the long term, individuals may be encouraged by the 50p rate to become self-employed in order to enjoy the resulting tax advantages.

¹³ Alistair Darling first announced in the Pre-Budget Report of November 2008 that a 45p rate of tax would apply on incomes above £150,000 from April 2011, and he later decided that it should be a 50p rate and be introduced in April 2010.

¹⁴ Indeed, in the case of owner-managed businesses, the incentive to take remuneration in the form of capital gains is particularly strong because of the existence of entrepreneur's relief, which allows the first £10 million of gains realised on unincorporated businesses or shares where the shareholder has been a full-time employee or director and owned at least 5% of the shares to be taxed at a lower rate of 10%.

¹⁵ Carried interest is a share of the profits of a private equity partnership that is designed to give managers an incentive to maximise returns on investment. There was a great deal of controversy in 2007 about this practice, which at the time enabled private equity managers to pay tax at a rate of 10% rather than the top income tax rate of 40% as a result of the taper relief system for CGT that was then in place. Subsequent reforms to CGT have increased the CGT rate on carried interest to 28%, but this is still substantially less than the 50% top income tax rate.

- *Transferring income between spouses where only one of them pays tax at the 50p rate.*
This is particularly simple for investment income, as married couples can transfer the ownership of investments to the lower-income spouse without paying any CGT as transfers between married couples are exempt from CGT.

As we said above, there are two important differences between these forms of behavioural responses and those set out in the previous subsection which genuinely reduce UK income. First, not all of the income tax revenue affected by these sorts of avoidance activities would be lost permanently to the government: some of it would show up in different time periods, coming from different individuals, or in other tax bases. Although the government would not collect the full 50p of each pound shifted in the ways described above, it would at least collect something at some point.¹⁶ Second, these responses should not significantly reduce the amount of income that will be spent, at least eventually, in the UK economy. Accordingly, we would not expect indirect tax revenues to be affected (assuming indirect tax rates are constant over time). This highlights that it is important to know not just the scale but also the nature of the behavioural response of high-income individuals when considering the revenue impacts of this tax change.

We should also note that the government does have some power to prevent, or at least limit, behavioural responses of this nature (and that is why, as we argue in the next section, the so-called taxable income elasticity should not be thought of as a fixed parameter). The government has already taken such a measure by placing an annual limit of £50,000 on pension contributions from 2011–12.¹⁷ It has also made a series of reforms to CGT, which involve raising the headline rate to 28%. Depending on how it weighs different costs, the government could do more. For example, it could close the gap between income tax and CGT rates (as was proposed in the Liberal Democrats' 2010 General Election Manifesto), thereby negating any advantage to taking capital gains rather than income, though this might impact on savings and investment incentives. Or it could take a tougher line on income shifting between spouses by husband-and-wife partnerships, though this might increase compliance burdens and be hard to monitor and police.¹⁸

9.4 Evidence on how high-income individuals respond to tax changes

This section discusses the economic literature that has sought to estimate the extent to which very rich individuals respond to high taxes. Rather than investigating directly the scale of the behavioural responses described in the previous section – many of which would be very hard to observe directly – researchers have tended to estimate a single

¹⁶ Although liquidity-constrained governments may prefer to receive tax payments now than higher tax payments in the future.

¹⁷ The government also changed the rules concerning the amount that can be contributed to a pension in the year it is withdrawn: previously, there was no limit to the amount individuals could contribute in the year they withdrew their pension, but the £50,000 limit applies in this year also, with the only exception being if an individual has a severe illness or on death.

¹⁸ Presently, dividends can be paid to a spouse who does not work for the company and has not provided any capital. This is advantageous if the spouse has a lower marginal tax rate. HMRC lost a case in the House of Lords in 2007 (*Jones v Garnett* (2007) HL35), which allowed this sort of arrangement to continue. Although the then government announced that it would introduce legislation to clamp down on income shifting, no such proposals have been introduced.

parameter: the taxable income elasticity. This summary statistic tells us how much individuals reduce their taxable income in response to an increase in the marginal tax rate they face.¹⁹ An advantage of this statistic is that it is easier to estimate than investigating the different forms of behavioural response identified in the previous section. A disadvantage is that, by taking into account all possible behavioural responses, it blurs together those responses that affect real economic activity and those that represent tax avoidance.

We first discuss the (extremely limited) UK evidence, and then that from other countries. We note, though, that evidence from other countries' experience may be of limited relevance to the UK, as tax bases and opportunities for avoidance will differ substantially between countries, and this will have a key impact on the taxable income elasticity. However, the evidence is indicative.

UK evidence on behavioural responses to tax changes among the very rich

The long period of stability in the UK's top income tax rate that preceded the introduction of the 50p rate in 2010–11 (40p had been the top rate since 1988–89) presents a challenge for researchers interested in the responsiveness of the very rich in the UK to changes in their marginal tax rate. The last time the top rate was changed significantly was when the top income tax rate on earned income fell from 83% in 1978–79 to 40% in 1988–89.

As part of the Mirrlees Review of the tax system, Brewer, Saez and Shephard (2010; henceforth BSS) investigated how the income share of the richest 1% changed in response to cuts in marginal tax rates during the 1960s, 1970s and 1980s.²⁰ Simply observing how much the income share of the richest 1% increased during this period is unlikely to give a good estimate of the taxable income elasticity: it is likely that other factors would also affect the income share of the richest 1%, given that this was a time of increasing inequality generally. But BSS argued that we would get a better view of the responsiveness of the very rich to changes in their marginal income tax rates by comparing the evolution of the richest 1%'s income share with that of the next-richest 4% (who did not see their marginal tax rate fall significantly, but did see their income share rise as a result of other factors that were tending to increase inequality). This is known as the difference-in-differences method and is discussed further in Box 9.1.

The data used by BSS are shown in Figure 9.1. The share of income going to the top 5% increased significantly over the period 1978–1991, but the increase was particularly large for the top 1%. The so-called difference-in-differences methodology used by BSS effectively assumes that the additional increase in the top 1%'s share over and above the increase in the share of the next-richest 4% (i.e. the difference between these differences over time) was caused by the cut in the marginal tax rate faced by the top 1%.

¹⁹ The taxable income elasticity relates the net-of-tax rate (i.e. 100% minus the tax rate) to the amount of income. If the taxable income elasticity was 0.3 and the net-of-tax rate fell by 1% (so, for example, if the tax rate increased from 50% to 50.5%, reducing the net-of-tax rate from 50% to 49.5%), then taxable income would fall by 0.3%.

²⁰ M. Brewer, E. Saez and A. Shephard, 'Means-testing and tax rates on earnings', in J. Mirrlees et al. (eds), *Dimensions of Tax Design: The Mirrlees Review*, OUP for IFS, Oxford, 2010 (<http://www.ifs.org.uk/mirrleesreview/dimensions/ch2.pdf>).

Box 9.1. The difference-in-differences methodology for estimating taxable income elasticities

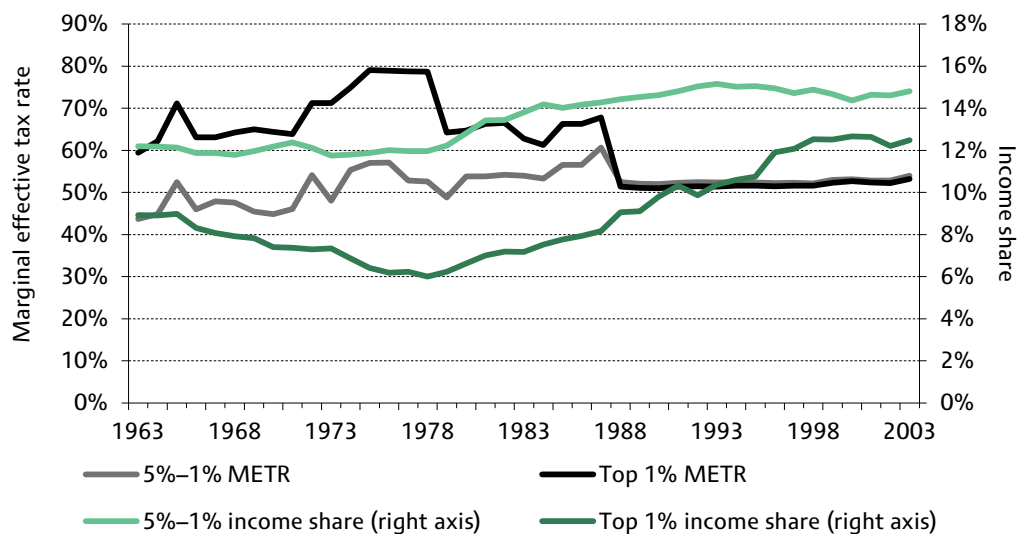
The difference-in-differences methodology used by BSS is common in the literature in this area. Typically, a group affected by a tax change is compared with one that is slightly richer or poorer that is not affected. The key assumption that enables identification of the taxable income elasticity is that, in the absence of a change in the tax rate, the share of income going to the two groups would have changed by the same amount. This assumption may not hold during periods when the level of income inequality is changing for reasons that are not related to changes in tax rates, or (in the case of the 50p rate) if there are factors that particularly affect the richest 1% relative to the next-richest 4%. It may be possible to account for these, but it is always difficult to know whether that has been achieved.

There are further problems that arise when investigating pre-announced tax rises, such as the 50p rate, using this methodology. Saez, Slemrod and Giertz (forthcoming) examine the increase in the top federal income tax rate in 1993 in the US using this methodology and find a positive elasticity, but they show that this is driven by a spike in the richest 1%'s income share in the last year of the lower tax rate (1992).^a They cite several studies that show that much of the drop in income share between 1992 and 1993 was caused by high-income individuals shifting their income forwards.^b (Indeed, the income share of the richest 1% continued to increase between 1994 and 2000.) This is likely to be a problem faced by HMRC staff using this methodology, particularly as they will only have one year of data after the 50p rate is introduced to work with for their report to the Chancellor in advance of the March 2012 Budget.

^a E. Saez, J. Slemrod and S. Giertz, 'The elasticity of taxable income with respect to marginal tax rates: a critical review', *Journal of Economic Literature*, forthcoming (<http://elsa.berkeley.edu/~saez/saez-slemrod-giertzJEL10final.pdf>).

^b A. Goolsbee, 'What happens when you tax the rich? Evidence from executive compensation', *Journal of Political Economy*, 108, 352–75, 2000; A. Parcell, *Income Shifting in Response to Higher Tax Rates: The Effects of OBRA 1993*, Office of Tax Analysis, US Department of the Treasury, Washington, DC, 1995; F. Sammartino and D. Weiner, 'Recent evidence on taxpayers' responses to the rate increases in the 1990s', *National Tax Journal*, 50, 683–705, 1997.

Figure 9.1. Income shares and marginal tax rates of richest 1% and next-richest 4%, 1963–2003



Sources: Income share – Atkinson, 2007, op. cit. (in footnote 6). Marginal tax rates – BSS.

BSS obtained an estimate for the taxable income elasticity of the richest 1% in the UK of 0.46. This means that a 1% reduction in the net-of-tax rate would lead to a 0.46% reduction in income. But, for several reasons, we would hesitate to describe this estimate as being particularly robust.

First, BSS used aggregate data on income shares, rather than micro-data. Accordingly, the level of precision of their estimate is very low, and there is a wide confidence interval around their central estimate.

Second, the difference-in-differences method used by BSS is open to question: if there were other factors that were tending to increase inequality over the period studied, then the increase in the income share of the richest 1% would have occurred without the tax change; if this was the case, then BSS have overestimated the responsiveness of the very rich to tax changes.

More significantly, the taxable income elasticity is not a fixed parameter that describes some unchanging aspect of human behaviour, but instead depends to a large extent on the opportunities available for avoidance; it is a function, therefore, of the economic conditions, and of the design of the tax system and the way that it is enforced. Marginal tax rates affecting the very rich have hardly changed since 1988, and so all of the data that lie behind BSS's estimate are essentially coming from the 1960s, 1970s and 1980s. This means that we can question whether the BSS estimate is relevant to the current debate: opportunities for high-income individuals to move to other countries have undoubtedly increased in the last twenty years, and this would lead us to expect a higher taxable income elasticity today; but on the other hand, changes in the tax compliance regime might have reduced the ability of high-income individuals to avoid paying tax.

Empirical evidence on the responsiveness of the very rich to tax changes from other countries

Much of the literature from outside the UK comes from the US, and has tended to find empirical estimates of the taxable income elasticity that are quite high.²¹ For example, Gruber and Saez (2002), using – like BSS – evidence from the 1980s, find an elasticity of 0.57 for those with incomes greater than \$100,000.²² Saez (2004) uses a longer time series from 1960 to 2000 and finds a taxable income elasticity of 0.62 for the richest 1%.²³ Using more recent evidence from the Bush tax cuts of 2001 and 2003, Auten, Carroll and Gee (2008) find an elasticity of around 0.4 for those with incomes greater than \$50,000.²⁴

Taken together, these studies suggest that those with very high incomes are more responsive to changes in tax rates than those with less-high incomes, as we would expect.²⁵ They also suggest that the richest 1% in the US might be more responsive to

²¹ A good summary is given by E. Saez, J. Slemrod and S. Giertz, 'The elasticity of taxable income with respect to marginal tax rates: a critical review', *Journal of Economic Literature*, forthcoming (<http://elsa.berkeley.edu/~saez/saez-slemrod-giertzJEL10final.pdf>).

²² J. Gruber and E. Saez, 'The elasticity of taxable income: evidence and implications', *Journal of Public Economics*, 84, 1–32, 2002.

²³ E. Saez, 'Reported incomes and marginal tax rates 1960–2000', in J. Poterba (ed.), *Tax Policy and the Economy*, Volume 18, MIT Press, Cambridge, MA, 2004.

²⁴ G. Auten, R. Carroll and G. Gee, 'The 2001 and 2003 tax rate reductions: an overview and estimate of the taxable income response', *National Tax Journal*, 61, 345–64, 2008.

²⁵ A number of studies have examined the taxable income elasticity across all taxpayers and have come up with taxable income elasticities of around 0.4, though as Giertz (2004) argues when examining this literature, these

changes in their marginal tax rate than the equivalent group in the UK (if we believe BSS's estimate). This is probably not surprising since there seem to be rather more opportunities for individuals to avoid tax in the US as a result of its narrower income tax base relative to the UK: for example, the US still has tax relief on mortgage interest, meaning that it is possible to avoid tax liabilities by purchasing a more expensive property.²⁶

What evidence is there on the form of the behavioural response?

Section 9.3 argued that there is an important distinction between responses that reduce genuine activity and those that take the form of avoidance (or evasion). Although the taxable income elasticity accounts for (and therefore blurs together) all possible behavioural responses, researchers have investigated the nature of the behavioural response of the very rich to high tax rates.

We can say something about the plausibility of the sorts of responses in Section 9.3 that represent real changes in activity. Studies that have examined labour supply behaviour have tended to find that weekly hours of work, particularly among prime-age men, are almost completely unresponsive to changes in marginal tax rates.²⁷ It is more difficult to say anything about effort, as this is not something that can be directly observed. But we do know from the economic literature that workers are particularly responsive to financial incentives around retirement age,²⁸ and there is certainly anecdotal evidence that some very rich people are geographically mobile.²⁹

Evidence of a different sort has been presented in a recent working paper.³⁰ Taking a large number of developed economies since 1975, the authors observed that there was very little relationship between GDP growth and the size of the marginal income tax rate affecting the very rich. On the other hand, they did find a relationship between top tax rates and the income share of the very rich. This is suggestive, but by no means conclusive, that higher tax rates on the very rich do reduce the income of the very rich (as more tax is extracted from them) but have no discernible impact on the performance of the economy as a whole.

results are highly sensitive to the specifications of the models used to estimate these elasticities and the precise subsamples used. S. Giertz, 'Recent literature on taxable income elasticities', Congressional Budget Office, Technical Paper 2004-16, 2004 (<http://www.cbo.gov/ftpdocs/60xx/doc6028/2004-16.pdf>).

²⁶ Glaeser and Shapiro (2003) argue that mortgage interest relief encourages people to purchase more expensive properties but does little to encourage greater home ownership. E. Glaeser and J. Shapiro, 'The benefits of the home mortgage interest deduction', in J. Poterba (ed.), *Tax Policy and the Economy*, Volume 17, MIT Press, Cambridge, MA, 2003 (<http://www.nber.org/chapters/c11534.pdf>).

²⁷ For a survey of the literature, see C. Meghir and D. Phillips, 'Labour supply and taxes', in J. Mirrlees et al. (eds), *Dimensions of Tax Design: The Mirrlees Review*, OUP for IFS, Oxford, 2010 (<http://www.ifs.org.uk/mirrleesreview/dimensions/ch3.pdf>).

²⁸ See J. Gruber and D. Wise, *Social Security Programs and Retirement around the World: Micro-Estimation*, University of Chicago Press, 2004.

²⁹ For example, a recent survey of 549 millionaires found that only 44% considered themselves to be 'very committed' to remaining in the UK, and the Swiss Federal Migration Office reported a 28% increase (to a total of 383) in the number of individuals working in banking and finance relocating from the UK to Switzerland in 2010, although we cannot say what the number would have been had there not been a 50p tax rate. See Centre for Economics and Business Research, *The 50p Tax – Good Intentions, Bad Outcomes*, London, 2011 (<http://www.cebr.com/wp-content/uploads/50p-Tax.pdf>) and <http://www.channel4.com/news/british-bankers-head-to-switzerland>.

³⁰ T. Piketty, E. Saez and S. Stantcheva, 'Optimal taxation of top labor incomes: a tale of three elasticities', NBER, Working Paper 17616, 2011.

The insight that the taxable income elasticity is not a fixed parameter, but rather depends on the opportunities available for avoidance, has formed a key part of the US literature. Kopczuk (2005) presents evidence to suggest that the US Tax Reform Act of 1986, which significantly reduced the number of tax-deductible items and closed a number of tax loopholes, led to a reduction in the taxable income elasticity.³¹ This helps explain why taxable income elasticity estimates obtained for the 1990s tend to be significantly lower than those for the 1980s,³² and suggests that much of the observed increase in taxable income among the very rich after reductions in the top tax rates has been the result of less avoidance activity rather than more economic activity. This is confirmed by the results of other studies that have examined the responsiveness of ‘broad income’ – defined as income before various deductions such as pension contributions, mortgage interest and charitable donations – to changes in income tax rates. Gruber and Saez (2002) find a much lower elasticity for broad income in their data from the 1980s: the broad income elasticity for those with incomes above \$100,000 is 0.17 rather than 0.57.³³ Therefore, it would appear that those with very high incomes respond to tax rises by changing their avoidance behaviours rather than by doing less paid work.

Other international evidence corroborates these findings. For example, Denmark has a very broad tax base with few items that can be fully deducted from income, and Kleven and Schultz (2010) find that the taxable income elasticity is lower than in other countries (less than 0.2), although still two or three times higher among the top income quintile than in the bottom quintile.³⁴ This means that the very high tax rates seen in Denmark do not exceed the estimated revenue-raising point (known as the Laffer bound). They also find that deductibles (Denmark allows mortgage interest, for example, to be less than fully deducted from income) are particularly responsive to changes in marginal tax rates, again reinforcing that these sorts of avoidance responses predominate.

9.5 HM Treasury’s estimate of the level of revenue raised

This section gives details of the forecast produced by HMT for the amount of revenue raised by the 50p tax rate, with a focus on the degree of behavioural response assumed in this estimate.

If there were no behavioural response to the introduction of the 50p rate, it would increase income tax revenues by £6.5 billion in a full year (see Figure 9.2 below). However, HMT’s latest estimate is that total income tax and National Insurance revenues will only increase by £2.7 billion in a full year.³⁵ It is therefore clear that a substantial degree of behavioural response has been incorporated into this estimate; when

³¹ W. Kopczuk, ‘Tax bases, tax rates and the elasticity of reported income’, *Journal of Public Economics*, 89, 2093–119, 2005 (<http://www.columbia.edu/~wk2110/bin/taxBase-final.pdf>).

³² See S. Giertz, ‘Recent literature on taxable income elasticities’, Congressional Budget Office, Technical Paper 2004-16, 2004 (<http://www.cbo.gov/ftpdocs/60xx/doc6028/2004-16.pdf>).

³³ A similar result is found by S. Giertz, ‘The elasticity of taxable income over the 1980s and 1990s’, *National Tax Journal*, 60, 743–68, 2007 (<http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1056&context=econfacpub>).

³⁴ H. Kleven and E. Schultz, ‘Identifying the elasticity of reported income using a large panel of Danish tax payers’, Centre for Economics and Business Research, Working Paper, 2010.

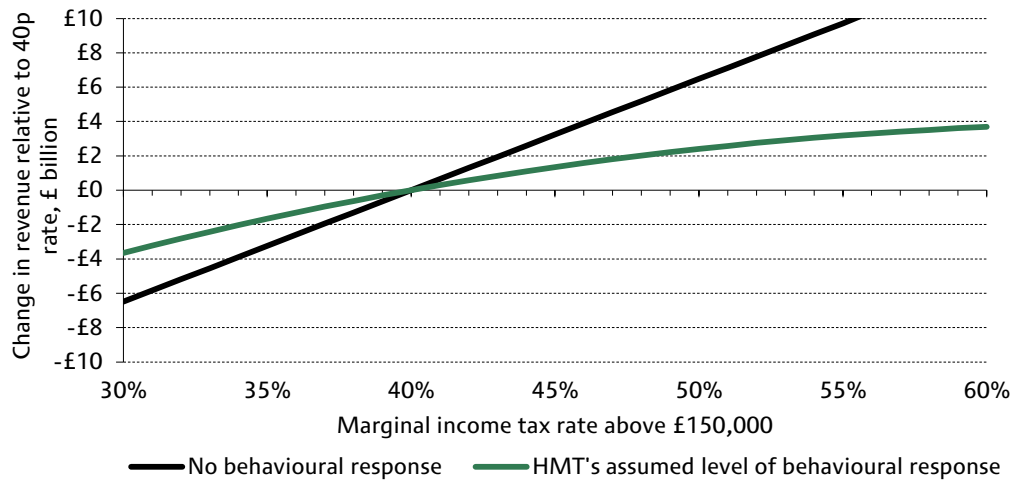
³⁵ See table A11 of HM Treasury, *Budget 2010: Securing the Recovery*, HC 451, The Stationery Office, London, March 2010.

calculating the revenue implications of the 50p rate, HMT used a taxable income elasticity of 0.35.³⁶

The 50p rate causes the marginal tax rate on earned income faced by this group to increase from 56.8% to 64.3% once both employee and employer National Insurance contributions and an average indirect tax rate of 18% are taken into account. This represents a 17% decrease in the marginal net-of-tax rate. Hence HMT's estimate of the taxable income elasticity implies that the total taxable income of these individuals will fall by 6%.³⁷ Note that the government not only does not receive the additional 10p of income tax on this income, but also loses the income tax and National Insurance it was previously collecting on this income; this is why the increased tax rate could lead to a reduction in tax revenue.

Figure 9.2 shows our estimate of the relationship between the marginal income tax rate and total income tax and National Insurance revenues relative to a 40p income tax rate (commonly known as the 'Laffer curve') assuming (a) no behavioural response and (b) the level of behavioural response assumed by HMT. Note that this does not allow for any effect on indirect tax revenues, a point we return to below. The graph shows estimates of the change in revenue from income tax and National Insurance based on our own analysis of the 2007–08 Survey of Personal Incomes (suitably uprated), as described in Brewer and Browne (2009, op. cit.). The estimates do not replicate exactly those published by HM Treasury.

Figure 9.2. Estimated change in income tax and National Insurance revenues relative to 40% income tax rate



Note: Assumes marginal rates of 2% for employee National Insurance and 13.8% for employer National Insurance and an 18% indirect tax rate.

Source: Authors' calculations using the 2007–08 Survey of Personal Incomes and assumptions specified in the text.

