Institute for Fiscal Studies

The IFS Green Budget

Funded by the Nuffield Foundation

February 2014

Edited by
Carl Emmerson
Paul Johnson
Helen Miller

With analysis from

OXFORD ECONOMICS

"However uncomfortable it may be, the Institute for Fiscal Studies tend to get things right and they tend to do things in a fair way"
Ed Balls

"The much respected independent Institute for Fiscal Studies"
George Osborne

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The IFS Green Budget

February 2014

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funded by

The Nuffield Foundation
28 Bedford Square
London
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with support from

The Economic and Social Research Council (ESRC) through the Centre for Microeconomic Analysis of Public Policy
(CPP, reference RES-544-28-5001)
http://www.esrc.ac.uk/

analysis from

Oxford Economics
Abbey House, 121 St Aldates
Oxford OX1 1HB
http://www.oxfordeconomics.com/

Printed by
Pureprint Group, Uckfield

ISBN 978-1-909463-35-6

Foreword

The Nuffield Foundation is again pleased to fund much of the work that informs the IFS Green Budget, as well as its publication.

For 32 years the Institute for Fiscal Studies has produced a "Green Budget" – so called by analogy with a 'green paper' compared to a 'white paper'. Published about a month before the Chancellor's Budget Statement and free of political influence, it provides a detailed and independent analysis of the public finances and Budget policy options. It also plays a crucial role in informing public debate and scrutiny of the Chancellor's Budget in the weeks and months that follow.

The Green Budget has a wide scope – comprising eleven chapters covering all major areas of UK economic policy. The independence of the IFS, along with its ability to consider alternative policy options and a wider range of data than those from government, means its contribution is distinct from that of the Office for Budget Responsibility and other organisations.

The Foundation supports the Green Budget in order to promote better and wider debate of the annual Budget and other policy options, based on the transparent presentation of evidence that others can use to formulate their own responses. Some of the work IFS draws on for the Green Budget is funded by the Economic and Social Research Council as part of its support for the IFS Centre for the Microeconomic Analysis of Public Policy, but the Nuffield Foundation is delighted to support the additional analyses and the publication and launch of this important annual volume.

Professor David Rhind CBE FRS FBA
Chairman of the Trustees of the Nuffield Foundation

The Nuffield Foundation is an endowed charitable trust that aims to improve social well-being in the widest sense. It funds research and innovation in education and social policy and also works to build capacity in education, science and social science research. The Nuffield Foundation has funded this project, but the views expressed are those of the authors and not necessarily those of the Foundation. More information is available at http://www.nuffieldfoundation.org.

Preface

Welcome to the Institute for Fiscal Studies (IFS)'s 2014 Green Budget. In the following pages, we discuss some of the many issues confronting Chancellor George Osborne as he prepares his fifth Budget. Despite the relatively positive recent data, with growth increasing and unemployment falling, the largest challenge for the Chancellor remains having to contend with the consequences of the Great Recession for the public finances and household incomes.

In this book, we examine in detail some of the key risks to the Chancellor's plans for reducing the deficit. We set out in detail what has been happening in the housing market and the role of government policies aimed, at least in part, at boosting homeownership. We also document what has been happening to incomes across the distribution and compare this with the rates of inflation that different types of households have been facing. We examine how the UK energy market operates, and discuss in detail policy options for increasing state support for childcare, improving the taxation of private pensions and reforming business rates.

As ever, we collaborate with others to write the macroeconomic chapters. We are grateful to Oxford Economics, and in particular to Andrew Goodwin, Oliver Salmon and Adam Slater, for the chapters they have contributed on the outlook for the UK economy and the global economy.

This year we offer our particular thanks to the Nuffield Foundation for the funding it has provided to support the Green Budget. Our most important aim for the Green Budget is to influence policy and inform the public debate. It is particularly appropriate then that it should be supported by the Nuffield Foundation, for which these are also central aims.

We are also extremely 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.

Paul Johnson

Director, Institute for Fiscal Studies

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- The financial crisis and associated recession led to a significant deterioration in the outlook for the UK's public finances. We estimate, based on official forecasts, that this worsening amounts to 8.6% of national income.
- This picture was broadly unchanged by the Office for Budget Responsibility (OBR)'s December 2013 forecasts, despite upwards revisions to growth in the near term. Borrowing this year is forecast by the OBR to be £111 billion, which is still £51 billion higher than it forecast back in 2010.
- The package of tax increases and spending cuts announced since the March 2008 Budget is estimated to reduce public sector borrowing by 9.1% of national income by 2017–18. This would more than offset the estimated increase in borrowing from the crisis.
- Despite this, the Chancellor pencilled in a further 0.9% of national income cut to public spending in 2018–19 in the 2013 Autumn Statement. As a result, the OBR's forecast is for a budget surplus in 2018–19, which would be the UK's first since 2000–01.
- Public sector net debt in 2018–19 is projected to still stand at nearly £1.6 trillion, or 76% of national income. This will constrain government policy for many more years to come, since such a high level of debt (at least relative to recent decades) involves substantial annual debt interest payments and leaves the government more exposed to increases in interest rates.
- If the government's plans through to 2018–19 are delivered, and the resulting levels of non-interest spending and revenues are maintained going forwards, then we project that debt as a share of national income would decline through to the middle of this century before starting to increase again due to the effects of the ageing population.

Chapter 2
Public finances: risks on tax, bigger risks on spending?

- We are now four years through what is expected to be a nine-year fiscal consolidation. If this is implemented as planned, and if the current economic forecasts turn out to be correct, then by 2018–19 the government would be running a budget surplus. But there remain significant risks to both receipts and spending.
- There is considerable disagreement among independent forecasters over how much spare capacity there currently is in the economy. But the scale of the Chancellor's fiscal consolidation plan means that even, if the most pessimistic forecasters are correct, the planned consolidation would still be sufficient to offset the estimated damage done to public borrowing by the financial crisis. If the most optimistic assessment of the amount of spare capacity in the economy is right, all spending cuts planned beyond 2014–15 could be reversed and the deficit would still be on course to return to pre-crisis trends.

- The increase in revenues over the next five years is forecast to come largely from income tax and capital taxes. The UK is increasingly reliant on a few very-high-income individuals for the former – for example, the top 1% of contributors (around 300,000 individuals) contributed 27.5% of income tax in 2011–12 – while capital tax receipts are particularly hard to forecast and are also disproportionately paid by a relatively small number of individuals.
- The OBR forecasts also assume that fuel duty rates are increased in line with inflation after the general election, which is something the coalition government has never done. Freezing fuel duties through to 2018–19 would cost £4.2 billion.
- Perhaps the greatest risk to the fiscal consolidation is that whoever forms the next government might be unwilling (or unable) to deliver the currently planned cuts to public spending. Even with the Chancellor's mooted £12 billion of further cuts to social security benefits, the implied cuts to public services from 2010–11 to 2018–19 would mean departments facing budget cuts of 17.1% on average. If 'protection' for schools, the NHS and aid spending were continued through to 2018–19, other 'unprotected' departments would be facing average cuts of 31.2%.
- The spending squeeze will be exacerbated by the £6 billion a year of additional commitments made by the government for the years after 2015–16. In addition, a growing and ageing population will increase pressures. The ONS projects that the overall population will grow by about 3.5 million between 2010 and 2018, with the population aged 65 and over growing by 2.0 million. One implication of this is that, even if NHS spending were 'protected' and frozen in real terms between 2010–11 and 2018–19, real age-adjusted per capita spending on the NHS would be 9.1% lower in 2018–19 than in 2010–11.

Chapter 3
The global economy

- The outlook for the global economy in 2014 is for an improving growth picture overall, but with considerable divergences in economic performance among key economies and regions.
- We forecast US growth to top 3% in 2014, with a similar pace of growth next year. Consumer spending is picking up and will be supported by improved labour market conditions and wealth gains. An easing of fiscal austerity will also bolster US growth from 2014.
- The outlook is more mixed in the Eurozone, where trends among member states are very varied. A reduced fiscal squeeze will help growth from 2014, as will improving external demand. But while Germany should post respectable growth this year, growth will remain weak at around 0.5% in Italy, France and Spain.
- Emerging economies slowed in 2013 and while we expect Chinese growth to level off at around 7% in 2014–15, growth is set to remain below trend this year in Brazil, Russia and India, where structural obstacles to continued rapid growth are becoming evident.
- World growth is forecast to rise from an estimated 2.2% in 2013 to 2.9% in 2014 and 3.2% in 2015, representing a gradual recovery towards a trend rate of expansion.

- A key downside risk to this forecast is the possibility of a slide into deflation in the Eurozone. Plausible upside risks relate to a faster recovery in the US and to more decisive reforms in the Eurozone and Japan.

Chapter 4
The UK economic outlook

- The UK recovery finally gathered pace in 2013, led by the consumer and the housing market. We expect quarterly growth rates to slow a little through 2014, as the economy makes the transition towards more balanced growth, but our forecast shows growth averaging 2.6% over the year as a whole. The contribution of the consumer is expected to ease, given that there is little scope for households to reduce their savings any further and that the recovery in real incomes is likely to be steady rather than spectacular. But the outlook for both business investment and exports is likely to improve from this year, as the global recovery strengthens.
- We judge that there is currently a significant amount of spare capacity in the UK economy, with the output gap estimated to have averaged 5% of potential output in 2013. The financial crisis is likely to have caused substantial permanent damage to potential output, though our estimates for the scale of this damage are smaller than those of most other forecasters, including the Office for Budget Responsibility (OBR). Such a large output gap will provide the conditions for the recovery to gain momentum over the medium term, with GDP growth expected to average 2.6% a year from 2014 to 2018. Our forecasts are not dissimilar to the OBR's, but are above the market consensus over the longer term.
- The risks around our forecast are more balanced now than they have been since the financial crisis. Domestically, the main uncertainties surround the housing market and the high level of consumer indebtedness. Externally, the most likely upside scenario would involve stronger recoveries in the US and Eurozone, which would boost UK export growth. On the downside, the biggest threat would be if the Eurozone were to slide into deflation; such a scenario could force Greece out of the Eurozone, with the UK's close trade and financial linkages with the Eurozone meaning that the UK recovery would slow sharply.

Chapter 5
Housing market trends and recent policies

- In the last year, the government has initiated a number of housing policies including equity loans and mortgage guarantees via the 'Help to Buy' programme and a revamped 'Right to Buy' scheme for council house tenants. In the short run, these policies were introduced to stimulate demand for housing and to revitalise the construction industry. They also reflect a longer-term objective, dating back to at least the 1980s, of encouraging wider homeownership.
- Whether influenced by these policies or by faster-than-forecast growth in economic activity, the UK housing market has picked up significantly in the past year, with prices increasing across most of the UK in 2013. However, prices remain about 9% below their previous peak in nominal terms, and 25% below in real terms. Only in London have prices reached their previous nominal peak – although they are still

17% lower in real terms. Other indicators of housing market activity have also seen a marked upturn.

- There is concern among commentators as to whether a housing 'bubble' is developing in the UK. A bubble – as opposed to simply an upturn in prices – arises when price trajectories are driven largely by speculative buying based on expected future price increases, rather than by economic 'fundamentals' such as improving underlying economic conditions and easier access to finance. On balance, the data currently available do not provide clear evidence of a housing bubble, even in London – though the likelihood of a bubble is greatest there.
- The 'Help to Buy' scheme aims to increase homeownership by reducing the deposit required to purchase a house, either via an equity loan (which directly reduces monthly repayments) or via insurance to lenders on high loan-to-value mortgages. Help to Buy will likely exert an upwards pressure on prices. Whether this ultimately makes it more difficult for first-time buyers to access homeownership depends on whether this boost to price expectations leads to an increase in supply. The government should consider targeting the policy on first-time buyers and/or reducing the cap on eligible property values (currently £600,000) in order to increase the policies' impact on affordability. In addition, if the government is concerned about a potential house price bubble, it should consider reducing the cap for both schemes and/or restricting the mortgage guarantee to new builds.
- 'Right to Buy' has been an extremely influential factor behind the expansion of homeownership since the early 1980s. Given the excess demand for public housing in some localities, there can be a trade-off between the goal of promoting homeownership through council house sales and retaining sufficient public housing to meet demand. The government seems to have signalled a major shift towards the goal of increasing homeownership, by raising maximum discounts across the country. As yet, it is unclear whether the policy will achieve the desired balance between increasing homeownership and minimising reductions in social housing.

Chapter 6
The squeeze on incomes

- Average living standards have fallen dramatically since the recession, as income growth has failed to keep pace with the rate of inflation. Our projections suggest that real median household income in 2013–14 is more than 6% below its pre-crisis peak. This fall in average incomes has largely been driven by declines in real earnings.
- Households have differed in their inflation experiences. On average, low-income households have benefited less from falls in mortgage interest rates and have been hit harder by high food and energy price inflation than high-income households. We estimate that over the period 2008–09 to 2013–14, the inflation rate for low-income households was, on average, 1 percentage point higher per year than that for high-income households. As a result, we calculate that the average price level faced by households in the bottom quintile rose by 7.1 percentage points more than that faced by households in the top quintile between 2007–08 and 2013–14.
- The declines in living standards experienced by low- and high-income households appear very similar once differences in their inflation rates are accounted for. When we assume that the living costs of all households grew in line with the CPI, it appears

that the fall in real income between 2007–08 and 2013–14 was 6.3 percentage points larger at the 90th percentile of the income distribution than at the 10th percentile. However, once the differences in their inflation rates are taken into account, we estimate that the fall at the 90th percentile was only 0.7 percentage points bigger.

- Looking forward, there is little reason to expect a strong recovery in living standards over the next few years. According to the Office for Budget Responsibility, real earnings are not expected to return to their 2009–10 levels until 2018–19. Further discretionary cuts to benefits and tax credits will put downward pressure on real incomes, particularly for low-income households. Given this, it seems highly unlikely that living standards will recover their pre-crisis levels by 2015–16.

Chapter 7
Policies to help the low paid

- Low pay is more common among groups whose productivity is lower. This does not mean that low pay is entirely due to low productivity – it may reflect the ability of some employers to use market power to pay workers less than their productivity.
- Policymakers should be clear about whether they want to help low-paid individuals or low-paid families. A substantial minority (30%) of those who are low paid have partners who are not low paid. Hence, policies that help all low-paid individuals would also help some relatively high-income families.
- Further increases to the income tax personal allowance would not be particularly effective in helping the low paid. The lowest-income 17% of workers will pay no income tax in 2014–15 anyway. A large majority of the giveaway would go to families in the top half of the income distribution, or with no one in work (mostly pensioners). And many of the lower-income gainers would gain only partially as their universal credit and/or council tax support would be automatically reduced.
- Raising the employee NICs threshold would be a better way of supporting the low paid, and strengthening their work incentives, through the direct tax system. Aligning this threshold with the personal allowance would cut taxes for 1.2 million workers with earnings too low to benefit from an increase in the personal allowance, would benefit only workers, and would simplify the direct tax system.
- In-work benefits provide a more precise and cost-effective way of supporting low-earning working families than changes to direct taxes. Raising by 20%, from currently planned levels, the amounts that a family can earn before universal credit starts to be withdrawn would exclusively benefit this group. It would be a bigger giveaway in entitlements to working families in the bottom three income deciles than the gains to that group of raising the personal allowance to £12,500, despite costing £10 billion per year less. But it would make 200,000 more families eligible for universal credit (although some may not take up this entitlement), leading to weaker incentives for some people to earn more and higher administration costs.
- The Chancellor favours real increases to the National Minimum Wage (NMW) to help those on low pay. Although the NMW appears not to have had negative employment effects so far, increases should be considered carefully.

- The Labour Party plans to incentivise employers to increase the wages of all their workers to the Living Wage. Despite its voluntary nature, the policy may distort employers' behaviour in undesirable ways: for example, firms may not employ some low-paid workers who they otherwise would have, as in order to get the tax rebate all employees must be paid the Living Wage. Employers may also simply alter the timing of wage increases to benefit from the policy, leaving pay unaffected in the long term. Overall, it is unclear whether the policy would raise revenue for the exchequer, as claimed by the Labour Party.

Chapter 8
State support for early childhood education and care in England

- Policymakers have devoted increasing attention to the challenge of enabling parents to access high-quality, cost-effective early childhood education and care (ECEC) over the last 15 years. The government currently subsidises childcare costs in England in three major ways: employer-provided vouchers that are tax advantaged; support for low-income working families via tax credits; and access to a free part-time nursery place for all 3- and 4-year-olds and disadvantaged 2-year-olds.
- The last Budget announced that tax relief for employer-provided vouchers would be phased out in favour of a more accessible scheme that is equivalent to making childcare spending free of basic-rate income tax. It also announced a number of changes to the way in which childcare support will be provided via universal credit. Because of the way these two systems will interact, there will effectively be three different regimes subsidising working families' spending on childcare from 2015, each with different rules. It would be simpler if these different schemes were combined into one.
- As well as the government's latest reforms, policies to help families meet the costs of childcare have received increasing attention from other parties, with proposals to extend free entitlement to nursery education (at least for some families) having been made by both Labour and the SNP. Yet despite increasing cross-party support, there is a remarkable lack of clarity over the objectives and evidence underlying the current public debate.
- It is not clear whether the main aims are to improve child development, increase parental labour supply or reduce socio-economic inequalities: a clear overarching strategy would help bring some much-needed focus to the debate in this area. And while there is good evidence that high-quality childcare benefits children's development, especially children from less advantaged backgrounds, robust evidence on the impact of ECEC on parents' employment is surprisingly limited. We also know very little about the impact of the policies to support childcare that have been introduced in England in recent years.
- Given all these uncertainties, the case for further extending universal provision of ECEC is in fact not as easy to make as would seem to be implied by the growing consensus in this area. There is a danger that the current policy bidding war – welcome as it will be to many parents looking for additional support – will result in ill-targeted and inefficient use of scarce resources. We have already stumbled a long way in the dark in this policy area. It is time to stop stumbling, shine a light on the policy landscape, and plot an effective route forward.

Chapter 9
What is driving energy price rises?

- There is much discussion and debate about increases in energy bills, often without clear explanation of the main drivers of the increases.
- Policy debates tend to centre around two potentially interlinked questions. Are prices higher than they should be because markets are not effectively competitive? Are prices being driven up too far, or at too fast a pace, because of the push for secure low-carbon energy?
- There are many critics of energy companies, the regulator and the government, but analysis of what the problem is remains piecemeal and there is no agreement on the best way forward. This is perhaps not surprising as the industry is complex and information transparency is a problem.
- Given the lack of confidence in the industry and the policymakers, whether well founded or not, the time may have come for the independent Competition and Markets Authority to undertake a wholesale review of the market.
- Any such review needs to consider the sector in the round, including the impact of existing policy, to determine what the problem is and what the scale of any detriment is. Until the problem is better understood, there is inevitable risk in pushing forward with short-term policies that could potentially create their own distortions.
- Reducing social and environmental charges within energy bills risks increasing the cost of meeting government targets for reduced carbon emissions. Carbon prices are lower for households than for businesses and are much lower for gas consumption than for electricity. This is inefficient. There should be more focus on achieving a consistent carbon price as an efficient part of policy to reduce emissions.

Chapter 10
Taxation of private pensions

- In 2012, about £70 billion was contributed to funded private pensions, which had a total fund value in 2011 of over £2 trillion. The amount contributed is likely to rise as automatic enrolment goes forward. The way in which pensions are taxed, therefore, is crucially important. Yet this is an area beset by misunderstanding.
- One needs an appropriate benchmark with which to compare the current system. A good starting place would be a system in which contributions to private pensions are free of tax, no tax is levied on any returns, but tax is paid on all pension income when it is received.
- The current UK tax system is overly generous compared with this benchmark system in two ways. First, up to one-quarter of a private pension can be taken entirely free of income tax. Second, roughly three-quarters of pension contributions – those made by employers – escape National Insurance contributions (NICs) entirely. Two factors work in the opposite direction. First, limits apply to the amounts that can be saved in a private pension without penalty. Second, while returns are free of tax at the personal level, these returns are still likely to be affected by both corporation tax and stamp duties.

- HM Revenue and Customs (HMRC) estimates that the net cost of tax relief on pensions provided by income tax and NICs in 2011–12 was £38.3 billion. But this is relative to a benchmark where individuals are not able to benefit from tax-rate smoothing by only paying tax on pension income when it is received and where the system encourages individuals to spend rather than to save. A better estimate suggests the true cost of income tax and NICs relief on pension saving is less than half the official estimate. Taking into account the impact of taxes at the corporate level – corporation tax on normal returns and stamp duty on purchases of shares and property – would reduce this figure further.
- HMRC estimates also suggest that a disproportionate amount of tax relief goes to those on high and very high incomes. But these data are not a good guide to how reliefs are genuinely distributed: the fact that a large slice of up-front relief goes to high-income individuals purely reflects the fact that they make a large proportion of pension contributions and pay a large share of income tax revenues.
- Reducing the annual allowance or the lifetime limits, or restricting income tax relief on pension contributions in any other way, would be expensive to administer and arguably unfair and would inappropriately distort behaviour. Better ways to boost revenues would be to tackle the two elements of the system that look generous relative to a reasonable benchmark – i.e. the tax-free lump sum and the generous NICs treatment of employer pension contributions. As far as NICs are concerned, they could be imposed on employer contributions. But there is a case for, instead, introducing a small and increasing levy on pensions in payment.
- Consideration could also be given to offsetting some of the impact of corporation tax and stamp duties on the returns achieved by pension funds.

Chapter 11
Business rates

- Non-domestic rates – business rates – are levied on the estimated market rental value of most non-residential properties. They raised £26.1 billion in 2012–13, 4.5% of total revenue. Recurrent taxes levied on business property are higher in the UK than elsewhere in the OECD.
- Taxing business property inefficiently discourages the development and use of business property. If possible, it would be better to tax the value of the land excluding the value of any buildings on it, which would have no such effects.
- Business rates are currently based on 2008 rental values. Property valuations are normally updated every five years. As a result, bills do not rise and fall with the economic cycle like most other taxes do, and the proportion of total revenues coming from business rates has risen from 3.9% to 4.5% since before the recession.
- Average bills are limited to rise with the retail price index (RPI), a somewhat discredited measure of inflation. They therefore levy an ever-declining share of property values, which tend to rise more quickly.
- Since 2010, the government has made a number of changes to business rates. The revaluation of properties that was due to take effect in 2015 has been delayed until 2017 to avoid sharp changes in bills. This will probably delay, rather than remove, large changes in bills. Retail premises in northern England and offices in London,

among others, look like being losers from this delay. It would be better to move in the opposite direction: frequent, regular revaluations would mean changes in bills were small, gradual and routine. Rateable values should also be indexed between revaluations to keep them more in line with market rents.

- Relief for low-value properties was made 'temporarily' more generous in 2010, and has been extended every year since. In 2014, some retail properties will also become eligible for temporary relief. These temporary reliefs lack a clear justification and add to the increasing complexity and instability of the system.
- Since April 2013, local authorities in England have been able to retain (for a limited period) between a quarter and a half of the rates revenue raised from new developments. The idea is to provide incentives to local authorities to allow business development, while preventing large disparities arising between authorities' resources. The government could go further by allowing local authorities to retain a larger share of revenues or by giving them more power to increase business rates.