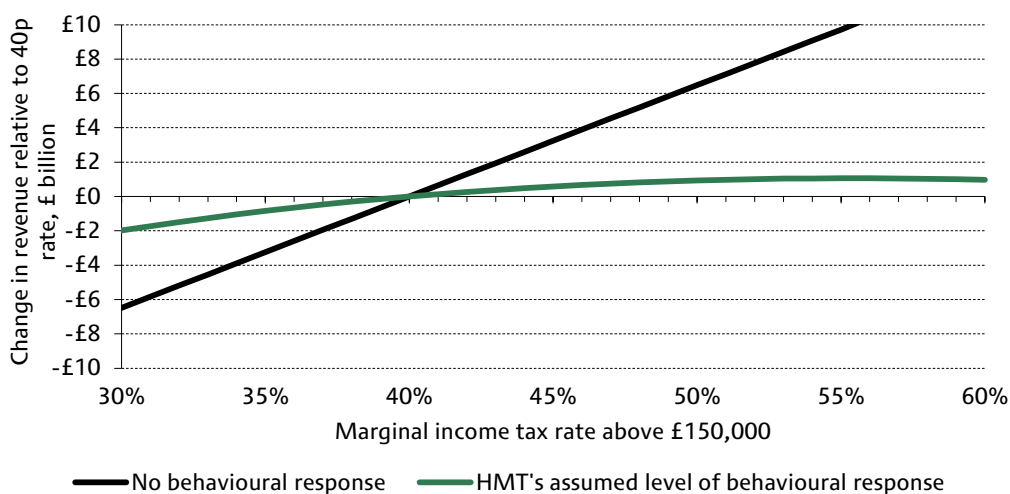
³⁶ Details of HMT's methodology were obtained by IFS through a Freedom of Information Request. For more details, see M. Brewer and J. Browne, 'Can more revenue be raised by increasing income tax rates for the very rich?', IFS Briefing Note 84, 2009 (<http://www.ifs.org.uk/bns/bn84.pdf>).

³⁷ 17% is equal to $((35.7\% - 43.2\%) / 43.2\%)$ and $0.35 \times 17\%$ is 6%. For more details of how these rates are calculated, see Brewer and Browne (2009, op. cit.). The marginal tax rate on unearned income increases from 49.2% to 57.6% as a result of the introduction of the 50p rate.

The difference in revenue yield implied by the gap between the two lines in Figure 9.2 shows us that HMT’s estimate of the revenue raised by the 50p rate incorporated a significant degree of behavioural response. Had individuals left their taxable income unchanged when the income tax rate was increased from 40% to 50%, the reform would have increased income tax revenues by around £6.5 billion in a full year according to our calculations, rather than the £2.7 billion by which HMT estimates total income tax and National Insurance revenues would increase under its assumed level of the taxable income elasticity.

It is also important to consider which taxes HMT is including in its estimate – namely, only income tax and National Insurance revenues. As we discussed in Section 9.3, this could give a misleading impression of the overall effect on tax revenues on two counts.

Figure 9.3. Estimated change in income tax, National Insurance and indirect tax revenues relative to 40% income tax rate



Note: Assumes marginal rates of 2% for employee National Insurance and 13.8% for employer National Insurance and an 18% indirect tax rate.
 Source: Authors’ calculations using the 2007–08 Survey of Personal Incomes and assumptions specified in the text.

First, HMT is not allowing for any impact on indirect tax revenues in its estimate, but, as we argued previously, it is likely that expenditure and hence VAT revenues will fall if the behavioural response to the 50p rate represents a real reduction in income.³⁸ Taking things to the other extreme, if expenditure falls by the same amount as income, the Laffer curve under HMT’s assumed value for the taxable income elasticity changes to that shown in Figure 9.3. If we assume that all of the behavioural response represents a real reduction in income, the 50p rate raises less than £1 billion in a full year.

Second, and working in the other direction, HMT’s assumption does not take account of any possible ‘fiscal externalities’ when calculating the amount of revenue raised. As discussed in Section 9.3, it is possible that some of the tax revenue could be collected at a

³⁸ Note that this does not necessarily mean that there is a ‘black hole’ in the public finances if indirect tax revenues are in fact affected. The Treasury’s methodology for policy costings in Budgets only allows for the base of the tax in question and closely related tax bases to be affected by behavioural responses to a tax change. Therefore, in this case, the £2.7 billion estimate only includes the impact on income tax and National Insurance revenues. However, official forecasts for revenues from different taxes do account for the impacts of all tax changes. Therefore the figures that appear in the Budget table on the revenue effects of policy decisions do not represent the estimated total revenue effects of Budget measures in all cases.

later date or in different tax bases (CGT, for example). To the extent that the behavioural response amounts to activities that reduce but do not eliminate the taxpayer's tax liability, HMT's estimate does not fully capture the long-term impact of the tax rise on future government revenues. This would lead to the increase in revenue resulting from the introduction of the 50p rate being higher than the figures suggested above in present-value terms.

We saw in the previous section that both of these are likely to be partly true: some (probably only a small portion) of the behavioural response is likely to be a genuine reduction in income that leads to lower indirect revenue (which tends to reduce the total revenue raised), but the majority is likely to be avoidance activity that still leads to the government collecting a proportion of the revenue. Much will therefore depend on how much of this revenue the government collects in either the current or subsequent periods.

There is clearly uncertainty over the correct elasticity to use, and the amount of revenue raised by the 50p rate is highly sensitive to this parameter. If we use the BSS estimate of 0.46, based on the experience of the 1980s, rather than the 0.35 used by HMT, then we estimate that only £1.1 billion would be raised (assuming no effect on indirect revenues). Table 9.1 shows how much revenue is estimated to be raised with different values of the taxable income elasticity, both under the assumption that indirect tax revenues are unaffected and under the assumption that expenditure falls by as much as income. Using the BSS estimate, the 50p rate is close to (but still below) the revenue-maximising level in the case where indirect tax revenues are unaffected, but raises less revenue than a 40p rate in the case where expenditure falls by as much as income.

BSS do not give any evidence of which of these scenarios is likely to be closer to the truth, nor do they investigate the possibility of 'fiscal externalities'. Recent work suggesting that most of the response is likely to be avoidance rather than reduced real activity indicates both that spending falls may be limited and that 'fiscal externalities' may be significant.³⁹ The truth is that there remains a great deal of uncertainty over the revenue-maximising top income tax rate.

Table 9.1. Revenue raised by 50p rate under different assumptions about taxable income elasticity and revenues affected

Taxable income elasticity	Revenue raised by 50p rate assuming:	
	Indirect tax revenues unaffected (£ billion)	Expenditure falls as much as income (£ billion)
0.20	4.1	2.9
0.25	3.5	2.2
0.30	3.0	1.6
0.35 (HMT)	2.4	0.9
0.40	1.8	0.3
0.45	1.3	-0.4
0.46 (BSS)	1.1	-0.5
0.50	0.7	-1.0

Note and Source: As Figure 9.3.

³⁹ See E. Saez, J. Slemrod and S. Giertz, 'The elasticity of taxable income with respect to marginal tax rates: a critical review', *Journal of Economic Literature*, forthcoming (<http://elsa.berkeley.edu/~saez/saez-slemrod-giertzJEL10final.pdf>).

Furthermore, even if it were thought that the revenue-maximising tax rate was less than 50p, we must remember that the underlying taxable income elasticity depends upon the nature of the tax system and its enforcement, and can be altered. In principle, it would be possible for the government to increase the revenue-maximising tax rate by restricting opportunities for tax planning. As we discussed earlier, one way of doing that might be to close the gap between capital gains and income tax rates. It would be desirable, though, to make changes to other aspects of the CGT system at the same time. There is currently no recognition of purely inflationary gains in the system – meaning that purely nominal increases in asset values are taxed. At the very least, it would probably be necessary to reintroduce some allowance for inflation (as existed between 1982 and 1998) to ensure that purely nominal gains were not taxed.⁴⁰ Additionally, as was argued in the Mirrlees Review, to prevent a more general bias against savings and investment in the tax system there is a strong case for introducing a so-called Rate of Return Allowance, which exempts ‘normal’ returns to capital. The advantage is that this allows the marginal rate of CGT for any excess returns to be aligned with the full tax rate on labour income. This reform would have the advantage of removing the incentives for individuals to dress up labour income as capital gains without taxing the normal return to capital.

Other options could include taking a harsher line on income shifting between spouses through husband-and-wife partnerships – though this might involve some additional enforcement costs. Further restrictions to tax relief on pension contributions, perhaps by restricting relief to the basic rate, might also increase revenue.⁴¹ But this would introduce a set of different problems and inequities and would not, in general, be desirable in the context of wanting an efficient and equitable tax system. A better way of reducing the generosity of the tax treatment of private pensions might be to limit the total amount that can be taken as a tax-free lump sum on retirement.⁴²

Finally, as we said earlier, assessing the future of the 50p tax rate solely on whether it raises any net revenue is a very narrow approach to tax policy: even if it raised money, it may not be the least socially harmful way of raising the same amount revenue, even from the same or similar people. If the main intention of the 50p rate is to extract additional tax from the very richest, then it might also be worth considering other elements of the tax system. The band structure of council tax in Great Britain, for example, means that council tax bills are regressive with respect to property values both within and between bands. Reforming it (in a similar way to how domestic rates have been reformed in Northern Ireland, although perhaps without the cap that exists on rental value equivalents in Northern Ireland) could raise significant extra sums from those living in expensive properties, who are probably a group with high values of wealth. There appear to be loopholes in the stamp duty land tax system which the wealthiest are also able to exploit. Reforms to inheritance tax and to the treatment of capital gains at death may also offer opportunities to tax this group.

⁴⁰ For more discussion, see S. Adam, ‘Capital gains tax’, in R. Chote, C. Emmerson, D. Miles and J. Shaw (eds), *The IFS Green Budget: January 2008* (<http://www.ifs.org.uk/budgets/gb2008/08chap10.pdf>).

⁴¹ Restricting tax relief to the basic rate would significantly weaken the incentive for higher-income individuals to save in a pension, particularly if this were not accompanied by only taxing pension income at the basic rate. It would also be administratively difficult for those in defined-benefit schemes. For a fuller discussion of this policy, see S. Adam, M. Brewer, J. Browne and D. Phillips, ‘Taxes and benefits: the parties’ plans’, IFS Briefing Note 100, 2010 (<http://www.ifs.org.uk/bns/bn100.pdf>).

⁴² Current total pension contribution limits mean that up to £375,000 can be taken as a tax-free lump sum on retirement. Income taken in this way escapes income tax both at the point it is earned and at the point of withdrawal. Reducing this limit would neither penalise saving as opposed to immediate consumption nor significantly reduce the attractiveness of saving for a pension.

9.6 When will we know more about the revenue raised by the 50p tax rate?

The first evidence on the revenue raised by the 50p tax rate will be contained in tax returns for the 2010–11 tax year, which need to be submitted to HMRC by 31 January 2012. The Chancellor has asked HMRC to examine how much revenue the 50p rate is raising in time for a review in Budget 2012. This gives less than two months for this review to take place, even assuming the data will be fully processed and available to researchers at the beginning of February. But tax records for just one year after the introduction of the 50p rate are unlikely to provide a robust estimate of how much revenue the 50p rate will raise, for several reasons.

First, the 50p tax rate was announced over a year before its implementation. As we discussed in Section 9.3, this gave high-income individuals the incentive to bring forward income to 2009–10 to avoid paying the increased tax rate. So tax revenues in the first year of the 50p tax's operation are likely to be particularly low and those in the prior year particularly high.

Second, one year after the tax's implementation might be too soon for some individuals to respond fully to the new tax rate. In particular, those who decided to leave the UK following the announcement of the 50p rate might not have had enough time to arrange this, such that the revenue implications might be higher going forward.

Third, because the Chancellor has said that he views the 50p rate as a temporary measure, individuals are likely to behave differently from if the tax change were believed to be permanent. On the one hand, individuals are more likely to engage in responses that involve shifting income to a future date when an increase is temporary. On the other hand, individuals are less likely to engage in responses that have a large fixed cost, such as moving away from the UK.

A separate issue is that the ongoing economic crisis will likely make it difficult for HMRC staff to distinguish between the impact of the 50p rate on tax revenues and the impact of other economic forces on the incomes of the richest 1%. For example, many of the richest 1% are employed in the financial services industry and are likely to have seen their incomes fall significantly during the early part of the recent recession before rebounding strongly in 2010–11. This has nothing to do with the introduction of the 50p rate, but it is difficult to disentangle the two effects. This difficulty would apply if HMRC staff attempted to use the difference-in-differences method, which we discussed in Box 9.1.

For all these reasons, it seems to us most unlikely that HMRC will be able to provide the Chancellor with anything approaching a definitive view of the effects of the 50p rate in time for this year's Budget. As was the case when the 50p rate was introduced, any policy decision is likely to have to be based on a combination of limited evidence, judgement and views about the trade-off between possible additional revenue and the importance attached to the welfare of the richest 1%.

9.7 Conclusions

Despite the level of debate that has surrounded the 50p income tax rate above £150,000, there remains a very high level of uncertainty around how much revenue it will raise. HMT's estimate that the new tax rate will bring in an additional £2.7 billion in a full year

may be somewhat optimistic. It relies on a fairly low level of responsiveness compared with some estimates, and it does not account for any reduction in indirect tax revenue. On the other hand, it does already assume some significant behaviour change and does not account for the possibility that some of the tax revenue lost might be recouped either in later periods or through other tax bases. There was certainly risk involved in introducing the 50p rate, not least because those affected are so important to overall income tax revenues. But there is an upside risk too – HMT might turn out to have been right, or even unduly conservative in its estimates.

The Chancellor has asked HMRC to estimate the impact of the 50p tax rate on tax revenues and to report to him in time to inform his Budget 2012 decisions. The first shreds of evidence will appear shortly, once tax returns for the 2010–11 tax year have been processed. However, this will, at best, tell us only the very short-run impact of the 50p tax rate on revenues; the true impact in the long run could be higher or lower. Although it will never be possible to be certain about the impact of the 50p tax rate, as we will never know exactly how high-income individuals would have behaved had the highest rate of income tax remained at 40%, Budget 2012 is almost certainly too soon to be making decisions on the future of the 50p rate if they are to be informed by reliable, robust empirical evidence.

Finally, assessing the future of the 50p tax rate solely on whether it raises any net revenue is an unduly narrow approach to tax policy: even if it raised money, it may not be the least socially harmful way of raising the same amount of revenue, even from the same or similar people. Since most of the behavioural response to high tax rates appears to take the form of tax avoidance, an obvious way to increase revenue might be to reduce the opportunities that exist for tax avoidance – for example, by aligning income and CGT rates, thereby negating any advantage to taking remuneration as capital gains rather than income. But any reforms such as this would need to be carefully thought through and implemented as part of a wider strategy for tax policy.

Effective tax policy requires a clear strategy, an understanding of how the system as a whole works together, and a consistent and concerted approach to reform. Decisions about the abolition or retention of the 50p rate, and about any measures to increase revenues from the richest individuals, should be considered as part of a clear forward strategy. We can ill-afford poorly-thought-out, short-term and un-joined-up tax policymaking.

10. Corporate tax setting

Helen Miller (IFS)

Summary

- Following a trend that has been seen across many developed countries, the UK government has pursued a corporate tax strategy of rate cutting and base broadening. One rationalisation of this is that it will lower the tax burden on mobile firms, thus reducing the disincentive for firms to locate in the UK without losing too much tax revenue.
- Tax avoidance, especially by companies, has attracted increasing attention in light of the large budget deficit. A first step towards countering avoidance is to minimise the boundaries between what is and is not taxed, which create opportunities for avoidance. The government is considering introducing a General Anti-Avoidance Rule (GAAR) – a broad set of principle-based rules designed to prevent tax avoidance; there are mixed opinions as to the usefulness of a GAAR.
- The taxation of intellectual property has been a key issue for policymakers. The government will introduce a Patent Box in 2013, which will provide a substantially lower tax rate for the income derived from patents. The policy design weakens the link between the size of the tax deduction and the amount of underlying innovation and increases the deadweight cost of the policy.
- The government is considering whether to devolve the power to set the main rate of corporation tax in Northern Ireland to the Northern Ireland Assembly. There are suggestions that Scotland and Wales should be granted equivalent powers.
- The key aim of devolving corporation tax rate setting power is to reduce rates and therefore boost private sector investment. It is hard to judge whether the benefits from greater levels of activity would be sufficient to outweigh the costs of the public spending cuts that would be needed to finance reductions in the rate of corporation tax and the additional compliance costs and distortions to corporate decision-making that would result.
- Implementing such a policy move would be difficult, and likely require a number of years of transition. A key challenge would be to determine how to allocate profits to each nation and ensure that firms could not artificially allocate profits to the lower-tax nation. There would be an important debate over how to adjust the block grant from Westminster appropriately.
- A concern is that allowing separate rates across the four nations could lead to harmful tax competition within the UK, which would reduce tax revenues for all nations.

10.1 Introduction

At the start of this Parliament, the government set out the *Corporate Tax Road Map* that paved the way for a number of corporate tax changes. These included a series of cuts to the main statutory tax rate, a cut to the small profits rate, reductions in capital

allowances, the introduction of a Patent Box, and modifications to the controlled foreign company (CFC) anti-avoidance rules. The aim of the government's package of corporate tax measures was to 'create the most competitive corporate tax regime in the G20'.¹

Most of the planned corporate tax changes have been (or are likely to soon be) enacted. Going forward, one of the most significant changes that have been suggested is the devolution of corporation tax rate setting powers. At present, the government is considering a proposal to devolve the power to set the main rate of corporation tax in Northern Ireland to the Northern Ireland Assembly. Devolution to Scotland and Wales has been the subject of government commissions but is not a current policy proposal.

This chapter discusses the effects of corporation tax on firms' investment. It is worth noting, however, that the ultimate incidence of tax always lies with households and is borne either by the owners of capital (in the form of lower dividends), by workers (in the form of lower wages) or by consumers (in the form of higher prices). Since capital tends to be much more mobile than workers or consumers, corporation tax tends to get shifted to domestic factors – and specifically labour.

We start by discussing some of the recent trends in corporate tax policy, including the rationale for cutting the tax rate while broadening the tax base and the extent to which this will succeed in giving the UK a more internationally competitive corporate tax system (Section 10.2). Section 10.3 provides an update of the policies affecting the taxation of intellectual property and specifically highlights some of the main design features of the Patent Box. Section 10.4 considers the proposals for devolving the power to set corporation tax rates, including discussions of the likely effects on investment, revenues and tax competition. A final section summarises.

10.2 The taxation of corporate income

The policy focus of the government is indicative of one of the challenges faced by policymakers in developed countries in recent years: how best to tax mobile income. The location of firms' activities – both real production and paper profits – is influenced by the level of taxation.² As firms' activities have become more mobile, governments have grappled with decisions over which income should be taxed and at what rate.

Across developed countries, a number of governments have reduced corporation tax rates in the hope of remaining competitive. Research suggests that part of the fall in statutory rates that has been seen across OECD countries in recent decades can be attributed to governments lowering tax rates in response to lower rates elsewhere, in an attempt to attract and retain increasingly mobile capital.³ There is an ongoing debate over the long-term viability of a source-based corporate income tax – that is, one that is levied on income earned from productive activity in a country – in an open economy and, in particular, whether levying such a tax will continue to be possible, especially if income continues to become more mobile.

¹ See HM Treasury, *Corporate Tax Reform: Delivering a More Competitive System*, 2010 (http://www.hm-treasury.gov.uk/corporate_tax_reform.htm).

² For a discussion of corporate taxes in an open economy, see R. Griffith, J. Hines and P. Sørensen, 'International capital taxation', in J. Mirrlees et al. (eds), *Dimensions of Tax Design: The Mirrlees Review*, OUP for IFS, Oxford, 2010 (<http://www.ifs.org.uk/mirrleesreview/dimensions/ch10.pdf>).

³ See, for example, M. Devereux, B. Lockwood and M. Redoano, 'Do countries compete over corporate tax rates?', *Journal of Public Economics*, 92, 1210–35, 2008.

Despite reductions in tax rates, UK corporation tax continues to raise significant revenue – around £43 billion, or just under 8% of total revenue in 2010–11.⁴ One of the ways in which governments have attempted to be competitive while continuing to raise significant revenue is by accompanying rate cutting with base broadening, i.e. taxing a greater proportion of income but at a lower rate.

In recent years, there have been a number of other developments that affect which income is taxed. Since 2009, the UK has operated an exemption system for foreign-source income – UK firms can now remit most income earned offshore to the UK without being subject to UK tax. Associated with this move are modifications to the CFC regime – the anti-avoidance rules that apply to offshore income.⁵ Explicit consideration has been given to the taxation of the income from intellectual property (which is particularly mobile), with a view to ensuring it is not artificially diverted offshore.⁶ In 2013, the UK will introduce a Patent Box – a substantially reduced corporation tax rate for the income derived from patents. This can be viewed as a way in which to tax an important form of mobile income at a preferential and lower rate. (See Section 10.3.)

Box 10.1. Tax avoidance

There are a range of ways in which firms seek to minimise their tax bill. We expect firms to take full advantage of allowances and provisions in the tax code such that they pay no more tax than is necessary. Some firms may be more aggressive in their tax planning and seek to exploit loopholes or favourable interpretations of uncertainty in tax legislation. While this type of tax avoidance is legal, many would argue that it is not in the spirit of the law. However, these activities are distinct from tax evasion, in which firms illegally manipulate their tax liability.

The precise characterisation of what counts as tax avoidance is subject to much debate and has many grey areas. The OECD defines tax avoidance as ‘the arrangement of a taxpayer’s affairs that is intended to reduce his tax liability and (...) is usually in contradiction with the intent of the law it purports to follow’.^a Of course, not all parties will interpret the ‘intent of the law’ in the same way.

We do not have precise measures of which firms are avoiding tax or by how much. The tax gap – the difference between the amount of tax that firms ‘should’ and actually do pay – is not only hard to define conceptually but also extremely difficult to estimate accurately (largely due to the need to determine the correct amount of tax owed).

HM Revenue and Customs (HMRC) has produced an analysis of the UK tax gap that accounts for all HMRC-administered taxes, noting the many impediments to the exercise. Its estimate is that, in 2008–09, £6.9 billion of corporation tax revenue was not collected. This equates to 14% of the overall tax gap, i.e. 14% of the difference between total theoretical liabilities and all collected tax receipts.^b

^a See OECD, *Glossary of Tax Terms* (accessed January 2012)

(http://www.oecd.org/document/29/0,3343,en_2649_34897_33933853_1_1_1_1.00.html).

^b HMRC, *Measuring Tax Gaps 2010* (<http://www.hmrc.gov.uk/stats/measuring-tax-gaps-2010.htm.pdf>).

⁴ See chart 2 of HM Treasury, *Budget 2010* (http://cdn.hm-treasury.gov.uk/junebudget_complete.pdf).

⁵ See R. Griffith, H. Miller and M. O’Connell, ‘Business taxation’, in R. Chote, C. Emmerson, D. Miles and J. Shaw (eds), *The IFS Green Budget: January 2009* (<http://www.ifs.org.uk/budgets/gb2009/09chap12.pdf>).

⁶ See section 10.5 of R. Griffith and H. Miller, ‘Corporate taxes and intellectual property’, in M. Brewer, C. Emmerson and H. Miller (eds), *The IFS Green Budget: February 2011* (<http://www.ifs.org.uk/budgets/gb2011/11chap10.pdf>).

As well as the modifications to the CFC regime, there has been a broader discussion about measures to counter tax avoidance.⁷ (See Box 10.1 for a discussion of measuring tax avoidance.) Tax avoidance is an issue that has attracted increasing attention in light of the large budget deficit, with a number of groups calling for government action to increase the amount of tax collected from companies, and in particular large multinational companies.

The opportunities for avoidance result from the design of the tax system and, in particular, from the boundaries created between what is and is not taxed and through exemptions and reliefs. A first step towards countering avoidance is therefore to minimise such boundaries. The Mirrlees Review highlights the many benefits of a coherent and simplified tax system.⁸

The most significant government proposal is the possible introduction of a General Anti-Avoidance Rule (GAAR) – a broad set of principle-based rules designed to prevent tax avoidance.⁹ Broadly, the idea would be to provide a generic defence against corporate tax avoidance that did not require constant legislation to tackle specific loopholes individually.

There are mixed opinions as to the potential usefulness of a GAAR. A report by the IFS Tax Law Review Committee notes that ‘principles-based drafting may be a useful tool, but only when there is a satisfactory underlying principle that can be formulated. A GAAR may have a role to play as a line in the sand and as an aid to construction by the courts, but overseas experience and the review in this paper ... suggest that a GAAR is no more the solution than any of the other approaches’.¹⁰ In contrast, a recent report commissioned by the government to consider the merits of a GAAR concludes that a specific formulation of a GAAR would be beneficial. Specifically, ‘a moderate rule which does not apply to responsible tax planning, and is instead targeted at abusive arrangements, *would* be beneficial for the UK tax system’.¹¹ Of course, there would be much work to do in defining, in legislation, what an abusive arrangement is.

Rate cutting and base broadening

At the centre of the UK package of reforms is a series of cuts to the statutory corporation tax rate. The main rate was reduced from 28% in 2010 to 26% in April 2011 and, on current plans, will fall by a percentage point each April until reaching 23% by April 2014. The revenue cost of these changes is broadly covered by a broadening of the tax base achieved by reducing allowances.¹² From April 2012, the main rate of capital allowances

⁷ For a discussion of government attempts to reduce avoidance, see HM Treasury, *Tackling Tax Avoidance*, March 2011 (http://cdn.hm-treasury.gov.uk/2011budget_taxavoidance.pdf).

⁸ See <http://www.ifs.org.uk/mirrleesReview>.

⁹ Note that a GAAR would likely also apply to other direct taxes – for example, income tax and capital gains tax.

¹⁰ Possible ways to address avoidance, including a GAAR, are reviewed in T. Bowler, *Countering Tax Avoidance in the UK: Which Way Forward?*, Tax Law Review Committee Discussion Paper 7, 2009 (<http://www.ifs.org.uk/comms/dp7.pdf>). Quote comes from paragraph 3.4.

¹¹ G. Aaronson, *GAAR Study*, November 2011 (http://www.hm-treasury.gov.uk/d/gaar_final_report_111111.pdf). Quote comes from paragraph 1.7.

¹² The Treasury estimates that, after accounting for some changes in behaviour, the 2014–15 revenue cost of cuts to the main rate will be £2.7 billion and the revenue gain from reducing allowances will be £2.8 billion. See pages 13 and 16 respectively of HM Treasury, *Budget 2010 Policy Costings* (http://www.hm-treasury.gov.uk/d/junebudget_costings.pdf). Note, however, that before accounting for behavioural responses, the package reduces revenues. The main behavioural response that is included in the costing is the

will fall from 20% to 18%, the special rate from 10% to 8% and the Annual Investment Allowance from £100,000 to £25,000. These changes reduce the proportion of previous years' expenditure on certain types of capital that can be deducted from revenue to calculate taxable profits.

This is not the first time that the UK has undertaken a policy of rate cutting and base broadening; there were significant changes in this direction in the mid-1980s. The previous Labour government also cut the main corporation tax rate and reduced the value of some capital allowances (but also introduced the Annual Investment Allowance). Despite these developments, there have not been significant changes in the share of corporation tax receipts in total tax revenues or as a share of national income.¹³ Corporate tax rate cutting alongside tax base broadening is also a policy mix that has been seen across a number of European countries in recent decades.¹⁴

When is rate cutting and base broadening the right policy?

The rationale for cutting the tax rate is straightforward – it reduces the disincentives to invest and makes the UK a relatively more attractive location for earning income. In contrast, broadening of the tax base increases the cost of investment. Given that the package of measures is largely revenue neutral, what is the rationale for changing the tax burden in this way?

Box 10.2. The tax base

The UK operates a source-based corporation tax – a tax on income earned from productive activity in the UK. This is levied on the full return – that is, the normal rate of return plus any additional returns (pure profits) – to equity. Notably, the tax base provides an advantage to debt financing because interest payments are tax deductible while the costs associated with equity financing are not. It has long been noted that this creates an undesirable distortion to firms' activities.^a

It is widely understood that, in a small open economy, a source-based corporation tax on the full return to capital located there inappropriately distorts investment decisions – it raises the pre-tax rate of return required by investors and therefore reduces the stock of capital.

Alternative systems have been designed, including those that would remove the distortion between debt and equity financing and exempt the normal rate of return from tax. One of the characteristics of a system that attempts to exempt the normal rate of return is that it provides allowances to account for the full depreciation of capital goods. Depreciation is essentially a capital loss on an asset.

^a For a discussion of the issues considered in this box, see sections 9.5 and 9.6.1 of A. Auerbach, M. Devereux and H. Simpson, 'Taxing corporate income', in J. Mirrlees et al. (eds), *Dimensions of Tax Design: The Mirrlees Review*, OUP for IFS, Oxford, 2010 (<http://www.ifs.org.uk/mirrleesreview/dimensions/ch9.pdf>).

effect of a reduction in the main rate on the incentives for multinationals to shift profits into the UK (which works to reduce the revenue impact).

¹³ For details on changes in the UK tax base over time see box 9.1 and for trends in revenues see section 9.3 of A. Auerbach, M. Devereux and H. Simpson, 'Taxing corporate income', in J. Mirrlees et al. (eds), *Dimensions of Tax Design: The Mirrlees Review*, OUP for IFS, Oxford, 2010 (<http://www.ifs.org.uk/mirrleesreview/dimensions/ch9.pdf>).

¹⁴ For international comparisons, see section 9.3 of Auerbach, Devereux and Simpson (2010, op. cit.).

At first glance, the move towards base broadening may be seen as somewhat of a puzzle. Broadly, one of the results from the academic literature on optimal corporate taxes is that a small open economy (such as the UK) should not levy a tax on the normal rate of return – the minimum return that a firm requires to make an investment viable (see Box 10.2). However, since the 1980s, the UK tax system has moved towards taxing the full return (which includes the normal rate of return as well as any pure profits) by a broadening of the tax base brought about by reducing the value of capital allowances. Other countries have enacted reforms with similar effects.

Of course, in implementing a (roughly) revenue-neutral reform, there is a trade-off between rate cutting and base broadening. It is not clear that designing policies that are revenue neutral within the corporate tax system is an appropriate goal.¹⁵ However, conditional on the constraint that policy changes be broadly revenue neutral, research suggests that we can say something about when rate cutting alongside base broadening might be the right trade-off. The key to understanding the rate cutting, base broadening policy mix is the presence of mobile and immobile activities.

In general, a tax system that only taxes pure profits should not affect firms' decisions over the scale of investment. It can, however, affect where firms choose to locate specific investment projects. Therefore, moving towards a system that levies a tax only on pure profits reduces the distortions to the level of investment but may still have an impact on the composition of investment in a country, i.e. the share of mobile profits in a country.

To explain this, it is useful to introduce the notion of an effective tax rate – a measure that combines information on how both the tax rate and the tax base affect the burden of tax (see Box 10.3). The *effective marginal tax rate* (EMTR) is used to measure the tax burden on a project that just breaks even and is important in determining the level of investment firms undertake. The *effective average tax rate* (EATR) is used to measure the tax burden on a project that makes a profit and is important in determining where firms locate investment projects.

Taken together, the package of rate cutting and base broadening will reduce both measures, but will have a larger effect on the EATR than on the EMTR. The intuition for this is straightforward: as one moves from considering a project that breaks even to one that makes a positive profit, and as profit increases, the tax rate becomes more important and capital allowances less so. As a result, this policy mix will have a larger effect on the incentives for firms to locate new investment projects in the UK than on incentives to increase incrementally the level of investment currently taking place in the UK.

A policy of rate cutting and base broadening effectively redistributes the tax burden away from more profitable firms, which empirical evidence shows are also more mobile.¹⁶ In so doing, it reduces the disincentive for firms to locate investments (and profits) in the UK. Recent research has set out the conditions under which a policy of rate cutting and base broadening may be beneficial. Specifically, it has been shown that if the marginal mobile firm (i.e. the firm that is just indifferent to locating its activities in the UK or not) is more productive than the average firm in the country, then a rate cutting, base broadening

¹⁵ For a discussion, see J. Mirrlees et al., *Tax by Design: The Mirrlees Review*, Oxford University Press for the Institute for Fiscal Studies, 2011 (<http://www.ifs.org.uk/mirrleesReview>).

¹⁶ See M. Devereux, R. Griffith and A. Klemm, 'Corporate income tax reforms and international tax competition', *Economic Policy*, 17, 449–95, 2002. This paper presents evidence that capital has become more mobile and that more profitable firms are more mobile. The authors suggest that rate cutting and base broadening may be viewed as an attempt by governments to attract mobile investments.

policy can be appropriate.¹⁷ That is, it may be beneficial to accept some of the distortion to investment created by cutting capital allowances if it works to retain more (mobile) capital in the UK. Whether this is the correct trade-off depends on a number of factors,

Box 10.3. Effective tax rates

The statutory tax rate is only one aspect of the corporate tax system. The impact of the corporation tax system – including the tax base – on the incentives to invest is considered by comparing the value of an investment project in the presence and absence of tax. This is summarised by effective tax rates.

Effective marginal tax rate (EMTR)

An effective marginal tax rate (EMTR) is used to summarise the impact of tax on an investment project that just breaks even (a marginal investment for which the return just covers the cost of the project). Basically, this approach constructs a hypothetical marginal investment project and calculates the impact of taxes on the cost of capital – the minimum pre-tax rate of return on an investment required by the investor. The EMTR is simply the percentage difference between the cost of capital before and after taxes. The measure will depend on assumptions made about the hypothetical investment project, including how it is financed and which inputs are used in its creation.

This measure is designed to capture the incentives to invest in new capital and is used to consider the effect of taxes on the level of investment that firms undertake. Capital allowances, which work to reduce the tax burden, will be relatively important for a marginal project; therefore the EMTR will be lower than the statutory rate.

Effective average tax rate (EATR)

An effective average tax rate (EATR) is used to summarise the impact of tax on a hypothetical investment project that yields a real rate of return greater than the cost of capital, i.e. a project that makes a profit. Basically, this approach compares the net present value of such an investment in the presence and absence of tax.^a Again, the measure will depend on assumptions made about the investment project, including the expected rate of return.

Measures of the EATR are used to consider the incentives firms face when they are deciding where to locate a project that they expect to earn a positive profit. Conditional on the choice of location, the size of investment will depend on the EMTR.

Capital allowances become relatively less important as profit increases. For a marginal project, the EATR is equal to the EMTR. For projects returning a positive profit, the EATR will be higher than the EMTR and approach the statutory rate as profits increase. Put another way, the EATR can be thought of as summarising the distribution of effective tax rates for investment projects over a range of profitability, with the EMTR representing the special case of a marginal investment.

^a Most commonly, the difference between the net present value of an investment that makes a profit in the presence and absence of tax is scaled by the net present value of the pre-tax total income stream, net of depreciation. For details, see M. Devereux and R. Griffith, 'Evaluating tax policy for location decisions', *International Tax and Public Finance*, 10, 107–26, 2003.

¹⁷ See C. Fuest and J. Becker, 'Optimal tax policy when firms are internationally mobile', Oxford University Centre for Business Taxation, Working Paper 09/07, 2009. In this context, *optimal* means domestic welfare maximising. The result that base broadening and rate cutting is optimal is compared with a position of investment neutrality; it is not the case that such a policy mix is always unambiguously better.

including the size of the distortion to investment and the benefits of attracting mobile capital.

One of the consequences of this policy is that the tax burden will be shifted towards firms that invest more in plant, machinery and buildings (which are subject to capital allowances). Note, however, that firms invest in many types of capital, importantly including intangible capital. Some of the relative winners will be those firms that make important long-term investments in skills and ideas, which benefit relatively less from current allowances.

A more competitive system?

One of the key government aims has been to produce a more competitive corporate tax system, which can be taken to mean a corporate tax system with a favourable tax burden on investment relative to other countries.

Recent research by the Oxford University Centre for Business Taxation shows that by 2014, the competitiveness of the UK corporate tax system will have improved slightly relative to those currently operating in other G20 countries. The UK rate is due to be lower than that in most G20 countries (assuming that other countries don't make offsetting changes to their own rates).¹⁸

In the longer term, achieving significant reductions in effective tax rates (and therefore improvements in investment incentives) may mean raising less revenue from corporation tax – in the face of ever more mobile capital and potentially greater tax competition, it will likely be difficult to substantially increase the competitiveness of the UK tax system with revenue-neutral tax changes. There are a range of other ways in which the corporate tax system could be modified to make it more competitive. Importantly, as noted above, there are a number of distortions present in the current system that affect firms' behaviour. One possible reform would be the introduction of an Allowance for Corporate Equity, which would introduce a separate allowance for the cost of equity finance (see Chapter 8).¹⁹

10.3 The taxation of income from intellectual property

Intangible assets represent an increasingly important input into production for many firms. There is evidence that, in the UK, knowledge investment – i.e. investment in research and development, design, software, skills development, etc. – overtook fixed capital investment in the mid-1990s and is now about 50% higher.²⁰ This has raised a number of questions relating to how to tax the income from intellectual property. One of

¹⁸ Recent work by the Oxford University Centre for Business Taxation shows that at the start of 2011 the UK's EMTR was just under 23%, giving it a rank of 15th out of the 19 independent G20 countries (excluding the European Union). This will fall to 20% in 2014 (after the package of rate cutting and base broadening) and move the UK to a rank of 14th (assuming no changes in other countries). The EATR was just over 26% at the start of 2011 and will fall to 22% in 2014, moving the UK from a rank of 9th to 5th. See K. Bilicka, M. Devereux and C. Fuest, *G20 Corporate Tax Ranking 2011*, Oxford University Centre for Business Taxation, 2011 (http://www.sbs.ox.ac.uk/centres/tax/Documents/reports/G20_Corporate_Tax_Ranking_2011.pdf).

¹⁹ For a full discussion, see section 9.6.1 of A. Auerbach, M. Devereux and H. Simpson, 'Taxing corporate income', in J. Mirrlees et al. (eds), *Dimensions of Tax Design: The Mirrlees Review*, OUP for IFS, Oxford, 2010 (<http://www.ifs.org.uk/mirrleesreview/dimensions/ch9.pdf>).

²⁰ See Nesta, *Innovation, Knowledge Spending and Productivity Growth in the UK*, London, November 2009 (<http://www.nesta.org.uk/library/documents/growth-accounting.pdf>).

the key issues is that firms can and do locate such income offshore as a means to reduce tax liability, leading to a potential erosion of a government's tax base. Another key issue is that the way intellectual property is taxed can distort the location and organisation of firms' real activities.

In most ways, intellectual property can be thought of just like any other goods – firms can make and trade ideas in much the same way as they do cars, for example. A key difference is that the innovation underlying intellectual property is potentially associated with large spillovers – benefits that accrue to third parties in addition to those that are captured by the creator of a new idea. As a result, firms underinvest in innovative activities from society's point of view, providing a clear rationale for governments to enhance the

Box 10.4. R&D tax credits

The UK currently operates a system of R&D tax credits that reduce firms' tax liability by allowing them to deduct an amount greater than actual R&D expenditure from taxable profits (a super deduction) and thereby reduce their corporation tax bill. The main rate of tax relief is 130%; that is, for each £100 of qualifying costs, a company can reduce the income on which corporation tax is paid by £130. For small and medium-sized enterprises (SMEs),^a the tax relief is more generous, at 200%. In addition, SMEs with insufficient taxable profits can claim a cash payment equal to 24.5% of eligible R&D expenditure.

R&D tax credits were part of the government's consultation on the taxation of innovation and intellectual property.^b There will be a number of changes introduced in the 2012 Finance Bill.^c Notably, the SMEs rate will be increased to 225%, while the rate of payable credit will be reduced to 11%.

In the 2011 Autumn Statement, the government announced that the R&D tax credit will become an 'above-the-line credit' from 2013; the government will consult on how to achieve this following the 2012 Budget. An above-the-line credit differs from the current system in that it will provide a credit to be offset against overall tax, rather than a super deduction for the tax base. That is, the credit will reduce a firm's final tax liability rather than its taxable profits.

The government highlights that during the consultation process there were three main arguments in favour of moving to an above-the-line credit: visibility (it would be easier to see the tax saving entailed in the credit); certainty (the benefit of the credit would not rely on a firm's level of profits and it would therefore be easier for firms to predict the timing and amount of benefit); and a benefit to loss-makers (who could benefit immediately from the credit).^d The hope is that the move will increase the take-up of the R&D tax credit and that it will therefore provide a greater incentive to invest in innovation. However, any benefits are likely to be apparent only in the medium term once firms have had time to adjust to the operation of the new system.

^a SMEs are defined as those with fewer than 500 employees and either an annual turnover not exceeding €100 million or a balance sheet not exceeding €86 million.

^b See section 4 of HM Treasury, *Corporate Tax Reform Part 2B: Taxation of Innovation and Intellectual Property*, 2010 (http://www.hm-treasury.gov.uk/consult_patent_box.htm).

^c See page A73 of HM Treasury and HMRC, *Overview of Legislation in Draft*, December 2011 (http://www.hm-treasury.gov.uk/d/overview_draft_legislation_financebill2012.pdf).

^d For discussion of responses to the consultation, see HM Treasury, *Research and Development Tax Credits: Response and Further Consultation*, 2011 (http://www.hm-treasury.gov.uk/d/consult_r_d_tax_credits.pdf).

incentives for firms to engage in research.²¹ One of the main ways in which governments have pursued this is to operate R&D tax credits (see Box 10.4).

Patent Box

In April 2013, the government will introduce a *Patent Box* – a reduced rate of corporation tax for the income derived from patents – at a rate of 10%.²² This follows the introductions of similar policies by a number of European governments, including those of Belgium, Luxembourg, the Netherlands and Spain.

In previous publications, we have highlighted that one of the key features of a Patent Box is that it targets the income that results from the creation of an idea, and not the underlying research. For this reason, it is poorly targeted at spillovers and at promoting research activity.²³

However, the Patent Box can also be seen as a way to tax differentially a more mobile form of income. In setting a single statutory tax rate for all income, governments face a trade-off between the desirability of raising corporate tax revenue and the danger of deterring and distorting mobile activities. In principle, there could be efficiency gains from taxing more mobile activities at a lower rate than those that are relatively immobile and, in so doing, reducing the incentives for mobile activities to relocate offshore. The Patent Box is expected to make the UK a more attractive location for patent holdings.

Implementation

The draft legislation for the Patent Box, which will be introduced in the 2012 Finance Bill, was released in December 2011.²⁴ This provides further details on how the Patent Box will work. There are two notable changes to the policy as originally described. We summarise these here.

a) The Patent Box will apply to profits earned from all patents

The previous proposals set out that only profit (arising after 1 April 2013) from those patents commercialised after 29 November 2010 would be eligible for Patent Box treatment.²⁵ This has been extended to include the profits from all patents. As a result, the policy will cover more activity. To account for the increased cost of extending the policy in this way, the Patent Box will be phased in over five years.

²¹ For more information, see section 10.4 of R. Griffith and H. Miller, 'Support for research and innovation', in R. Chote, C. Emmerson and J. Shaw (eds), *The IFS Green Budget: February 2010* (<http://www.ifs.org.uk/budgets/gb2010/10chap10.pdf>).

²² For the government's most recent consultation document, see HM Treasury, *Consultation on the Patent Box*, June 2011 (http://www.hm-treasury.gov.uk/d/consult_patent_box.pdf). For the responses to the consultation, see HM Treasury, *The Patent Box: A Response to Consultation*, December 2011 (http://www.hm-treasury.gov.uk/d/condoc_responses_patent_box.pdf).

²³ For a discussion, see section 10.4 of R. Griffith and H. Miller, 'Corporate taxes and intellectual property', in M. Brewer, C. Emmerson and H. Miller (eds), *The IFS Green Budget: February 2011* (<http://www.ifs.org.uk/budgets/gb2011/11chap10.pdf>). Our response to the proposed Patent Box design can be found in R. Griffith and H. Miller, *Consultation on the UK Patent Box Proposal: A Response*, 2012 (<http://www.ifs.org.uk/publications/5976>).

²⁴ See page A69 of HM Treasury and HMRC, *Overview of Legislation in Draft*, December 2011 (http://www.hm-treasury.gov.uk/d/overview_draft_legislation_financebill2012.pdf).

²⁵ See paragraph 3.12 of HM Treasury, *Corporate Tax Reform Part 2B: Taxation of Innovation and Intellectual Property*, 2010 (http://www.hm-treasury.gov.uk/consult_patent_box.htm).

This approach will increase the deadweight cost of the policy (i.e. the revenue lost from providing a tax break to activity that would have occurred in the absence of the policy). The five-year period of phased-in benefits will also increase complexity.

The change will increase the incentives to create more income from currently patented products. However, there is little justification for using tax policy to incentivise commercialisation activities – firms capture all of the returns to such activities (indeed, patents are designed to ensure this) and will therefore carry out the appropriate level of commercialisation. The Patent Box may increase the incentives for firms to retain current patents in the UK.

b) Qualifying income will be based on patented products

One of the key challenges in designing a Patent Box lies in defining and identifying the income derived from patents. Broadly, there are two possible approaches. The government could employ an arm's length principle that aims to measure patent income by determining the value a patent would have if licensed to a third party. Instead, the government has chosen to adopt a formulaic approach, in which all firms will use a standardised procedure to calculate the amount of income eligible for Patent Box treatment.

Importantly, the proposals put forward in the draft legislation define *qualifying income* as all income accruing to a product (or service) that incorporates at least one qualifying patent. That is, there will be no direct link to the amount of income that can be directly attributable to an individual patent. In most cases, this will mean the amount of qualifying income is much greater than the implicit value of a patent. The formula that will be used to calculate the eligible income from patented products and services will be complicated.

This definition of qualifying income reduces the incentives to invest in additional patentable technologies – an additional patent does not necessarily affect how much income can be included as qualifying income. It also increases the deadweight cost associated with the policy by extending the scope of the tax break to a greater proportion of activities that would have occurred in the absence of the policy. Firms will face incentives to incorporate a patented technology into the production of a good even if it could be done more cost-effectively using a non-patented technology (because doing so can reduce the corporation tax due on the resulting income). The government is likely to take steps to try to prevent firms artificially including patents or manipulating income with a view to obtaining a tax deduction.²⁶ In other words, the need to define which income can and cannot be included will create another 'boundary' in the tax system that will require policing.

10.4 Devolution of corporate tax setting powers

In March 2011, the government issued a consultation document (from now on *the consultation document*) – *Rebalancing the Northern Ireland Economy* – in which the possibility of devolving the power to set the corporation tax rate was raised.²⁷ The key aim behind the suggestion is to boost private sector investment; Northern Ireland has a particularly small private sector relative to the overall size of its economy. At this stage,

²⁶ See paragraph 5.12 of HM Treasury, *Consultation on the Patent Box*, June 2011 (http://www.hm-treasury.gov.uk/d/consult_patent_box.pdf).

²⁷ HM Treasury, *Rebalancing the Northern Ireland Economy*, March 2011 (http://www.hm-treasury.gov.uk/d/rebalancing_the_northern_ireland_economy_consultation.pdf).

no decision has been taken on whether to devolve corporate tax setting power to Northern Ireland. A decision is expected in 2012.

This is not the first time that the possibility of devolving corporate tax setting powers has been discussed. The Varney Review (2007),²⁸ commissioned by the last Labour government, has previously considered and rejected the case for devolution of corporation tax to Northern Ireland. The Calman Commission (2009), in reference to Scotland, also rejected the proposal, concluding that it would distort competition within the UK and entail significant administrative burdens.²⁹ However, in June 2011, the Scottish National Party (SNP) government proposed that the Scotland Bill – which was initiated by the UK government to implement recommendations from the Calman Commission – be amended to include the devolution of corporate tax setting (including, but not exclusively, the headline rate).³⁰ The Holtham Commission (2010) considered the equivalent proposition for Wales, concluding the ‘issues to be worthy of further consideration’ and recommending further discussion with the UK Treasury over the feasibility of such a move.³¹ At present, the devolution of the main rate of corporation tax to Northern Ireland is the only proposal being actively considered by the UK government. However, the issues and general principles are common across the three nations.