1. Public finances: the long road ahead

Rowena Crawford, Carl Emmerson and Soumaya Keynes (IFS)

Summary

- The financial crisis and associated recession led to a significant deterioration in the outlook for the UK's public finances. We estimate, based on official forecasts, that this worsening amounts to 8.6% of national income.
- This picture was broadly unchanged by the Office for Budget Responsibility (OBR)'s December 2013 forecasts, despite upwards revisions to growth in the near term. Borrowing this year is forecast by the OBR to be £111 billion, which is still £51 billion higher than it forecast back in 2010.
- The package of tax increases and spending cuts announced since the March 2008 Budget is estimated to reduce public sector borrowing by 9.1% of national income by 2017–18. This would more than offset the estimated increase in borrowing from the crisis.
- Despite this, the Chancellor pencilled in a further 0.9% of national income cut to public spending in 2018–19 in the 2013 Autumn Statement. As a result, the OBR's forecast is for a budget surplus in 2018–19, which would be the UK's first since 2000–01.
- Public sector net debt in 2018–19 is projected to still stand at nearly £1.6 trillion, or 76% of national income. This will constrain government policy for many more years to come, since such a high level of debt (at least relative to recent decades) involves substantial annual debt interest payments and leaves the government more exposed to increases in interest rates.
- If the government's plans through to 2018–19 are delivered, and the resulting levels of non-interest spending and revenues are maintained going forwards, then we project that debt as a share of national income would decline through to the middle of this century before starting to increase again due to the effects of the ageing population.

1.1 Introduction

The recent financial crisis dealt a significant blow to the productive capacity of the UK economy, and consequently to the public finances. In the absence of any policy action in response, borrowing would have remained at unsustainably high levels. Instead, we are now four years through what is currently planned to be a nine-year fiscal consolidation. If the consolidation is implemented as planned, and if the current economic forecasts turn out to be correct, then by 2017–18 the government will have offset all of the permanent damage done to borrowing and by 2018–19 be running a budget surplus. The level of public debt, however, will still be substantial and is likely to constrain policy for at least the following decade.

In this chapter, we describe why some form of significant consolidation is necessary (Section 1.2), the consolidation that is currently planned (Section 1.3) and how the 2013

Autumn Statement changed the plan – in particular, the impact this had on the long-run outlook for the public finances (Section 1.4). Section 1.5 concludes. In Chapter 2, we discuss in more detail the risks and uncertainty surrounding the government's planned fiscal consolidation.

1.2 Why a fiscal consolidation is required

Prior to the financial crisis and recession, in the 2008 Budget the then Chancellor, Alistair Darling, forecast that public sector net borrowing would be 2.9% of national income in 2008–09, falling to 1.3% of national income by 2012–13. This level of borrowing would have been sustainable for the UK in the medium term, in the sense that it would have put debt on a declining path as a share of national income from a forecast peak of nearly 40% in 2010–11.

These forecasts turned out to be far too optimistic, as they did not (and could not) foresee the significant adverse effects on the public finances of the financial crisis and associated recession.[1] Panel A of Figure 1.1 shows spending and revenues as a share of national income between 1996–97 and 2007–08, and illustrates (dashed lines) how these would have looked up to the end of the current forecast horizon, excluding the estimated direct impact of fiscal policy measures announced since Budget 2008.[2] As GDP collapsed, a hole opened up in the public finances, representing a significant difference between revenues and spending.

Receipts fell more quickly than national income, and therefore fell from their 2007–08 share of national income. The reason for this is that the crisis had a disproportionately negative effect on relatively tax-rich activities such as the profits of the financial sector and the incomes of some of its employees. The biggest effect of the crisis and recession, however, was on spending as a share of national income, which increased markedly up to 2009–10. This was because the huge downward shock to the size of the economy in the crisis meant that the previously-set cash spending plans suddenly represented a much larger share of national income than had been anticipated.

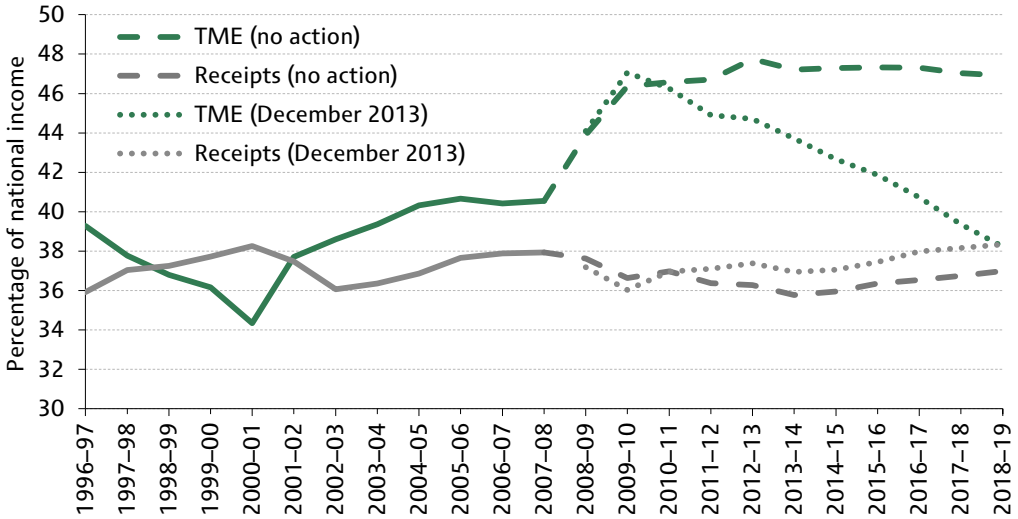
Such an effect is not surprising – it is an automatic consequence of a recession. However, one might expect the loss of output experienced in a recession to be temporary, with economic growth being higher than normal in subsequent years so that the size of the economy catches up to its pre-recession 'trend' level. The increase in spending as a share of national income would therefore be expected to unwind over time, as the economy bounces back and grows more quickly than spending (without requiring policy changes). However, much of the decline in national income relative to forecasts made prior to the financial crisis is thought to represent a permanent rather than a temporary downgrade in the UK's economic prospects (a feature which is not exclusive to this recession: a revision of this type was also made after the recession of the early 1990s).

[1] This is discussed in more detail in Office for Budget Responsibility, 'Estimating the UK's historical output gap', Working Paper 1, 2011, http://budgetresponsibility.org.uk/wordpress/docs/WorkingPaperNo1-Estimating-the-UKs-historical-output-gap.pdf.

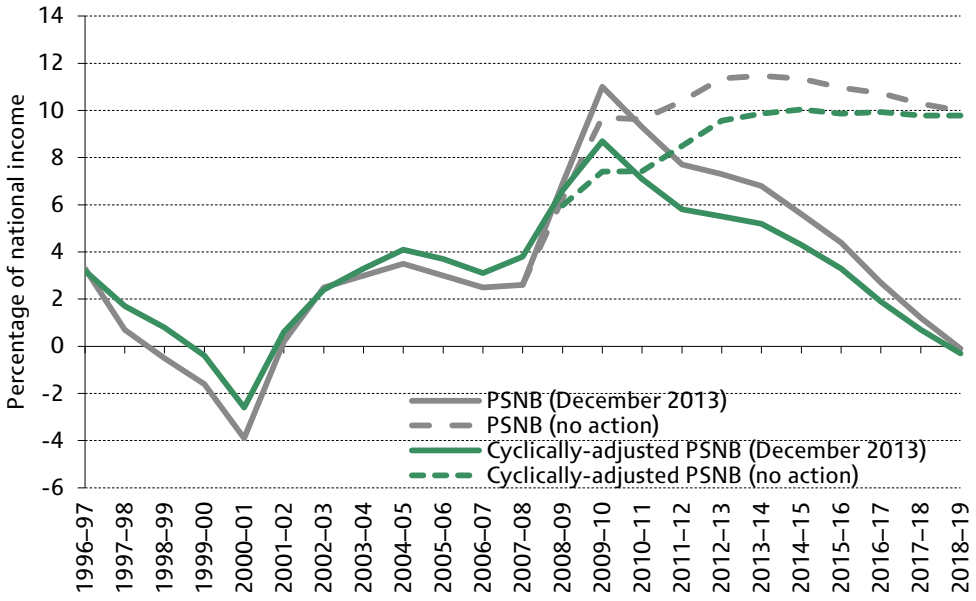
[2] The method used to calculate spending in the absence of policy changes is described in Box 1.1 in the next section.

Figure 1.1. UK public finances – with and without policy action

Panel A: Revenues and spending



Panel B: Borrowing



Note: PSNB is public sector net borrowing. Cyclically-adjusted PSNB shows structural borrowing (i.e. borrowing unrelated to the current strength or weakness of the economy relative to its trend level). Figures exclude transfers relating to the Asset Purchase Facility (APF) and the Royal Mail Pension Fund.
Source: Authors' calculations using all HM Treasury Budgets, Pre-Budget Reports and Autumn Statements between March 2008 and December 2013.

The latest official forecast for trend GDP suggests that by 2018–19 the sustainable level of UK output will have been permanently reduced by around 16.7% – a total of £281 billion in today's terms – compared with the Treasury's projections made in March 2008. Of this, 1.7 percentage points (£28 billion) reflects revisions to official forecasts for the sustainable level of output in 2007–08, while the remaining 15.0 percentage points (£253 billion) reflects downwards revisions to trend growth after the crisis began to bite. The permanent reduction in the size of the economy means that, in the absence of policy

action, public spending would have remained at its new higher level as a share of national income (and would only have fallen gradually over time to the extent that economic growth exceeded spending growth). Tax receipts would still have been 1.0% of national income lower than their 2007–08 share by 2018–19.

Panel B of Figure 1.1 illustrates that, in the absence of any new policies announced since Budget 2008 that would increase taxes or cut spending, we estimate that public sector net borrowing would have been as much as 10.0% of national income by 2018–19. Of that, only 0.2 percentage points is forecast to be the result of the economy operating slightly below trend at that point ('cyclical borrowing'), leaving 'structural borrowing' (otherwise known as 'cyclically-adjusted borrowing') of 9.8% of national income – borrowing that would not be expected to disappear automatically as the economy returns to its trend level. This is 8.6% of national income greater than the medium-term level of structural borrowing implied by the pre-crisis (i.e. March 2008 Budget) forecasts.

For an economy such as the UK, this level of borrowing would have been unsustainable on an ongoing basis. Public sector net debt would have increased markedly year-on-year, likely surpassing 100% of national income before the end of the current decade, and 200% within the next two decades.[3]

The extent of the permanent damage done to the public finances (and therefore the hole to be filled) depends on the extent of the permanent reduction in UK national income due to the financial crisis. This is discussed in more detail in Chapter 2, though it should be noted here that even those who are now more optimistic about the UK's growth prospects still expect the UK economy to have been significantly, and permanently, adversely affected by the crisis.

The conclusion that a significant fiscal tightening was required in the wake of the recent financial crisis and recession was not lost on either the last Labour government or the current coalition government, both of which announced policies to increase tax revenues and reduce public spending by significant amounts in order to return borrowing to a sustainable level. Disagreements between the major parties, such as they exist, focus on the precise timing and perhaps composition of the tightening rather than on the eventual need for one.

The composition of the fiscal tightening currently planned is discussed in more detail in the next section, but Figure 1.1 pre-empts this by illustrating in Panel A the latest forecasts for tax receipts and public spending as shares of national income (in other words, taking into account the net effect of all policies introduced by the Labour and coalition governments since Budget 2008). Tax receipts are forecast to increase to 38.3% of national income by 2018–19 (equal to their share in 2000–01), while spending is forecast to decline to 38.2% of national income (roughly the same share as in 2002–03). The net effect of this is shown in Panel B: the permanent increase in structural borrowing as a result of the financial crisis is forecast to be eliminated by 2017–18 and, in fact, the government is forecast to have an overall surplus of 0.1% of national income in 2018–19.

These estimates all take into account, as far as possible, the latest official forecasts and published official estimates of the impact of tax and spending changes on borrowing. Of course, these estimates may not be accurate, and they are certainly not without controversy. One possibility is that the tax increases, and spending cuts, implemented

[3] Of course, such an outcome is highly unlikely to occur since the financial markets would almost certainly force action on the government before such a point was reached.

since April 2010 have not reduced the deficit by as much as intended – for example, because they had a more detrimental effect on economic activity than the Office for Budget Responsibility (OBR) assumes. If this were the case, then Figure 1.1 would overstate both the level of borrowing without policy action, and the role of fiscal tightening in reducing the deficit. Further detail on the OBR's estimate of the impact of the fiscal consolidation on growth is provided in the next section.

1.3 The current consolidation plan

The current size and composition of the planned fiscal tightening – that is, the estimated net effect on borrowing of all policies announced since Budget 2008 – are shown in Figure 1.2. (The methodology for estimating the size of the fiscal tightening is described in Box 1.1.) In 2008–09 and 2009–10, the net effect of new policies was actually to increase borrowing, as tax cuts and spending increases were used to help households and to stimulate the economy during the recession.[4] From 2010–11, however, the net effect of new policies was to reduce borrowing, and these reductions in borrowing are projected to increase each year up to 2018–19. By 2017–18 the fiscal tightening is planned to reduce borrowing by an estimated 9.1% of national income – more than offsetting the estimated 8.6% of national income permanent increase in structural borrowing associated with the financial crisis – and by 2018–19 the fiscal tightening is forecast to amount to 10.1% of national income.

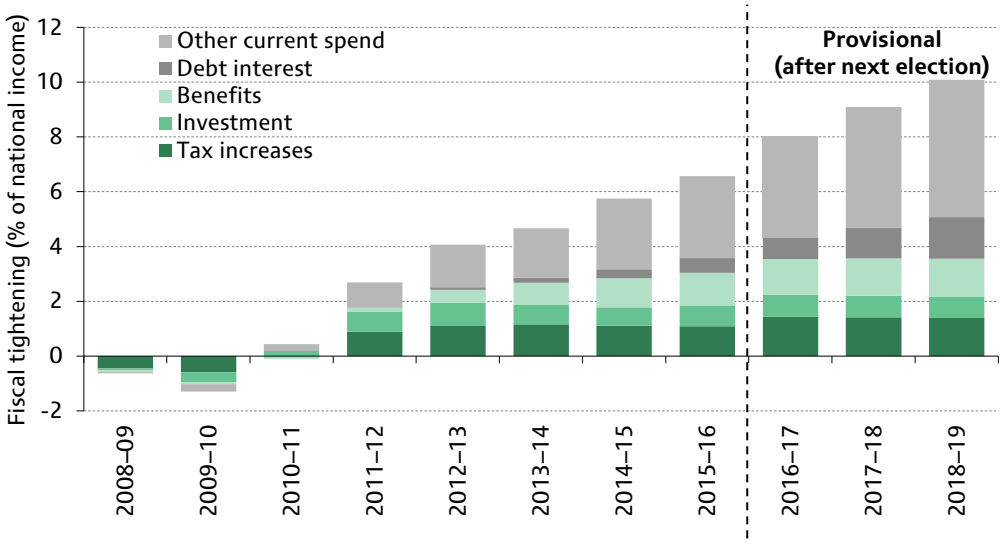
The composition of the planned tightening is currently heavily weighted towards spending cuts. Only 14% of the overall tightening (1.4% of national income) is planned to come from tax increases, while 71% of the overall tightening (7.2% of national income) is to come from lower than planned non-interest spending – 8% from investment spending, 14% from benefit spending and 50% from other current non-interest spending (0.8%, 1.4% and 5.0% of national income respectively).[5] The remaining 15% of the planned tightening comes from lower debt interest spending, which results from the fiscal tightening reducing borrowing and therefore debt compared with if no new policies were introduced since Budget 2008.

Of the total planned tightening, nearly half (46%) is planned to have been achieved by the end of 2013–14. Virtually all of the tightening from tax increases has already been implemented: up to and including 2013–14, tax increases forecast to amount to 1.2% of national income have been put in place. (The largest remaining tax increase will come from the abolition of contracting-out for defined benefit pension schemes in April 2016.) By contrast, a large proportion of the cuts to planned spending is still to come: only 36% of the cuts to planned 'other current spending' (i.e. current spending excluding social security and debt interest payments, which therefore comprises mainly spending on public services) will be in place by the end of 2013–14. Of the cuts to benefits announced by the government, 58% of the forecast spending reduction will be delivered by the end of 2013–14. However, the largest cut arises from indexing most benefits with the

[4] Examples of the stimulus policies used include the temporary reduction in the main rate of VAT from 17.5% to 15% and some one-off boosts to certain social security benefits.

[5] It is important to note that these represent spending cuts relative to the level of spending that would have prevailed in 2018–19 in the absence of any new policies since March 2008, rather than cuts relative to current or previous levels. We assume that spending would have increased in real terms in the absence of policy action. Therefore, cuts that we show relative to the hypothetical 2018–19 level are significantly greater than the cuts relative to actual spending levels in, say, 2010–11.

Figure 1.2. Timing and composition of the fiscal tightening



	Percentage of total planned tightening in place by:								
	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17 (after next election)	2017–18	2018–19
Total	**3**	**27**	**40**	**46**	**57**	**65**	**80**	**90**	**100**
Tax increases	**0**	**64**	**79**	**84**	**80**	**79**	**104**	**102**	**100**
Spending	**4**	**21**	**34**	**40**	**53**	**63**	**76**	**88**	**100**
Investment	23	94	107	90	83	96	99	100	100
Current spend	2	13	27	35	50	60	73	87	100
Benefits	*–8*	*11*	*35*	*58*	*77*	*87*	*95*	*99*	*100*
Debt interest	*0*	*2*	*6*	*12*	*22*	*35*	*52*	*74*	*100*
Other current spend	*5*	*18*	*31*	*36*	*51*	*60*	*74*	*88*	*100*

Note: 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. The high proportion of the planned investment tightening achieved in 2011–12 and 2012–13 is due to departments not spending all of their allocated investment budgets. The high proportion of the tax increases done in 2016–17 and 2017–18 is due to the fact that most tax takeaways are fully in place by this point, while some tax giveaways are estimated to cost the exchequer slightly greater amounts in later years.
Source: Authors' calculations using all HM Treasury Budgets, Pre-Budget Reports and Autumn Statements between March 2008 and December 2013.

consumer price index (CPI) rather than the retail price index (RPI), which delivers an increasing saving over time (as long as the CPI is running below the RPI). By 2013–14, only one-third of the spending cut estimated to be delivered by 2018–19 from this change of indexation will have happened. But of the rest of the announced benefit cuts, 75% will be delivered by the end of 2013–14.

Given that, by the end of 2013–14, we are only forecast to be halfway through the pain of the planned fiscal tightening, there is still significant uncertainty about whether this plan can be delivered. This is particularly true of the cuts to 'other current spending'; while all the required specific tax increases and benefit spending cuts have been announced, spending settlements between departments have not been made beyond 2015–16, and therefore it is not yet clear which public services will bear the brunt of the extra spending

cuts planned between 2016–17 and 2018–19. The risks to spending forecasts (and therefore the planned fiscal consolidation) are considered in more detail in Chapter 2.

The final three years of the currently planned fiscal consolidation (2016–17, 2017–18 and 2018–19) start after the next election, and therefore the size and the composition of the fiscal tightening for those years are only provisional; the next government might have different preferences over the size and source of reductions in borrowing. The Conservative Chancellor, George Osborne, has, for example, expressed a desire for further

Box 1.1. Measuring the size, composition and timing of the fiscal consolidation

The size of the fiscal consolidation arising from tax and benefit changes is taken to be the sum of the official estimates of the impact of tax and benefit policy changes (respectively). These costings are published alongside the policy announcements in Budgets and Pre-Budget Reports / Autumn Statements, and start from existing government policy – including the assumption that tax and benefit thresholds are uprated each year as set out in legislation.

Measuring the size of the fiscal consolidation arising from changes to public service spending is more difficult, and requires us to define a *counterfactual* – what would have happened to levels of spending in the absence of policy change. The fiscal consolidation can then be calculated as the difference between actual (or the latest forecast for) spending and this counterfactual.

For years up to 2014–15, we take as the counterfactual the plans set out in the March 2008 Budget. At that point, the then government had set out plans for overall spending beyond 2010–11 (the end of the then current spending review period) alongside some small medium-term tax increases. The spending plans were for a real-terms increase in current spending, with investment held constant as a share of national income; this implied that overall spending would fall as a share of national income. Extending this same growth assumption up to 2014–15 – the last year for which the last Labour government published official forecasts – provides a counterfactual for these years. To the extent that real spending is less than this baseline, this is part of the consolidation.

Beyond 2014–15, we have no spending plans from the previous government. There are perhaps two obvious counterfactuals we could take. One would involve an assumption that, had the crisis not happened, real-terms spending would have stayed constant. This seems to us an entirely unrealistic scenario; it would have implied the size of the state shrinking and the deficit falling (and, ultimately, a surplus growing) indefinitely. Much more plausible is an assumption that spending would have risen in line with national income; certainly no period since the Second World War has seen a sustained cut to public spending as a share of national income. So, from 2014–15, we take as our counterfactual that total spending grows in line with GDP.

Using this methodology, counterfactual non-investment public service spending is assumed to grow more quickly beyond 2014–15 than before. Therefore the same real-terms cut to this spending between 2014–15 and 2015–16 as between 2013–14 and 2014–15, say, would imply a greater cut relative to the counterfactual and therefore a greater contribution to fiscal consolidation. That is one reason why, on this methodology, we find that a large proportion of cuts to non-investment spending are still to come.

benefit cuts after the next election in order to reduce the proportion of the tightening that would have to come from spending on public services.[6]

The damage done to the UK's public finances by the financial crisis and associated recession clearly required a fiscal tightening to bring public sector borrowing back to a sustainable level. The timing and speed of the appropriate fiscal repair job depend, however, on the extent to which it might affect economic activity. The OBR estimated the impact of the current fiscal consolidation plan on the level of national income in its July 2013 *Forecast Evaluation Report*.[7] In its estimation, the OBR assumed that the economy would respond to fiscal policy in the short run, but that fiscal policy action would have no permanent effect on the potential of the economy. Both assumptions are far from uncontentious; there is no clear consensus either on the size of the short-term 'fiscal multiplier' or on whether fiscal policy in the short run has an impact on the size of the economy in the long run.

Critics of the second assumption have argued that short-term fiscal tightening and the corresponding contraction of the economy have a long-lasting, negative effect on potential output. They argue, therefore, that stimulating demand to restore the economy in the short run may have dynamic supply-side effects.[8] Others argue the opposite, asserting that fiscal contractions actually boost the economy in the long run, as a wider berth is given to the private sector to grow, or that the increased confidence from lower borrowing stimulates activity.[9] In the absence of conclusive evidence, the OBR has decided to use an assumption of zero effect in the long run, but it is important not to forget that this debate exists.

The OBR estimated that the net effect of the fiscal stimulus policies in 2008–09 and 2009–10 was to boost national income temporarily by 0.6% (relative to its path assuming no policy action). In subsequent years, as the fiscal stimulus measures expired and net tax rises and spending cuts were implemented, the OBR estimated that the effect of policies was to reduce the level of national income temporarily, at most by 1.5% (in 2012–13). Because the fiscal consolidation plan is thought by the OBR to have reduced economic output by more in 2012–13 than in 2013–14, the OBR's forecast is for the consolidation to have actually *increased* growth in 2013–14.

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[6] For example: '£12 billion of further welfare cuts are needed in the first two years of next Parliament. That's how to reduce the deficit without even faster cuts to government departments, or big tax rises on people' (https://www.gov.uk/government/speeches/new-year-economy-speech-by-the-chancellor-of-the-exchequer).

[7] The report was published before the 2013 Autumn Statement, and so did not account for the extra tightening announced in December 2013. See chart 2.26 (page 54) and the discussion on pages 50 to 58 of http://budgetresponsibility.org.uk/pubs/FER2013.pdf.

[8] See, for example, J.B. DeLong and L.H. Summers, 'Fiscal policy in a depressed economy', *Brookings Papers on Economic Activity*, Spring 2012, 233–74, http://www.brookings.edu/~/media/Projects/BPEA/Spring%202012/2012a_DeLong.pdf, and a recent conference paper from the IMF: D. Reifschneider, W.L. Wascher and D. Wilcox, 'Aggregate supply in the United States: recent developments and implications for the conduct of monetary policy', http://www.imf.org/external/np/res/seminars/2013/arc/pdf/wilcox.pdf.