Importantly, most discussions over whether to devolve corporate tax setting have focused on whether to allow devolved administrations to set a separate rate of corporation tax. The tax base – that is, the definition of which income is taxable and specification of any allowances – would continue to be determined in Westminster for the UK as a whole. Note that in order to comply with the EU rules on State Aid, the UK government cannot set a rate that varies across the four nations – this would be deemed to be providing preferential treatment for different areas. Differential rates can only therefore be achieved by devolving tax rate setting power.³²

In principle, the devolution of the corporation tax rate could see the devolved administrations choosing a higher tax rate (and higher public spending). However, in all cases, one of the key aims is to use a lower rate of corporation tax to boost private sector investment.³³ There are potentially other aims underlying the proposals to devolve tax setting powers. It is also argued that it might increase the accountability of the devolved administrations. We do not discuss these issues here.

²⁸ D. Varney, *Review of Tax Policy in Northern Ireland*, 2007 (<http://www.hm-treasury.gov.uk/d/varney171207.pdf>).

²⁹ K. Calman, *Serving Scotland Better: Scotland and the United Kingdom in the 21st Century*, 2009 (<http://www.commissiononscottishdevolution.org.uk/>).

³⁰ The Scotland Bill (<http://services.parliament.uk/bills/2010-11/scotland.html>) sets out amendments to the Scotland Act 1998, with the aim of devolving further powers to Scotland, including a new Scottish rate of income tax. For the SNP proposal, which includes a desire to devolve tax base setting powers, see Scottish Government, *Corporation Tax: Discussion Paper – Options for Reform*, 2011 (<http://www.scotland.gov.uk/Resource/Doc/919/0120786.pdf>).

³¹ G. Holtham, *Fairness and Accountability: A New Funding Settlement for Wales*, 2010 (<http://wales.gov.uk/docs/icffw/report/100705fundingsettlementfullen.pdf>). Quote comes from paragraph 7.16.

³² To be compliant with EU law, and not subject to State Aid rules, the proposal would have to meet the set of criteria set out following the European Court of Justice’s 2006 Azores Case (case C88/03). There are three criteria: institutional autonomy, procedural autonomy and fiscal autonomy.

³³ Each of the commissions suggests setting a lower rate than the main UK rate. There is evidence suggesting that small countries (and, by extension, nations) are more likely to find it beneficial to offer lower corporate taxes: they have smaller domestic tax bases so have less to lose in revenue from the current tax base and proportionately more to gain from increased foreign investment.

A key question is to what extent a lower headline rate of corporation tax would increase activity, and do so sufficiently to compensate for any revenue losses (which would necessitate cuts in public spending) and administrative costs. In the world in which all devolved administrations choose substantially lower rates, one might question why the same policy is not also right for England. That is, if there are deemed to be substantial benefits from a lower corporation tax rate that outweigh the reduction in tax revenues, then are these not also attainable by England? And, if that is the case, the same benefits could presumably be achieved through a reduction in a common rate.

There remain some compelling reasons to maintain a single rate of corporation tax across the UK: it is administratively much simpler (and cheaper) and reduces the potential for harmful tax competition. Devolving the corporate tax rate would – if the powers were used – likely lead to a reduction in the total amount of corporate tax collected in the UK as a whole. In the face of mobile income and a desire to remain competitive, we expect to see a fall in corporate tax revenues in the UK over time. Devolution may quicken this process.

Differences between the four nations

The public vs private sector

There are notable differences between the four nations, in both the private and public sectors. The public sector (measured per head of the population) is larger in Northern Ireland, Scotland and Wales than in England. It is particularly large in Northern Ireland: public spending is around £2,000 per head higher in Northern Ireland than in England (see Table 10.1).

One possible consequence of having a large public sector is that the state may be employing resources that would otherwise be used in the private sector and, in so doing, is crowding out private investment.

Table 10.1. Comparisons between nations

	UK	England	Northern Ireland	Scotland	Wales
Public spending per head^a (£)	8,766	8,531	10,564	9,940	9,709
Output – GVA per head^b (£)	20,849	20,974	15,651	20,220	15,145
Total employment^c (% of 16–64)	70%	71%	66%	71%	68%
Private sector employment^d (% of 16–64)	58%	61%	45%	47%	40%
Productivity – GVA per hour worked^e (index)	100.0	101.5	81.0	99.3	83.9

^a Public spending: identifiable expenditure on services, per head, 2009–10. Source: Table 9.2 of *Public Expenditure Statistical Analyses*, 2011 (http://www.hm-treasury.gov.uk/d/pesa2011_chapter9.xlsx).

^b GVA: headline workplace-based (i.e. allocated to regions according to where economic activity takes place) GVA in £ per head at current basic prices, 2010. Source: Table 1.1 of *NUTS1 Regional Gross Value Added 1997–2010*, Office for National Statistics, December 2011 (<http://www.ons.gov.uk/ons/rel/regional-accounts/regional-gross-value-added--income-approach-/december-2011/rft-nuts1.xls>).

^c Total employment scaled by the working-age population (16–64), November 2010 – January 2011. Source: Table 1 for each relevant region from Office for National Statistics, *Regional Labour Market Statistics, December 2011* (<http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-226770>).

^d Employment in the private sector at the start of 2011, scaled by the working-age population (16–64). Source: Author's calculation using Department for Business, Innovation and Skills, *Business Population Estimates for the UK and Regions*, 2011 (<http://www.bis.gov.uk/analysis/statistics/business-population-estimates>) and Office for National Statistics, *Regional Labour Market Statistics, December 2011* (<http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-226770>).

^e Nominal GVA per hour worked, 2010. Source: Table 9 of Office for National Statistics, *Labour Productivity Statistical Bulletin Q3 2011*, December 2011 (<http://www.ons.gov.uk/ons/rel/productivity/labour-productivity/q3-2011/rft-labour-productivity.xls>).

Table 10.1 includes a measure of output – gross valued added (GVA) per head – that captures the amount of value created in each nation. GVA per head is notably lower (by around £5,000 per head) in Northern Ireland and Wales than in either Scotland or England. The level of output is a function of both how many resources are employed and how productively they are used.

The total employment rate – the proportion of the population aged 16–64 working in the private or public sector – does not vary greatly across the nations. There are greater differences when comparing the private sector separately: the private sector employment rate is significantly lower in Northern Ireland, Scotland and Wales than in England. There are also differences in the composition of employment across the nations. For example, large firms (those with over 250 employees) account for a greater share of employment in England and Scotland than in Northern Ireland and Wales.³⁴

In Northern Ireland and Wales, lower levels of output are also driven by lower levels of productivity – the amount of output (GVA) produced on average by each worker in each hour worked. In 2010, workers in Northern Ireland produced 19% less per hour worked, and those in Wales 16% less, than the UK average.³⁵

Note that there are a number of caveats related to making these comparisons across nations. GVA is measured in basic prices – it does not take account of different price levels across countries. As a result, correctly accounting for the fact that prices are lower in Wales, for example, would likely lead real GVA to be less different across nations. Similarly, a lower level of GVA per head (or per hour worked) would translate into a relatively higher level of living standards when prices are lower.³⁶ There are also differences in the industrial composition of economies in the nations that contribute to different output levels.

Differences in attractiveness

We do not know the optimal rate of corporation tax in each of the four nations. There are some differences that may support the suggestion of levying a lower rate in Northern Ireland, Scotland or Wales than in England. The case is likely to be stronger in some nations than others.

To the extent that there are differences in the attractiveness of, and opportunities present in, a location for firm investment, we would expect some nations to be able to charge a higher rate of tax without deterring as much activity. For example, firms might be prepared to pay a higher tax rate because they value being geographically close to a big city, or if a region has a large stock of relevant skills. Put another way, there may be location-specific benefits that lead to a higher level of investment for a given tax rate. For example, England benefits from the City of London. Fewer location-specific benefits in Northern Ireland, Scotland or Wales might motivate a lower rate of corporation tax.

³⁴ See table 9 of Department for Business, Innovation and Skills, *Business Population Estimates for the UK and Regions*, 2011 (<http://www.bis.gov.uk/analysis/statistics/business-population-estimates>).

³⁵ For further comparisons between the four nations, see chapter 2 of R. Barnett, *Independent Review of Economic Policy (DETI and Invest NI)*, 2009 (http://www.deti.gov.uk/independent_review_of_economic_policy-2.pdf).

³⁶ Regional consumer price levels were most recently constructed for 2010. These showed that prices in UK regions outside of England (and outside of London and the South East specifically) are lower. See Office for National Statistics, *UK Relative Regional Consumer Price Levels for Goods and Services for 2010, 2011* (<http://www.ons.gov.uk/ons/rel/cpi/regional-consumer-price-levels/2010/uk-relative-regional-consumer-price-levels-for-goods-and-services-for-2010.pdf>).

Moreover, the presence (or relative absence) of such location-specific benefits can lead a tax base to be less (more) internationally mobile. That is, the corporate tax base in Northern Ireland, Scotland and Wales may be more mobile than that in England in the presence of greater location specific benefits associated with locating in England. This would also be the case if the non-English economies of the UK were more open than England. As mentioned above in the context of the Patent Box, it can be more efficient to tax more mobile activities more lightly than less mobile activities. However, it is important to note that activity that looks mobile from the point of view of one nation may be much less mobile between the UK as a whole and the rest of the world. In this case, coordination (to set the same tax rate) leads to higher government revenues for a given level of activity.

Northern Ireland faces the specific challenge that it has a land border with a country with a much lower rate of corporation tax (and which also has English as the first language). In April 2012, the main rate in the UK will be 25%, compared with 12.5% in the Republic of Ireland. This may lead activity in Northern Ireland to be more mobile – firms may find it easy to locate in the Republic of Ireland rather than in Northern Ireland. It has been proposed that a lower rate of corporation tax in Northern Ireland (and, specifically, a rate of 12.5%) would allow the nation to compete with the Republic of Ireland to attract foreign direct investment (FDI).³⁷ Northern Ireland actually already attracts a relatively large share (given its population) of UK FDI and associated employment.³⁸ The extent to which matching the Northern Ireland corporation tax rate to that in the Republic of Ireland would succeed in incentivising firms to alter the location of their FDI would depend on how attractive marginal firms view the two locations on other dimensions.

A boost to national investment?

An important question is the extent to which a lower rate of corporation tax could help to boost private sector output in each nation. Corporate tax affects investment in a country: a lower rate can increase investment by existing firms and attract FDI. However, there are a number of uncertainties around the extent to which a lower corporate tax rate in Northern Ireland, Scotland or Wales would boost private sector investment.

There are three steps to estimating the likely effect of corporate tax devolution on investment. First, how does a lower tax rate affect the incentives to invest? This is readily calculated – it is the effect of a specific tax rate in one of the devolved nations on the EMTR and EATR (see Box 10.3).

Second, how will investment respond to the changed incentives? This is measured by considering the elasticity of investment with respect to the corporate tax burden, i.e. the percentage change in investment for a percentage fall in the effective tax rate. Doing this is problematic. We do not have measures of these elasticities for each nation within the UK, so we do not know precisely how responsive investment in Northern Ireland, Scotland or Wales is to corporation tax changes.

There is a body of academic literature that estimates elasticities, but these tend to be for a specific type of activity (for example, manufacturing activity) in a specific country (often

³⁷ See, for example, <http://www.parliament.uk/business/committees/committees-a-z/commons-select/northern-ireland-affairs-committee/news/corporation-tax-report-substantive/>.

³⁸ See page 10 of *Ernst & Young's 2011 UK Attractiveness Survey, 2011* ([http://www.ey.com/Publication/vwLUAssets/2011_UK_Attractiveness_Survey/\\$FILE/2011_UK_Attractiveness_Survey.pdf](http://www.ey.com/Publication/vwLUAssets/2011_UK_Attractiveness_Survey/$FILE/2011_UK_Attractiveness_Survey.pdf)).

the US). It is difficult to extrapolate these results to other countries (and even more difficult to use them for nations within countries). In particular, there are many factors that affect whether a firm will invest in a country and, if so, how much it will invest, including the skills base, infrastructure and regulatory environment. These factors (which are implicitly captured in elasticities) will differ greatly across countries (and within countries across nations).

Third, what is the overall effect on the level of investment? Given an estimate of the expected percentage change in investment in response to a lower tax rate, we can combine this with information on the current level of investment in a nation to produce an estimate of the overall change in investment. This too poses a challenge, as we do not have exact measures of the current levels of investment in each nation – the UK collects tax at the UK level and does not require firms to identify separately how much income is earned in each nation.

There is also interest in considering the origin of increased investment. Some of the increase would inevitably be directed from other countries, including the Republic of Ireland. This underlies the aim of the policy to increase FDI. However, the move would also attract activity from other parts of the UK: some firms would likely substitute away from England to Northern Ireland, for example.

The extent to which the gains in activity in one nation would come at the expense of activity in the others would depend on how substitutable firms see the nations as being. If firms place a high value on other factors, aside from corporate tax, associated with operating in a specific nation, they may continue to locate there even when tax rates are reduced in the other nations. For instance, some firms will want to be close to the City of London and might be more likely to substitute to other global financial centres – for example, New York or Frankfurt – than to other UK cities. If, however, firms are relatively indifferent as to where in the UK they locate, we would expect to see a greater movement of activity across borders in response to lower corporate tax rates. That the four UK nations are similar in many dimensions – including a common legal system, language and currency – might make substitution within the UK more likely than it is between the UK and other countries. Equivalently, similarity in such factors may lead firms to substitute more readily between Northern Ireland and the Republic of Ireland.

Estimates of the effect of investment in Northern Ireland

The consultation document provides estimates of the effect on investment in Northern Ireland of the introduction of a 12.5% rate of corporation tax.

The approach used follows that outlined above. Measures of the EMTR (which can be used to assess the effect of tax on the level of domestic investment) and the EATR (which can be used to assess the effect of tax on FDI) are combined with estimates from the academic literature of the responsiveness of domestic investment and FDI respectively to calculate an expected response of investment in Northern Ireland. This is then applied to a measure of the current level of investment in Northern Ireland. The consultation document highlights that there are a number of uncertainties surrounding these estimates and that they should be used as an illustration only.

Domestic investment is estimated to increase by £50–65 million in the first year after devolution (approximately 2% of total investment in Northern Ireland). FDI is estimated to increase by £120–200 million, with about £15–25 million of this coming from a displacement of FDI from the rest of the UK. Excluding the displacement of FDI from the rest of the UK, this represents an increase in current FDI in Northern Ireland of

approximately 50%. Both figures are estimated to be significantly higher when considering investment in 10 years' time. As a central estimate, the Treasury predicts that investment in Northern Ireland would be 6% higher each year as a result of devolution of the corporate tax rate.³⁹

The consultation document presents estimates suggesting that corporate tax revenues in Northern Ireland would be £110 million lower in year 1 and £270 million lower in year 5 as a direct result of Northern Ireland instituting a 12.5% rate.⁴⁰ There would be an additional fall in revenue of £30 million in year 1 rising to £85 million in year 5 after accounting for profit shifting and tax-motivated incorporations (discussed below).⁴¹

These figures are based on calculations that between 2002–03 and 2007–08, 1.5% of the UK's corporation tax receipts arose from Northern Ireland. As mentioned above, the government does not have precise measures of how much corporate tax revenue comes from Northern Ireland. There are different methodologies for estimating this, with each giving significantly different answers. This produces additional uncertainty over the exact scale of the revenue loss.⁴²

The key point is that, while these estimates may be as good as any given current knowledge, there is enormous uncertainty around them and revenue losses could be larger or smaller than forecast by the Treasury.

Given the expected revenue loss, a move to a lower corporation tax rate would necessitate cuts in public spending. As a point of comparison, a revenue loss of £270 million represents 2.3% of the 2010–11 departmental spending in Northern Ireland.⁴³ How the Northern Ireland Assembly chooses to make such cuts would likely affect the impact of the policy on investment. For example, cutting public spending would be more likely to boost private investment if the cuts fell on activities that the private sector would be expected to replace – such as leisure centres – and more likely to reduce private investment if the cuts fell on activities that were complementary to private sector activity – such as transport spending or education spending.

Lessons from the Republic of Ireland?

The Republic of Ireland is an obvious point of comparison in considering the devolution of corporation tax rates. Eire has a main corporation tax rate (applicable to trading income) of 12.5% – one of the lowest in Europe. This has been highlighted as one of the drivers behind the strong economic growth experienced from the mid-1990s until the recent recession. In particular, the relatively low corporation tax rate is thought to have helped attract large amounts of FDI.

³⁹ See paragraphs 4.17–4.20 of the consultation document.

⁴⁰ For estimates, see table 4.A of the consultation document. The tax liabilities of companies with a Northern Ireland postcode are used to proxy for the size of the corporate tax base there. This excludes the branches of UK firms.

⁴¹ For estimates, see table 4.C of the consultation document.

⁴² One alternative to using firms' postcodes would be to assign corporation tax according to the gross operating surplus used in the regional GVA estimates, as is done in the *Government Expenditure and Revenue Scotland* publication (<http://www.scotland.gov.uk/Topics/Statistics/Browse/Economy/GERS>). This depends largely on the location of employees' income. The Holtham Commission compared three measures and showed that estimated corporate tax revenues in Wales vary by almost £600 million (compared with a maximum estimate of £1.2 billion); see chart 7.2 of G. Holtham, *Fairness and Accountability: A New Funding Settlement for Wales*, 2010 (<http://wales.gov.uk/docs/icffw/report/100705fundingsettlementfullen.pdf>).

⁴³ Departmental spending was £11,804.2 million, and is due to be lower than that in each year up to and including 2013–14; see tables 3.1 and 3.2 of Northern Ireland Executive, *Revised Budget 2011–15*, March 2011 (<http://www.northernireland.gov.uk/index/budget2010.htm>).

However, some caution is required in making such a comparison. First, the Republic of Ireland's corporate tax system is different from that of the UK in dimensions other than the statutory rate. These include differences in the tax base, the tax treatment of offshore income and the taxation of dividends. Second, Eire differs from the nations within the UK along many non-tax dimensions, which are important factors in creating a dynamic private sector. Being part of the Euro zone might also have helped the Republic of Ireland attract some FDI that it would not otherwise have had. As the discussion on measuring the responsiveness to taxes suggested, observing that firms responded to a corporation tax rate (that was part of a package of policies) in Ireland in a certain way does not mean that we will observe the same response in other places.

A relabelling of activity?

As well as undertaking additional investment, firms would be expected to respond to a lower corporate rate in any of the nations by changing their organisational form or the location of their profits with a view to reducing their tax burden. Moving to a system in which profits were taxed differently in different parts of the UK would therefore distort some behaviour and entail important efficiency costs.

Tax-motivated incorporations

Devolution would apply only to the main statutory rate of corporation tax; there would be no small profits rate as exists in the UK. In all cases, it is assumed that the devolved administrations would choose to set a corporate tax rate that was substantially lower than the current UK small profits rate (which is 20% in 2011) and the personal income tax rates (in 2011, the basic income tax rate is 20% and the higher rate 40%). One implication of this would be an increase in the difference between the tax on incorporated businesses (i.e. the corporate tax rate) and unincorporated businesses (i.e. the personal income tax rate). This would increase the incentive to incorporate for tax purposes and, in so doing, increase the distortion to the choice of organisational form.⁴⁴

The ability and willingness of individuals to exploit differences between personal and corporate rates were starkly demonstrated in the UK in 2002 when the introduction of a 0% 'starting rate' of corporation tax on profits up to £10,000 led to a spike in new incorporations, many of which seem to have been purely for tax purposes. In response, the previous Labour government abolished the starting rate in 2006.⁴⁵

The consultation document highlights that an increase in incorporations would increase corporation tax receipts in the given nation, but would be more than offset by lower income tax and National Insurance payments. The reduction in other tax revenues would be directly felt by the UK exchequer. It is likely, however, that these indirect effects would be factored into the adjustment of the grant provided to the nations from Westminster (discussed below).

Profit shifting

One concern with implementing a lower rate of corporation tax in one of the UK nations would be profit shifting – firm artificially moving profits (but not the associated real

⁴⁴ For a discussion of tax incentives for incorporations and the distortions these create, see C. Crawford and J. Freedman, 'Small business taxation', in J. Mirrlees et al. (eds), *Dimensions of Tax Design: The Mirrlees Review*, OUP for IFS, Oxford, 2010 (<http://www.ifs.org.uk/mirrleesreview/dimensions/ch11.pdf>).

⁴⁵ For details on the 0% starting rate, see section 9.4 of S. Bond, 'Company taxation', in R. Chote, C. Emmerson, R. Harrison and D. Miles (eds), *The IFS Green Budget: January 2006* (<http://www.ifs.org.uk/budgets/gb2006/06chap9.pdf>).

activities) to benefit from a lower tax rate. It is likely that the move to devolution would be accompanied by safeguards that aim to prevent wholly tax-motivated profit shifting within the UK.

The consultation document estimates that profit shifting from the rest of the world to Northern Ireland (a benefit to Northern Ireland tax revenues) would amount to £35 million in year 5. Profit shifting from Great Britain is expected to be substantially higher, at £70 million in year 5.⁴⁶ This is large in comparison with both the expected increase in investment in Northern Ireland and the size of corporate tax receipts in Northern Ireland, which the Treasury estimates as £465 million in 2009–10.⁴⁷ It is expected that there would be an adjustment in Northern Ireland's block grant such that Great Britain did not bear this revenue loss.

A road to tax competition?

Under devolution, the tax rate decisions of one UK nation would have an effect on the outcomes of the others. This is a spillover effect that has been widely acknowledged in contexts such as the European Union. When countries set rates without considering these spillovers, the rates are lower than if they had been set cooperatively. The extent to which a devolved administration would consider such spillovers is likely to depend in part on whether the block grant adjustment factored in any possibly negative effects on revenues in the rest of the UK.

One of the key risks to devolving corporate tax setting is that it could lead to harmful tax competition within the UK – this has been noted by all of the commissions. In particular, a lower rate in at least one nation of the UK would likely result in pressure for a lower rate in the other nations. It is difficult to ascertain a priori what the scale of tax competition would likely be, precisely because we do not know how firms would substitute between nations within the UK.

One way to limit the extent of tax competition would be to set a minimum tax rate that the devolved administrations could revise upwards. The consultation on Northern Ireland discusses such a possibility. However, it seems likely that the minimum rate – which could be 0 or 12.5 or some other number – would still be substantially below the UK main rate.

Tax competition is not an inevitable outcome of devolving the corporate tax rate. There are examples of countries that have corporation tax rates that differ at the sub-national level, and which have not experienced obvious tax competition. Notably, the US does not have a harmonised corporate tax across states; state-level corporate taxes vary greatly.⁴⁸ Recent evidence suggests that US states do not compete with capital taxes, although there is some disagreement over this.⁴⁹

⁴⁶ For estimates, see table 4.C of the consultation document.

⁴⁷ See paragraph 4.35 of the consultation document.

⁴⁸ In the US, income, property, sales and excise taxes also vary across states. For the most recent state-level corporate tax rates, see <http://www.taxfoundation.org/taxdata/show/230.html>.

⁴⁹ See, for example, R. Chirinko and D. Wilson, 'Tax competition among U.S. states: racing to the bottom or riding on a seesaw?', CESifo Working Paper 3535, 2011. Section VI on page 33 discusses the results of other papers, some of which find evidence of tax competition.

Implementation and administration

There are a number of implementation issues associated with devolving corporation tax setting powers, which would need further development before such a policy could be enacted.

The consultation document works on the assumption that HM Revenue and Customs (HMRC) would continue to administer corporate tax payments on behalf of the Northern Ireland Assembly. It highlights that Northern Ireland would be responsible for any costs arising from operating the new system, including the cost of operating additional anti-avoidance rules to prevent profit shifting across UK borders. In its recent discussion paper, the SNP Scottish government raises the possibility that devolution of corporate tax setting powers to Scotland would be accompanied by the establishment of a new organisation (distinct from HMRC) to administer corporate tax. A key consideration in determining how to administer separate rates of corporate tax would be the relative costs.

Defining where income should be taxed

One of the largest issues lies in determining which income should be taxed in which jurisdiction. In moving to a devolved system, it would be necessary to define where corporate income was earned.⁵⁰ For a business that has all its activities in one nation, this would be relatively straightforward. For a business that earns profits from operations in both England and Scotland, for example, it would be more difficult, both conceptually and practically. Broadly, there are two ways that the split could be achieved: formula apportionment or separate accounting. Both would increase the administrative and compliance costs faced by businesses.

Under formula apportionment, taxable profit would be calculated at the UK level (as it is now) and then apportioned to each nation in accordance with a measure of how much of a firm's activity is in that location (as dictated by a formula). This would be akin to the method of formula apportionment used in the US to calculate the taxable income that accrues in each of the states. The US formula apportions the tax base according to a weighted average of the proportion of a firm's assets, employment and sales in each tax jurisdiction. This is also in line with proposals for a Common Consolidated Corporate Tax Base (CCCTB) in Europe, in which firms would calculate taxable profit at the European level and a formula would be used to allocate this to countries to tax at their own rates. This system would not place a great additional burden on firms since it requires little more information than is currently required for UK tax purposes. However, there is scope for disagreement over the precise formula used to apportion the tax base.

Under separate accounting, firms would be required to calculate how much profit is earned in each location. As is the case for multinationals currently operating in multiple jurisdictions, making such a calculation can be conceptually difficult. Effectively, profits and losses would be allocated to different areas, with UK-owned entities in Northern Ireland, say, being treated like foreign branches. This would likely be the most accurate way of assessing which profits arose in a nation. However, operating separate accounting carries practical difficulties and is administratively more burdensome. In particular, firms would face an incentive to over-report the amount of income earned in the lower-tax nation. Such a system would therefore require a set of anti-avoidance rules. Notably (and

⁵⁰ If the reduced rate were applied only to trading profits (rather than all profits), it would also be necessary for firms to distinguish between types of income-generating activities.

as is the case between the UK and foreign countries), this would include a system to price intra-group transactions, and specifically the operation of transfer pricing rules.

Managing the revenue implications

The devolved administrations would directly receive any corporation tax revenues and bear the fiscal consequences of them being lower as a result of a lower rate. That is, their spending power would be directly affected by the level of corporation tax revenue raised. Indeed, this is one of the requirements of EU law – the consequences of lower (or higher) tax revenue must be borne by the authority that has the tax setting power and cannot be offset by transfers from central government. Importantly, this means that devolution of corporate tax rate setting cannot be seen as a UK policy to encourage development in different areas. To comply with EU law, devolution of the corporate tax rate would be accompanied by an offsetting adjustment to the block grant that is provided by the Treasury to the devolved administrations in Scotland, Wales and Northern Ireland and forms the majority of their funding.⁵¹

There is not widespread agreement on how or by how much the block grants would be adjusted. Broadly, the grants would be reduced to a degree that reflected the size of corporate tax revenues plus any costs that the UK was subjected to as a result of the move (for example, administrative costs or costs from firms shifting profits). There would likely be disagreements over the exact size of the adjustment (as evidenced by the disagreements over how much revenue is currently raised in each location). One possibility is to have an initial transitional period in which the adjustment was subject to debate and potentially revised. This would facilitate the collection of more out-turn data and allow HMRC to bear some of the risk of corporate revenues in the nations being lower than expected.

One concern in devolving corporate tax setting relates to the associated volatility of revenues. Corporate tax receipts are among the most volatile form of government revenue.⁵² At present, the devolved administrations do not have the power to borrow to smooth current expenditure. As a result, they would experience a shortfall in their ability to complete spending plans if corporate tax revenues turned out to be lower than expected. In the short run, this could be an issue dealt with during a period of transition. In the long run, the administrations would be expected to bear this risk. Importantly, without the ability to smooth out the ups-and-downs in corporation tax receipts over the economic cycle, there would be pro-cyclical public spending in the devolved nations. The Scotland Bill currently includes a provision to allow Scotland to borrow a limited amount.

10.5 Summary and conclusions

The current government has pursued a number of policies that change both which corporate income is taxed and at what rate. The package of reforms introduced in the *Corporate Tax Road Map* will increase the competitiveness of the UK corporate tax system compared with those currently operated in other G20 countries. Notably, the UK will have

⁵¹ For a discussion of funding arrangements within the UK, see HM Treasury, *Funding the Scottish Parliament, National Assembly for Wales and Northern Ireland Assembly: Statement of Funding Policy*, October 2010 (http://cdn.hm-treasury.gov.uk/sr2010_fundingpolicy.pdf).

⁵² Note that, because the nations have smaller financial sectors, devolved revenues may be somewhat less volatile than they are for the UK as a whole. For UK corporate tax revenues, see HMRC statistics, table 11.1 (http://www.hmrc.gov.uk/stats/corporate_tax/table11_1.xls).

a relatively lower headline rate. However, cuts to capital allowances, which work to broaden the tax base, will dampen the overall improvement in investment incentives that firms face.

The policy of rate cutting and base broadening has a larger effect on the incentives to locate an investment project in the UK (rather than abroad) than on the incentives to undertake an additional pound of investment in the UK. This policy mix can be seen as shifting the distribution of the formal tax burden away from mobile firms. The move may therefore be an attempt to reduce the deterrent to mobile activities (which are more profitable on average) from locating in the UK.

The government will proceed with earlier plans to implement a Patent Box in April 2013. Notably, the policy has been designed in a way that substantially increases how much income will be eligible for the lower tax treatment. As a result, the link between the size of the tax deduction and the amount of underlying innovation has been weakened and the deadweight cost of the policy increased.

Perhaps the most significant corporate tax policy change on the horizon is the possibility of devolving the power to set the main corporation tax rate. At present, the UK government is considering whether to devolve this power to the Northern Ireland Assembly, with a decision expected in 2012. In the middle of last year, the SNP Scottish government called for the power to set corporate taxes (including, but not exclusively, the headline rate) to be granted to Scotland. Were Northern Ireland to be given this power, it seems likely that Scotland and Wales would want the option to follow suit.

The key aim of allowing the devolved administrations to set lower rates of corporation tax is to boost private sector investment, and therefore jobs and growth. We do not know a priori how large an effect a corporate tax rate cut would have on investment in each nation. As a result, it is hard to judge whether the benefits from greater levels of activity would be sufficient to outweigh substantial reductions in (and increased risk to) the devolved administrations' revenues. Importantly, any reductions in revenues would need to be matched with public spending cuts.

Implementing such a policy move would be difficult, and likely require a number of years of transition. A key decision would be how to adjust appropriately the block grant from Westminster. An increase in complexity and compliance costs is guaranteed. There are some compelling reasons to maintain a single rate of corporation tax across the UK: it is administratively much simpler (and cheaper) and reduces the potential for harmful tax competition, which could reduce the revenues of all administrations within the UK. Implementing devolution would at best be a calculated risk, with unknown long-term consequences for the UK tax system.

11. Withdrawing Child Benefit from better-off families: are there better options?

Mike Brewer and Robert Joyce (IFS)

Summary

- From January 2013, the government plans effectively to withdraw all Child Benefit from any family containing a higher-rate income taxpayer. The Treasury expects this to save it about £2.4 billion in 2013–14. Around 1.5 million families will effectively lose their Child Benefit as a result: about 600,000 one-child families will lose £1,056 per year; about 700,000 two-child families will lose £1,752 per year; and about 200,000 families with three or more children will lose at least £2,449 per year.
- The ‘cliff-edge’ feature of this policy, whereby all of a family’s Child Benefit is removed completely as soon as pre-tax income passes a certain threshold (rather than being tapered away gradually as income rises), will create a bizarre and economically damaging set of incentives for people within certain income bands. About 170,000 families could increase their net income if an individual in that family managed to lower their pre-tax income to just below the higher-rate tax threshold, and about 200,000 families slightly below the higher-rate tax threshold could find themselves with a lower net income if their pre-tax income were to rise slightly.
- The Treasury has estimated that the resulting distortions to people’s behaviour will reduce the revenue raised by the reform by about £280 million per year due to ‘tax planning’ and another £60 million per year due to ‘non-compliance’. A further £90 million per year will go uncollected due to difficulties in correctly identifying the families who should be affected by this reform. The total economic costs of the distortions to people’s behaviour (such as reduced labour supply) are likely to be greater still; and one can clearly also question the fairness of effectively rewarding people for working less or arranging a pay cut with their employer.
- The fact that Child Benefit withdrawal would be based on individual income, rather than family income, will mean that Child Benefit will be removed from some couples whose joint pre-tax income is £43,000 per year but not removed from other couples whose joint pre-tax income is £84,000 per year.
- The Prime Minister has recently said that the government is reconsidering the way in which Child Benefit is removed from better-off families. This chapter presents alternative ways of removing Child Benefit from better-off families that address one or both of the issues outlined above. Withdrawing Child Benefit gradually through the income tax system would affect a similar set of families to the government’s proposal and could easily be tweaked so that it would raise the same amount of money. Gradual withdrawal would avoid the ‘cliff-edge’ feature of the current policy and hence the most severe economic distortions. More rational solutions would use the existing system of means-testing for families with children, which is subject to neither of the criticisms outlined above: Child Benefit could be combined with the Child Tax Credit (and, later, Universal Credit).

11.1 Introduction

Child Benefit is currently the only universal child-contingent benefit. It is worth £1,056 per year to a one-child family, plus £697 per year for each subsequent child.

In 2010–11, spending on Child Benefit was about £12 billion, or about 6% of the total spending on social security benefits and tax credits.¹ Child Benefit has been around in its current form since 1977 and has traditionally been seen as a way of recognising the additional costs of children.²

Having announced the policy at the Conservative Party conference in September 2010, the Chancellor confirmed in his October 2010 Spending Review that, subject to parliamentary approval in the 2012 Finance Bill, Child Benefit would be effectively removed from families containing anyone who pays income tax at the higher rate of 40% (or more³) from January 2013. At the time, the Treasury expected this to save it about £2.4 billion per year when implemented.⁴ Around 1.5 million families will effectively lose their Child Benefit as a result: about 600,000 one-child families will lose £1,056 per year; about 700,000 two-child families will lose £1,752 per year; and about 200,000 families with three or more children will lose at least £2,449 per year.⁵

Some families affected by the proposed Child Benefit withdrawal will also have seen their Child Tax Credit payments stop because of cuts to tax credits announced by this government and implemented in April 2011 and April 2012. Due to the combined impact of these changes, a single-earner family with one/two/three children and a gross income of £50,000 per year was entitled to £1,601/£2,297/£2,994 per year in cash benefits in support for their children in 2010–11, but by January 2013 they will effectively receive nothing. This implies that from January 2013 the net income of such families will be about 4%/6%/8% lower than it would have been without these tax credit and Child Benefit reforms.⁶

The government's proposal will effectively make Child Benefit a means-tested benefit. We do not take a stand here on whether it is desirable to maintain a universal child-contingent benefit. There are good reasons for thinking that an equitable system should take less tax from (or pay more benefits to) those with children, even where incomes are high, to reflect their greater needs; on the other hand, it can look odd to pay money to the

¹ For Child Benefit spending, see HMRC's 2010–11 accounts (<http://www.official-documents.gov.uk/document/hc1012/hc09/0981/0981.pdf>). For total spending on social security benefits and tax credits, see page 142 of the Office for Budget Responsibility's *Economic and Fiscal Outlook* of November 2011 (http://cdn.budgetresponsibility.independent.gov.uk/Autumn2011EFO_web_version138469072346.pdf).

² For more on the history of Child Benefit, see F. Bennett, *Child Benefit: Fit for the Future*, Child Poverty Action Group, London, 2006. For more on how Child Benefit fits within the overall system of child-contingent support, see S. Adam, M. Brewer and H. Reed, *The Benefits of Parenting: Government Financial Support for Families with Children since 1975*, Commentary 91, IFS, London, 2002 (<http://www.ifs.org.uk/publications/1803>).

³ The 'higher' marginal rate of income tax is 40%. From April 2010, there has been an 'additional' marginal rate of income tax of 50% on gross income above £150,000. Both higher- and additional-rate taxpayers will be subject to Child Benefit withdrawal under the government's plan. For convenience, we simply refer to this group throughout the chapter as 'higher-rate taxpayers'.

⁴ See page 14 of HM Treasury, HM Revenue & Customs and Department for Work & Pensions, *Spending Review 2010 Policy Costings* (http://www.hm-treasury.gov.uk/spend_sr2010_policycostings.htm). The government had already announced, in the June 2010 Budget, that Child Benefit amounts would be frozen in cash terms for three years (i.e. cut in real terms year-on-year until April 2014).

⁵ These are our own estimates; see Box 11.1 for detailed discussion.

⁶ Ignoring any other benefits received and any council tax paid.

rich for what could be seen as a lifestyle choice.⁷ But the unusual way in which the government proposes to implement this means test looks rather ill-considered: it is likely to result in serious economic inefficiencies and inequities. Indeed, the Prime Minister has recently said that the government is reconsidering the way in which Child Benefit is removed from better-off families.⁸ So, this chapter takes as given the government's objective of withdrawing Child Benefit from some better-off families, but explores how this could be done while avoiding the most undesirable consequences of the current proposal.

Section 11.2 sets out the government's proposal for withdrawing Child Benefit from families where at least one adult is a higher-rate taxpayer, and explains the inefficiencies and inequities that are likely to result. Section 11.3 presents alternative ways of removing Child Benefit from better-off families and looks at their impact on the public finances and on the distribution of net income compared with the impact of the plan proposed by the government. Section 11.4 concludes.

11.2 The government's proposal for Child Benefit

Under the government's proposal, individuals who are higher rate taxpayers would be asked on income tax self-assessment forms whether they or their partner receives Child Benefit. If they do, then they will be liable for additional tax payments equal to the amount of Child Benefit that they or their partner receives.⁹

Most of this chapter analyses the economics of the government's proposal and of our suggested alternatives. But the government's proposed mechanism looks problematic administratively as well as economically. Below, we outline the key issues that arise from this proposal, taking the administration and the economics in turn.

Administrative issues with the government's proposal

Unless a claimant actively decides to stop claiming it, Child Benefit will continue to be paid to recipients even if they or their partner are higher-rate taxpayers. This means that the policy is, in effect, requiring the higher-income member of a couple to pay for the Child Benefit received by his or her partner. One implication of this is that the reform need not affect the state pension rights of Child Benefit recipients.¹⁰ But it raises a number of more serious administrative complexities.

⁷ For a discussion, see, for example, chapter 2 of S. Adam and M. Brewer, *Supporting Families: The Financial Costs and Benefits of Children since 1975*, Policy Press, Bristol, 2004.

⁸ For the text of the interview, see http://www.politicshome.com/uk/article/43591/david_cameron_interview.html. What he actually said was 'Some people say that's the unfairness of it, that you lose the child benefit if you have a higher rate taxpayer in the family. Two people below the level keep the benefit. So, there's a threshold, a cliff-edge issue. We always said we would look at the steepness of the curve, we always said we would look at the way it's implemented and that remains the case, but again I don't want to impinge on the Chancellor's Budget'. We are not able to infer from this whether he dislikes the inefficiencies of the cliff-edge, or the perceived unfairness in the treatment of single- and dual-earner couples.

⁹ Where both members of a couple with children are higher-rate taxpayers, presumably only one of them will in fact be liable for additional tax payments (although it is not yet clear exactly how the government will avoid 'double-counting' the Child Benefit income of such couples – see discussion below).

¹⁰ Since April 2010, adults receiving Child Benefit for a child under 12 receive credits towards the state pension equivalent to those they would have received had they paid National Insurance; between April 1978 and April 2010, all Child Benefit recipients qualified for Home Responsibilities Protection. See http://www.direct.gov.uk/en/MoneyTaxAndBenefits/ChildBenefitandChildTrustFund/Childbenefits/Paymentsandentitlements/Benefitsforparents/DG_173609 for the current system and A. Bozio, R. Crawford and G.

HM Revenue and Customs (HMRC) does not know for certain which families with children need to have Child Benefit withdrawn, and so the mechanism proposed relies on higher-rate taxpayers who are, or who live with, Child Benefit recipients – some of whom would not otherwise be completing income tax self-assessment forms – reporting to HMRC that they or their partner receives Child Benefit.¹¹ The government estimates that it will lose out on around £150 million of savings per year because of non-compliance and the government's inability to identify perfectly which higher-rate taxpayers are, or are the partners of, Child Benefit recipients.¹² In particular, it is not clear what would happen if a higher-rate taxpayer does not know (or claims not to know) whether his or her partner receives Child Benefit, unless it were to become a legal obligation for a Child Benefit claimant to tell their partner that they are claiming.

Various complexities also arise from the fact that entitlement to Child Benefit is assessed weekly, whereas income tax assessment is done on an annual basis. HMRC will need to determine what should happen to individuals whose family circumstances change within a year. For example, it is not clear at present how HMRC would treat the following cases:

- someone who received Child Benefit throughout a tax year who lived as a lone parent for part of the year and lived with a higher-rate income taxpayer for the other part of the tax year;
- someone who received Child Benefit throughout a tax year who lived (at different times) with two (or more) different higher-rate income taxpayers during a single tax year;
- a higher-rate income taxpayer who lived (at different times) with two (or more) different Child Benefit recipients during a single tax year.

In dealing with such complexities, there seem to be two broad options: either an entire year's history of cohabitation with Child Benefit recipients needs to be collected in an income tax self-assessment form, so that only the Child Benefit received by someone in the weeks when he or she was the partner of a higher-rate income taxpayer can be withdrawn; or Child Benefit could be withheld on the assumption that the family circumstances that applied on a certain date in fact applied for the entire tax year.

Finally, the government will need a way of ensuring that it does not 'double-count' the Child Benefit of couples who are *both* higher-rate income taxpayers when clawing it back through the income tax system. Presumably, this either requires members of a couple to be relied upon to share information about their pre-tax income with each other and to coordinate their responses on income tax self-assessment forms; or requires HMRC to implement some administrative mechanism for linking individuals who live together.

Any reform that could avoid these considerable administrative complexities would have very obvious advantages over the current proposal.

Tetlow, 'The history of state pensions in the UK: 1948 to 2010', IFS Briefing Note 105, 2010 (<http://www.ifs.org.uk/bns/bn105.pdf>).

¹¹ Although HMRC is responsible both for paying Child Benefit and for collecting income tax, the two systems are separate. HMRC may know which adults (usually mothers) have claimed Child Benefit, but it has no way of knowing whether these people (or, indeed, any two taxpayers) are married or living together with someone as husband and wife.

¹² See page 14 of HM Treasury, HM Revenue & Customs and Department for Work & Pensions, *Spending Review 2010 Policy Costings* (http://www.hm-treasury.gov.uk/spend_sr2010_policycostings.htm). This implies that approximately 6% of families who would, in principle, be subject to the withdrawal of Child Benefit are expected to escape that withdrawal because they cannot be identified.

Economic issues with the government's proposal

Economically, two features of the government's proposed means test stand out. First, Child Benefit will effectively be withdrawn entirely as soon as pre-tax income passes a particular threshold, rather than being tapered away gradually as pre-tax income rises (which, for good reasons, is the standard way of means-testing a benefit). Second, the withdrawal will be based on the individual pre-tax income of the higher-income adult in a family, rather than on joint income. We treat each of these issues separately below.

The 'cliff-edge'

It seems straightforwardly unfair to reward some people for arranging a pay cut with their employer or working less hard, and the potential economic inefficiencies that arise from such a situation are just as stark. But that is precisely the situation that the government's proposal will create.

A family will effectively lose all of its Child Benefit the instant that one adult becomes a higher-rate taxpayer. This cliff-edge has a number of consequences for people's economic incentives, depending on their pre-tax income and the number of children they have.

In 2013–14, the higher-rate income tax threshold is expected to be £42,735 per year.¹³ Hence, for an individual living with a Child Benefit recipient who is not a higher-rate taxpayer, a rise in earnings (or other taxable income) from £42,734 to £42,736 per year would be sufficient to trigger a loss of Child Benefit worth at least a thousand pounds per year. We estimate that around 200,000 families in which the pre-tax income of the adult with the higher income lies slightly below the higher-rate tax threshold could therefore find themselves in this situation.¹⁴

Equivalently, a family with children with an adult whose earnings lie a little above the higher-rate income tax threshold would increase their net income if this adult found a way to reduce his or her earnings to a point just below that threshold. As Table 11.1 reports, there are around 170,000 families in which the pre-tax income of the adult with the higher income lies slightly above the higher-rate tax threshold who, in principle, could increase their net income by finding a way to reduce their taxable income to just below the higher-rate tax threshold.¹⁵ Whether a family will be in this position depends on the number of children for whom they receive Child Benefit. Table 11.1 shows, for a given number of children, the band of gross annual income of the adult with the higher income within which such families must fall; it also splits the estimate of how many families with children will find themselves in this situation by the number of children in the family. Although we do not yet have precise details of how the Child Benefit withdrawal will operate, it seems likely that one easy way for such families to reorganise their finances in response would be to make additional contributions to a private pension until taxable income falls below the higher-rate threshold, as contributions to a private pension are

¹³ This is the figure implied by current government policies reflected in public finance forecasts, and the Office for Budget Responsibility's forecast of 3.1% RPI inflation in the year to September 2012 – the figure that will determine the default uprating of tax thresholds in April 2013 (see page 109 of the Office for Budget Responsibility's *Economic and Fiscal Outlook* of November 2011 (http://cdn.budgetresponsibility.independent.gov.uk/Autumn2011EFO_web_version138469072346.pdf)).

¹⁴ Some of these families would see their net income fall only if their pre-tax income rose by a very small amount: we estimate that approximately 100,000 families would find themselves with a lower net income if the pre-tax income of an adult in that family were to rise by 5%.

¹⁵ There will also be a small number of families where both adults' income falls into these bands; these families have not been included in our estimates.

deducted from taxable income.¹⁶ But the withdrawal of Child Benefit would also give them very strong incentives to work less – for example, by undertaking less paid overtime (or trying less hard for a bonus) – leading to a real reduction in economic activity.

Table 11.1. Families who could increase their net income by reducing their gross income under the current proposal for withdrawing Child Benefit

Number of children	Gross annual income	Estimated number of families in this situation
One child	£42,735 – £44,555	60,000
Two children	£42,735 – £45,756	80,000
Three children	£42,735 – £46,958	20,000
Four children	£42,735 – £48,159	10,000
Total	n/a	170,000

Note: Estimates ignore those individuals who have a partner who is also a higher-rate taxpayer.

Source: Authors' calculations using Family Resources Survey 2008–09 and TAXBEN, the IFS tax and benefit microsimulation model.

The Child Benefit withdrawal will mean that some families in which the pre-tax income of the adult with the higher income lies some way above the higher-rate tax threshold (to be precise: above the ranges of income shown in Table 11.1) would lose significantly less net income if their pre-tax income fell than they would do without this policy (even though their net income would still fall). This situation would arise if the fall in pre-tax income took them below the higher-rate tax threshold, leading to the reinstatement of their Child Benefit, which would partially offset the impact of the fall in pre-tax income. The implication is that, for this group, reductions in labour supply would be more attractive than they would otherwise have been. For example, a working individual in a one-earner couple with two children with gross earnings of £50,000 (and no other taxable income) could cut his or her salary by 20% (£10,000) but see the family's net income fall by only 12% or £4,320 (compared with 16% or £6,073 if Child Benefit remained universal).

Finally, an equivalent argument applies to families in which the pre-tax income of the adult with the higher income lies some way below the higher-rate tax threshold but who have the option of moving some way above it: even ignoring the starkest cases where the increase in earnings would result in a reduction in net income, the incentive to increase earnings slightly is far weaker than it would be without the proposed Child Benefit withdrawal. To reverse the previous example, a working individual in a one-earner couple with two children with gross earnings of £40,000 would see a rise in net income of just £4,320 (compared with £6,073 if Child Benefit remained universal) if his or her earnings rose by £10,000, an effective tax rate on the additional income of 57%.