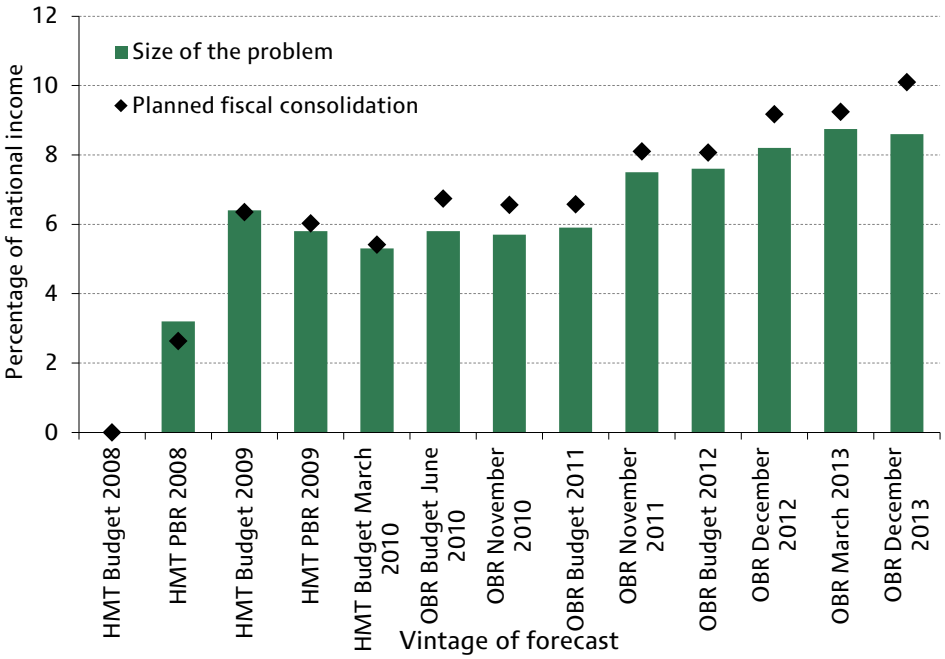
[9] See F. Giavazzi and M. Pagano (1990), 'Can severe fiscal contractions be expansionary? Tales of two small European countries', in O. Blanchard and S. Fischer (eds), *NBER Macroeconomics Annual 1990*, Volume 5, http://www.nber.org/chapters/c10973.

1.4 How the 2013 Autumn Statement changed the picture

The 2013 Autumn Statement contained some good news, in the form of the OBR's widely anticipated upward revisions to its forecasts for economic growth. The OBR increased its forecast for growth in 2013 from 0.6% to 1.4%, and in 2014 from 1.8% to 2.4%. However, while the economic growth is welcome, virtually all of this extra growth is expected by the OBR to be cyclical – in other words, reducing the amount of spare capacity in the economy rather than increasing the underlying potential size of the economy. As it is the latter that is relevant for the underlying state of the public finances, the estimated size of the permanent hole in the public finances is largely unchanged since the 2013 Budget, as is (therefore) the size of the fiscal consolidation required to deal with it. This is illustrated in Figure 1.3, which shows how the estimated size of the permanent fiscal problem has changed at each fiscal event since the problem first became apparent in mid-2008.

Figure 1.3 also illustrates how the size of the planned fiscal consolidation has changed since the 2008 Budget, with the bar furthest to the right showing the latest estimate of the size of the problem and the response planned under current policies. Despite the estimated size of the fiscal problem being largely unchanged between the 2013 Budget and the Autumn Statement, the government announced an increase in the total planned fiscal consolidation in the Autumn Statement of 0.9% of national income. This was achieved largely by announcing a real-terms freeze in total public spending in 2018–19

Figure 1.3. The changing size of the problem and cure: estimated increase in medium-term cyclically-adjusted borrowing (excluding policy response) and the size of the policy response since March 2008



Source: Authors' calculations using all HM Treasury Budgets and Pre-Budget Reports (PBRs) between November 2008 and March 2010 (available at http://webarchive.nationalarchives.gov.uk/20100407010852/http://www.hm-treasury.gov.uk/home.htm) and all OBR Economic and Fiscal Outlooks between June 2010 and December 2013 (available at http://budgetresponsibility.org.uk/economic-fiscal-outlook-december-2013/).

Table 1.1. How borrowing forecasts changed between November 2010 and December 2013 (£ billion)

	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19
PSNB, Autumn Statement, November 2010									
£ billion	**148.5**	**117.0**	**91.0**	**60.0**	**35.0**	**18.0**	n/a	n/a	n/a
Underlying change	–9.1	16.1	32.7	48.8	58.6	65.1	n/a	n/a	n/a
Borrowing forecast, with no measures after 2010 Autumn Statement									
£ billion	**139.4**	**133.1**	**123.7**	**108.8**	**93.6**	**83.1**	**83.6**	**78.1**	**74.9**
Extra policies*	0.0	–15.1	–8.7	2.4	2.4	–4.4	–32.5	–54.7	–77.1
PSNB, Autumn Statement, December 2013									
£ billion	**139.4**	**118.0**	**115.0**	**111.2**	**96.0**	**78.7**	**51.1**	**23.4**	**–2.2**

*'Extra policies' includes departments underspending against their allocated budgets.
Note: PSNB excludes Royal Mail and Asset Purchase Facility (APF) transfers.
Source: November 2010 and December 2013 OBR Economic and Fiscal Outlooks. Measures based on authors' calculations using all HM Treasury Budgets and Autumn Statements between November 2010 and December 2013. Latest out-turns for PSNB from ONS series J5II.

(as described in Box 1.1, this counts as a reduction in public spending against a counterfactual in which total spending grows in line with national income). This extra consolidation is of a similar size to the increases in the planned fiscal consolidation announced in the 2011 and 2012 Autumn Statements (1.5% and 1.1% of national income respectively). But on each of these previous two occasions, the increase in the planned consolidation could be justified as offsetting an increase in the estimated size of the problem that occurred at the same time.

Table 1.1 compares the forecasts for borrowing in the 2010 Autumn Statement (before the large upwards revisions to the estimated size of the problem) with the latest forecasts from the 2013 Autumn Statement. At the time of the November 2010 Autumn Statement, the OBR forecast that borrowing would fall from £148.5 billion in 2010–11 to £18.0 billion in 2015–16. However, the deterioration in forecasts for the economy since then resulted in forecast borrowing being revised up. Since only an additional £4.4 billion of policy measures have been announced for 2015–16 in response to this worse outlook, borrowing is now forecast to only fall to £78.7 billion in 2015–16. However, the sizeable additional tightening to come in following years would, if implemented, more than offset all of the increase in forecast borrowing since November 2010, and is projected to leave the government running a surplus in 2018–19.

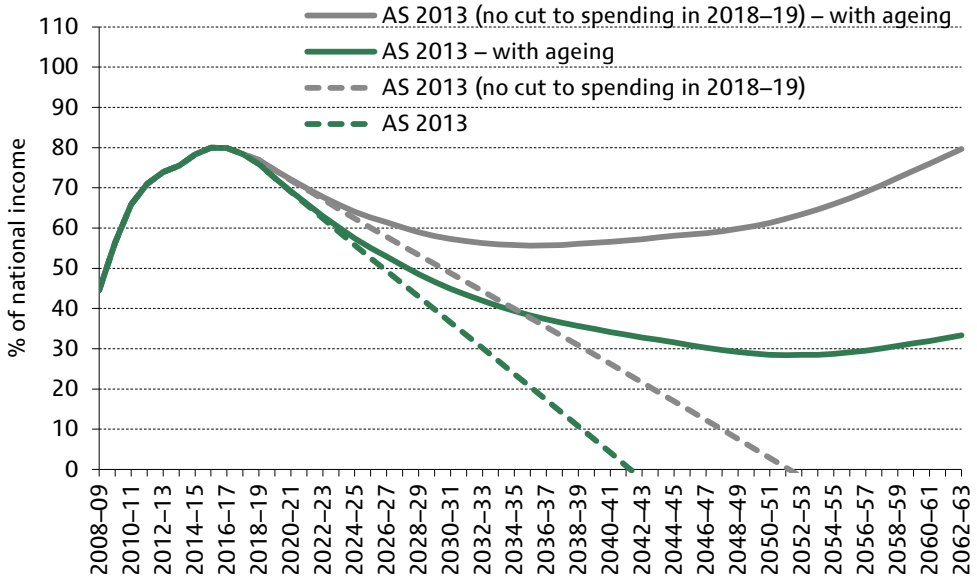
The Chancellor's objective in announcing additional fiscal tightening in the 2013 Autumn Statement, when there was no increase in the estimated size of the permanent problem that needed dealing with, was apparently to increase the rate at which public sector net debt as a share of national income would decline. The Chancellor has indicated that he would like all of the additional tightening to come from reduced spending rather than increased taxes confirming that he aims not just to deal with the deficit but also to reduce spending further. As he said in a speech at the start of the year, 'Our long term economic plan has five key parts to it. The first is to go on reducing the deficit so we deal with our

debts' and 'Britain should never return to the levels of spending of the last government'.[10] The Chancellor's plan implies public spending in 2018–19 of 38.2% of national income, which would be broadly the same as the share last seen in 2001–02 (37.7%), as shown in Figure 1.1.

The Chancellor's desire to reduce public sector net debt more rapidly reflects the fact that in 2017–18 public sector net debt is still projected to be over £1.5 trillion, or 78.4% of national income. Such a high level of public debt, at least relative to the decades leading up to the financial crisis, requires a high annual servicing cost (for example, 3.8% of national income in 2018–19 – which is more than is currently spent on schools) and leaves the government more exposed to movements in interest rates. It also means the government is less well placed to absorb higher borrowing in future – for example, from the ageing of the population or if the UK were to be faced with another adverse shock to the public finances.

Under a simple extrapolation (in which revenues and non-interest spending are assumed to grow in line with national income), without the additional fiscal tightening announced for 2018–19, debt would not be expected to fall below the previous Labour government's ceiling of 40% of national income until the mid-2030s – illustrated by the dashed grey line in Figure 1.4. However, with the additional fiscal tightening in 2018–19 announced in the 2013 Autumn Statement, this is projected to occur at the end of the 2020s (illustrated

Figure 1.4. Public sector net debt – with and without ageing



Note: All lines use OBR forecasts for debt up to 2017–18 from the 2013 Autumn Statement. For 2018–19, the green lines use the OBR forecasts from the 2013 Autumn Statement, while the grey lines adjust those forecasts to remove the effect of the additional spending cuts announced for 2018–19. Projections for debt levels from 2019–20 onwards assume that cyclically-adjusted non-debt interest spending and revenues remain constant as a share of national income from 2018–19 onwards, while inflation, real growth in national income and interest rates are taken from the OBR's 2013 *Fiscal Sustainability Report* (roughly 2.2%, 2.4% and 5% per year respectively). The solid 'with ageing' lines use the OBR's latest 'central' projections for changes in age-related spending and revenues between 2020–21 and 2062–63 (which pre-date the 2013 Autumn Statement).
Source: Authors' calculations using Office for Budget Responsibility, *Economic and Fiscal Outlook December 2013* and *Fiscal Sustainability Report July 2013*.

[10] https://www.gov.uk/government/speeches/new-year-economy-speech-by-the-chancellor-of-the-exchequer.

by the green dashed line) because the starting point for spending would be lower. (In both cases, this assumes that revenues and spending turn out as currently forecast up to 2018–19. There is still significant risk around this, which is discussed in more detail in Chapter 2.)

In the longer run, however, keeping revenues and non-interest spending constant as a share of national income would require some tough policy decisions in response to two important long-run trends:

- First, some revenue streams are in long-run decline. The depletion of North Sea oil and gas reserves will lead to a fall in revenues from taxes on North Sea activity, while the trend towards electric motor vehicles will lead to a decline in revenues from vehicle excise duty and fuel duties in future. Revenues from these sources accounted for 6.6% of revenues in 2012–13, and are forecast to account for 5.0% by 2018–19 (assuming the government implements the currently planned increases in fuel duties in line with inflation from September 2015). Adjustments will need to be made in future to offset the decline in these revenues.
- Second, the average age of the UK population is increasing. This tends to put pressure on the public finances because older people are disproportionately heavy users of many public services (including the NHS and long-term care) and tend to receive a higher level of income from the state on average (in the form of state pensions) than children and younger adults do. These factors outweigh the lower demands that older people place on, for example, education provision.

The effect of the ageing population on the public finances is illustrated in Figure 1.4. The solid lines show projections for public sector net debt taking into account the OBR's estimated impact of demographics on total non-interest spending and total revenues from 2020–21 onwards from its 2013 *Fiscal Sustainability Report*.[11] The grey line illustrates that, without the additional spending cuts announced in the Autumn Statement for 2018–19, public sector net debt would have levelled off at over 50% before starting to increase again from the mid-2030s. The green line, however, indicates the significant difference made to the long-run picture by the additional 2018–19 spending cuts: debt would continue to fall until the 2050s, reaching below 30% of national income, before starting to increase again.[12] This dramatic difference is caused by both the direct effect of spending (and thus borrowing) being 1% of national income lower every year, and the faster rate of decline in the stock of debt, which will result in lower debt interest payments (and therefore even lower spending and borrowing) each year.

Therefore the additional spending cuts announced in the Autumn Statement for 2018–19 will (assuming they are implemented and maintained) put the public finances on a more sustainable footing. However, it is worth noting that while, under this simple projection, debt is projected to fall through to the 2050s, the level of debt is still projected to be relatively high by historical standards for at least another decade. The desire to run

[11] Note that these estimated effects of demographics do not take into account the policy changes announced in the 2013 Autumn Statement.

[12] Using the November 2013 IFS estimates of the impact of ageing on the public finances (which also do not take into account policies announced in the 2013 Autumn Statement) produces a slightly more optimistic projection for the path of public sector net debt, but the profile and conclusions are qualitatively the same (for more information on the IFS estimates of the impact of ageing, see M. Amior, R. Crawford and G. Tetlow, 'The UK's public finances in the long run: the IFS model', IFS Working Paper W13/29, 2013, http://www.ifs.org.uk/wps/wp201329.pdf).

budget surpluses in order to reduce debt is likely to be a strong influence on future Chancellors even after the current period of fiscal consolidation is over.

1.5 Conclusion

The recent financial crisis dealt a significant blow to the productive capacity of the UK economy, and consequently to the public finances. In the absence of any policy action in response, the permanent loss of national income (relative to what was previously forecast) would have resulted in public spending remaining permanently in excess of tax revenues to the tune of an estimated 9.8% of national income – a situation that would have been unsustainable.

We are now four years through what is currently planned to be a nine-year fiscal consolidation. Under the most recent OBR projections, the government is forecast to have offset the permanent hit to the public finances caused by the financial crisis by 2017–18, and to have more than offset it, resulting in a budget surplus, in 2018–19. If achieved, this would be the first surplus in the public finances since 2000–01.

However, this picture presupposes that there are no further revisions to the size of the blow that the financial crisis is estimated to have dealt to the economy and the public finances, that revenues recover as currently forecast, and that the government successfully implements the fiscal consolidation package that it is currently planning. There is clearly significant risk and uncertainty around all of these assumptions, which we discuss in more detail in Chapter 2.

Even if the forecasts do prove correct, that would still leave public sector net debt standing at nearly £1.6 trillion, or 76% of national income in 2018–19. This will constrain government policy for many more years to come, since such a high level of debt (at least relative to recent decades) involves substantial annual debt interest payments and leaves the government highly exposed to increases in interest rates.

That said, if the levels of non-interest spending and revenues planned for 2018–19 are implemented and maintained going forwards, then the long-run position of the public finances looks more sustainable than it did before the 2013 Autumn Statement. We project that debt as a share of national income would decline through to the middle of this century before the effects of the ageing population cause it to start increasing again.

2. Public finances: risks on tax, bigger risks on spending?

Rowena Crawford, Carl Emmerson and Soumaya Keynes (IFS)

Summary

- We are now four years through what is expected to be a nine-year fiscal consolidation. If this is implemented as planned, and if the current economic forecasts turn out to be correct, then by 2018–19 the government would be running a budget surplus. But there remain significant risks to both receipts and spending.
- There is considerable disagreement among independent forecasters over how much spare capacity there currently is in the economy. But the scale of the Chancellor's fiscal consolidation plan means that even, if the most pessimistic forecasters are correct, the planned consolidation would still be sufficient to offset the estimated damage done to public borrowing by the financial crisis. If the most optimistic assessment of the amount of spare capacity in the economy is right, all spending cuts planned beyond 2014–15 could be reversed and the deficit would still be on course to return to pre-crisis trends.
- The increase in revenues over the next five years is forecast to come largely from income tax and capital taxes. The UK is increasingly reliant on a few very-high-income individuals for the former – for example, the top 1% of contributors (around 300,000 individuals) contributed 27.5% of income tax in 2011–12 – while capital tax receipts are particularly hard to forecast and are also disproportionately paid by a relatively small number of individuals.
- The OBR forecasts also assume that fuel duty rates are increased in line with inflation after the general election, which is something the coalition government has never done. Freezing fuel duties through to 2018–19 would cost £4.2 billion.
- Perhaps the greatest risk to the fiscal consolidation is that whoever forms the next government might be unwilling (or unable) to deliver the currently planned cuts to public spending. Even with the Chancellor's mooted £12 billion of further cuts to social security benefits, the implied cuts to public services from 2010–11 to 2018–19 would mean departments facing budget cuts of 17.1% on average. If 'protection' for schools, the NHS and aid spending were continued through to 2018–19, other 'unprotected' departments would be facing average cuts of 31.2%.
- The spending squeeze will be exacerbated by the £6 billion a year of additional commitments made by the government for the years after 2015–16. In addition, a growing and ageing population will increase pressures. The ONS projects that the overall population will grow by about 3.5 million between 2010 and 2018, with the population aged 65 and over growing by 2.0 million. One implication of this is that, even if NHS spending were 'protected' and frozen in real terms between 2010–11 and 2018–19, real age-adjusted per capita spending on the NHS would be 9.1% lower in 2018–19 than in 2010–11.

2.1 Introduction

The recent financial crisis dealt a significant blow to the productive capacity of the UK economy, and consequently to the public finances. In the absence of any policy action in response, the permanent loss of national income (relative to what was previously forecast) would have resulted in public spending remaining permanently in excess of tax revenues to the tune of an estimated 9.8% of national income – a situation that would have been unsustainable.

We are now four years through what is currently planned to be a nine-year fiscal consolidation. If the consolidation is implemented as planned, and if the current economic forecasts turn out to be correct, then by 2017–18 the government will have offset all of the permanent increase in borrowing. In fact, as a result of additional cuts to spending plans pencilled in by the government for 2018–19 in the 2013 Autumn Statement, the Office for Budget Responsibility (OBR) is forecasting the government will run a surplus (that is, receive more in tax revenues than it spends) in 2018–19.

However, while four years of consolidation have been implemented, and the forecasts for 2018–19 paint a relatively rosy picture for the public finances, huge uncertainty remains. First, there may still be future upward revisions to the size of the permanent damage done to the public finances by the financial crisis and associated recession. Second, revenues may turn out to be lower than the OBR forecasts. Third, there is a risk that the government finds itself unable to implement the fiscal consolidation it has planned. While the majority of the planned tax increases and cuts to benefits have been implemented, the same cannot be said of cuts to spending on public services.

Current plans imply that public service spending in 2018–19 will be reduced to around the share of national income that it was at the end of the 1990s (technically, at its lowest level since at least 1948–49 from when comparable data are available). Even if the £12 billion of further cuts to spending on social security benefits that the Chancellor aspires to are delivered, the outlook for spending on public services would still look very difficult. The plans look tougher still due to the commitments for increased spending in some areas and growing demands on services such as the NHS and long-term care as the numbers of older people increase. It remains to be seen whether this, or a future, government has the political will or popular support to reduce spending on services to the extent required.

In this chapter, we discuss in more detail the risks around the government's fiscal consolidation plan (more detail on the plan itself can be found in Chapter 1). The chapter proceeds as follows. Section 2.2 discusses the uncertainty around the estimated size of the problem dealt by the financial crisis, and therefore the risk that the planned consolidation turns out in future to be insufficient to offset all of the damage done to borrowing. In Section 2.3, we consider the risks to forecast tax receipts. Section 2.4 discusses the risks to planned public spending cuts, and the government's proposed welfare cap as a way of reducing unintended, undesirable increases in social security spending. Section 2.5 concludes.

2.2 Uncertainty around the size of the problem

As described in Chapter 1, the latest forecasts from the OBR imply that the financial crisis opened up a hole in the public finances of 8.6% of national income. This is calculated as

the difference between the level of structural borrowing forecast in Budget 2008 and what we now estimate structural borrowing would be if no new policies had been introduced since then.[1] Crucial to this calculation is the estimate of how much of forecast borrowing is expected to be structural (and therefore will remain, in the absence of policy action, even after the economy has recovered) and how much is expected to be cyclical (and will disappear as the economy recovers to its trend level).

In order to estimate how much of borrowing is cyclical and how much is structural, a concept known as the 'output gap' is used. This measures the difference between the actual level of GDP and the trend (or potential) level of GDP, and therefore how much 'spare capacity' there is in the economy. However, it is difficult enough to measure how much output an economy is actually producing, let alone how much it *could* be producing. The OBR and several other institutions publish estimates of the output gap, but there is no consensus on the best approach to take and there is substantial variation between estimates of past, current and future output gaps.[2] As described in Chapter 1, the official estimate of the damage done to the public finances by the financial crisis has changed significantly over the last five years, which has largely been driven by changes to the official estimate of the trend level of GDP. In this section, we show how the estimates of the current output gap from different forecasters would, if adopted by the OBR, lead to very different conclusions as to how much fiscal tightening was thought to be required. Under the most pessimistic, all of the tightening planned by Mr Osborne would be required just to offset the additional borrowing that had been caused by the crisis and he would no longer be able to expect a budget surplus in 2018–19. Under the most optimistic, all of the planned spending cuts beyond 2014–15 could be cancelled and sufficient fiscal tightening would still have been delivered to offset the impact of the crisis on the public finances.

In December 2013, the OBR forecast that in 2014 the UK would be operating at 1.8% below its trend level. This is slightly below (i.e. more pessimistic than) the average of the latest estimates of other independent forecasters (2.7%), as shown in Figure 2.1. However, among the other independent forecasters, there is a wide array of estimates for the size of the output gap in 2014, ranging from 0.0% to 6.0%. Also as shown in Figure 2.1, in December 2013 Oxford Economics estimated that the output gap stood at 5.1%, which was a more optimistic assessment than all but one of the other forecasters in the survey used by the OBR. Since then, entirely as a result of the revisions to the National Accounts published by the ONS in December, Oxford Economics has revised down its assessment of the output gap in 2014 to 4.3%. Further details of how this judgement was reached can be found in Chapter 4.

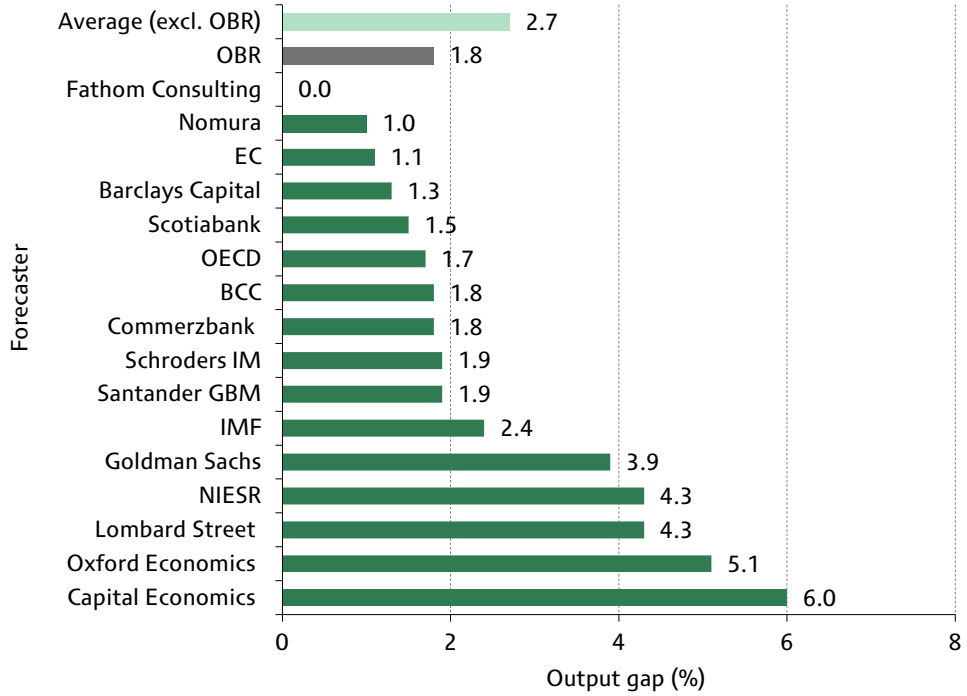
It is possible to quantify the potential impact of different output gap estimates on the level of borrowing – specifically, on the decomposition between structural and cyclical borrowing – and, therefore, on the size of the policy response required to deal with the hit to the public finances from the financial crisis.[3] Table 2.1 illustrates the impact of

[1] This is largely on the basis of official costings of policy measures.