Of course, all situations in which tax liability rises or benefit entitlements fall as income rises will distort behaviour by making increases in earnings less financially attractive than they would otherwise be. But by creating a cliff-edge, this policy will introduce an

¹⁶ We describe this as 'easy' because it need not require the cooperation of their employer. In effect, the policy increases the return to saving in a private pension for all those who are, or who live with, Child Benefit recipients and whose income exceeds the higher-rate income tax threshold but whose pension saving could reasonably reduce their taxable income below that threshold. For the same reason, the policy increases the incentive for these individuals to make charitable donations, since they can also be deducted from taxable income.

effective tax rate on additional income which will often be considerably higher than those caused by most taxes or means-tested benefits (and will exceed 100% for many people). This policy will, therefore, introduce an extremely sharp economic inefficiency. The government is fully aware of this damaging distortion: its costing of the policy assumes that it will lose approximately £280 million per year through what it describes as 'tax planning'.¹⁷

Assessment of Child Benefit eligibility against individual income

Because Child Benefit withdrawal is to depend on the pre-tax income of the higher-income individual in a family (rather than joint income), some couples with children with the same pre-tax income would be treated very differently by this policy, since Child Benefit entitlement would depend crucially on how pre-tax income is shared between them. For example, with a higher-rate tax threshold at its expected 2013–14 level of £42,735 per year, a couple where each adult has an income of £42,000 per year (and thus neither is a higher-rate taxpayer) would not lose any Child Benefit, whereas a couple with one individual with an income of £43,000 (who is therefore a higher-rate taxpayer) would lose all of their Child Benefit.

One could argue that, for families with children, there are extra costs associated with having two members of a couple in paid work rather than one, due to the need for childcare provision, and therefore it might be desirable for the tax and benefit system to account for this in some way. However, it is difficult to believe that this way of means-testing Child Benefit is an appropriate response to this concern (not least because it is not only being withdrawn from one-earner couples): it would surely be preferable to target the problem directly by designing state financial support for childcare accordingly.

The proposed withdrawal mechanism would also increase the so-called 'couple penalty' for a lone parent who was considering cohabiting with a higher-rate taxpayer, or for adults in a couple who were considering breaking up where one was a higher-rate taxpayer. When in opposition, the Conservative Party claimed it would seek to reduce, rather than increase this penalty, and the coalition agreement made in June 2010 says 'we will bring forward plans to reduce the couple penalty in the tax credit system'.¹⁸ However, *any* mechanism for withdrawing Child Benefit would either increase the couple penalty in the tax and benefit system, or introduce so-called couple premiums for some.¹⁹

11.3 Alternative ways of removing Child Benefit from better-off families with children

This section presents alternative ways of removing Child Benefit from better-off families and compares their impact on families with that of the plan proposed by the government.

The previous section outlined the inefficiencies and inequities that would result from the government's proposal for Child Benefit. These mostly stem from three key features of the proposal:

¹⁷ See page 14 of HM Treasury, HM Revenue & Customs and Department for Work & Pensions, *Spending Review 2010 Policy Costings* (http://www.hm-treasury.gov.uk/spend_sr2010_policycostings.htm).

¹⁸ See HM Government, *The Coalition: Our Programme for Government*, 2010 (http://www.cabinetoffice.gov.uk/sites/default/files/resources/coalition_programme_for_government.pdf).

¹⁹ For further discussion, see S. Adam and M. Brewer, 'Couple penalties and premiums in the UK tax and benefit system', IFS Briefing Note 102, 2010 (<http://www.ifs.org.uk/publications/4856>).

- The government has proposed using the income tax system to withdraw Child Benefit, which raises a number of administrative problems and complexities.
- The proposal involves a *cliff-edge* – where £1 of additional income a year could lead to a family losing over a thousand pounds of Child Benefit – rather than a *gradual withdrawal* – where each £1 of additional income a year leads to a reduction in Child Benefit of some amount between £0 and £1.
- The government has proposed withdrawing Child Benefit against the income of the higher-income adult in couples, rather than against their joint income.

We propose three alternatives to fix some or all of these defects:

- a) Withdrawing Child Benefit through the income tax system, but gradually.
- b) Integrating Child Benefit with the Child Tax Credit, but withdrawing it in the same way as the family element of the Child Tax Credit was formerly withdrawn.
- c) Integrating Child Benefit with the Child Tax Credit.

We first describe these proposals in turn and then present estimates of their impact on the government's finances and the distribution of income. In an annex, we also consider variants of options b and c under the assumption that tax credits are replaced with Universal Credit.²⁰

Detail of proposals

Withdrawing Child Benefit through the income tax system (option a)

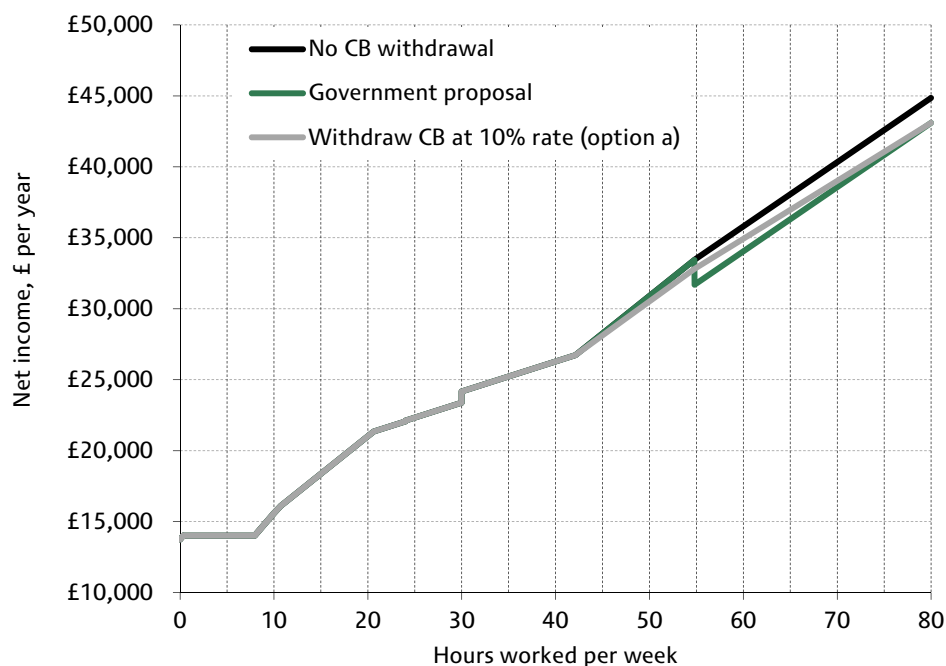
Our first option withdraws Child Benefit from families with children that contain a higher-rate taxpayer, as the government's proposal does, but at a gradual rate rather than in a cliff-edge. We use illustrative withdrawal rates of 10% and 20%. As far as we can see, implementing such a scheme is entirely possible using the mechanism that the government has set out for implementing its own proposal.

The impact on the budget constraint of a two-child family is shown in Figure 11.1. Essentially, the effect is to spread the loss of Child Benefit over a range of gross income. Adults directly affected would face an effective marginal tax rate of 52% or 62% (with withdrawal rates of 10% and 20% respectively) over this range, rather than the current 42% (or the proposed cliff-edge, which involves an infinite marginal tax rate at the higher-rate threshold). Such higher effective marginal tax rates would still weaken families' incentives to increase their income (which is completely unavoidable if the aim is to withdraw Child Benefit from better-off families) relative to maintaining the current system of universality, but this option avoids the extremely high effective marginal tax rates for some people affected by the government's proposal. In particular, it would mean that no family would face the situation where a drop in income would increase their net income or a rise in income would make them worse off.

These policies raise less than the government's proposal, but could be tweaked so as to raise the same amount by beginning Child Benefit withdrawal at gross income levels slightly below the higher-rate threshold (although this would require extending self-assessment to more families); we calculate that this would involve beginning the withdrawal at £35,235 or £38,835 for withdrawal rates of 10% or 20% respectively.

²⁰ At the time of writing, Parliament is still debating the Welfare Reform Bill which proposed to replace all means-tested benefits and tax credits for people of working age with a single programme to be known as Universal Credit. See <http://www.publications.parliament.uk/pa/cm201011/cmbills/154/11154.pdf> for more information.

Figure 11.1. Budget constraints in 2013–14 for an example one-earner couple with two children: option a compared with government proposal and current situation



Notes: Assumes that the earner can choose how many hours to work at a given wage rate of £15 per hour, and ignores the impact of any rent, council tax or disabilities. Budget constraints shown are for a family who remain within the current system of tax credits and means-tested benefits, rather than the new Universal Credit system which will begin to be phased in from October 2013.

Source: Authors' calculations using TAXBEN, the IFS tax and benefit microsimulation model.

Integrating Child Benefit with Child Tax Credit (options b and c)

The government has defended some of the inequities implied by its proposed mechanism for withdrawing Child Benefit on the grounds that it did not want to create a new means test.²¹ It is not entirely clear whether it considered integrating Child Benefit with the Child Tax Credit (or, later, Universal Credit).²² There are problems with the way that tax credits were designed and are administered, but the tax credit system is a good one for removing child-related support from better-off families, as it already captures the joint income of families with children who apply for it and it does so by means of a gradual withdrawal.

We offer two alternatives that integrate Child Benefit with the Child Tax Credit:²³

- The first (option b) proposes that Child Benefit be integrated with the Child Tax Credit, but withdrawn using a separate taper so that the withdrawal rate is 6.66%

²¹ See the Chancellor's response in Parliament to a petition on the withdrawal of Child Benefit (<http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm110519/petntext/110519p0001.htm>).

²² In fact, a statement by the Secretary of State for Work and Pensions, Iain Duncan Smith, implied that not only had the government considered integrating Child Benefit with Universal Credit, but also it actually intended to do so (<http://www.guardian.co.uk/politics/2010/oct/06/ids-means-test-child-benefit>); however, the current proposal for Universal Credit assumes that Child Benefit will remain separate.

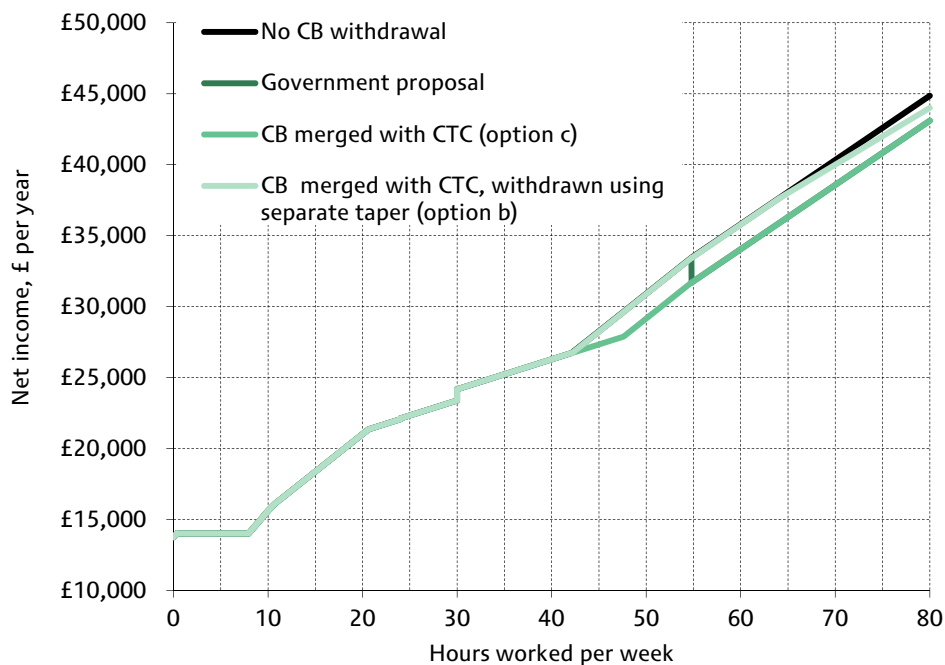
²³ These hypothetical policies could be achieved either by scrapping Child Benefit and increasing the value of the Child Tax Credit by an offsetting amount (with similar adjustments to child allowances in Housing Benefit and Council Tax Benefit), or by retaining Child Benefit as a separate benefit but requiring its recipients to claim the Child Tax Credit alongside it.

(rather than 41%, as for the rest of the tax credit system) and withdrawal begins at £50,000 of joint pre-tax income (rather than £6,420,²⁴ as for the rest of the tax credit system). This means that Child Benefit would be withdrawn in exactly the same way as the family element of the Child Tax Credit used to be withdrawn.²⁵

- The second alternative (option c) proposes that the withdrawal of Child Benefit be fully integrated with the withdrawal of Child Tax Credit. In effect, this means that Child Benefit would begin to be withdrawn as soon as joint gross income reaches the level where Child Tax Credit entitlement has been exhausted (for a family containing a full-time worker and two children,²⁶ this is expected to be £32,554 per year in 2013–14) and it would be withdrawn at the same 41% rate as tax credits.

The impact of these two proposals on the budget constraint of a one-earner couple with two children is illustrated in Figure 11.2.

Figure 11.2. Budget constraints in 2013–14 for an example one-earner couple with two children: options b and c compared with government proposal and current situation



Notes and Source: As Figure 11.1.

The proposal that straightforwardly integrates Child Benefit with the Child Tax Credit would see Child Benefit effectively removed from families at much lower levels of income than under the government’s proposal. For a single-earner family, integrating Child Benefit with the Child Tax Credit but withdrawing it in a separate taper starting at £50,000 per year at the lower withdrawal rate of 1 in 15 (as was formerly done for the family element of the Child Tax Credit) would be quite similar to withdrawing it through the income tax system (option a). But the advantage of using the tax credit system is that

²⁴ £15,860 for families not entitled to Working Tax Credit.

²⁵ From April 2011, the family element began to be withdrawn at £40,000 rather than £50,000. From April 2012, it will be withdrawn immediately after the other tax credit elements.

²⁶ Assuming no disabilities or formal childcare costs.

it would reduce the inequities between single- and dual-income couples inherent in the government's proposal (and other proposals that effectively withdraw Child Benefit through the income tax system, such as option a). Under the government's proposal, a dual-income couple could, in principle, have a joint income of £84,000 and still keep all of their Child Benefit, whereas that limit would be £50,000 under option b for single-income and dual-income couples alike.

One disadvantage of integrating Child Benefit with the Child Tax Credit is that take-up of the Child Tax Credit is somewhat lower than that for Child Benefit.²⁷ If this were to continue, it would mean that some low-income families with children who do not claim the Child Tax Credit that they are entitled to would be worse off after the integration of Child Benefit with the Child Tax Credit (because not claiming Child Tax Credit would effectively mean not claiming Child Benefit either). But once the Child Tax Credit is subsumed within Universal Credit, which begins to be phased in from October 2013, the government expects non-take-up to be reduced, which would lessen this as an issue (see the annex for analysis of the integration of Child Benefit with Universal Credit). Another disadvantage of this proposal is that a new way might need to be found to give non-working parents of children under 12 credits towards their state pension, as currently happens for Child Benefit recipients.

All of the options that we have explored withdraw Child Benefit gradually, rather than all-at-once, avoiding the cliff-edge inherent in the government's proposal, which is arguably its most economically damaging aspect. Options b and c withdraw Child Benefit against the joint income of a couple – we consider that the joint income of a couple is likely to be a better guide to their ability to cope without Child Benefit than the income of the higher-income individual is.²⁸ Options b and c make use of the existing system of means-testing, which already collects information on the income of families with children: the Child Tax Credit (and its proposed replacement, Universal Credit).

Impact on government finances

Table 11.2 shows the impact of our three alternative proposals (and their variants) on government finances (Box 11.1 discusses some of the inevitable limitations and inaccuracies that apply to such estimates).

As we said earlier, withdrawing Child Benefit through the income tax system but at a finite rate (rather than the government's cliff-edge) would raise less money unless the threshold for withdrawing Child Benefit were also lowered. Adding Child Benefit to the Child Tax Credit system but withdrawing it using a separate taper would raise an amount of money similar to the government's proposal; this is because the use of a higher threshold (which reduces the yield) is roughly offset by the use of joint income rather than the higher income in a couple (which increases the yield). Straightforwardly integrating Child Benefit with the Child Tax Credit would raise substantially more money than the government's proposal.

²⁷ See HMRC's latest estimates of take-up of Child Benefit and Child Tax Credit at <http://www.hmrc.gov.uk/stats/personal-tax-credits/cwtc-take-up2008-09.pdf>.

²⁸ We do not consider a variant where Child Benefit is withdrawn through the income tax system but against the joint income of a couple. This would be introducing a form of joint income taxation, and would thus be a much more radical departure from the present system than an integration of Child Benefit with the existing Child Tax Credit system (or, later, Universal Credit), which would also see Child Benefit entitlement effectively assessed against joint income (and hence would have extremely similar impacts).

Box 11.1. Estimating cost and distributional impact of reforms to Child Benefit

The estimates of the cost and distributional impact of our proposals are derived from our own analysis of the Family Resources Survey using the IFS tax and benefit microsimulation model, TAXBEN. They are therefore subject to a number of inevitable limitations and inaccuracies.

First, our own estimates do not allow for behavioural responses to reforms (for example, people changing how many hours they work), or for revenue lost to the government through non-compliance or difficulties in identifying those who should be affected. We have ignored these as we have no credible means of quantifying the importance of these effects. Note that this means our proposals may raise more revenue (or cost less) relative to the government's than our estimates imply if, as we would expect, they result in less lost revenue due to administrative difficulties and behavioural responses. However, our estimate of the revenue raised from the government's proposal, which ignores these effects, is identical – £2.4 billion in 2013–14 – to the government's estimate, which incorporated £430 million of lost revenue from 'tax planning', 'non-compliance' and difficulties in identifying the appropriate families. This implies that the Treasury's estimate of the money saved from its proposal that also ignored these effects would be about £430 million higher than ours. One reason for this discrepancy is that the Treasury's estimate was produced in late 2010, whereas our figures use the economic forecast produced by the Office for Budget Responsibility on 29 November 2011. The more pessimistic earnings growth forecasts in November 2011 will have lowered the expected number of higher-rate taxpayers and hence the estimated revenue raised from the government's proposal.

Second, for the reforms in which we integrate Child Benefit with the Child Tax Credit system (options b and c), we initially base our revenue estimates on estimated entitlements to tax credits, but we adjust these to account both for non-take-up of tax credits and the fact that the Family Resources Survey (FRS) data underlying the analysis yield an underestimate of the number of people eligible for tax credits (this is most likely because it over-records the incomes of some families with children compared with the income assessed by HMRC when computing tax credits). To make this adjustment, we compute a scaling factor which we apply to the increase in tax credit entitlements that we simulate under our proposal. For the proposal that integrates Child Benefit with the Child Tax Credit but withdraws it using a second taper, we scale the estimated increase in entitlement to tax credits down by 10% because the number of families receiving Child Tax Credit in 2008–09 was 90% of the number of families who we estimate were eligible using the FRS data from that year. For the proposal that integrates Child Benefit with the Child Tax Credit, we scale the increase in tax credit spending down by 2% because the number of families receiving more than the family element of the Child Tax Credit in 2008–09 according to HMRC was 98% of the number of families who we estimate were eligible using the FRS data from that year. We apply the same scaling factors to the corresponding Universal Credit analysis in the annex: effectively, this assumes that take-up of Universal Credit is the same as take-up of tax credits. If take-up of Universal Credit is higher, which we might expect because it is intended to be simpler to claim, then the actual revenue raised by the Universal Credit variants of options b and c will be lower relative to their tax credit analogues. Our distributional analysis of the same reforms, however, does not make any such adjustments, because that would require detailed knowledge of which eligible tax credit recipients do not take up tax credits. Note that, in general, this means that actual losses from options b and c will be larger than those shown in our distributional analysis.

Table 11.2. Estimated revenue implications of alternative ways of withdrawing Child Benefit from better-off families

Policy	Revenue raised in 2013–14, compared with no Child Benefit withdrawal (£ billion)	Revenue raised in 2013–14, compared with government’s proposal (£ billion)
Government proposal	+2.4	n/a
Withdraw from higher-rate threshold at 10%	+1.7	–0.6
Withdraw from higher-rate threshold at 20%	+2.0	–0.3
Withdraw from £35,235 at 10%	+2.4	0.0
Withdraw from £38,835 at 20%	+2.4	0.0
Integrate with Child Tax Credit	+5.0	+2.7
Integrate with Child Tax Credit, withdraw using separate taper	+3.0	+0.6

Notes: Revenue estimates assume no non-compliance issues or behavioural responses. Estimated increases in tax credit expenditure are scaled up to account for discrepancies between the underlying survey data and administrative data on tax credit expenditure from HMRC (see Box 11.1).

Source: Authors’ calculations using Family Resources Survey 2008–09, TAXBEN (the IFS tax and benefit microsimulation model) and HMRC estimates of tax credit expenditure (<http://www.hmrc.gov.uk/stats/personal-tax-credits/cwtc-take-up2008-09.pdf>).

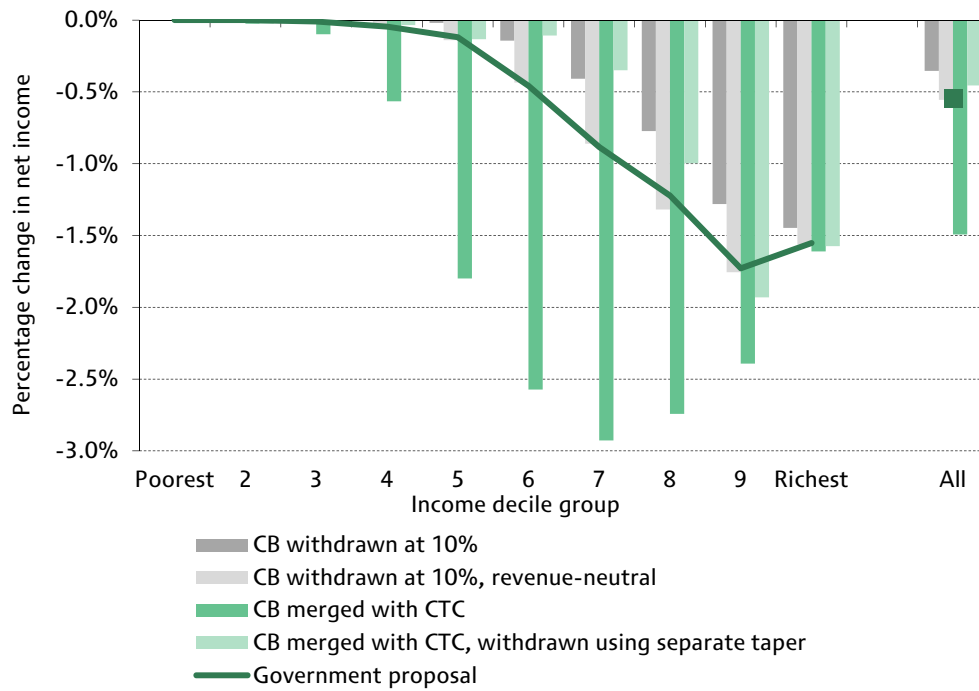
Distributional impact

Figure 11.3 shows the impacts of proposals on family incomes according to their position in the income distribution (again, subject to the inevitable limitations and inaccuracies that apply to such estimates set out in Box 11.1). The estimated impact of the government’s proposal is shown as a green line. The graph shows the following:

- All policies have very similar impacts on families in the top income decile group. This is because almost all families with children in the top income decile group would see their Child Benefit removed under all policies discussed in this chapter.
- Withdrawing Child Benefit gradually from the higher-rate threshold results in a similar distributional pattern to the government’s proposal, but the losses are generally smaller (because the policy raises less revenue). Withdrawing Child Benefit gradually but in such a way as to raise the same amount of money as the government’s proposal (by lowering the threshold at which it begins to be withdrawn) has a very similar distributional impact to the government’s proposal.²⁹
- Integrating Child Benefit with the Child Tax Credit but withdrawing using our second taper would have a similar distributional impact to withdrawing it gradually from families containing a higher-rate taxpayer.
- Straightforwardly integrating Child Benefit with the Child Tax Credit would lead to much larger losses lower down the income distribution (unsurprisingly, given the substantial amount of revenue this option would raise), with the losses as a share of income peaking in decile group 7.

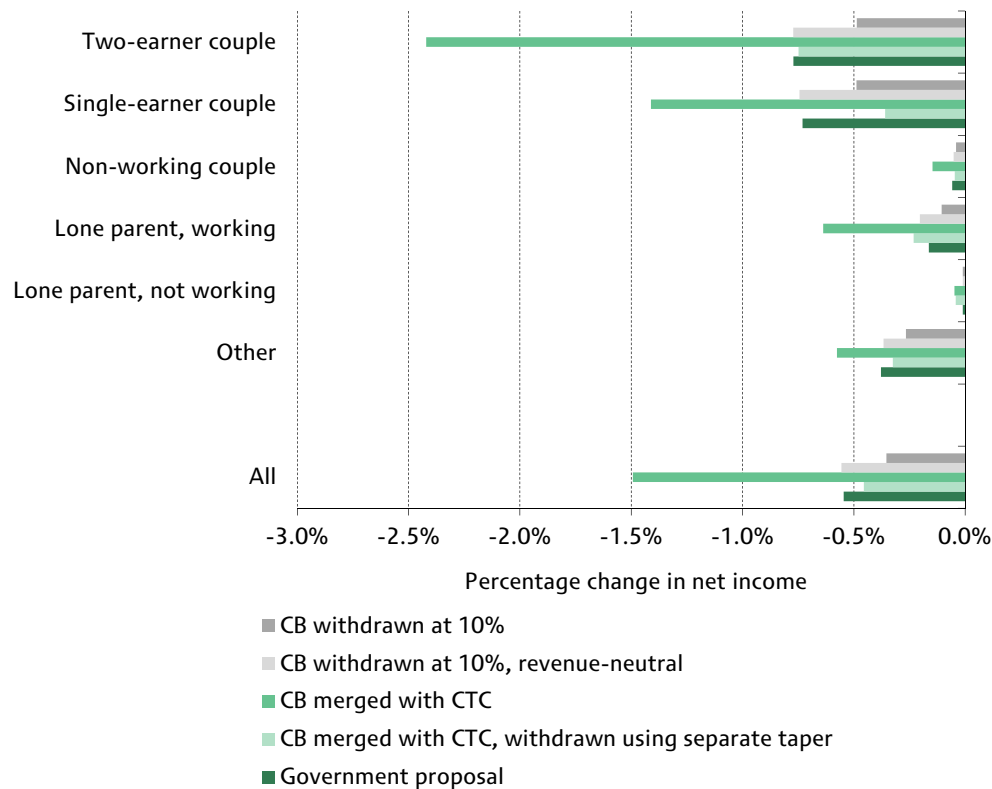
²⁹ Withdrawing it at a rate of 20% would have a similar impact to that shown here, at least at this level of aggregation.

Figure 11.3. Distributional impact by income decile group compared with a world where Child Benefit not withdrawn (families with children only)



Notes: Income decile groups derived by dividing all families into 10 equal-sized groups according to income adjusted for family size using the McClements equivalence scale. Decile group 1 contains the poorest tenth of families, decile group 2 the second poorest, and so on up to decile group 10, which contains the richest tenth. Source: Authors' calculations using TAXBEN and Family Resources Survey 2008–09.

Figure 11.4. Distributional impact by family type compared with a world where Child Benefit not withdrawn (families with children only)



Source: As Figure 11.3.

Figure 11.4 shows the impact of proposals on family incomes for different family types. On average (and including the families who are entirely unaffected), the government's proposal leads to larger average losses among working couple families than among working lone parents, as the former are more likely to contain a higher-rate taxpayer. As before, the options that withdraw Child Benefit through the income tax system have similar impacts (at this level of aggregation) to the government's proposal. Integrating Child Benefit with the Child Tax Credit and withdrawing it using the separate taper would lead to smaller losses amongst families with one earner. Straightforwardly integrating Child Benefit with the Child Tax Credit would involve larger losses than the government's proposal across all family types.

11.4 Summary and conclusions

We do not take a stance on the government's current objective: to ensure that better-off families do not benefit from Child Benefit. But the way in which this ambition is pursued matters enormously to the working of the tax and benefit system. As we have shown, the government's current proposal will create real inefficiencies and inequities: about 170,000 families could increase their net income if an individual in that family managed to lower their pre-tax income; a further 200,000 families could find themselves with a lower net income if their pre-tax income were to rise slightly. It would mean removing Child Benefit from some couples whose joint earnings were £43,000 but not removing it from other couples whose joint earnings were £84,000. The sharp behavioural incentives that the proposal creates will lead to significant behavioural responses, mostly from families adjusting their taxable income to avoid the withdrawal, and there are a number of difficulties in identifying the families who should be subject to withdrawal. Together, these are expected to reduce the government's savings by around £430 million per year, or about 15% of the savings that would otherwise have been made by the reform.

The Prime Minister has recently said that the government is reconsidering the way in which Child Benefit is removed from better-off families, although it is not clear whether he dislikes the inefficiencies of the cliff-edge, or the perceived unfairness in the treatment of single- and dual-earner couples. We have offered some possible alternative solutions which achieve broadly what the government's own proposal does, whilst avoiding some or all of its undesirable consequences. Withdrawing Child Benefit gradually, rather than all in one go, could be implemented in much the same way as the government's proposal, but, without extending self-assessment to more families, would save slightly less money and affect a smaller set of families. It would still weaken affected families' incentives to increase their income but it would not give any individuals the unfair and inefficient incentive to reduce their taxable income in order to increase their net income. This alternative would, however, share the same administrative complexities as the government's proposal, and would be subject to the same possible concerns about inequities between single-income and dual-income couples. Combining Child Benefit with tax credits (or, from October 2013, with Universal Credit) would allow a more sensible withdrawal against the combined income of a couple, rather than against that of the higher-income individual. Consequently, it would lead smaller losses amongst one-earner couples and lone parents than the government's proposal. The precise design of this alternative, though, would need to depend upon the government's distributional objectives.

Annex. Variants where Child Benefit is combined with Universal Credit

This annex presents alternatives where Child Benefit is integrated with Universal Credit. These are near-equivalents to options b and c discussed in the main text.

The withdrawal of Universal Credit is to be assessed against net income, rather than gross income as under tax credits. To implement option b under Universal Credit, we withdraw the new element at a rate of 1 in 8.7 against net income which, for an adult who pays income tax at the 40% rate, is equivalent to the withdrawal rate of 1 in 15 against gross income that formerly existed for the family element of the Child Tax Credit. We begin the withdrawal at £36,000 of net income which, for a one-earner couple, is broadly equivalent to the £50,000 gross income threshold that existed for the family element of the Child Tax Credit. In other words, we have anchored option b under Universal Credit to option b under tax credits in the sense that the effective withdrawal of Child Benefit would operate in the same way for a one-earner couple (unless they have unearned income, which is to be treated differently under Universal Credit from under tax credits – see below).

Table 11.A1 shows our estimates of the cost, and Figures 11.A1 and 11.A2 show the estimated distributional impact.

There are small differences between families entitled to tax credits and families who would be entitled to Universal Credit but, in general, the estimated cost and distributional impact of combining Child Benefit with the child additions of Universal Credit are fairly similar to the near-equivalent policies that integrate Child Benefit with the Child Tax Credit.

However, there is a substantial difference in the bottom income decile group. This arises because the government proposes that Universal Credit will feature a 100% withdrawal rate applying to all unearned income and a strict assets test, similar to that which currently applies in means-tested benefits. Both represent harsher means tests than currently operate in tax credits. This means that some families with unearned income or assets would be entitled to the Child Tax Credit but not to Universal Credit; they therefore do not lose when Child Benefit is integrated with tax credits, but would lose if it were integrated with Universal Credit.

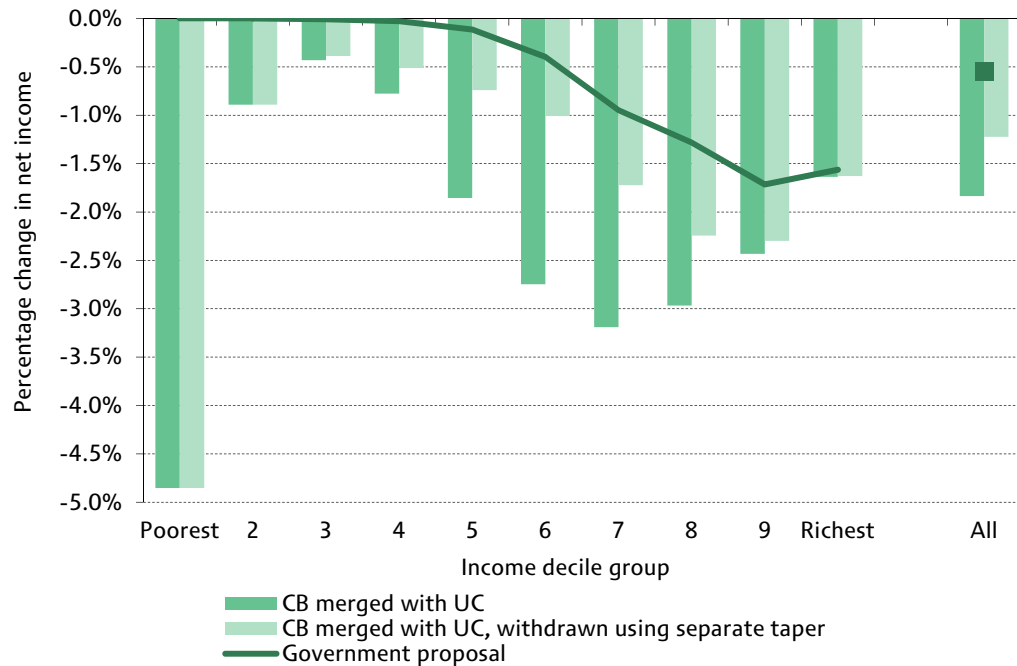
It is also the case that the policy that combines Child Benefit with Universal Credit but withdraws it using a second taper starting at £36,000 per year of net income raises considerably more money than a seemingly near-equivalent policy that combines Child Benefit with the Child Tax Credit but withdraws it using a second taper. Again, this is

Table 11.A1. Estimated revenue implications of integrating Child Benefit with Universal Credit

Policy	Revenue raised in 2013–14, compared with no Child Benefit withdrawal (£ billion)	Revenue raised in 2013–14, compared with government's proposal (£ billion)
Integrate with Universal Credit	+5.5	+3.1
Integrate with Universal Credit, withdraw using separate taper	+4.6	+2.2

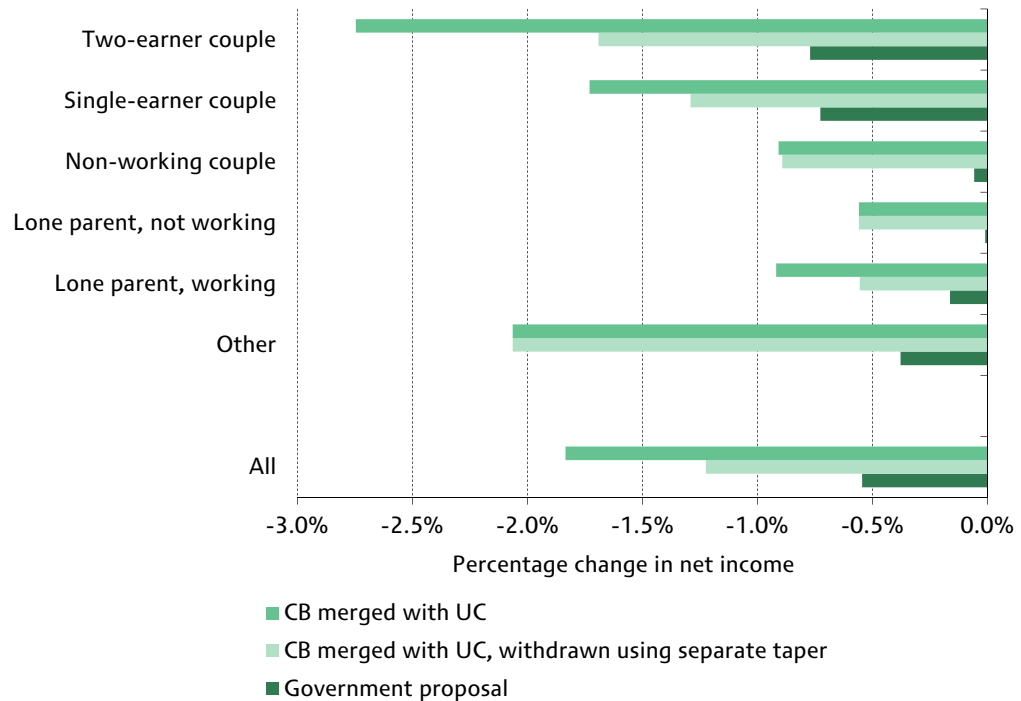
Notes and Source: As Table 11.2.

Figure 11.A1. Distributional impact by income decile group compared with a world where Child Benefit not withdrawn (families with children only)



Notes and Source: As Figure 11.3.

Figure 11.A2. Distributional impact by family type compared with a world where Child Benefit not withdrawn (families with children only)



Notes and Source: As Figure 11.3.

because of the harsher eligibility restrictions in Universal Credit relating to capital and unearned income. These different rules make a particularly big difference to the results for option b, where the earned income threshold above which Child Benefit is withdrawn is higher. This is because people with higher earnings are more likely to have capital and/or unearned income, and hence their entitlements are more likely to depend on eligibility rules relating to capital and/or unearned income – rules that differ substantially between tax credits and Universal Credit.

Appendix A: Forecasting the public finances

Rowena Crawford, Carl Emmerson and Gemma Tetlow (IFS)

This appendix looks at the techniques used to produce the Green Budget public finance forecasts. It starts by comparing the forecasts made for borrowing in 2010–11 in last year’s Green Budget and in the Office for Budget Responsibility’s (OBR’s) November 2010 *Economic and Fiscal Outlook* (EFO) with the eventual out-turn. We then discuss the techniques used in making our forecasts, before providing more background information on the short- and medium-term public finance forecasts that are set out in Chapter 4.

A.1 The accuracy of our previous forecasts

The February 2011 Green Budget forecast was for a higher level of current receipts than was forecast by the OBR in the November 2010 EFO but for the same level of both current and investment spending. Therefore, the IFS Green Budget forecast was for a smaller current budget deficit and a lower level of overall borrowing than was forecast at the time by the OBR.

The out-turn for current spending was £6.0 billion lower than both we and the OBR had forecast, while – as shown in Table A.1 – receipts came in £1.7 billion higher than the OBR had forecast in its 2010 EFO and £1.2 billion lower than we forecast in the February 2011 Green Budget.

Table A.1. Comparisons of forecasts for government borrowing, 2010–11

<i>£ billion</i>	OBR forecast, November 2010	IFS Green Budget forecast, February 2011	OBR out-turn estimate, November 2011
Current receipts	549.7	552.6	551.4
Current expenditure ^a	655.9	655.9	649.9
Surplus on current budget	–106.2	–103.3	–98.4
Net investment	42.3	42.3	38.6
Total Managed Expenditure	698.2	698.2	688.5
Public sector net borrowing	148.5	145.6	137.1

^a In line with the National Accounts, depreciation has been included as current expenditure.

Note: Figures shown in this table exclude the temporary effects of financial interventions.

Source: Out-turn figures from Office for Budget Responsibility, *Economic and Fiscal Outlook*, November 2011 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2011/>). Forecasts from Office for Budget Responsibility, *Economic and Fiscal Outlook*, November 2010 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2010/>) and R.

Crawford, C. Emmerson and G. Tetlow, ‘Green Budget public finance forecasts’, in M. Brewer, C. Emmerson and H. Miller (eds), *The IFS Green Budget: February 2011* (<http://www.ifs.org.uk/budgets/gb2011/11chap5.pdf>).

Table A.2 shows the breakdown of the errors in the forecasts for tax receipts contained in the November 2010 EFO and the February 2011 Green Budget. The OBR underestimated National Accounts taxes by £2.2 billion, while the Green Budget (which had the benefit of access to two months’ additional out-turn data) overestimated them by £0.8 billion. The

forecasting errors in the Green Budget were smaller for most taxes than those made by the OBR – the exceptions being National Insurance contributions, VAT and corporation tax. The largest error made by the OBR was in its forecast for income tax receipts, which it estimated would be £2.2 billion lower than they ultimately were. The largest error in the Green Budget forecast was for revenues from National Insurance contributions, which we forecast would generate £2.3 billion more than they actually did. Outside of National Accounts taxes, there was a relatively small absolute error in both the OBR and Green Budget forecasts for non-tax receipts (which were overestimated by £0.5 billion and £0.4 billion, respectively).

Table A.2. IFS Green Budget and OBR errors in forecasting government receipts, 2010–11

<i>£ billion</i>	OBR forecast, November 2010	IFS Green Budget, February 2011
Income tax (net of tax credits)	-2.2	-0.7
National Insurance contributions	+0.8	+2.3
Value added tax ^a	-1.0	-1.5
Corporation tax (net of tax credits)	+0.5	+0.9
Fuel duties	+0.4	+0.0
Stamp duties	+0.1	+0.1
Other taxes	-0.8	-0.3
<i>National Accounts taxes</i>	-2.2	+0.8
Non-tax receipts ^b	+0.5	+0.4
Total current receipts	-1.7	+1.2

^a Includes VAT refunds

^b Includes accruals adjustments on taxes, the tax credits adjustments, interest and dividends, gross operating surplus and rent; net of oil royalties and business rate payments by local authorities, the own resources contribution to the EU budget and public corporations' corporation tax payments.

Notes: Figures shown are the difference between the relevant forecast and the latest estimated out-turn for receipts in 2010–11; figures for tax receipts in this table are on a cash, rather than accruals, basis. Figures shown in this table exclude the temporary effects of financial interventions.

Source: As for Table A.1.

As a result of the higher-than-forecast receipts and lower-than-forecast spending, the current budget deficit was ultimately £7.8 billion smaller than the OBR had forecast. The lower-than-forecast spending more than offset the fact that revenues came in weaker than we had anticipated and so the current budget deficit was ultimately £4.9 billion smaller than we had forecast. Investment spending came in £3.7 billion below both the OBR's and our forecast, and so total borrowing for 2010–11 was £11.4 billion lower than the OBR forecast and £8.5 billion lower than we forecast.

A.2 Techniques used in our forecasts

For the current financial year, three different sources of information are examined before coming to a judgement for each element of government revenue. In addition to the latest OBR forecast from the November 2011 EFO, we use information on the revenues implied

by a current receipts method and by the IFS modelled approach.¹ For future years, our judgement is based on the IFS model and the latest OBR forecasts.

Information from current receipts

The current receipts method uses information on receipts received in the current financial year compared with those received up to the same point in the previous financial year. An estimate for the whole of the current year's receipts is then calculated using the following formula:

$$2011-12 \text{ forecast} = \frac{\text{Receipts received so far this year}}{\text{Receipts received to the same point last year}} \times 2010-11 \text{ receipts}$$

While this is useful when forecasting revenues in the current financial year, it obviously cannot provide projections for revenues in future years. Also, particular caution must be used when revenues are cyclical or changes have been made that may affect the timing of payments. Both of these factors are likely to have significantly affected the timing of some tax payments in 2010–11 and 2011–12.

The IFS modelled receipts approach

The IFS public finance model estimates growth in each of the taxes using forecasts for the growth in the tax base relevant to each tax, combined with an estimate of the elasticity of revenue with respect to the growth in the tax base. Information on the revenue effects of pre-announced tax changes from previous Budgets, Pre-Budget Reports and Autumn Statements is then added in order to reach a forecast. Modelled receipts can be summarised by the following formula:

$$2011-12 \text{ forecast} = (2010-11 \text{ receipts} \times \text{Tax-base change} \times \text{Elasticity}) + \text{Tax changes}$$

This technique also enables forecasts to be made for future years, given the expected structure of the tax system. It should be noted that these forecasts become considerably less accurate for later years, since forecasts for changes in tax bases, estimates of elasticities and the impact of tax changes all become less accurate.

The elasticities for income tax and National Insurance contributions (NICs) are estimated from TAXBEN, the IFS tax and benefit model. Fuel duties are forecast using an elasticity calculated from previous IFS research.² Beer, spirits, wine and tobacco duties are forecast using the median elasticity found in a range of UK studies.³ Elasticities for air passenger duty and insurance premium tax are estimated from the OBR's own projection for revenues from these taxes.⁴

This approach is not dissimilar from the broad approach taken by the OBR in its forecasts for revenues from individual taxes.⁵ To our knowledge, we are the only institution other than the OBR to produce a detailed bottom-up forecast for the UK's public finances.

¹ For a more detailed explanation of both these techniques, see C. Giles and J. Hall, 'Forecasting the PSBR outside government: the IFS perspective', *Fiscal Studies*, 1998, 19, 83–100.

² L. Blow and I. Crawford, *The Distributional Effects of Taxes on Private Motoring*, IFS Commentary 65, 1997 (<http://www.ifs.org.uk/publications/1887>).

³ M. Chambers, 'Consumers' demand and excise duty receipts equations for alcohol, tobacco, petrol and DERV', Government Economic Service, Working Paper 138, August 1999.

⁴ We take the nominal growth in receipts projected between 2011–12 and 2016–17 by the OBR for these taxes and relate this to the nominal growth in consumer spending, after adjusting for the estimated impact of any policy changes.

⁵ Full details of the OBR's approach can be found in OBR, *Forecasting the Public Finances*, Briefing Paper 1, January 2011 (http://budgetresponsibility.independent.gov.uk/wordpress/docs/obr_briefing1.pdf).

A.3 Forecasts for 2011–12

The Green Budget baseline forecast is a judgement based on the OBR's latest forecast (from the November 2011 EFO), the current receipts method and the IFS modelled approach. Each of these is presented in Table A.3, and we discuss below how we have used these pieces of information to come to our judgement.

Our forecast for total receipts in 2011–12 is £0.4 billion lower than that made by the OBR in November 2011, as a result of more pessimistic forecasts for revenues from income tax, fuel duties, capital gains tax, stamp duties and air passenger duty, slightly offset by more optimistic forecasts for revenues from VAT and National Insurance contributions. We forecast that current spending will be £3.3 billion lower than forecast by the OBR, as a result of central government departments underspending by 1% on their current budget allocations. We forecast that net investment spending will come in as forecast by the OBR.

Receipts from major taxes

We forecast that **income tax** receipts in 2011–12 will be £150.2 billion, which is the average of the forecast from the IFS model (of £151.1 billion) and the figure implied by the current receipts model (£149.3 billion assuming that the OBR's forecast for capital gains tax receipts of £4.6 billion is correct). This is £0.5 billion below the OBR's forecast of £150.7 billion. Income tax receipts in January 2012, which are typically higher than in other months due to self-assessment payments and income tax on bonuses paid in January, are particularly uncertain this year. First, the introduction of the 50p income tax rate in April 2011 might have boosted income tax receipts in the months prior to April 2011 (as, in particular, dividend payments might have been brought forward to avoid the additional tax – see Chapter 9) and consequently growth in income tax receipts in the first quarter of 2012 may appear subdued. Second, bonuses paid to employees in the financial sector will be especially difficult to forecast given the continued turmoil in financial markets.

We forecast that **NICs** will be £102.9 billion. This is between the IFS model forecast, of £102.4 billion, and the figure of £103.6 billion implied by the current receipts method.

For **VAT** receipts, we take the forecast from the IFS model of £112.7 billion, which is slightly above the OBR's forecast for total VAT receipts (£111.1 billion) but slightly below that forecast by the current receipts method once the timing effects of the increase in the standard rate of VAT have been taken into account (£113.1 billion).

We forecast that **corporation tax** receipts will be £43.2 billion, which is below the £46.0 billion forecast by the IFS model and the same as the £43.2 billion forecast by the OBR. Our figure is based on the current receipts method – which implies receipts of £42.3 billion this year – adjusted upwards to take into account the impact of the increase in the supplementary charge, which is expected to boost receipts from North Sea oil companies by more in the second half of 2011–12 than it did in the first half of 2011–12.

We forecast that revenues from **fuel duties** will be £26.2 billion, £0.8 billion lower than forecast by the OBR. This judgement is based on our forecasting model, which suggests that low growth in nominal earnings in 2011–12 (when coupled with a reduction in fuel duties and delays to the inflation indexation of fuel duties this year, announced in the March 2011 Budget) will lead to a greater decline in receipts from fuel duties this year relative to last year than forecast by the OBR.