[2] For more detail on the different methods that can be used to calculate the output gap, see, for example, Office for Budget Responsibility, 'Estimating the output gap', Briefing Paper 2, 2011, http://budgetresponsibility.org.uk/wordpress/docs/briefing%20paper%20No2%20FINAL.pdf.

[3] The relationship between structural borrowing and the output gap is estimated using data on how the public finances have varied with economic cycles in the past. The OBR estimates that a 1 percentage point increase in the output gap reduces the amount of borrowing thought to be structural by 0.7% of national income. However, this does assume that the current period of weak economic performance has the same relationship with government borrowing as that seen in previous economic recessions and booms. (Source: T. Helgadottir,

Figure 2.1. Alternative estimates of the output gap in 2014



Source: Chart 3.3 of Office for Budget Responsibility, *Economic and Fiscal Outlook December 2013*, http://cdn.budgetresponsibility.independent.gov.uk/Economic-and-fiscal-outlook-December-2013.pdf.

different output gap assumptions on the amount of tightening required after 2013–14 to deal with the increase in structural borrowing dealt by the crisis – in other words, to put us in a position where structural borrowing would be forecast to be about the same in 2018–19 as it was forecast to be in the medium term in Budget 2008 (1.2% of national income).

Under a pessimistic scenario, taking the smallest estimate of the output gap in 2014 (0.0%, from Fathom Consulting) and combining that with the OBR's assumptions for the growth in trend GDP, the structural deficit would be around 1.3% of national income

Table 2.1. Impact of different output gap assumptions on the estimated size of the problem and the consolidation required after 2013–14

% of national income	**Size of problem**	**Tightening required after 2013–14:**	
Output gap		**To deal with problem[a]**	**To achieve planned surplus in 2018–19[b]**
Pessimistic (0.0%)	9.9%	5.2%	6.7%
OBR (1.8%)	8.6%	4.0%	5.5%
Average (2.7%)	8.0%	3.4%	4.8%
Optimistic (6.0%)	5.7%	1.0%	2.5%

[a]Tightening required after 2013–14 for structural borrowing in 2018–19 to be forecast to be the same as was forecast for the medium term in Budget 2008 (1.2% of national income).
[b]Tightening required after 2013–14 for structural borrowing in 2018–19 to be as currently forecast (a surplus of 0.3% of national income).
Note: The OBR's assumptions for the growth in trend GDP are maintained in all scenarios.

G. Chamberlin, P. Dhami, S. Farrington and J. Robins, 'Cyclically adjusting the public finances', Office for Budget Responsibility (OBR), Working Paper 3, 2012, http://budgetresponsibility.independent.gov.uk/wordpress/docs/Working-paper-No3.pdf).

larger than currently forecast by the OBR. As shown in Table 2.1, the fiscal consolidation currently planned would still be (just) sufficient to offset all of the permanent increase to borrowing caused by the financial crisis. An additional 5.2% tightening after 2013–14 would be required, and a further 5.5% tightening is currently planned. However, an additional 1.3% of national income tightening (£21 billion in today's terms) would be needed to achieve the structural borrowing levels currently forecast for 2018–19.

Under an optimistic scenario, taking the largest estimate of the output gap in 2014 (6.0%, from Capital Economics) and combining it with the OBR's assumptions for the growth in trend GDP, the structural deficit would be much smaller, with more of current borrowing estimated to be temporary. Specifically, we estimate that it would be around 2.9% of national income smaller than currently forecast by the OBR for 2018–19. If this were the case, the government would only need to implement an additional 1.0% of national income tightening after 2013–14 to offset the damage done by the financial crisis. This means it could afford to reverse all of the spending cuts planned for the four years after 2014–15. If the government still wanted to achieve the 0.3% national income structural surplus in 2018–19 that is currently forecast, it could reverse half of the spending cut planned for 2016–17 and all of that planned for 2017–18 and 2018–19.

Table 2.1 gives an idea of the range of the uncertainty around the amount of fiscal consolidation that would be required beyond 2013–14 arising from different estimates of the current output gap.[4] Although the contemporaneous output gap will never be observed, as the years progress and more data on the level of GDP become available, it will be possible to be more certain about the size of the fiscal action that was required. However, given this uncertainty in the short term, it is understandable that the Chancellor wishes to build some margin for error into his plans, by planning a larger consolidation than the current estimate of the size of the fiscal problem.

2.3 Risks to future tax revenues

Revenues as a share of national income are forecast by the OBR to increase from 37.4% of national income in 2012–13 to 38.3% in 2018–19. This is a level of revenues last seen in around 2000–01, and is around 1% of national income above the average level of revenues over the past couple of decades. The contribution of tax increases to the overall fiscal consolidation is described in more detail in Chapter 1; in this section, we discuss some of the risks around the forecast increase in revenues.

Policy risk

Little of this forecast increase is planned to come from new policy action that has been announced but not yet implemented. There are two main exceptions. First, an increase in receipts of National Insurance contributions (NICs) of 0.3% of national income is expected from 2016–17 when contracting out into defined benefit pension schemes ends. There seems relatively little political risk that this policy will not be implemented as planned. However, as discussed in Section 2.4, the increased NICs required from public sector employers will increase the cost of providing public services and will put additional pressure on departmental budgets. If a future government increases total

[4] Different forecasters might also disagree in terms of their predictions for growth in trend GDP.

public spending to reduce this pressure, then the benefit to the public finances of the NICs increase would be partially offset.

Second, the government has announced a number of measures to reduce tax avoidance. Together, the measures announced in the 2013 Autumn Statement are expected to raise an additional 0.1% of national income in revenues by 2018–19. Such expected revenue increases are inherently uncertain, since the size and responsiveness of the tax base (which, by definition, is trying to pay as little tax as possible) are often unknown. For example, the government originally expected to get £5.3 billion in revenue between 2012–13 and 2017–18 from a tax repatriation agreement with the Swiss government, but the latest estimates from the OBR suggest that in fact only £1.9 billion will be received. These additional tax revenues from new anti-avoidance measures should therefore be expected with caution.

There is also the risk that policies that have already been implemented may fail to raise as much revenue in future as is currently forecast. This is particularly true of the bank levy, for example. The rate of the bank levy has been increased in every Budget and Autumn Statement under the coalition government, and the 2014 rate is now more than double that originally intended (0.156% instead of 0.070%) – yet it is expected to raise little more revenue than originally intended (£2.7 billion in 2014–15 instead of £2.4 billion). It could be that further increases in the rate or further broadening of the tax base will be required if future years' receipts are to come in as forecast.

Furthermore, there is a significant risk that future policy action might reduce expected revenues. For example, the above OBR forecasts assume that fuel duties are increased in line with inflation from September 2015 onwards – something the coalition government has shied away from doing since coming to power (and which the last government also avoided in most years from 2001).[5] If the government did plan to continue holding fuel duties constant in nominal terms, then receipts would be expected to fall £4.2 billion short of the OBR's forecast.

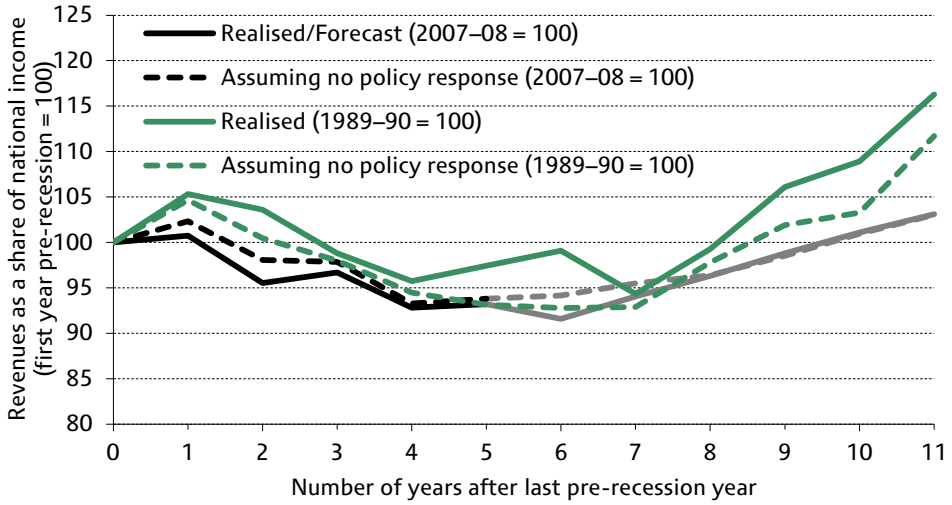
Other risks

The increase in overall revenues between 2012–13 and 2018–19 is being driven by increases in income tax receipts (forecast to increase by 1.0% of national income) and capital taxes (forecast to increase by 0.8% of national income) that are not the result of policy action. How confident can we be that this forecast recovery will occur? Although all recessions and recoveries are different, it is possible to gain some insight into this by comparing the forecast profile for revenues over the latest recession and forecast recovery, with the profile for revenues that occurred following the recession of the early 1990s and subsequent recovery.[6] This is illustrated in Figure 2.2 for income tax receipts and Figure 2.3 for capital tax receipts. Broadly, one can draw the conclusion that the forecast changes in income tax receipts and capital tax receipts are not out of line with the profile of recovery in receipts after the last recession.

[5] Before Budget 2011, fuel duty increases were due to occur in April each year. However, through consecutive announcements of postponements and cancellations, no increases in the rates of fuel duties have occurred between 2010 and 2014, and the increase previously planned for April 2015 has so far been postponed until September 2015.

[6] It should be kept in mind that nominal economic growth was greater in each year after 1989–90 than in the equivalent year after 2007–08.

Figure 2.2. Income tax receipts



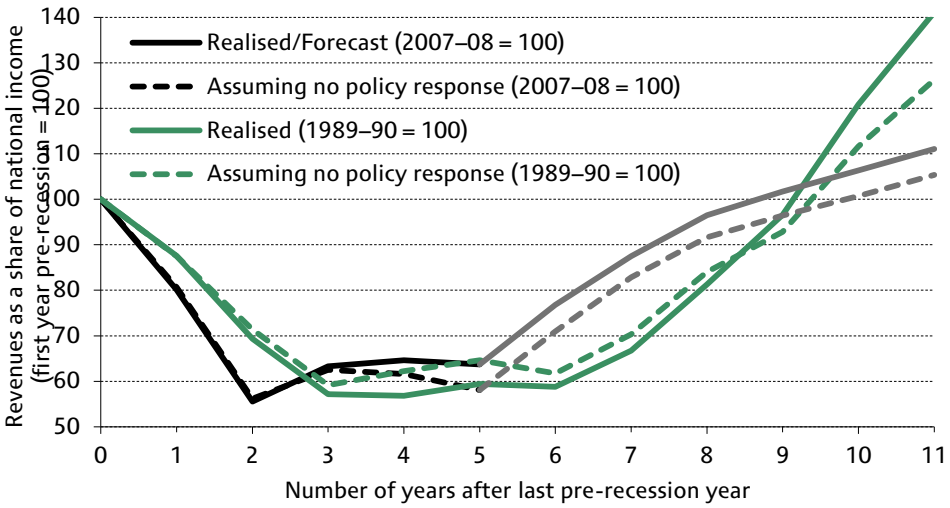
Note: Pre-Autumn Statement 2012, only policies with an impact of more than £50 million are included (see page 9 of T. Helgadottir, G. Chamberlin, P. Dhami, S. Farrington and J. Robins, 'Cyclically adjusting the public finances', Office for Budget Responsibility (OBR), Working Paper 3, 2012, http://budgetresponsibility.independent.gov.uk/wordpress/docs/Working-paper-No3.pdf). Beyond that, all tax measures are included. Beyond the forecast horizon, impacts are uprated with nominal GDP – so are assumed to raise/lose a constant share of GDP for ever more. Adjustment assumes policy costings are accurate – as noted by the OBR, it is very difficult to assess how much a policy has raised ex-post, let alone ex-ante.
Source: Office for Budget Responsibility, Budget tax measures database, http://budgetresponsibility.org.uk/category/publications/working-papers/.

The dashed black line in Figure 2.2 shows how income tax receipts would have changed relative to their 2007–08 share of national income had no new policies been introduced since the start of the recession. It is estimated that income tax receipts as a share of national income would have fallen by 6.7% by 2011–12 (year 4), before starting to recover – reaching 103% of their 2007–08 share in 2018–19. The solid black line shows how total revenues actually changed, and are forecast to evolve going forward, taking into account the government's estimates of the effect of policy on income tax receipts. The net effect of policy changes on income tax receipts is forecast to be negligible, since large income tax increases such as the removal of the personal allowance for those with an income over £100,000 and the tighter restrictions on tax relief for pension contributions (see Chapter 10) are offset by large income tax giveaways such as the increase in the personal allowance to £10,000.

For comparison, the green solid and dashed lines show income tax receipts with and without policy action (respectively) over the period of the 1990s recession and recovery (year 0 is 1989–90). In the 1990s, the path of income tax receipts was similar to that now forecast. Receipts fell somewhat less quickly and picked up more strongly from year 8 (1997–98) onwards than is now forecast, but this is perhaps not surprising given the higher nominal economic growth in each year after 1989–90 than the equivalent year after 2007–08.

The equivalent picture for receipts from capital taxes is shown in Figure 2.3, and again the profiles are remarkably similar in the period since 2007–08 and the period after 1989–90. As with income tax receipts, the recovery is forecast to be slightly weaker up to 2018–19 than was the case at the end of the 1990s, which is consistent with the lower economic growth projected for the current period of recovery.

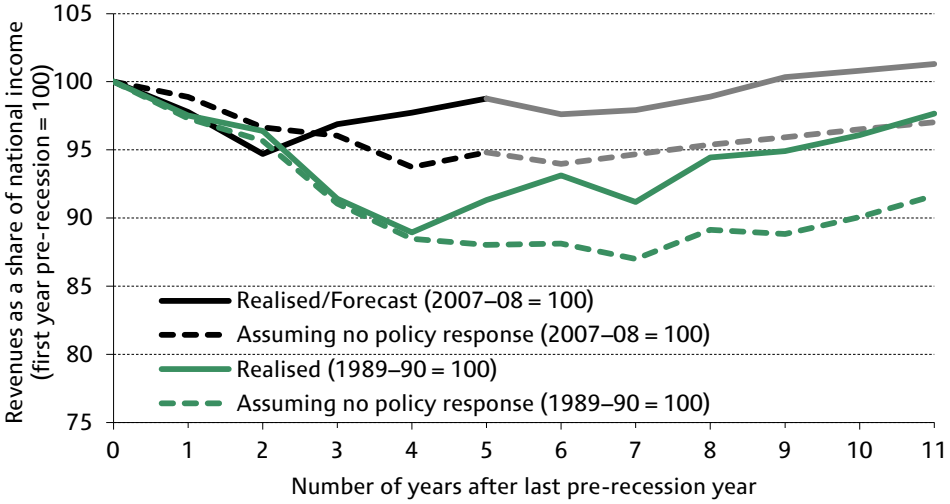
Figure 2.3. Capital tax receipts



Note and source: As for Figure 2.2.

While the forecast recovery in receipts from income tax and capital taxes through to 2018–19 does not seem out of line with the increase seen in the previous recovery, the picture is somewhat different for total revenues (illustrated in Figure 2.4). Total revenues actually fell much more (relative to their pre-recession share of national income) after the recession in the early 1990s than in the wake of the recent financial crisis and recession. In the 1990s, receipts would have fallen to around 87% of their 1989–90 share of national income in the absence of any policy action, while for the current period it is estimated that receipts would only fall to around 94% of their 2007–08 share of national income in the absence of policy action. This is in part driven by onshore corporation tax receipts and VAT receipts having been particularly affected in the early 1990s recession. In addition, the greater fall in national income in the recent recession means that taxes whose tax bases are not automatically affected by the level of national income, such as business rates, have held up particularly strongly when expressed as a share of national income.

Figure 2.4. Total revenues



Note and source: As for Figure 2.2.

One way in which the current recovery has been different from previous recoveries is that in recent years there has been remarkably strong growth in employment given the relatively weak growth in the UK economy. This mix of relatively strong employment growth and weaker average earnings growth has implications for growth in tax revenues – particularly from income tax and NICs. The main determinant of growth in these revenues is the growth in total employment income in the UK economy, which is the product of employment and average earnings growth. However, because of the progressivity of these taxes – in particular of income tax – growth in average earnings creates a larger boost to tax receipts than equivalent growth in employment. This means that the distribution of total employment income, as well as its headline growth, matters for tax receipts.

The OBR estimates that a 1% increase in average earnings (holding employment constant) would boost receipts of income tax and NICs by about 1.5% (or by between £3¼ billion and £4 billion). In contrast, a 1% increase in employment (holding average earnings constant) is estimated to boost these receipts by about 1% (around £2¼ to £3 billion).[7] So, in other words, a 1% increase in employment income that comes from a boost to average earnings would be expected to increase income tax and NICs receipts by about £1 billion more than a 1% increase in employment income that comes solely from an increase in employment.

A risk to the forecast recovery in income tax and NICs receipts is therefore that the mix of employment growth and average earnings growth turns out differently from what the OBR is currently forecasting – for example, if employment grows but labour productivity is weak. This is what has happened over the last few years: since the March 2012 Budget, the OBR has (for the period 2010 to 2015) revised down its forecast for growth in average earnings but revised up its forecast for growth in employment. To give a sense of this, Table 2.2 illustrates the implications for income tax and NICs receipts of the change in the OBR's forecasts for employment income over 2010 to 2015, between its first forecast in June 2010 and its most recent in December 2013. This shows that in June 2010, the OBR was forecasting that employment would grow by 3.8% and that average earnings would grow by 24.4% over this five-year period. It is now forecasting that employment will grow more quickly (4.8%), but that average earnings will grow significantly less quickly (14.9%). This means that growth in aggregate earnings has been revised down from 29.1% to 20.5%.

Using the OBR's estimates for the responsiveness of income tax and NICs to earnings and employment suggests that the June 2010 forecast implied growth in revenues from these taxes of 43.1% between 2010 and 2015. The subsequent revisions to forecast earnings and employment have reduced this to 28.8%. This is equivalent to a drop in receipts in 2015–16 of £32.3 billion. If this downwards revision to aggregate earnings had instead happened as a result of a drop in both employment and earnings that left the average effective rate of income tax and NICs unchanged from that forecast in the June 2010 Budget, we would have expected receipts of income tax and NICs to be reduced by an estimated £28.9 billion in 2015–16. The additional drop in revenues of £3.5 billion comes from the composition of this downwards revision to growth: because the downwards

[7] Source: Table 3.2 on page 39 of Office for Budget Responsibility, 'How we present uncertainty' Briefing Paper 4, 2012, http://budgetresponsibility.org.uk/wordpress/docs/Briefing-paper-No4-How-we-present-uncertainty.pdf.

Table 2.2. Impact of employment and earnings growth on income tax and NICs receipts between 2010 and 2015, June 2010 Budget and December 2013 EFO compared

	June 2010 Budget	December 2013 EFO
(1) Employment growth (%)	3.8	4.8
(2) Average earnings growth (%)	24.4	14.9
(3) Aggregate earnings growth (%)	29.1	20.5
(4) Implied growth in income tax & NICs receipts (%)	43.1	28.8
Total estimated shortfall in revenues forecast in December 2013 compared with June 2010	n/a	£32.3bn
Estimated shortfall in income tax and NICs receipts from reduction in aggregate earnings	n/a	£28.9bn
Estimated additional shortfall in income tax and NICs receipts from changing composition of aggregate earnings	n/a	£3.5bn

Source: Authors' calculations based on Office for Budget Responsibility, *June Budget 2010*, http://budgetresponsibility.org.uk/budget-2010/; Office for Budget Responsibility, *Economic and Fiscal Outlook: December 2013*, http://cdn.budgetresponsibility.independent.gov.uk/Economic-and-fiscal-outlook-December-2013.pdf; and table 3.2 on page 39 of Office for Budget Responsibility, 'How we present uncertainty', Briefing Paper 4, 2012, http://budgetresponsibility.org.uk/wordpress/docs/Briefing-paper-No4-How-we-present-uncertainty.pdf. £ billion figures based on the latest forecast for receipts in 2015–16.

revision actually reflects an upwards revision to forecast employment and a disproportionate downwards revision to forecast average earnings.

To put this £3.5 billion in context it is worth remembering it is about one-third of the £10.7 billion deliberately forgone as a result of the government's decision to increase the income tax personal allowance to £10,000. In fact, this decision will itself likely have reduced further how tax-rich the composition of growth has been, since it increases the progressivity of the income tax system, which makes earnings growth relatively more important than employment growth to overall tax revenues.[8]

Long-run volatility of receipts

In addition to considering the forecast recovery in receipts through to 2018–19 and whether this is likely to occur, it is also important to think about the end composition of revenues and what this means for the long-run position of the public finances. The tax increases introduced as part of the government's fiscal consolidation plan have typically been announced with some discussion of the characteristics of the losers from the reforms, and much repeated rhetoric about 'ensuring those with the broadest shoulders bear the largest burden'.[9] However, there has been little attention paid to the changing composition of total revenues and the effect this might have on the cyclicality and volatility of revenues, both of which are important for stability in the public finances.