Table A.3. Forecasts for government borrowing in 2011–12: OBR macro scenario

<i>£ billion</i>	OBR, November 2011	Current receipts method^a	IFS forecasting model	IFS forecast judgement
Income tax (net of tax credits)	150.7	153.9 ^b	151.1	150.2
National Insurance contributions (NICs)	102.4	103.6	102.4	102.9
Value added tax (VAT) ^c	111.1	113.1	112.7	112.7
Corporation tax (net of tax credits)	43.2	42.3	46.0	43.2
Petroleum revenue tax	1.8	n/a	1.6	1.8
Fuel duties	27.0	n/a	26.2	26.2
Business rates	24.5	n/a	24.5	24.5
Council tax	25.9	n/a	25.0	25.9
Capital gains tax	4.6	–	4.0	4.0
Inheritance tax	2.9	n/a	2.9	2.9
Stamp duties	9.0	n/a	8.5	8.5
Tobacco duties	9.6	n/a	9.7	9.7
Spirits duties	2.8	n/a	2.8	2.8
Wine duties	3.3	n/a	3.2	3.2
Beer and cider duties	3.8	n/a	3.9	3.9
Air passenger duty	2.6	n/a	2.3	2.3
Insurance premium tax	2.9	n/a	2.9	2.9
Customs duties	3.0	n/a	3.1	3.1
Betting and gaming taxes	1.6	n/a	1.5	1.5
Landfill tax	1.2	n/a	1.2	1.2
Climate change levy	0.7	n/a	0.8	0.8
Aggregates levy	0.3	n/a	0.3	0.3
Vehicle excise duties	5.8	n/a	5.8	5.8
Bank levy	2.1	n/a	1.8	2.1
Other taxes ^d	11.5	n/a	11.2	11.2
National Accounts taxes	554.1	555.0	555.3	553.7
Less Own resources contribution to EU budget	–5.3	n/a	–5.3	–5.3
Interest and dividends	3.1	n/a	3.1	3.1
Other receipts ^e	23.6	n/a	23.6	23.6
Current receipts	575.5	576.4	576.7	575.1
Current spending	673.9	663.8	670.6	670.6
Current balance	–98.5	–87.4	–93.9	–95.6
Net investment	28.6	29.4	28.6	28.6
Public sector net borrowing	127.1	116.8	122.5	124.2

a. Current receipts figures for income tax, NICs and VAT are on an accruals basis. Other current receipts figures are on a cash basis.

b. Current receipts figures for income tax include receipts of capital gains tax.

c. Includes VAT refunds.

d. Includes licence fees and environmental levies.

e. Includes gross operating surplus of public corporations.

Notes: With the exception of the 'current receipts method' (see note a), all figures are on an accruals basis. Figures shown in this table exclude the temporary effects of financial interventions. Current receipts figures for total receipts assume the OBR is correct in its forecasts for the taxes where the current receipts data are not available; 'current receipts' forecasts for current spending assume that the OBR's forecast for current spending by local government and public corporations is correct.

Source: Authors' calculations. Office for Budget Responsibility, *Economic and Fiscal Outlook*, November 2011 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2011/>). Office for National Statistics, *Public Finance Statistics December 2011* (<http://www.ons.gov.uk/ons/rel/psa/public-sector-finances/december-2011/index.html>).

Other government receipts

For **petroleum revenue tax**, we take the OBR's forecast of £1.8 billion, which is slightly above the £1.6 billion forecast by the IFS model. We also take the OBR's forecast for **council tax** revenues in 2011–12, which (at £25.9 billion) are slightly higher than the forecast from our model (£25.0 billion). We assume that the OBR's forecast for the revenue that will be raised from the **bank levy** in 2011–12 is correct. For all other tax receipts, we take the forecast from our model.

Government expenditure

We forecast that **current spending** in 2011–12 will be £3.3 billion lower than forecast by the OBR, at £670.6 billion. So far this year, central government spending has been growing less quickly than the OBR forecast for the year as a whole. The exception is debt interest spending, which has grown by 17.0% so far this year, compared with the OBR forecast of 11.3% for the year as a whole. However, since debt interest payments depend almost entirely on the stock of gilts already in issuance and (in the case of index-linked gilts) on inflation out-turns from previous months, all of which was known to the OBR at the time it produced its latest forecasts, we see no reason to doubt the OBR's forecast for this item of spending.

Central government spending aside from that on net social benefits and debt interest payments (broadly, spending by government departments on the administration and provision of public services) has actually been lower over the first nine months of 2011–12 than it was in the first nine months of 2010–11. This is in contrast to the 1.4% growth forecast by the OBR for the year as a whole. The likely cause of this lower growth is the pressure on government departments not to exceed the budgets for 2011–12 that they were allocated in the 2010 Spending Review; in addition, departments may perhaps be looking ahead to the further cuts that many of them will have to deliver over the next three years. In light of these considerations, we assume that there will be a 1% (or £3.3 billion) underspend on current budget allocations across Whitehall departments in 2011–12.

We assume that the OBR's forecast for **public sector net investment** (PSNI) spending of £28.6 billion in 2011–12 is accurate. Over the period from April 2011 to December 2011, public sector net investment spending was 19% lower than it was over the same period in 2010, compared with a 25% fall forecast by the OBR in November 2011 for the year as a whole. Nonetheless our judgement is that PSNI this year will be in line with the OBR's forecast. This judgement is based on two factors: first, investment spending is inherently lumpy and therefore is less likely to evolve smoothly over the financial year than other components of spending. Second, PSNI last year came in below the OBR's November 2010 forecast (as shown in Table A.1), despite the fact that by this point last year investment spending had fallen by less relative to the previous year than had been forecast for the year as a whole in November 2010.

Government borrowing

Our forecast is for a **deficit on the current budget** of £95.6 billion for 2011–12. This is £2.9 billion more optimistic than the £98.5 billion deficit forecast by the OBR.

Since we forecast the same level of net investment in 2011–12 as the OBR does, our forecast for **public sector net borrowing** (£124.2 billion) is also £2.9 billion lower than the OBR forecast of £127.1 billion.

A.4 Medium-term forecasts

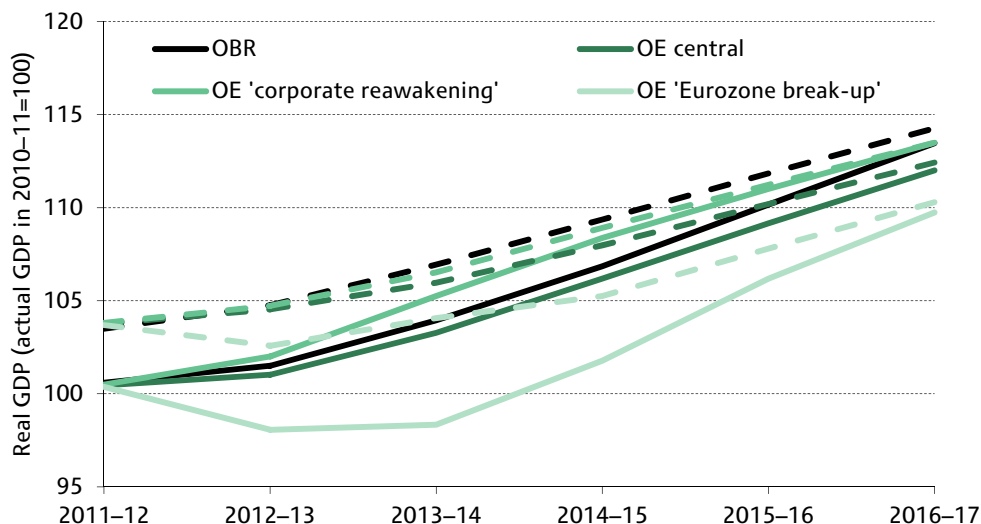
Any assessment of the fiscal stance should take into account the performance of the economy. Table A.4 presents the macroeconomic forecasts underlying the Green Budget forecasts for the public finances in each of the four scenarios used. Figure A.1 summarises the forecast paths for real growth in actual and potential gross domestic product (GDP) under each of the four sets of macroeconomic forecasts.

Table A.4. Alternative macroeconomic assumptions underlying medium-term public finances forecasts

<i>Annual % change unless otherwise stated</i>	2011– 12	2012– 13	2013– 14	2014– 15	2015– 16	2016– 17
Green Budget baseline: OBR						
Gross domestic product (GDP)	0.6	0.9	2.4	2.8	3.1	3.0
Real consumers' expenditure	–2.1	0.1	0.9	1.6	1.6	1.5
Employment	0.0	0.0	0.7	0.7	1.0	1.0
Real wages	–3.7	–1.0	0.6	1.3	0.9	0.6
GDP deflator	2.6	2.7	2.5	2.5	2.5	2.5
Output gap (% of potential GDP)	–2.8	–3.1	–2.8	–2.3	–1.5	–0.7
Oxford Economics, central						
Gross domestic product (GDP)	0.4	0.6	2.2	2.8	2.8	2.6
Real consumers' expenditure	–2.3	0.9	2.0	2.1	2.2	1.4
Employment	–0.2	–0.2	1.0	1.5	1.4	1.0
Real wages	–3.1	0.1	1.1	1.4	1.2	0.3
GDP deflator	2.2	1.8	2.0	2.2	2.3	2.5
Output gap (% of potential GDP)	–3.2	–3.4	–2.5	–1.7	–0.9	–0.4
Oxford Economics, 'corporate reawakening'						
Gross domestic product (GDP)	0.5	1.5	3.2	3.0	2.4	2.2
Real consumers' expenditure	–2.3	1.3	2.1	2.3	2.3	2.0
Employment	–0.2	0.5	1.8	1.7	1.1	0.8
Real wages	–3.1	0.3	1.1	1.1	1.3	1.4
GDP deflator	2.2	1.9	2.3	2.6	2.6	2.3
Output gap (% of potential GDP)	–3.2	–2.6	–1.2	–0.5	–0.2	0.0
Oxford Economics, 'Eurozone break-up'						
Gross domestic product (GDP)	0.4	–2.3	0.3	3.5	4.3	3.4
Real consumers' expenditure	–2.4	–3.4	–1.1	2.5	4.4	1.5
Employment	–0.2	–0.6	–0.5	1.7	2.4	1.7
Real wages	–3.1	–1.0	0.7	1.3	1.3	1.0
GDP deflator	2.2	1.5	1.6	2.2	2.6	2.6
Output gap (% of potential GDP)	–3.2	–4.4	–5.5	–3.3	–1.5	–0.5

Source: Oxford Economics. Office for Budget Responsibility, *Economic and Fiscal Outlook*, November 2011 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2011/>).

Figure A.1. Forecasts for actual and potential GDP



Note: Solid lines show the evolution of actual GDP under each scenario; dotted lines show the corresponding evolution of potential GDP.

Source: Authors' calculations. Oxford Economics. Office for Budget Responsibility, *Economic and Fiscal Outlook*, November 2011 (<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-november-2011/>).

The Green Budget baseline scenario uses published OBR forecasts for all macroeconomic assumptions. The OBR's assumption is that national income will grow by 0.6% in 2011-12. After that, it projects growth of 0.9% in 2012-13, rising to between 2.4% and 3.1% per year thereafter. This path leads to the estimated output gap being closed in 2017-18.

Under the Oxford Economics central forecast, the output gap in 2011-12 is projected to be slightly larger than the OBR forecast, at 3.2% of potential output rather than 2.8%. However, this does not translate into higher growth over the next few years, as the Oxford Economics central forecast is less optimistic than the OBR about the growth in potential output over the next few years. This is shown graphically in Figure A.1 – it is clear from this that the path for potential GDP under the Oxford Economics central forecast is flatter than that forecast by the OBR. The Oxford Economics central forecast does, however, have economy-wide inflation falling faster than the OBR forecast, which leads to stronger growth in both real wages and real consumer spending than the OBR forecast.

The Oxford Economics 'corporate reawakening' forecast is more optimistic about growth in GDP in 2012-13, 2013-14 and 2014-15 than both the Oxford Economics central forecast and the OBR's forecast. Over these years, faster growth leads to the output gap closing more quickly, with, in particular, higher levels of employment than in either the Oxford Economics central forecast or the OBR's forecast.

A far less comfortable outlook for the UK economy in 2012-13 and 2013-14 is presented under the Oxford Economics 'Eurozone break-up' scenario. In particular, GDP is forecast to fall by 2.3% in 2012-13, with a sharp fall in consumer spending of 3.4% and with both the level of employment and real wages continuing to fall. Thereafter, the economy is projected to bounce back strongly, with high growth in 2014-15, 2015-16 and 2016-17 leading to the output gap being almost closed by the end of the forecast period.

Appendix B: Headline tax and benefit rates and thresholds

	2011–12	2012–13 ^a
Income tax		
Personal allowance: under age 65	£7,475 p.a.	£8,105 p.a.
aged 65–74	£9,940 p.a.	£10,500 p.a.
aged 75 and over	£10,090 p.a.	£10,660 p.a.
Married couple's allowance, restricted to 10%: at least one spouse or civil partner born before 6/4/35	£7,295 p.a.	£7,705 p.a.
Basic rate	20%	20%
Higher rate	40%	40%
Additional rate	50%	50%
Tax rates on interest income	10%, 20%, 40%, 50%	10%, 20%, 40%, 50%
Tax rates on dividend income	10%, ^b 32.5%, ^b 42.5% ^b	10%, ^b 32.5%, ^b 42.5% ^b
Starting-rate limit	£2,560 p.a.	£2,710 p.a.
Basic-rate limit	£35,000 p.a.	£34,370 p.a.
Higher-rate limit	£150,000 p.a.	£150,000 p.a.
Income limit for personal allowance	£100,000 p.a.	£100,000 p.a.
National Insurance		
Lower earnings limit (LEL)	£102 p.w.	£107 p.w.
Upper earnings limit (UEL)	£817 p.w.	£817 p.w.
Primary threshold (employee)	£139 p.w.	£146 p.w.
Secondary threshold (employer)	£136 p.w.	£144 p.w.
Class 1 contracted-in rate: employee – below UEL	12%	12%
– above UEL	2%	2%
employer – below UEL	13.8%	13.8%
– above UEL	13.8%	13.8%
Class 1 contracted-out rate: employee – below UEL (salary-related schemes)	10.4%	10.6%
– above UEL	2%	2%
employer – below UEL	10.1%	10.4%
– above UEL	13.8%	13.8%
Corporation tax		
Rates: small profits rate	20%	20%
standard rate	26%	25%
Capital gains tax		
Annual exemption limit: individuals	£10,600 p.a.	£11,200 p.a.
trusts	£5,300 p.a.	£5,600 p.a.
Standard rate	18%	18%
Higher rate	28%	28%
Inheritance tax		
Threshold	£325,000	£325,000
Rate for transfer at or near death	40%	40%
Value added tax		
Registration threshold	£73,000 p.a.	£77,000 p.a.
Standard rate	20%	20%
Reduced rate	5%	5%
Excise duties		
Beer (pint at 3.9% abv)	41p	42p ^c
Wine (75cl bottle at 12% abv)	181p	187p ^c
Spirits (70cl bottle at 40% abv)	715p	737p ^c
20 cigarettes: specific duty	310p	320p ^c
<i>ad valorem</i> (16.5% of retail price)	110p ^d	113p ^e
Ultra-low-sulphur petrol (litre)	58p	58p/61p ^f
Ultra-low-sulphur diesel (litre)	58p	58p/61p ^f
	<i>Continues</i>	<i>Continues</i>

Continued

	2011–12	2012–13 ^a	
Air passenger duty			
Band A (up to 2,000 miles):	economy	£12	£12 ^g
	club/first class	£24	£25 ^g
Band B (2,001–4,000 miles):	economy	£60	£60 ^g
	club/first class	£120	£125 ^g
Band C (4,001–6,000 miles):	economy	£75	£80 ^g
	club/first class	£150	£155 ^g
Band D (6,001 or more miles):	economy	£85	£90 ^g
	club/first class	£170	£175 ^g
Betting and gaming duty			
Gross profits tax	15–50%	15–50%	
Spread betting rate:	financial bets	3%	3%
	other bets	10%	10%
Insurance premium tax			
Standard rate	6%	6%	
Higher rate (for insurance sold accompanying certain goods and services)	20%	20%	
Stamp duty			
Land and buildings:			
residential threshold	£125,000	£125,000	
non-residential threshold	£150,000	£150,000	
rate: up to threshold	0%	0%	
threshold–£250,000	1% ^h	1%	
£250,000–£500,000	3%	3%	
£500,000–£1,000,000	4%	4%	
above £1 million	5%	5%	
Stocks and shares: rate	0.5%	0.5%	
Vehicle excise duty			
Graduated system (for new cars from 1 March 2001)	£0–£460 p.a.	£0–£475 p.a. ^c	
Graduated system (first-year rate from April 2010)	£0–£1,000 p.a.	£0–£1,015 p.a. ^c	
Standard rate (for cars registered before March 2001)	£215 p.a.	£220 p.a. ^c	
Small-car rate (engines up to 1,549cc)	£130 p.a.	£135 p.a. ^c	
Heavy goods vehicles (varies according to vehicle type and weight)	£160–£1,850 p.a.	£165–£1,905 p.a. ^c	
Landfill tax			
Standard rate	£56 per tonne	£64 per tonne	
Lower rate (inactive waste only)	£2.50 per tonne	£2.50 per tonne	
Climate change levy			
Electricity	0.485p/kWh	0.509p/kWh	
Natural gas	0.169p/kWh	0.177p/kWh	
Coal	1.321p/kg	1.387p/kg	
Liquefied petroleum gas	1.083p/kg	1.137p/kg	
Business rates			
Rate applicable for low-value properties ¹ in:			
England	42.6%	45.0%	
Scotland	42.6%	45.0%	
Wales	42.8%	45.2%	
Council tax			
Average rate Band D council tax in England and Wales	£1,422.44 p.a.	Councils to set	
Income Support / income-based Jobseeker's Allowance			
Single (aged 25 or over)	£67.50 p.w.	£71.00 p.w.	
Couple (both aged 18 or over)	£105.95 p.w.	£111.45 p.w.	
Basic State Pension			
Single	£102.15 p.w.	£107.45 p.w.	
Couple	£163.35 p.w.	£171.85 p.w.	
Winter Fuel Payment: for those aged 60–79	£200	£200	
for those aged 80 or over	£300	£300	

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Sources:

<http://www.dwp.gov.uk/docs/benefitrates2012.pdf>;
<http://www.hmrc.gov.uk/budget2011/rates-allowances.pdf>;
http://www.hm-treasury.gov.uk/as2011_documents.htm;
http://www.direct.gov.uk/en/Motoring/OwningAVehicle/HowToTaxYourVehicle/DG_10012524;
<http://www.dft.gov.uk/dvla/-/media/pdf/leaflets/v149.ashx>;
<http://www.voa.gov.uk/corporate/Publications/businessRatesAnIntro.html>;
<http://www.communities.gov.uk/documents/localgovernment/pdf/2055422.pdf>;
<http://wales.gov.uk/topics/localgovernment/finandfunding/businessrates/?lang=en>;
<http://www.scotland.gov.uk/Topics/Government/local-government/17999/11199/brief-guide>;
http://www.cipfa.org.uk/press/press_show.cfm?news_id=61310.

For descriptions of the tax and benefit systems, see S. Adam and J. Browne, 'A survey of the UK tax system', IFS Briefing Note 9, 2011 (<http://www.ifs.org.uk/bns/bn09.pdf>) and W. Jin, P. Levell and D. Phillips, 'A survey of the UK benefit system', IFS Briefing Note 13, 2010 (<http://www.ifs.org.uk/bns/bn13.pdf>) respectively.

For a summary of the main tax measures introduced in each Budget and Pre-Budget Report since 1979, see http://www.ifs.org.uk/ff/budget_measures.xls.

For estimates of the effects of various illustrative tax changes on government revenues, see table 1.6 of HM Revenue & Customs, *Tax Expenditures and Ready Reckoners* (http://www.hmrc.gov.uk/stats/tax_expenditures/menu.htm).

Appendix C: Abbreviations

abv	alcohol by volume
ACE	Allowance for Corporate Equity
ASHE	Annual Survey of Hours and Earnings
BAR	Bilateral Aid Review
BBC	British Broadcasting Corporation
BCC	British Chambers of Commerce
BIS	Department for Business, Innovation and Skills
BoE	Bank of England
BSS	Brewer, Saez and Shephard, 2010 (chapter 2 of <i>Dimensions of Tax Design: The Mirrlees Review</i>)
CAPSNB	Cyclically-adjusted public sector net borrowing
CB	Child Benefit
CBI	Confederation of British Industry
CCCTB	Common Consolidated Corporate Tax Base
CFC	controlled foreign company
CGT	capital gains tax
CIPFA	Chartered Institute of Public Finance and Accountancy
CPI	consumer price index
CSOP	Company Share Option Plan
CTC	Child Tax Credit
DAC	Development Assistance Committee
DB	defined benefit
DC	defined contribution
DCD	Development Cooperation Directorate
DCLG	Department for Communities and Local Government
DECC	Department of Energy and Climate Change
DEFRA	Department for Environment, Food and Rural Affairs
DEL	Departmental Expenditure Limit
DETI	Department of Enterprise, Trade and Investment (Northern Ireland)
DfID	Department for International Development
DSG	Dedicated Schools Grant
EATR	effective average tax rate
EC	European Commission
ECB	European Central Bank
EFO	Economic and Fiscal Outlook (OBR)
EFSF	European Financial Stability Facility
EMTR	effective marginal tax rate
EU	European Union
Euribor	Euro Interbank Offered Rate
FAO	Food and Agricultural Organisation
FCO	Foreign and Commonwealth Office
FDI	foreign direct investment
FRS	Family Resources Survey
GAAR	General Anti-Avoidance Rule

GDP	gross domestic product
GFATM	Global Fund to Fight Aids, Tuberculosis and Malaria
GG	general government
GNI	gross national income
GNP	gross national product
GTLP	Global Trade Liquidity Programme
GVA	gross value added
HMRC	Her Majesty's Revenue and Customs
HMT	Her Majesty's Treasury
ICAI	Independent Commission for Aid Impact
IFS	Institute for Fiscal Studies
ILO	International Labour Organisation
IMF	International Monetary Fund
ISM	Institute for Supply Management
IZA	Institute for the Study of Labor
LEL	lower earnings limit
LFS	Labour Force Survey
LIBOR	London Interbank Offered Rate
MAR	Multilateral Aid Review
MPC	Monetary Policy Committee
NAIRU	non-accelerating inflation rate of unemployment
NBER	National Bureau of Economic Research
NGO	non-governmental organisation
NHS	National Health Service
NI	National Insurance Northern Ireland
NICs	National Insurance contributions
NPA	normal pension age
NPL	non-performing loan
NVQ	National Vocational Qualification
OBR	Office for Budget Responsibility
ODA	Official Development Assistance
OE	Oxford Economics
OECD	Organisation for Economic Cooperation and Development
OIS	Overnight Indexed Swap
OLS	ordinary least squares
ONS	Office for National Statistics
OPTs	Occupied Palestinian Territories
PAYE	Pay-As-You-Earn
PBR	Pre-Budget Report
PLC	public limited company
PMI	Purchasing Managers' Index
PPA	Programme Partnership Agreement
ppt	percentage point
PRB	Pay Review Body
PSBR	public sector borrowing requirement

PSGI	public sector gross investment
PSNB	public sector net borrowing
PSNI	public sector net investment
QE	quantitative easing
R&D	research and development
RPI	retail price index
SDLT	stamp duty land tax
SDSR	Strategic Defence and Security Review
SID	Statistics on International Development
SMEs	small and medium-sized enterprises
SNP	Scottish National Party
SPA	state pension age
TAXBEN	IFS tax and benefit model
TfL	Transport for London
TFP	total factor productivity
TME	Total Managed Expenditure
UEL	upper earnings limit
UK	United Kingdom
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNIDO	United Nations Industrial Development Organisation
UNISDR	United Nations International Strategy for Disaster Reduction
US	United States
VAT	value added tax