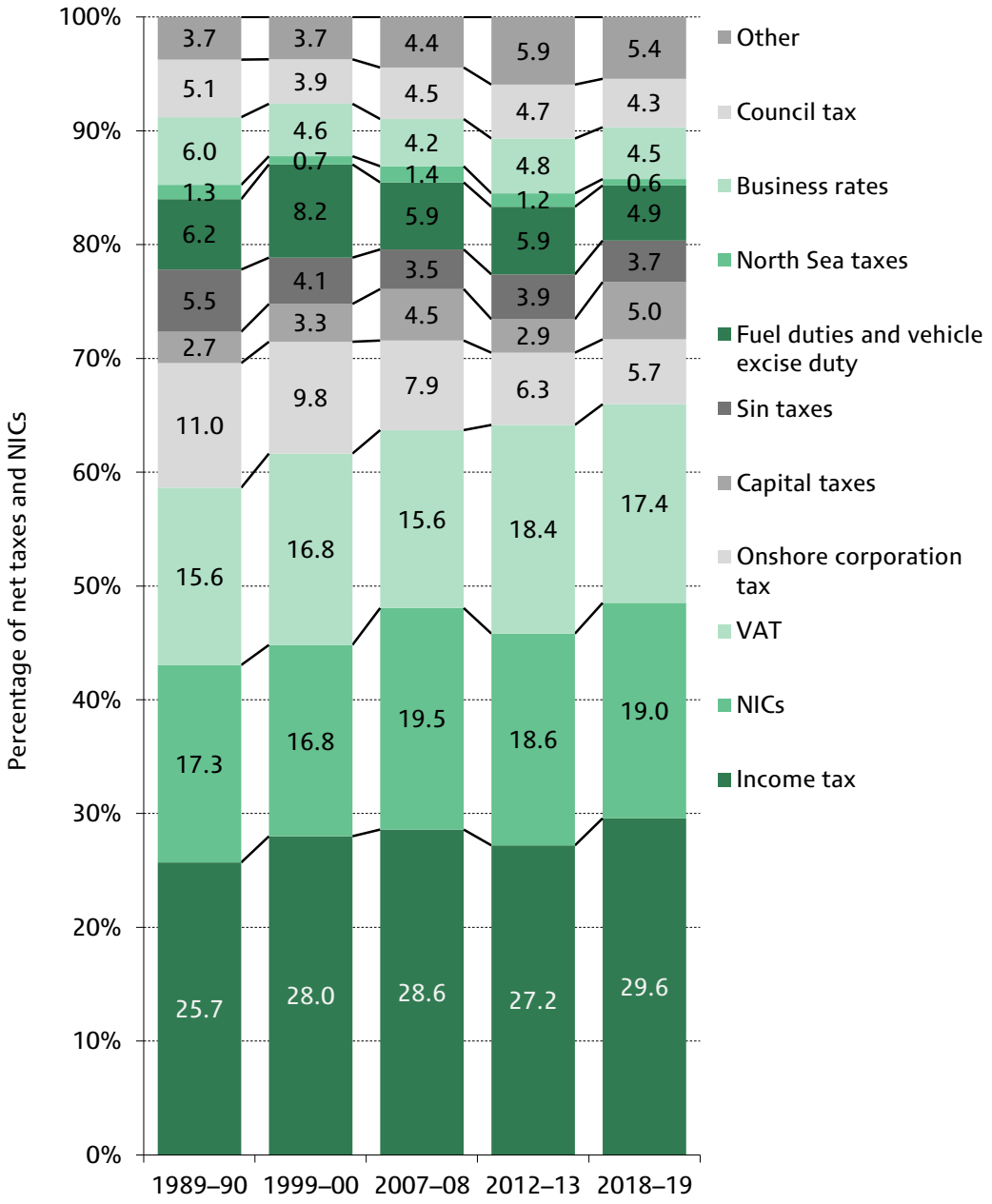
[8] The methodology employed has not been able to take this into account, which suggests that the £3.5 billion could be an underestimate of the impact of the changing composition of employment income on receipts of income tax and NICs.

[9] Spending Round 2013 speech delivered to parliament by Chancellor Osborne, 26 June 2013, https://www.gov.uk/government/speeches/spending-round-2013-speech.

The changing composition of receipts

The government might be concerned if the exchequer becomes increasingly reliant on one particular revenue source, as it increases the risk that a shock to one revenue source would have serious implications for total revenues (and therefore probably also for borrowing). This risk is smaller when revenues are raised from a variety of different sources, rather than all being concentrated on one particular type of activity or one particular group of taxpayers.

Figure 2.5. Changing composition of UK net taxes and NICs receipts



Note: 'Capital taxes' includes capital gains tax, stamp duties and inheritance tax. 'Sin taxes' includes tobacco duty, alcohol duties, and betting and gaming duties. This figure shows the breakdown of 'net taxes and NICs receipts', which is different from 'total revenues' as it excludes revenues from interest and dividends as well as 'gross operating surplus, rent, and other receipts and adjustments'.
Source: HM Treasury, HMRC, OBR forecasts (see 'Composition of revenues' in http://www.ifs.org.uk/fiscalFacts/taxTables).

Figure 2.5 shows how the composition of net taxes and NICs receipts has changed over time.[10] Assuming the OBR forecasts prove correct, in 2018–19 the public finances will be more reliant than before on the main taxes on household incomes and expenditure (income tax, NICs and VAT), with 66% of receipts forecast to come from these taxes compared with 59% in 1989–90, 62% in 1999–2000 and 64% in 2007–08. The share of receipts from capital taxes (capital gains tax, stamp duties and inheritance tax) is also forecast to increase, to 5.0% in 2018–19, from 4.5% in 2007–08 and 2.7% in 1989–90. This would be the largest share of total receipts from capital taxes since at least 1978–79 (the earliest date for which comparable data are available). By contrast, the public finances are forecast to become less reliant on streams such as corporation tax, taxes on motoring and other excise duties.

Although over time there has clearly been a substantial change in the composition of revenue, these changes have been gradual, and the expected direction over the next few years represents a continuation of recent trends. Another concern is that *within* some revenue streams, there has been an increase in the proportion of receipts coming from particular groups. This is most noticeable in the case of income tax, which is the largest single contributor to total tax revenues, and stamp duty land tax (SDLT).

- HMRC data released in September 2013 estimated that the share of income tax contributions made by the top 1% of contributors (ranked by contribution size) would rise to 27.5% by 2011–12, compared with 21.3% in 1999–2000 and 11% in 1979.[11] To put it another way, the income tax paid by 300,000 or so very high-income individuals accounts for 7.5% of *all* tax revenue. These individuals will of course also pay large amounts of VAT and, in all likelihood, pay a large fraction of total capital taxes.
- In 2012–13, 30% of revenues from SDLT on residential properties was paid in respect of transactions valued at over £1 million.[12] These accounted for just 1% of all residential property transactions. In 2012–13, transactions in just two local authorities – Westminster and Kensington & Chelsea – accounted for more than 14% of all revenues from residential transactions, while just 10 local authorities (nine of them in London and one in Surrey) accounted for 29% of revenues (revenues from non-residential transactions were even more geographically concentrated). In 2012–13, London accounted for 41% of all SDLT on residential properties, compared with 27% in 1997–98.[13]

This increased concentration of revenues from fewer individuals is significant and increases the sensitivity of the government's overall revenue position to the incomes and tax payment behaviour of these individuals.

[10] 'Net taxes and NICs' is a slightly different definition of receipts than headline 'current receipts', as the former excludes revenues from interest and dividends as well as 'gross operating surplus, rent, other receipts and adjustments'. These other items accounted for around 7% of headline receipts in 2012–13.

[11] The top 1% of contributors are estimated to have paid 26.9% of total income tax revenues in 2012–13 and are expected to pay 29.8% in 2013–14. These figures should be used with caution, though, as they will be affected by higher-income individuals shifting income between 2012–13 and 2013–14 in order to take advantage of the reduction in the additional rate of income tax from 50% to 45% in 2013–14. Source: http://www.hmrc.gov.uk/statistics/tax-statistics/table2-4.pdf and table 2.3 of *Inland Revenue Statistics 1994*.

[12] Residential property transactions accounted for 71% of revenues from SDLT in 2012–13, and 95% of all transactions in 2012.

[13] HMRC data, available at http://www.hmrc.gov.uk/statistics/transactions/annual-transactions.pdf and http://www.hmrc.gov.uk/statistics/stamp-duty/stamp-tax-sep13.pdf.

Cyclicality of revenues

Different sources of revenue are more or less cyclical (that is, they are affected differently by movements in the economic cycle) and therefore a changing composition of total revenues will affect how cyclical total government revenues are. Greater cyclicality of revenues has the cost that it is harder for the government to forecast the future public finance position, and borrowing will be influenced to a greater extent by the position of the economy. On the other hand, fluctuations in national income will be automatically dampened to a greater degree by changes in government borrowing (an increase in the 'automatic stabilising' effect of the tax system).

In a 2012 working paper, the OBR estimated how responsive a number of different taxes are to the economic cycle.[14] It found that onshore corporation tax from non-financial corporations and capital taxes were the most responsive: a 1 percentage point increase in the output gap is estimated to reduce onshore non-financial corporation tax revenues by 0.10% of national income[15] and reduce capital tax revenues by 0.08% of national income. By contrast, income tax, NICs and VAT were found to be much less responsive: a change in the output gap is estimated to have roughly the same effect on these revenues as on the level of national income, and so the share of national income raised from these taxes would be largely unaffected.

Given the changing composition of revenues illustrated in Figure 2.5, we might expect the cyclicality of overall revenues to be increased by the increased proportion of revenues from capital taxes, but reduced by the reduced proportion from onshore corporation tax. If we take the OBR's estimate of the sensitivity of each revenue stream to the economic cycle, and weight these according to the composition of total revenues in 2018–19 (adjusting for the position in the economic cycle), we estimate that a 1 percentage point increase in the output gap would reduce net taxes and NICs by 0.20% of national income. This compares to an estimated reduction in net taxes and NICs of 0.18% of national income if we instead weight by either the 2007–08 or the 1999–2000 composition of revenues.[16] In other words, a 1% (cyclical) fall in GDP would result in a temporary fall of £25.5 billion (in today's terms) under the 2018–19 tax system, a £24.9 billion fall under the 2007–08 tax system or a £24.8 billion fall under the 1999–2000 tax system. This suggests that the long-run position for revenues that we are forecast to reach in 2018–19 is not one with a substantially different sensitivity to the economic cycle.

Other volatility

Revenues can, of course, be volatile in a way that is unrelated to the real economic cycle. For example, recent analysis by the OBR of its own forecast errors has shown that the evolution of economic determinants in nominal rather than real terms is actually more important for forecasting revenues: so, for example, lower real growth that is also associated with higher-than-expected inflation may leave total receipts (both in nominal terms and as a share of national income) broadly unchanged.[17] In addition, revenues from

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[14] T. Helgadottir, G. Chamberlin, P. Dhami, S. Farrington and J. Robins, 'Cyclically adjusting the public finances', Office for Budget Responsibility (OBR), Working Paper 3, 2012, http://budgetresponsibility.org.uk/pubs/Working-paper-No3.pdf.

[15] Financial sector corporation tax receipts fall by less than 0.01% of national income.

[16] The share of corporation tax coming from financial corporations is only available from 2000–01, so we have assumed that this share was the same in 1999–2000 as it was in 2000–01. Since this is unlikely to be true over a longer time period, we have not produced numbers for the overall cyclicality of revenues in 1989–90.

[17] See chapter 3 of Office for Budget Responsibility, *Forecast Evaluation Report, October 2012* (http://budgetresponsibility.org.uk/wordpress/docs/23690-OBR-Web-Only.pdf).

capital taxes are sensitive to house prices and the number of housing transactions and to the prices of stocks and shares, while North Sea revenues are sensitive to oil and gas prices and production – all of which can move in ways unrelated to the position of the wider economy. The increased proportion of revenues accounted for by capital taxes projected for 2018–19 is likely to result in an increase in the overall volatility of tax revenues, though the effect is likely to be small. Any increase would, however, feed through into increased uncertainty in future public finance forecasts.

Summary

Revenues as a share of national income are forecast to increase between 2013–14 and 2018–19 (from 37.4% to 38.3%), and the majority of this increase is projected to be a cyclical recovery as the economic position improves. This recovery is similar to the recovery in receipts experienced in the wake of the recession in the early 1990s.

If the recovery takes longer than currently forecast, revenues would increase less quickly, and the government may not achieve a budget surplus by 2018–19, but the long run public finance position would not be particularly affected. On the other hand if, as described in Section 2.2, the recovery does not materialise and the OBR revises its estimate of the output gap, the size of the problem that needs to be dealt with will increase and the government may be required to take further permanent policy action. But some independent forecasters – including Oxford Economics (see Chapter 4) – are more optimistic than the OBR about the amount of spare capacity in the economy that currently exists. If correct this would translate into a smaller fiscal repair job being necessary than is currently planned by Mr Osborne.

There are few tax increase planned for the future. However, questions remain over whether the government will implement the future increases in the rates of fuel duties (in line with inflation) which the OBR forecasts assume will occur. If the government were unable or unwilling to introduce these then they would need to find £4.2 billion from other tax increase in order to leave their borrowing plans for 2018–19 unaltered. In addition it clear from the political debate that there are increasing pressures for tax cuts – see the discussion in Chapter 7 of possible further increases to the income tax personal allowance or the introduction of a 10p starting rate of income tax.

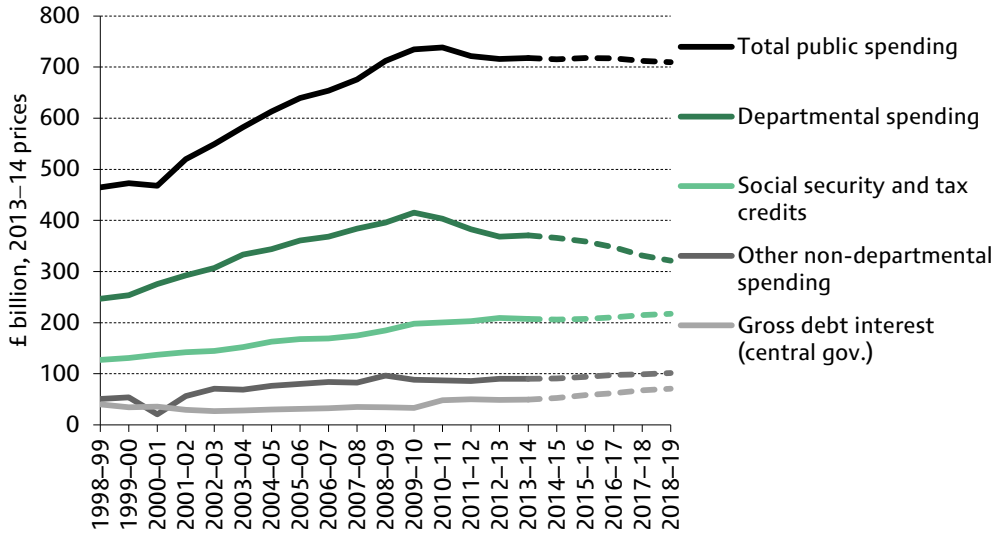
Finally, the Treasury should bear in mind that the 2018–19 composition of revenue does involve an increased concentration of tax revenues among the household sector, and on higher income individuals in particular. This might have important implications for the sensitivity of total revenues to the circumstances of a relatively small group of agents.

2.4 Uncertainty around future public spending

The government's current fiscal consolidation implies cutting total public spending from 46.3% of national income in 2010–11 to 38.2% by 2018–19. Given that the economy is forecast to grow over this period, this would be achieved if total spending were cut in real terms by 3.8% over the eight-year period. This overall picture, however, masks some very different trends for different areas of public spending. This is illustrated in Figure 2.6 and Table 2.3.

Real central government debt interest spending is forecast to increase by 46.9% over this eight-year period, while non-debt interest spending is being cut by 7.4%. Social security and tax credit spending is forecast to increase by 8.5% (assuming there are no further

Figure 2.6. Total public spending



Source: Forecasts are from OBR *Economic and Fiscal Outlook December 2013* and DWP *Benefit Expenditure Tables*. Out-turn data are from ONS (total public spending (series KX5Q) and central government gross debt interest (series NMFX)), DWP *Benefit Expenditure Tables* (social security and tax credits), and HM Treasury, *Public Expenditure Statistical Analyses,* various years (departmental spending).

Table 2.3. Changes in components of spending, 2010–11 to 2018–19

	Total real change:		
	2010–11 to 2015–16	**2015–16 to 2018–19**	**2010–11 to 2018–19**
Total spending	–2.7% (–£20.2bn)	–1.1% (–£8.0bn)	–3.8% (–28.3bn)
Less:			
Debt interest	+20.7% (+£9.9bn)	+21.7% (+£12.6bn)	+46.9% (+£22.5bn)
Total less debt interest	–4.4% (–£30.1bn)	–3.1% (–£20.6bn)	–7.4% (–£50.8bn)
Less:			
Social security	+3.7% (+£7.4bn)	+4.6% (+£9.6bn)	+8.5% (+£17.0bn)
Of which:			
Pensioner benefits (GB)	*+8.7% (+£9.0bn)*	*+2.3% (+£2.6bn)*	*+11.2% (+£11.7bn)*
Other	*–1.7% (–£1.7bn)*	*+7.4% (+7.0bn)*	*+5.6% (+£5.4bn)*
Public service spending	–7.7% (–£37.5bn)	–6.7% (–£30.2bn)	–13.8% (–£67.8bn)
Of which:			
Departmental (DEL)	–11.1% (–£44.7bn)	–10.5% (–37.6bn)	–20.4% (–£82.3bn)
Other non-departmental	+8.2% (+£7.1bn)	+7.9% (+£7.4bn)	+16.8% (+£14.6bn)
Of which:			
Public service pensions	*+114.9% (+£5.6bn)*	*+21.1% (+£2.2bn)*	*+160.3% (+£7.8bn)*
Locally-financed spend by local authorities	+2.4% (+£0.7bn)	+7.7% (+£2.3bn)	+10.3% (+£3.0bn)
Other	+1.6% (+£0.8bn)	+5.4% (+£2.9bn)	+7.0% (+£3.7bn)

Note: 'Debt interest' is central government gross debt interest. 'Social security' includes tax credits. 'Public service pensions' is central government net public service pension payments.
Source: As for Figure 2.6.

cuts to social security after 2015–16, although the Chancellor has expressed a desire for more). The forecast real increase between 2010–11 and 2015–16 is being driven by increases in spending on pensioner benefits: both the number of pensioners and the average spend per pensioner are forecast to increase. Total spending on working-age benefit recipients, on the other hand, is forecast to fall by 1.7%. By contrast, over the following three years, the forecast increase in social security spending is being driven by both an increase in spending on pensioner benefits and an increase in spending on non-pensioner benefits.[18]

Total public spending less that on debt interest payments and social security – broadly public service spending – is forecast to fall by 13.8% between 2010–11 and 2018–19. Within that, departmental spending (technically the 'departmental expenditure limit' (DEL) – the spending by Whitehall departments on the administration and delivery of public services) is projected to fall by 20.4%. This is because other areas of non-debt interest, non-social security spending (such as locally financed spending by local authorities and net public service pension payments) are projected to increase by 16.8%.

Further cuts to other spending (or tax increases) could reduce cuts to departmental spending

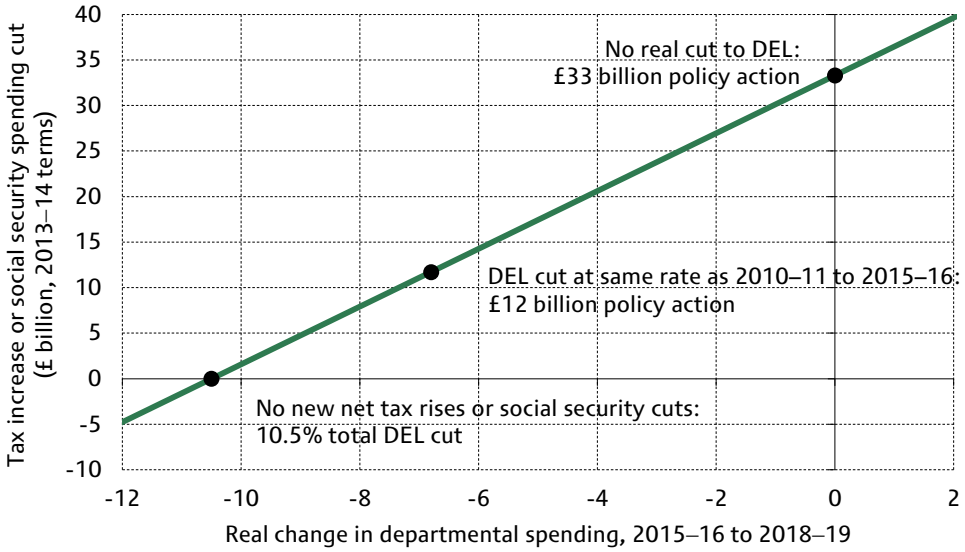
For the three financial years starting after the planned date of the next general election (2016–17, 2017–18 and 2018–19), departmental spending has not been explicitly planned by the government – it is the residual between announced levels of total spending and the OBR's projections for social security and other non-departmental spending. If the government were to change its plans by either increasing total spending or reducing non-departmental spending, then the implicit cut to departmental spending would be lower than that illustrated in Figure 2.6.

Assuming that the government is unwilling to increase its plans for borrowing, Figure 2.7 shows the trade-off the government faces over those three years between cuts to departmental spending and consolidation elsewhere (such as cuts to social security spending or tax increases).[19] As was illustrated in Figure 2.6, current plans imply that departmental spending will be cut by 10.5% (an average of 3.6% per year) over the three years 2016–17, 2017–18 and 2018–19. If instead the government wanted to slow the pace of cuts, and only cut departmental spending at the same rate as over the period 2010–11 to 2015–16 (an average of 2.3% per year), this would require an additional £12 billion (in today's terms) of benefit cuts or tax increases (or some combination of these). Chancellor George Osborne has expressed a desire to introduce £12 billion of additional welfare cuts after the next election in order to achieve this slower rate of cuts

[18] The 7.4% increase in spending on non-pensioner benefits between 2015–16 and 2018–19 shown in Table 2.3 overstates the increase in benefit going to these individuals. The introduction of universal credit involves a reclassification of the 'negative tax' component of tax credits as 'spending'. This has the effect of increasing spending in the government accounts, and therefore puts additional pressure on public service spending given a fixed total spending envelope. However, it does not represent an increase in the overall benefit going to tax credit recipients, as it is offset by an increase in recorded tax revenues. Excluding this effect, the increase in spending on non-pensioner benefits is around 5%. This is mainly the result of forecast increases in spending on housing benefit, employment and support allowance, and personal tax credits.

[19] There is little other non-departmental spending that the government has direct control over and could reallocate to departmental spending. For example, debt interest payments are determined by the public sector debt stock and market interest rates, while locally-financed spending by local authorities, spending on the BBC and spending financed by environmental levies all have offsetting revenue streams. Perhaps the only significant area of non-departmental spending that could be cut is net public service pensions. This is the amount currently being paid out in pensions to individuals for previous work in the public sector less pension contributions paid by current members of these schemes. The most obvious way this could be cut would be through a further increase in the required contribution rates.

Figure 2.7. Trade-off between tax increases or further benefit cuts and smaller cuts to departmental spending (assuming no change in borrowing)



to departmental spending. If the government wanted to go so far as to freeze departmental spending in real terms between 2015–16 and 2018–19, this would require an additional £33 billion in today's terms (rather than £12 billion) to be raised from lower benefit spending and/or higher taxation.

To put these figures in context, raising £12 billion in extra tax revenues would require policy action of the order of around a 2½ percentage point increase on the main rate of VAT or a 3 percentage point increase on the basic rate of income tax. Raising £33 billion would require even greater action (for example, 7 percentage points on the main rate of VAT or 8½ percentage points on the basic rate of income tax).[20]

Alternatively, if the £12 billion were to come from further cuts to social security spending, this would require an average cut of around 6% across all state pensions, benefits and tax credits. If the state pension were to be protected, an average cut of around 11% would be required, increasing to around 13% if all pensioner benefits were protected.

Departmental spending in the absence of further cuts to non-departmental spending

Current plans (i.e. in the absence of any new policies that increase borrowing, increase taxes or cut non-departmental spending) imply departmental spending will be cut by an average of 3.6% a year in real terms between 2015–16 and 2018–19 – on top of the 2.3% a year real-terms cuts between 2010–11 and 2015–16. By 2018–19, this would leave total departmental spending 20.4% below its 2010–11 level.

The cuts to departmental spending have been allocated between departments up to 2015–16, with the 2010 Spending Review setting departments' budgets for the four years 2011–12 to 2014–15, and the 2013 Spending Round setting departments' budgets for

[20] See HMRC, 'Direct effects of illustrative tax changes', December 2013, http://www.hmrc.gov.uk/statistics/expenditures/table1-6.pdf.

2015–16. Actual cuts to departments' budgets have been larger than those announced at these two spending reviews, as departments have both underspent and (in some cases) had their allocations reduced by the government just a few months after the spending reviews had 'set' plans.

The cuts have been allocated very unequally to date. Some areas of spending – the NHS, schools and Official Development Assistance (ODA) – have been 'protected' from cuts,[21] and the departments responsible for them have seen parts of their budgets 'protected' accordingly, while other departments have been tasked with delivering significant budget reductions. The largest planned cut to spending is within the Department for Communities and Local Government (DCLG), which has seen its Communities budget (a large proportion of which is government spending on subsidising social housing) cut by 79.0% in real terms between 2010–11 and 2015–16 (compared with a real cut to overall DEL of 11.1%).[22]

The implications of the government's decision to protect spending on the NHS, schools and aid are summarised in Table 2.4. Together, spending on the NHS, schools and aid accounted for around 40% of total departmental spending in 2010–11, and therefore protecting spending on these areas meant the cuts elsewhere needed to be nearly twice as large as they would have been had the pain been shared equally: while total DEL is planned to be cut by 2.3% a year between 2010–11 and 2015–16, 'unprotected' DEL is planned to be cut by 4.6%. By 2015–16, while total departmental spending will be 11.1% lower than in 2010–11, departmental spending on areas other than the NHS, schools and aid will have been cut by 21.0%.

Table 2.4. Implications of continuing 'protection' through to 2018–19

	Average annual real change (%):			Cumulative real change (%):		
	2010–11 to 2015–16	2015–16 to 2018–19	2010–11 to 2018–19	2010–11 to 2015–16	2015–16 to 2018–19	2010–11 to 2018–19
Total departmental spending (DEL)	–2.3	–3.6	–2.8	–11.1	–10.5	–20.4
Of which:						
Health	0.7	0.0	0.5	3.8	0.0	3.8
Schools	0.3	0.0	0.2	1.3	0.0	1.3
Aid (ODA)	6.0	2.7	4.7	33.5	8.3	44.6
Other ('unprotected')	–4.6	–7.0	–5.5	–21.0	–19.7	–36.6
If an additional £12 billion welfare cuts used to fund additional DEL in 2018–19						
Total DEL	–2.3	–2.3	–2.3	–11.1	–6.8	–17.1
Of which:						
Other ('unprotected')	–4.6	–4.5	–4.6	–21.0	–12.9	–31.2

Note: Table illustrates the effect of continuing 'protection' for spending on health, schools and overseas aid in 2016–17, 2017–18 and 2018–19, where this 'protection' is taken to mean a real freeze in spending for health and schools and an increase in aid spending in line with the growth in GDP.

[21] The government has pledged to increase real spending on the NHS, and maintain real spending on schools, each year through to 2015–16, and to spend 0.7% of gross national income on ODA from 2013 onwards.

[22] The Department for Communities and Local Government is unique in that it has two separate DELs. The 'DCLG: Local Government' DEL includes revenue support grant, national non-domestic rates, 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). The 'DCLG: Communities' DEL includes the department's main programme expenditure and administration costs. Cuts in the DCLG budget have been adjusted for the effects of financial transactions associated with Right to Buy.

If the 'protection' for NHS, schools and ODA spending is maintained through to 2018–19, the outlook for 'unprotected' areas will again be worse than that for total departmental spending. Table 2.4 illustrates that while total DEL is currently implied to fall by 10.5% between 2015–16 and 2018–19, unprotected areas of DEL would face cuts of 19.7% – bringing the total real cut to these areas of spending between 2010–11 and 2018–19 to 36.6%.

Table 2.4 also illustrates how the cuts to DEL, and the unprotected areas of DEL, might look if the government were to announce £12 billion of additional welfare cuts by 2018–19 and allocate that money to DEL instead. This would leave total DEL facing cuts of an average 2.3% a year in real terms over the whole period – resulting in a total cut of 17.1% by 2018–19. The unprotected areas of DEL (assuming the current protections for the NHS, schools and ODA are maintained) would then be facing a cut of 12.9% between 2015–16 and 2018–19 (a 31.2% cut between 2010–11 and 2018–19).

Are the cuts to departmental spending deliverable?

Perhaps the most significant risk to the government's current fiscal consolidation plan will lie in the difficulty of delivering cuts on this scale. There is one cause for optimism here: departments have actually underspent relative to their budgets so far. However, there are also two important reasons why the figures in Table 2.4 actually understate the pain from the planned spending cuts. These issues are discussed in turn below.

Underspends by departments to date

Despite the large budget reductions faced by departments since 2010–11, so far most have not spent their entire allocated budget each year. In 2011–12 departmental spending was £8.8 billion less than was planned a year ahead, while in 2012–13 total DEL was underspent to the tune of nearly £11.7 billion – over 3% of total departmental spending. The underspends expected from individual departments in 2012–13 were set out by the Treasury in the 2013 Budget. The departments with the largest expected underspends were unsurprisingly the largest departments (Health, Education and Defence), but smaller departments such as Transport and DCLG Communities were expected to underspend larger proportions of their budgets. This is perhaps particularly surprising for DCLG Communities, which is expected to deliver a larger cut to its budget between 2010–11 and 2015–16 than any other department.

One possible explanation for these underspends is that departments have looked ahead to the cuts they need to deliver by 2015–16 and decided that over-delivering on the cuts up to 2012–13 would leave them better placed to keep within their tight budgets going forwards. Alternatively, it could be that the penalties faced by departments for overspending mean that departments treat budgets as spending caps rather than spending targets.

The OBR incorporates an assumed underspend against the budgets the Treasury has set out for departments in each year going forwards: £7 billion in 2013–14 and £3 billion in each of 2014–15 and 2015–16. This assumption actually itself creates a risk to spending, since it means that if departments were to spend all of their allocated budgets in future years, that would result in total DEL being higher than forecast by the OBR.

However, the Treasury has so far proved adept at 'managing' departments so that they do not spend more than (or even all) their budgets. For example, in the 2013 Budget, the Treasury revealed exceptional underspending by departments, and some spending pushed forward into 2013–14 and 2014–15 (labelled as 'exceptional inter-period

flexibility') – which conveniently reduced spending in 2012–13 just enough to ensure that borrowing was forecast to fall between 2011–12 and 2012–13. In the 2013 Autumn Statement, the Treasury reduced the size of the reserve in 2013–14 'as a downpayment on expected reductions to departmental budgets' and it reduced departmental budgets in 2014–15 and 2015–16 'to lock in lower levels of spending'.[23]

So far, the government has promised very tight spending control and then has more than delivered on that promise. That might be a positive indication for the deliverability of further cuts, though inevitably it must become harder to make the cuts as budgets shrink.

Additional spending commitments

Even the scale of cuts set out in Table 2.4 disguises some additional pressures on DEL that will be experienced from 2016–17 onwards.

One such pressure is the cost of additional policies that the government has announced over the last couple of years without making any additional money available to departments to fund them. Some of these are existing policies that only start to cost money (or cost more money) from 2016–17 onwards – for example, the ending of contracting out into defined benefit pension schemes, which will increase employer NICs in the public sector (by £3.3 billion per year), the Dilnot reforms to social care funding (costing around £1.0 billion per year) and the new tax-free childcare scheme (costing an additional £0.4 billion per year from 2016–17 – see Chapter 8). Others are policies announced in the 2013 Autumn Statement for which additional money was made available up to 2015–16 (since departments' budgets have been set up to that point) but not in subsequent years – for example, the extension of free school meals (costing around £0.8 billion per year) and abolishing the cap on higher education student numbers (costing around £0.7 billion per year by 2018–19). All these additional cost pressures will need to be borne from within DEL budgets, and therefore they make the pressure on other spending areas greater than the headline DEL cuts would suggest. Together, the policies listed above amount to over £6 billion – around 2% of the total DEL budget – and this money will have to be made available through an equivalent reduction in other areas of departmental spending.

Demographic pressures

A second important reason why the figures in Table 2.4 understate the pressure on departments is that they express the spending cuts relative to the real-terms (i.e. inflation-adjusted) level of spending in 2010–11. However, we would actually normally expect real spending on public services to *increase* over time, for two reasons. First, the UK population is growing over time, which will increase demand for many public services and therefore require an increase in spending on these services. Second, growth in national income per capita over time means the population is getting richer, and this is normally associated with demand for higher-quality public services and therefore again higher spending. If public service spending were to keep pace with both population growth and the growth in national income per capita, it would increase in line with national income growth, and public service spending as a share of national income would remain constant over time.

[23] Paragraphs 1.73 and 1.74 of HM Treasury, Autumn Statement 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/263942/35062_Autumn_Statement_2013.pdf.

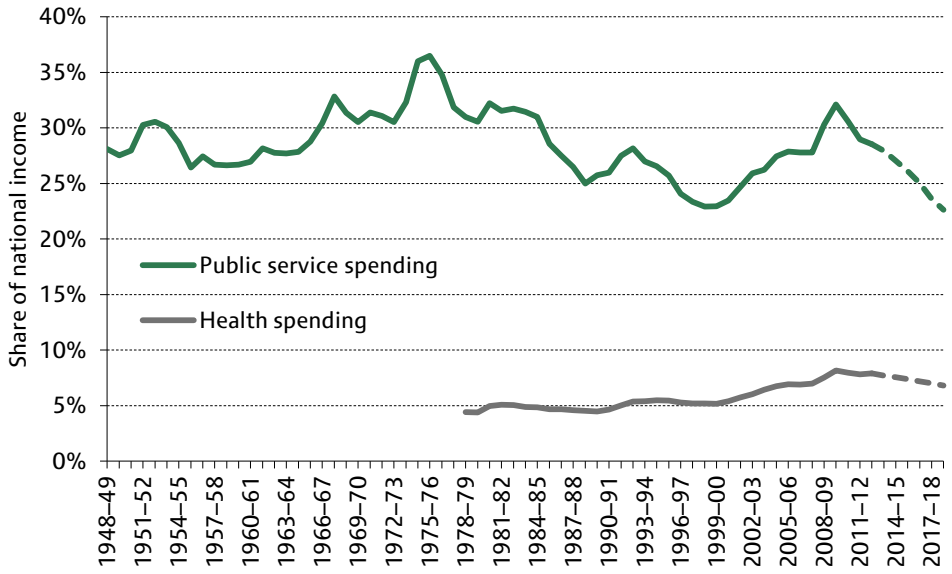
Table 2.5 describes how the growth in public service spending has compared with population growth and the growth in national income per capita in the past, and Figure 2.8 shows public service spending as a share of national income. Between 1978–79 and 1997–98, there was real growth in public service spending of an average 1.2% per year, which easily outstripped population growth but was less than the growth in national income, since national income per capita grew strongly on average across the period. Public service spending as a share of national income therefore fell over this period, from 31.0% in 1978–79 to 23.4% in 1997–98. However, over the period 1997–98 to 2007–08, growth in public service spending exceeded combined population growth and national income per capita growth; as a result, public service spending increased as a share of national income from 23.4% to 27.8%.

Table 2.5. Comparing the growth of public service spending with population and per capita national income growth

Average annual real growth in:	1978–79 to 1997–98	1997–98 to 2007–08	2007–08 to 2010–11	2010–11 to 2018–19
Population	0.2	0.5	0.8	0.7
GDP per capita	2.5	2.7	–2.2	1.2
GDP	2.7	3.2	–1.5	1.9
Public service spending	1.2	4.9	1.7	–1.7

Note: Public service spending is defined as total spending less gross debt interest payments, social security spending and tax credit spending.
Source: Population figures from Office for National Statistics, http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Population+Estimates+by+Age+and+Sex and http://www.ons.gov.uk/ons/rel/npp/national-population-projections/2012-based-projections/rft-table-a3-1-principal-projection---uk-population-single-year-of-age.xls. GDP from ONS series BKTL. Public service spending derived as the residual between ONS series KX5Q (TME), gross debt interest spending (JW2P) and social security spending (authors' calculations, based on DWP expenditure data, https://www.gov.uk/government/publications/benefit-expenditure-and-caseload-tables-2013). Forecasts from Office for Budget Responsibility, *Economic and Fiscal Outlook December 2013*, http://cdn.budgetresponsibility.independent.gov.uk/Economic-and-fiscal-outlook-December-2013.pdf.

Figure 2.8. Public service spending and health spending



Note: Dashed lines are forecasts. Health spending projection assumes health spending frozen in real terms from 2012–13 onwards.
Source: As for Tables 2.5 and 2.6.

In marked contrast to these previous two decades, public service spending is on average being cut by 1.7% a year over the period from 2010–11 to 2018–19 – despite this being a period in which the population is forecast to grow by 0.7% a year on average. Public service spending *per person* is therefore projected to fall by 2.4% per year on average. National income per capita is also projected to grow over this period, by 1.2% a year on average. Public service spending as a share of national income is therefore projected to fall – from 30.6% in 2010–11 to just 22.6% in 2018–19. This would be a very similar level of public service spending to the level in the late 1990s (22.9% of national income in 1998–99 and 1999–2000).

The UK population is not only increasing in size, but also changing in terms of its demographic composition. Increasing life expectancies and past changes in birth rates mean that the proportion of individuals at older ages is increasing. For example, the ONS projects that between 2010 and 2018 the UK population will grow by 3.5 million, with the population aged 65 and over increasing by 2.0 million; the proportion of the population aged 65 and over will increase from 16.5% to 18.6%. This ageing of the population will put even greater pressure on some areas of public service spending because many public services are disproportionately used by older people.

Health spending is one area of particular concern. Estimates from the Department of Health imply that in 2011 that approximately seven times as much was spent on an average 80-year-old as on an average 30-year-old.[24] If health spending were to be increased in line with population growth and changing demographics (but the level of spending for each person of a given age were held constant in real terms), then this would imply an average real increase in health spending of 1.2% a year between 2010–11 and 2018–19. Therefore, even if total spending on the NHS were frozen in real terms between 2010–11 and 2018–19, real per capita age-adjusted spending on the NHS would be 9.1% less in 2018–19 than in 2010–11 (although it should be noted the true rate of inflation faced by the NHS will differ from economy-wide inflation and, over the recent period, will have been depressed by the current squeeze on public sector pay).

Furthermore, Table 2.6 illustrates that over the past two decades not only has health spending increased by more than the need implied by demographic pressures, but also it has outpaced demographic pressures and growth in national income per capita combined. Spending on health going forwards may be protected (in that it is frozen in real terms between 2010–11 and 2015–16 while other departmental spending is being cut), but this will still be an unprecedented squeeze for the health service.

The real spending cuts highlighted in Table 2.4 therefore understate the difficulty involved in sticking to the government's spending plans. Demographic pressures will increase demand for public services such as health and long-term care in particular, but also for education and for all other areas of public spending where the increasing population feeds through into an increase in demand and consequently an increasing cost of provision. In addition, rising national income per capita may mean that individuals expect public services to be of higher quality, which would take increased spending to deliver.

[24] Age profiles for different components of health spending from Department of Health, 'Resource allocation: weighted capitation formula', 2011, https://www.gov.uk/government/publications/resource-allocation-weighted-capitation-formula. Relative significance of different components of spending from HM Treasury, *Public Expenditure Statistical Analyses*, 2013, https://www.gov.uk/government/collections/public-expenditure-statistical-analyses-pesa.

Table 2.6. Historic growth in health spending compared with demographic pressures and per capita national income growth

Average annual growth in health spending	1978–79 to 1997–98	1997–98 to 2007–08	2007–08 to 2010–11	2010–11to 2018–19
Actual	3.6	6.3	3.0	*0.0*
Needed to keep pace with demographic change	0.4	0.7	1.1	1.2
Needed to keep pace with demographic change and GDP per capita growth	3.0	3.4	–1.1	2.4

Note: Realised health spending beyond 2015–16 (the last year for which plans are available) assumes a real freeze in health spending.
Source: Health spending from historic editions of HM Treasury, *Public Expenditure Statistical Analyses* (PESA). Population numbers from Office for National Statistics, December 2012 release. Nominal GDP from ONS series BKTL. Forecasts from Office for Budget Responsibility, *Economic and Fiscal Outlook December 2013*, http://cdn.budgetresponsibility.independent.gov.uk/Economic-and-fiscal-outlook-December-2013.pdf.

The government's current spending plans imply that public service spending will fall to a historic low of 22.6% of national income in 2018–19. If future governments judge this too low, and do not want to increase borrowing, they will need either higher taxes or lower social security spending.

Capping welfare spending

Given the government's unwillingness to increase its total spending plans, a further risk to DEL is that the OBR's forecasts for social security and tax credit spending increases. However, in the June 2013 Spending Round, the Chancellor announced his intention to set a cap on a large proportion of social security and tax credit spending, reducing the risk that this will increase and crowd out spending on DEL.

The rationale behind having a cap on welfare spending is a perception that governments find it difficult to curb unexpected, undesirable increases in benefit spending, since this invariably requires unpopular decisions over how to make the benefit system less generous. Three striking examples of instances of sharp increases in spending on social security spending that were possibly unintended are:[25]

- Over the four-year period starting in April 1990, real spending on invalidity benefit grew by an annual average of 12% per year. This cumulated to total growth of 56%, arising from a 53% increase in the number of claimants and a 2% rise in spending per claimant.
- Over the same four-year period, real spending on housing benefit grew by an annual average of 17% per year. This cumulated to total growth of 84%, arising from an 18% increase in the number of claimants and a 56% increase in spending per claimant as private rents grew faster than private incomes.
- Over the 13-year period from April 1997, real spending on disability living allowance and attendance allowance grew in real terms by an annual average of 5% per year. This cumulated to total growth of 91%, arising from a 62% increase in the number of claimants and an 18% increase in spending per claimant.

[25] Source: Authors' calculations using data from Department for Work and Pensions, *Historic and Forecast Benefit Expenditure and Caseload Data 2013*, https://www.gov.uk/government/publications/benefit-expenditure-and-caseload-tables-2013. 'Real terms' is defined relative to the GDP deflator.

A cap on welfare spending could instead force the government to make active policy decisions about a desirable level of social security spending, rather than allowing social security spending to simply drift upwards.

The rest of this section discusses the definition of spending that the Chancellor has said will be covered by the cap and how the cap will operate in practice – details of which were announced in the 2013 Autumn Statement.[26]

What is to be covered by the cap?

The measure of spending that the Chancellor is choosing to cap is total spending on social security benefits and tax credits, excluding:

- spending by local authorities on support for council tax and discretionary housing payments, since these are outside of central government control;
- spending on jobseeker's allowance (JSA) and housing benefit for those receiving JSA, since these items of spending are the most cyclical and therefore spending on them is particularly likely to deviate temporarily from previous forecasts;[27]
- spending on the state pension, since the government argues that increases in the state pension age are a more sensible way of limiting future spending on this item.

Excluding spending that is (largely) outside of central government control is sensible. Otherwise, a breach of the cap could be triggered purely as a result of the policy decisions of local authorities. Excluding spending that might deviate only temporarily from previous plans also seems appropriate – arguably, particularly so if higher spending only occurred during periods when the economy was operating below its sustainable level. So, for example, unanticipated temporary weakness in the economy would typically push up spending on JSA and housing benefit, but this additional spending should fade away once the economy recovers, and it might well be inappropriate to offset the temporary boost to spending with a reduction in the generosity of benefits. Excluding spending on JSA and on housing benefit for those receiving JSA (and, once JSA is rolled into universal credit (UC), excluding UC spending on those with no net earnings who are subject to full conditionality) therefore seems sensible, but it should be noted that there are also other parts of the social security budget that might rise and fall temporarily over the economic cycle for good reasons, such as spending on tax credits, and these are still included with the definition of 'welfare in scope'.

By far the largest area of spending excluded from 'welfare in scope' is spending on the state pension. To the extent to which forecast spending on state pensions rises due to upward revisions to expected longevity that are likely to persist, then responding with further increases in the future state pension age to control state spending seems a coherent response – but, since this policy lever takes a long time to operate, state pension spending is likely to remain higher than previously forecast in the medium term. But if current pensioners were, on average, living longer, there could be a case for reducing the weekly level of their state pension too. This could help reduce medium-term pension

[26] See paragraphs 1.45 to 1.50 of HM Treasury, *Spending Round 2013*, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/209036/spending-round-2013-complete.pdf and paragraphs 1.93 to 1.118 of HM Treasury, *Autumn Statement 2013*, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/263942/35062_Autumn_Statement_2013.pdf.

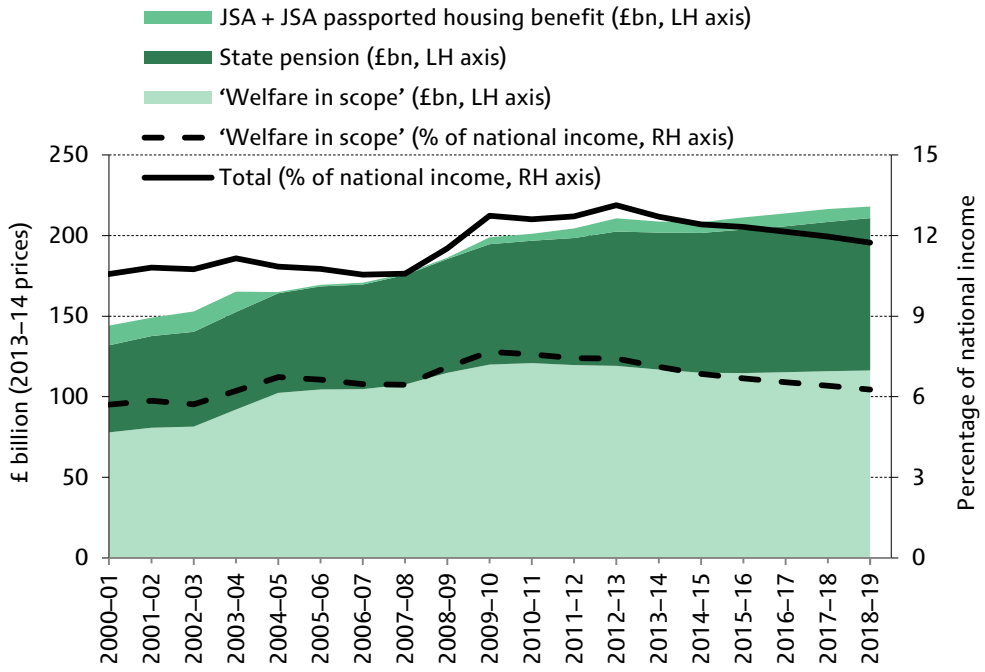
[27] Once JSA is rolled into universal credit (UC), the cap will instead exclude UC spending on those with no net earnings who are subject to full conditionality.

spending, but would come at the cost of transferring some longevity risk from the taxpayer to the current pensioner population.

Forecasts for spending on the state pension may exceed previous forecasts for other reasons: for example, due to underestimates of either the state pension entitlements of new pensioners or the cost of the government's preferred indexation method (the 'triple lock', which is to increase the state pension by the greater of growth in the CPI, average earnings and 2.5%, and therefore implies the level of the state pension rising relative to both prices and earnings over the longer term in rather an odd way). In these cases, it is less clear that an increase in the future state pension age would be the most obvious policy response, and a mechanism forcing the government to assess its policy on state pension spending might be beneficial.

Figure 2.9 shows (on the left-hand axis) the amount spent (in real terms) by central government on social security benefits and tax credits since 2000–01, together with the latest official forecasts through to 2018–19. This spending is decomposed into state pensions, 'welfare in scope', and spending on JSA and housing benefit for JSA recipients. In 2013–14, spending on 'welfare in scope' is forecast to be £116.8 billion compared with

Figure 2.9. Social security and tax credit spending in, and out, of scope of the welfare cap



Note: Total social security and tax credit spending excludes spending on council tax support and discretionary housing payments. Spending converted into 2013–14 prices using the GDP deflator.
Source: Total social security spending derived from Office for Budget Responsibility, *Economic and Fiscal Outlook December 2013*, http://cdn.budgetresponsibility.independent.gov.uk/Economic-and-fiscal-outlook-December-2013.pdf and Department for Work and Pensions, *Benefit Expenditure and Caseload Tables 2013*, December 2013, https://www.gov.uk/government/publications/benefit-expenditure-and-caseload-tables-2013. 'Welfare in scope' from chart 1.12 on page 34 of HM Treasury, *Autumn Statement 2013*, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/263942/35062_Autumn_Statement_2013.pdf. State pension spending for Great Britain from Department for Work and Pensions, *Benefit Expenditure and Caseload Tables*, December 2013, https://www.gov.uk/government/publications/benefit-expenditure-and-caseload-tables-2013 and for Northern Ireland from Department for Social Development, *NI Benefits Statistics Summary: state pension*, September 2013 and September 2011, http://www.dsdni.gov.uk/index/stats_and_research/benefit_publications.htm. GDP from Office for Budget Responsibility, *Public Finances Databank,* 9 January 2014, http://budgetresponsibility.org.uk/data/.

total central government spending on social security benefits and tax credits of £208.7 billion. Of the £116.8 billion covered by 'welfare in scope', roughly £28 billion will be benefits to pensioners other than the state pension (in particular pension credit, housing benefit, disability living allowance, attendance allowance and winter fuel payments) and roughly £89 billion will be on benefits and tax credits paid to working-age families.

Also shown in the graph (on the right-hand axis) is both total spending and spending on 'welfare in scope' measured as a share of national income. Between 2000–01 and 2013–14, spending on state pensions grew slightly faster in real terms than spending on 'welfare in scope' (3.5% per year compared with 3.2%) and both grew more quickly than the economy as a whole (1.4% per year). Over the next five years, the forecasts suggest that spending on state pensions will grow much more quickly than spending on 'welfare in scope' (increasing by 2.2% per year compared with a fall of 0.1% per year) although slightly less quickly than the economy as a whole (2.5% per year).

How will the cap operate?

The level of the cap for 'welfare in scope' in each of the four financial years 2015–16 to 2018–19 will be announced by the Chancellor in his March 2014 Budget. Each subsequent Autumn Statement will then announce the cap for one further year – so, for example, the 2014 Autumn Statement will set the level of the cap for 2019–20. The Chancellor's choice of cap, and any changes he or she wishes to make to it, must be approved through a vote in Parliament. The cap will be set in cash terms – so, for example, would not automatically increase if inflation turned out to be greater than anticipated – but the Chancellor will presumably set the cap taking into account expectations about future inflation.

Alongside each Budget and Autumn Statement, the OBR will produce a forecast for spending on 'welfare in scope', and alongside each Autumn Statement, it will formally assess the Chancellor's compliance with the cap. If the Chancellor is assessed to be in breach of the cap, he or she would either need to announce policy action at that Autumn Statement to reduce spending in scope or obtain the approval of Parliament to increase the cap.

Assessing whether the cap is breached is not quite as simple as comparing forecast 'welfare in scope' with the level of the cap. Sensibly, if the OBR judges that forecast spending is in excess of the cap solely as a result of a classification change, then this would not constitute a breach of the cap. In addition, if a breach only occurs as a result of a forecasting change (rather than as the result of an explicit policy change), then the breach has to be of a certain size in order to require a policy response. The size of this 'forecast margin' is yet to be announced by the Chancellor.

The argument for allowing a 'forecast margin' is that it is not clear that a policy response is merited if, for example, a cap of £100 billion is exceeded purely because of a forecasting change of £0.1 billion. However, the cost of allowing this flexibility is twofold. First, it makes the operation of the cap more complicated and therefore more difficult to communicate. This in turn potentially risks a lack of clarity, with the possibility of external commentators disagreeing on whether or not the government is keeping within the spirit of its own cap. Second, the distinction between a policy change and a change in the underlying forecast may not in practice be clear-cut. For example, would an effective advertising campaign that led to an increase in the take-up of universal credit constitute a policy change or a change in the underlying forecast? Since there is not necessarily a right

or wrong answer to this question, it is certainly preferable that the independent OBR assesses compliance with the cap, rather than the Chancellor.[28] However, an altogether simpler approach would be to do away with the 'forecast margin' entirely and instead set the cap slightly higher in the first place. Of course, the downside of this is that a slightly higher cap could allow higher spending than would have been deemed desirable to persist.

In addition to forecasting 'welfare in scope' alongside each Budget and Autumn Statement, and formally assessing compliance with the cap alongside each Autumn Statement, the OBR has been tasked with producing an annual report on trends in and drivers of spending on 'welfare in scope'. This is a sensible addition to the OBR's remit, and will provide an important, frequent review of spending on individual components of the social security and tax credit budget. However, it would be sensible to widen the scope of this report to cover all social security spending rather than just 'welfare in scope'. It is hard to see the rationale for excluding from this additional scrutiny spending on areas such as JSA, or housing benefit for JSA recipients, not least because there could be significant interactions between spending on these benefits and spending on other social security benefits.

Summary

The new welfare cap could lead to better policymaking if it forces decisions to be made that would otherwise have been avoided. But the presence of such a cap does not mean that better policymaking will automatically follow.

The new welfare cap does not guarantee that spending on certain benefits will not be allowed to rise unplanned in future. For example, it is possible that while some spending rises unexpectedly and in an unplanned way, falls in spending on other benefits offset this by a sufficient amount to ensure that overall spending on 'welfare in scope' remains below the cap. In this scenario, the cap would not require policy action, but if the unplanned spending rise would have led to a breach of the cap if other benefits had behaved as expected, it is hard to see why that should not be the case just because of better fortune (for the exchequer) elsewhere in the social security budget. The OBR's annual report on trends in welfare spending should, however, help highlight the need for policy action in this case.

There are at least three potential cases where breaching (or increasing) the cap might be a sensible course of action. First, there could be an unexpected economic downturn and some elements of spending covered by the cap could be counter-cyclical. Second, higher inflation associated with higher incomes might warrant a higher nominal level of spending on benefits. Third, there could be a desire to make the benefit and/or tax credit system more generous.

Finally, if cuts are deemed to be the right response to higher projected welfare spending, then good policymaking would require the cuts implemented to be well argued and well designed, rather than simply the quickest or politically easiest to achieve.

If the new welfare cap does bind, then nominal spending on 'welfare in scope' would be less likely to exceed the Chancellor's cap, making public spending forecasts less uncertain and reducing one risk to the public finances. However, the consequence of this is that the real incomes of those potentially receiving benefits included in 'welfare in scope' will now

[28] In addition, it would also increase clarity were the OBR to set out clearly whether or not the cap would have been breached under different judgements.

be subject to greater risk, since if the cap might now bind, then it must be more likely than before that these benefits will subsequently be subject to cuts.

2.5 Conclusion

The UK government is almost four years through what is now planned to be a nine-year fiscal consolidation plan, with tax increases and spending cuts designed to reduce borrowing by 10.1% of national income. This is a greater fiscal contraction than is required to offset the latest estimate of the permanent damage done to borrowing by the financial crisis and, if successfully implemented, would leave the public finances in a strong position by recent standards. The OBR is forecasting a cyclically-adjusted surplus in 2018–19, and a simple projection under the assumption of 'unchanged policy' suggests that even the pressures from the ageing population would not now have a significant adverse effect on public debt until around the 2050s.

Much uncertainty remains, however, and there is still a risk that economic prospects turn out worse than currently forecast by the OBR. The permanent damage done to the economy and to public borrowing by the financial crisis can only be estimated, and estimates have changed over time as more data become available. Future revisions could require the government to do a larger (or smaller) fiscal tightening in order to deal with this permanent problem, although caution against this eventuality is built into the Chancellor's fiscal consolidation plan, in that he is aiming to do more than is currently estimated to be required to deal with the permanent borrowing problem. Although the forecast recovery in receipts is not unprecedented, increased reliance on a decreasing proportion of taxpayers is a further source of risk to the current consolidation plan.

Even if the OBR's economic forecasts turn out to be correct, the key question that remains is whether the planned fiscal consolidation *can* be implemented. While virtually all of the tax increase and benefit spending cuts planned are in place, considerable cuts to public service spending are still required in future. These cuts have not yet been delivered, and in terms of the cuts planned for after 2015–16, they have not even been allocated between departments. While this is understandable since these financial years start after the next general election, it does increase the uncertainty over the effect of these cuts on public service provision and quality, and therefore the acceptability of these cuts to voters. Current plans imply that public service spending as a share of national income in 2018–19 will be back around the level it was in the late 1990s (technically, at its lowest level since at least 1948–49 from when comparable data are available), and it is far from certain that the current or a future government will have the political will to see state provision of services reduced to this extent. Over the next 15 months as the political parties present their plans for borrowing, taxes and spending, it is to be hoped that some of this uncertainty will be resolved. But the experience of the last general election – where all three of the main UK political parties provided details of only a minority of the fiscal tightening they had planned – suggests that this hope might unfortunately be in vain.

3. The global economy

Adam Slater (Oxford Economics)

Summary

- The outlook for the global economy in 2014 is for an improving growth picture overall, but with considerable divergences in economic performance among key economies and regions.
- We forecast US growth to top 3% in 2014, with a similar pace of growth next year. Consumer spending is picking up and will be supported by improved labour market conditions and wealth gains. An easing of fiscal austerity will also bolster US growth from 2014.
- The outlook is more mixed in the Eurozone, where trends among member states are very varied. A reduced fiscal squeeze will help growth from 2014, as will improving external demand. But while Germany should post respectable growth this year, growth will remain weak at around 0.5% in Italy, France and Spain.
- Emerging economies slowed in 2013 and while we expect Chinese growth to level off at around 7% in 2014–15, growth is set to remain below trend this year in Brazil, Russia and India, where structural obstacles to continued rapid growth are becoming evident.
- World growth is forecast to rise from an estimated 2.2% in 2013 to 2.9% in 2014 and 3.2% in 2015, representing a gradual recovery towards a trend rate of expansion.
- A key downside risk to this forecast is the possibility of a slide into deflation in the Eurozone. Plausible upside risks relate to a faster recovery in the US and to more decisive reforms in the Eurozone and Japan.

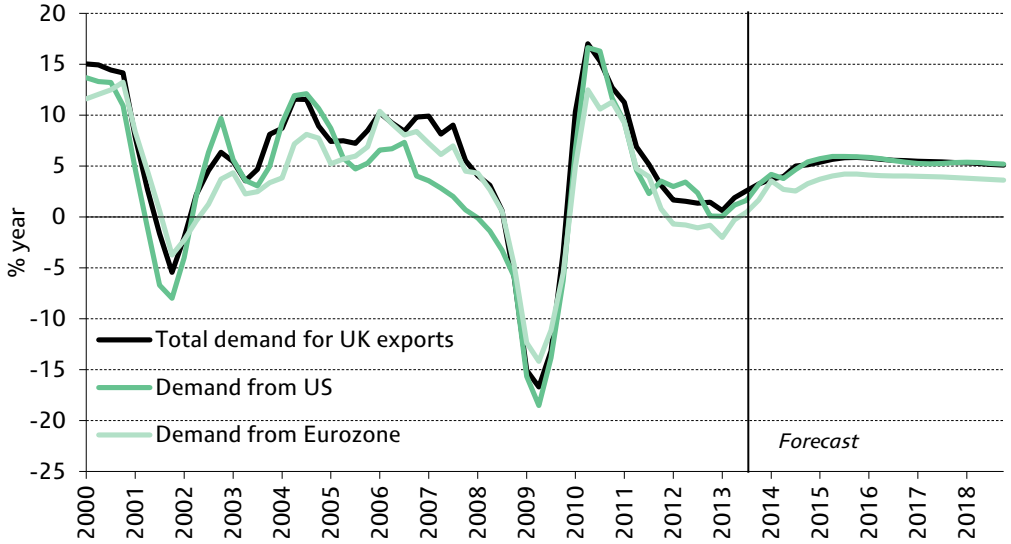
3.1 Introduction

Global growth ran at a below-trend rate estimated at 2.2% in 2013, down from 2.3% the year before. Once again, world trade growth was also weak in 2013, at an estimated 2.7% – the same rate as in 2012 and well below the average rate of 6% per year seen over the last two decades. This was a limiting factor for heavily export-oriented economies and for those seeking to achieve export-led expansions in the face of weak domestic activity.

One factor behind the slow growth of world trade was continued economic weakness in the Eurozone. Although the Eurozone returned to slightly positive growth in the second half of the year after six quarters of recession, import volumes were stagnant over the year, and the Eurozone accounts for around a quarter of world trade.

From a UK perspective, the sluggish Eurozone was a considerable drag on export performance despite more buoyant markets elsewhere and some rebalancing of UK exports away from the Eurozone and towards the rest of the world. Eurozone imports will continue to grow more slowly than those in other key UK trading partners, but a stronger US will nevertheless help overall UK export demand firm considerably in 2014–15 (see Figure 3.1). The slow growth of the Eurozone forecast for 2014 will continue to

Figure 3.1. UK export demand



Source: Oxford Economics / Haver Analytics.

constrain UK export performance, although this will be offset to some extent by a stronger US.

Overall, the Eurozone represents less of a threat to UK growth prospects than was the case a year ago, thanks to a considerable decline in financial stress in the region. The risk of a splintering of the Eurozone has receded considerably, even though deep-seated economic and financial problems remain in some of the 'peripheral' Eurozone states such as Greece and Portugal, as has the danger of further sovereign debt defaults. The Eurozone banking system, while still troubled, is also less likely to transmit further financial shocks to the UK. Probably the more potent near-term risk for the UK now is that the Eurozone slides into deflation, which would be likely to mean an even weaker growth outlook for the region.

Our forecast for the global economy is set out in Section 3.2, while Section 3.3 describes the key risks to this forecast. Section 3.4 concludes.

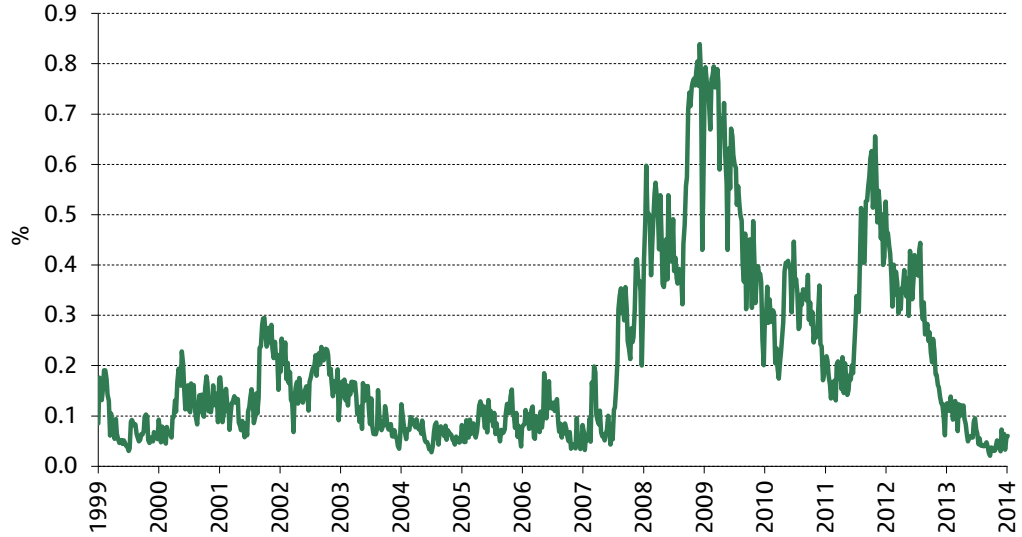
3.2 Global outlook

Eurozone

Financial stress has receded considerably in the Eurozone over the last year. The European Central Bank (ECB)'s composite measure of financial strain fell steeply in the second half of 2012 and an additional decline was seen in 2013 so that in recent months it has been running at its lowest level since 2006 (see Figure 3.2). Concerns about the fiscal positions of the troubled 'peripheral' economies also lessened over the year, with a marked drop in government bond spreads in countries such as Spain, Portugal and Ireland. The financial crisis in Cyprus in March/April showed that Eurozone financial problems have not receded entirely, but this crisis proved to be contained, not leading to significant contagion to other Eurozone member states.

This improvement in financial conditions in the Eurozone occurred even though the ECB was not obliged to follow through on its promise from 2012 to do whatever was necessary to preserve the integrity of the euro currency – specifically, undertake large-

Figure 3.2. Eurozone financial stress



Note: ECB composite measure of financial stress.
Source: Oxford Economics / Haver Analytics.

scale government bond purchases. The ECB's expressed willingness to engage in such measures has so far proved an effective backstop for sovereign debt markets in the 'peripherals'.

The relaxation of financial tensions in 2012 and 2013 has slowly fed through to the real economy in the Eurozone. The region emerged from a six-quarter recession in 2013Q2, and survey indicators of activity firmed as 2013 proceeded. The composite PMI indicator improved from 48.6 in January, indicating contracting activity, to 52.1 by December - clearly above the 50 level indicating expanding output.[1]

The hard data in the Eurozone have, if anything, lagged the survey indicators, with GDP growth only 0.1% in 2013Q3. Against this background, there is a risk that the Eurozone could slip back into technical recession in 2014, although on balance we think this eventuality will be avoided. Aside from the survey evidence, industrial output in October–November was 0.3% above the quarterly average of Q3 and consumer spending also showed signs of life in November, with Eurozone retail sales rising by 1.4% on the month and 1.5% on the year.

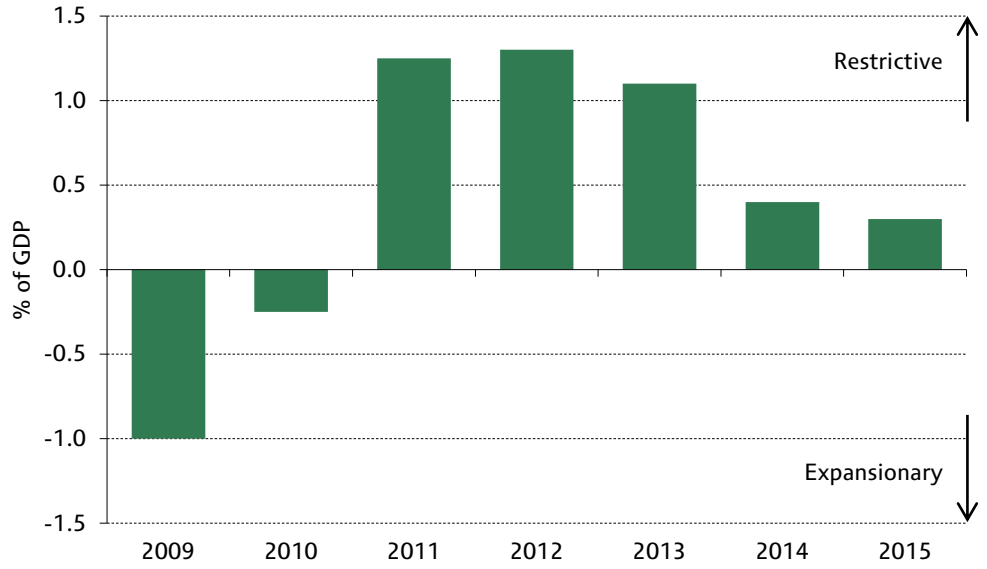
The very modest recovery we expect for the Eurozone in 2014 will nevertheless remain a fragile one, heavily dependent on improving external demand. Export growth is forecast to rise from 1% in 2013 to 3% in 2014, with net exports accounting for around half of total GDP growth. A further acceleration in export growth to 4% is expected in 2015.

This implies downside risks to growth if world activity fails to pick up as we expect, and also if the euro does not depreciate as we expect. We currently forecast a decline in the euro/dollar rate to 1.27 year-end, from around 1.36 at the start of 2014.

Another factor supporting a pick-up in growth in the Eurozone in 2014 and beyond should be an easing in fiscal austerity. Although fiscal policy will continue to tighten, the squeeze will be far less severe than was the case in 2011–13. We estimate that Eurozone

[1] The purchasing managers' index (PMI) is an indicator produced by Markit Group by polling private sector companies.

Figure 3.3. Eurozone fiscal tightening



Source: Oxford Economics.

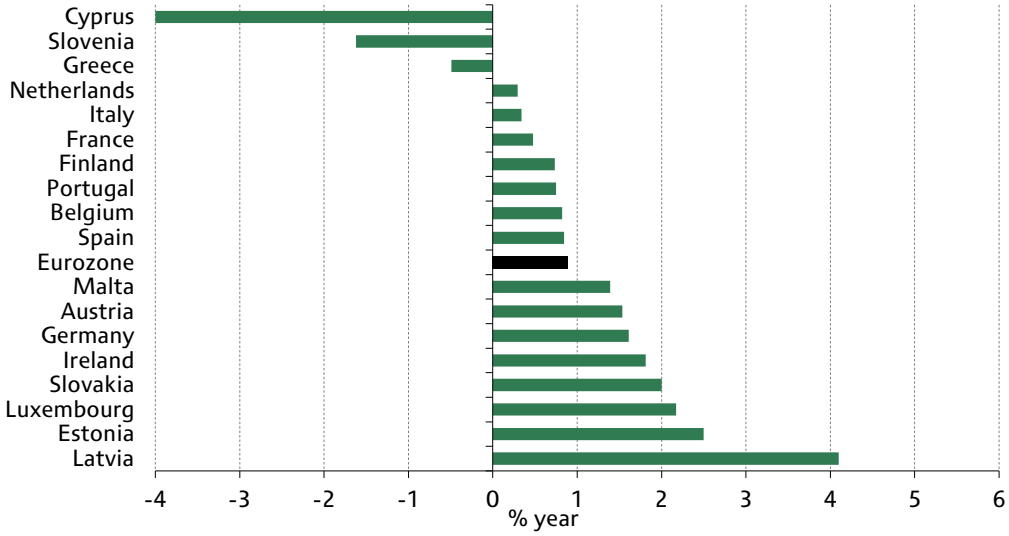
fiscal tightening will be 0.4% of GDP in 2014 and 0.3% in 2015, compared with around 1% of GDP per year in 2011–13 (see Figure 3.3). Reduced pressure from financial markets and the European Commission may even allow a little fiscal slippage, constituting a modest upside risk to our GDP forecasts.

On the monetary policy side, the outlook is more clouded. The ECB did cut interest rates twice in 2013, to 0.25%, but money and credit measures remain subdued. Broad money supply growth in November was very muted at just 1.5% on the year, well below the medium-term reference level of 4.5% the ECB has used in the past, and credit to the private sector continues to contract. Loans to non-financial firms were some 6% lower on the year in November and loans to households were down by 0.3%.

Meanwhile, inflation in the Eurozone declined sharply in the second half of 2013, and stood at just 0.8% year-on-year in December. With prices already falling or static in a number of Eurozone states, there are now concerns that the region as a whole could slide into deflation. The ECB has stated that it is prepared to take further monetary policy action to ward off this risk, but with interest rates already close to zero the limits of 'conventional' monetary policy have almost been reached. As yet, it remains unclear what alternative approaches the ECB might take if deflation risks persist. A shift to full-blown quantitative easing still looks to be unlikely in the face of political and institutional obstacles, but a cut in the rate paid on banks' deposits at the ECB or a fresh injection of liquidity into the banking sector are possibilities.

Fiscal and monetary forces are operating unevenly across the Eurozone and this is contributing to an uneven pace of growth across the region, which we expect will continue into 2014. Germany already has a balanced budget and moderate private debt levels, has benefited from capital inflows from weaker countries (boosting domestic liquidity and asset prices) and has a strong competitive position thanks in part to key reforms over the last 15 years. We expect GDP growth to reach a respectable 1.6% this year.

Figure 3.4. Eurozone: forecasts for GDP growth in 2014



Source: Oxford Economics.

But growth is likely to be much weaker in the other large Eurozone economies – France, Spain and Italy – at around 0.5% (see Figure 3.4). These countries still face significant headwinds from fiscal tightening, impaired banking sectors and (especially in the case of France) a lack of structural reforms. These countries also suffer from excessive private sector debt, and the need to reduce private debt burdens will be a drag on growth into the medium term. Ongoing deleveraging will be one of the factors, added to poor demographics and a slow pace of economic and political reform, that will constrain Eurozone GDP growth to an average of only around 1.5% per annum from 2015–18.

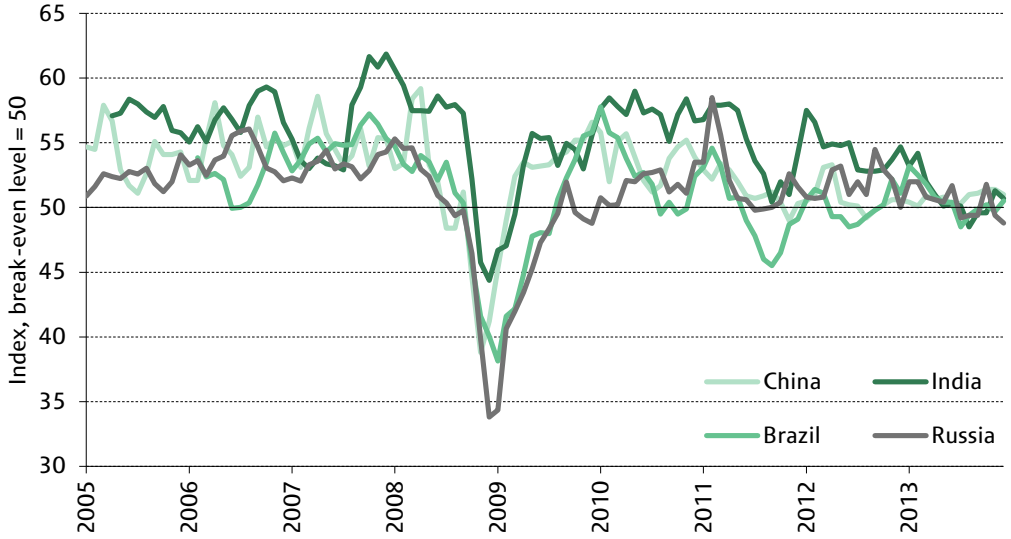
Emerging economies

The main emerging markets had a generally disappointing year in 2013, with growth slowing notably. One factor behind this was the efforts by the Chinese authorities to switch away from an investment- and export-driven growth model to one more focused on consumer spending. The problems with managing such an adjustment were illustrated during the year by a number of significant spikes in interbank interest rates, and import growth remained relatively subdued by the standards of recent years, constraining the expansion of regional trade and proving a challenge for the smaller export-oriented economies of Asia such as Korea and Taiwan.

Chinese growth came in at 7.7% for 2013 but we expect it to slow to just above 7% in 2014–15. This will be a more modest pace than over most of the last decade, but hopefully a more sustainable one. Economic underperformance has been more marked in the other three 'BRIC' economies – Brazil, Russia and India – which appear to be facing structural impediments to continued rapid growth. As 2013 drew to a close, monthly indicators suggested few signs of an upturn. The PMI indicators for India, Russia and Brazil were all suggesting either contraction or very slow growth (see Figure 3.5).

Many emerging economies also suffered a financial shock from mid-2013 onwards as the Federal Reserve began preparing markets for its tapering of asset purchases. This forced up US bond yields, drawing capital away from emerging countries and resulting in sharp falls in some emerging market currencies. This in turn raised inflationary pressures, hurting consumers, and forced up interest rates in many emerging countries, further

Figure 3.5. BRICs: manufacturing purchasing managers' index



Note: The purchasing managers' index (PMI) 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 / Haver Analytics.

damaging growth. A number of key emerging countries (especially those with vulnerable external positions – for example, large current account deficits) were obliged to conduct essentially pro-cyclical economic policies – tightening monetary conditions in the face of slow growth.

We expect these negative factors to ease only slowly through 2014, especially as US interest rates are likely to drift higher as Federal Reserve tapering proceeds. As a result, both Russia and Brazil are forecast to post below-trend GDP growth of 1.9% and 1.7% respectively this year. In India, growth is expected to improve only slightly, to 4.9%, and 2013 and 2014 are set to be the weakest back-to-back years for India's economy in a decade.

Overall, emerging market GDP growth is forecast at 4.5% for 2014, up from 4.2% in 2013. This compares with 7–8% growth in the period prior to the global financial crisis of 2008–09. Nevertheless, the emerging markets should still offer significant opportunities for UK exporters, especially compared with the Eurozone where growth will be much lower. In November 2013, UK export volumes to the EU were down 1.4% on the year while exports to non-EU countries were up 8.6% on the year. UK goods exports to the BRIC countries were up around 9% on the year in value terms in the first 11 months of 2013, with sales to China especially buoyant.

Japan

Japan's economy reacted positively to the strong fiscal and monetary stimulus policies undertaken during 2013, and especially to the weakening of the yen, which depreciated around 20% over the year. Economic growth is estimated at 1.7% for last year, and we expect the positive momentum to continue into 2014, with growth reaching 1.8%.

Surveys of business sentiment are buoyant, with the Tankan survey at its strongest since the end of 2007 and the manufacturing PMI at a seven-year high. The Bank of Japan also

plans to engage in asset purchases of over 10% of GDP this year for a second successive year, with a strong chance that monetary stimulus will be extended even beyond this. Meanwhile, Japan has made considerable progress in escaping from deflation, with the headline consumer price index (CPI) reaching 1.6% in November 2013 from –0.9% last March. By contrast, government bond yields have remained contained at just 0.7% in the 10-year maturity, implying a shift from strongly positive to negative interest rates.

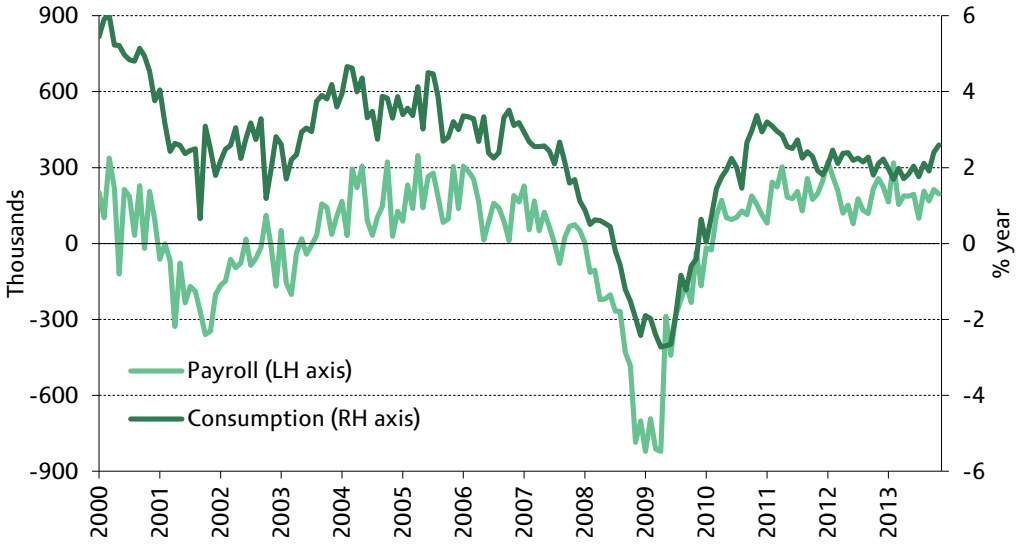
We expect further yen weakening during 2014 and 2015 thanks to loose monetary policy and a generally stronger dollar environment, which will help support growth in Japan. There is a significant downside risk to growth over the next two years in the form of the large planned increase in the consumption tax (from 5% to 10% in two steps, the first in April this year). Given that this increase has been announced well before the event, we may see a boost to spending prior to April, but spending is likely to fall back sharply in the aftermath and the net effect will be negative. However, with the labour market gradually improving and exports and investment expected to pick up further, the consumption tax rises should not derail the current economic expansion.

US

US economic growth accelerated in the second half of 2013 but is nevertheless estimated to have reached 1.9% for the whole year, a relatively modest pace. Growth was held back by the considerable fiscal tightening that resulted from political disputes over the budget in the early part of the year. This fiscal tightening amounted to an estimated 1.4% of GDP for the year as a whole, with further disruption caused when renewed political wrangling resulted in a temporary government shutdown in October.

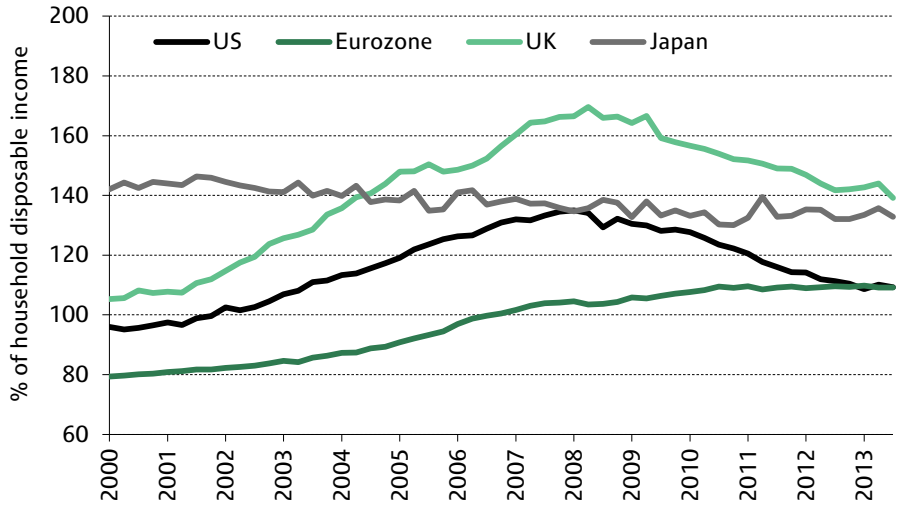
Despite the drag from fiscal policy, however, GDP growth looks to have exceeded 3% at an annual rate in the second half of 2013. Importantly, consumer spending, which was subdued for much of 2013, accelerated in the final months of the year (see Figure 3.6), rising at a 5% annualised rate in the three months to November. This may be traced to a combination of an improving labour market (with jobs growth averaging around 190,000 per month in 2013) and strong wealth gains resulting from rising stock and house prices.

Figure 3.6. US: changes in consumption and employment



Note: 'Payroll' shows change in private payroll on a year earlier.
Source: Haver Analytics.

Figure 3.7. Household debt-to-income ratios



Source: Haver Analytics.

We expect economic growth to exceed 3% in both 2014 and 2015, underpinned by a number of positive factors. Consumption should remain robust, helped by a further improvement in the labour market and stronger wage growth, and business surveys also suggest corporate investment should pick up. The housing sector should also remain a positive factor, despite a recent moderation in its growth. Finally, the bipartisan budget deal struck in late 2013 will reduce the degree of fiscal tightening in 2014.

On top of these cyclical factors, the US is set to benefit from structural factors such as the shale oil boom, which is boosting US manufacturing through cheaper energy and a strong external competitiveness (US relative unit labour costs have fallen significantly against key competitors in recent years, partly thanks to a weaker dollar). The US is also less constrained than some other advanced economies by the need for private sector deleveraging, as significant progress in this area has already been made (see Figure 3.7).

One area of potential risk relates to the Federal Reserve's decision to start reducing or tapering its asset purchases from January 2014.[2] We expect asset purchases to cease entirely by Q3 of this year, removing what has been a very significant monetary stimulus. This has already pushed up US long-term interest rates, with 10-year bond yields up over 100bp since last April to around 3%. The Federal Reserve softened its announcement about tapering by stressing that short-term interest rates would be likely to remain very low for some time yet (we expect no rate hike until 2015Q3) but the decision to start tapering does nevertheless involve risks. The Federal Reserve has judged that the economy is now strong enough to absorb tapering, but it is possible that tapering could spark a sell-off in the stock market, which has been closely correlated with Federal Reserve asset purchases over recent years.

The upswing we forecast in the US should be good news for the UK, given the importance of the US as a trading partner. Some 14% of the UK's goods exports go to the US, and the fractions of services and foreign income receipts that the UK derives from the US are even higher. A stronger US should also have positive knock-on effects for other important UK trading partners.

[2] The US is still engaged in quantitative easing. However, in December 2013, it announced that it would start to 'taper' its asset purchases, which involves progressively slowing the pace at which it buys assets.

Global outlook

Overall, global economic growth is expected to improve over the next two years. World growth is expected to strengthen from an estimated 2.2% in 2013 to 2.9% this year, with a further improvement to 3.2% in 2015. This represents a gradual recovery towards a trend rate of expansion; world growth will remain somewhat below the 4% rate seen in the boom period of 2004–07 (see Table 3.1).

This improvement in the growth picture will be uneven. We expect the US to grow by over 3% per year, and a continuation in the robust recent expansions in Japan and the UK. The Eurozone will remain a lagging region, however, and growth will also remain below trend in a number of key emerging countries.

But from a UK perspective, 2014 overall looks likely to see a more hospitable external environment than 2013, thanks to a return to growth in the Eurozone (even if very slow) and the strong expansion in the US. The reorientation of UK exporters towards emerging markets should also allow them to benefit from continued economic expansion there.

Reduced fiscal tightening in the US and the Eurozone, the UK's two largest trading partners, will be a significant positive. On the monetary side, the picture will be mixed. The end of Federal Reserve asset purchases in the US will reduce global stimulus, though this will be partially offset by aggressive monetary expansion in Japan. Exchange rate movements could have a significant influence, as the end of tapering and a growing growth differential between the US on the one hand and the Eurozone and Japan on the other are likely to mean downward pressure on the euro and the yen during the year. Our

Table 3.1. Summary of international forecasts

	Annual average growth rate (%)		Annual % change					
Real GDP	**1997–2007**	**2007–2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
North America								
United States	3.0	0.3	2.8	1.9	3.1	3.2	3.0	2.9
Canada	3.2	1.1	1.7	1.7	2.2	2.6	2.8	2.8
Europe								
Eurozone	2.3	–0.2	–0.6	–0.4	0.9	1.4	1.5	1.6
Germany	1.7	0.7	0.9	0.5	1.6	1.7	1.5	1.6
France	2.3	0.1	0.0	0.1	0.5	1.1	1.3	1.4
Italy	1.5	–1.1	–2.6	–1.9	0.3	1.2	1.4	1.4
UK	3.2	–0.8	0.3	1.9	2.6	2.4	2.6	2.6
EU27	2.6	–0.2	–0.4	–0.0	1.4	1.8	1.9	2.0
Asia								
Japan	1.0	–0.7	1.4	1.7	1.8	1.4	0.9	1.1
China	9.9	9.6	7.7	7.7	7.3	7.2	7.2	7.2
India	7.0	7.9	5.1	4.7	4.9	5.1	6.0	6.6
World	3.2	1.6	2.3	2.2	2.9	3.2	3.2	3.3

Source: Oxford Economics.

forecasts suggest this will mean a stronger effective sterling exchange rate, which will blunt some of the advantage coming from stronger global demand.

The strengthening recovery we expect in 2014 and 2015 will be accompanied by muted inflationary pressures. With sharp competition in export markets, global export prices are weak and there is still considerable spare capacity in many economies. We expect global inflation at 2.2–2.3% in 2014–15.

3.3 Risks to the global economy

We expect stronger global economic growth in 2014–15 but the improvement will be patchy and some significant downside risks remain. As a result, we ascribe a probability to our baseline economic forecast of only 50%[3] and 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 assess their possible implications for the UK economy in Chapter 4.

Eurozone slides into deflation

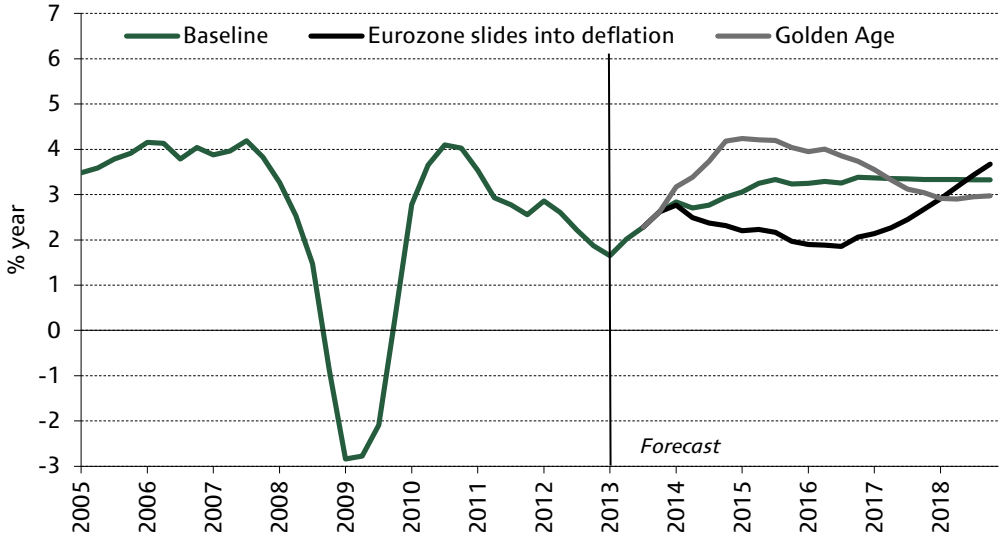
A significant downside risk to our global forecasts is the possibility of a slide into deflation in the Eurozone. Inflation has reached strikingly low levels in the Eurozone, and with a significant negative output gap (estimated at 4% of GDP), high unemployment and slow growth forecast, inflation could well fall further. The risk of deflation would then become real. In a region characterised by high levels of public and private debt, a sustained fall in the general price level would have devastating effects.

In this scenario, a stronger euro and weaker economic growth combine to push the Eurozone into deflation in 2015–18. Weaker growth and deflation significantly raise the real burden of public and private debt, particularly for the 'peripheral' economies, but even for France issues of debt sustainability become much more serious in this scenario. For Greece, prolonged deflation has the potential to trigger renewed concerns about whether the country can remain in the Eurozone and, without additional debt relief (including write-downs of debt owed to other European governments and institutions), Greece could well be forced out of the Eurozone.

The slide into deflation leads to a renewed Eurozone recession lasting from mid-2014 to mid-2016, with unemployment rising to 16% by 2018. Weaker demand from the Eurozone, combined with increased global risk aversion, would also take its toll on emerging market growth. GDP growth in the BRIC economies would fall to 5% in 2015–16 versus around 6% in the baseline. US growth would also be affected, due to slower world trade growth and more fragile global economic confidence. US GDP growth would decline to just 2% by 2016, versus around 3% in our baseline forecast. In this scenario, the UK would be one of the countries hardest hit outside of the Eurozone because of its strong reliance on the Eurozone for exports, its financial linkages and the likely negative impacts on consumer and business confidence.

[3] The probability of a detailed economic forecast covering a number of variables being exactly correct is obviously very low. The probabilities presented in this chapter relate to the likelihood of an outcome with the same broad shape as that described in the scenario – they are presented in this way to enable users to derive a risk-weighted forecast. The baseline forecast represents the scenario that we believe is most likely to happen.

Figure 3.8. World GDP under Eurozone deflation and under Golden Age



Source: Oxford Economics / Haver Analytics.

Overall, world growth would decline to around 2% in 2015 and 2016, or around 1 percentage point lower than in our baseline forecast (see Figure 3.8). We attach a 15% probability to this scenario.

Golden Age

As well as the downside scenario outlined above, there are also possible upside risks to our central forecast. Our baseline forecast takes a cautious view about a number of unfolding developments in the global economy, but this could prove too conservative.

For the US, growth could turn out stronger than we expect if the gains in competitiveness already achieved lead to larger increases in market shares or the benefits of technological revolutions currently under way, including the exploitation of shale oil and gas, prove larger than we currently assume.

For Europe, the reform process under way in the 'peripheral' economies could yield larger benefits than we currently assume. There has already been a strong rise in exports from some of these countries and this might last longer than we currently forecast. There are also potential upside risks to the UK economy.

Our baseline forecast is also cautious about productivity growth, so that if productivity performance surprises on the upside, overall economic growth will also be higher.

Japan is another source of potential upside risk. The stimulatory policies launched last year are a major economic experiment and if the so-called 'third arrow' of these policies – structural reforms – proves successful our long-term growth forecast for Japan could prove too pessimistic.

We quantify the impact of some of these upside risks in a 'Golden Age' scenario, which features higher world growth. Although the scenario has its roots in advanced economy developments, emerging markets would also benefit from higher world trade. Increased risk appetite would also be likely to bolster capital inflows, especially foreign direct investment into emerging markets.

In this scenario, US growth rises sharply, reaching 4.5% at an annual rate in late 2014 (although this is still below the peaks reached in the early 2000s). The upside potential is more limited for the Eurozone than for the US, but Eurozone growth nevertheless reaches 2.4% in 2015. Japan's GDP, meanwhile, grows by over 2.5% in both 2014 and 2015, considerably higher than in our baseline scenario. Emerging markets benefit from rising global demand, with Chinese growth above 8% through to mid-2015. Given the relative importance of the US and Eurozone to UK exports, the UK would be ideally placed to take advantage. Similarly, a growing risk appetite would be expected to bolster corporate confidence and convince firms to implement capital spending plans more aggressively.

World GDP growth accelerates, with global growth exceeding 4% in 2015, the strongest growth rate since 2000 (see Figure 3.8). We also attach a 15% to this scenario.

3.4 Conclusion

Although the UK is arguably less reliant on external demand to sustain its recovery than was the case a year ago, the outlook for the world economy is still of key importance – especially if the UK wishes to achieve a balanced upturn with a strong role for exports and investment.

Although 2013 was on the whole a sub-par year for the global economy, there were encouraging developments late in the year, in particular the acceleration of GDP and consumer spending growth in the US and the revival in Japan. In 2014, these two economies should grow robustly, which will bode well for the UK, as will the return to growth in the Eurozone. A faster pace of world trade growth, helped by an easing of fiscal austerity in the US and in Europe, will make rebalancing the UK economy a more realistic prospect.

Nevertheless, global growth will remain below trend in 2014, with considerable variations among countries and regions. As a result, export market competition will remain sharp. This is already visible in declining export prices in many economies and is likely to change only slowly given the continued need of many economies to boost exports to offset subdued domestic demand. Sharp currency depreciations in emerging markets over the last year may add to deflationary pressures on world export prices.

Some downside risks to global growth also still exist. The advent of US tapering has forced up global bond yields and could yet have a negative effect on asset prices. In the Eurozone, there is a significant risk of a slide into deflation which, if prolonged, would lead to very negative developments for economic growth and possibly also financial stability in the Eurozone.

There are also upside risks to world growth. Our baseline forecast takes a cautious view of the likely upsides from technological changes in the US (and elsewhere) and the reform process in the 'peripheral' Eurozone states and in Japan. Should these developments bring more positive impulses than we expect, the global growth environment could be considerably stronger in 2014–16 than in our baseline forecast.

4. The UK economic outlook

Andrew Goodwin and Oliver Salmon (Oxford Economics)

Summary

- The UK recovery finally gathered pace in 2013, led by the consumer and the housing market. We expect quarterly growth rates to slow a little through 2014, as the economy makes the transition towards more balanced growth, but our forecast shows growth averaging 2.6% over the year as a whole. The contribution of the consumer is expected to ease, given that there is little scope for households to reduce their savings any further and that the recovery in real incomes is likely to be steady rather than spectacular. But the outlook for both business investment and exports is likely to improve from this year, as the global recovery strengthens.
- We judge that there is currently a significant amount of spare capacity in the UK economy, with the output gap estimated to have averaged 5% of potential output in 2013. The financial crisis is likely to have caused substantial permanent damage to potential output, though our estimates for the scale of this damage are smaller than those of most other forecasters, including the Office for Budget Responsibility (OBR). Such a large output gap will provide the conditions for the recovery to gain momentum over the medium term, with GDP growth expected to average 2.6% a year from 2014 to 2018. Our forecasts are not dissimilar to the OBR's, but are above the market consensus over the longer term.
- The risks around our forecast are more balanced now than they have been since the financial crisis. Domestically, the main uncertainties surround the housing market and the high level of consumer indebtedness. Externally, the most likely upside scenario would involve stronger recoveries in the US and Eurozone, which would boost UK export growth. On the downside, the biggest threat would be if the Eurozone were to slide into deflation; such a scenario could force Greece out of the Eurozone, with the UK's close trade and financial linkages with the Eurozone meaning that the UK recovery would slow sharply.

4.1 Introduction

After several false starts, 2013 finally saw the UK recovery gather momentum, with growth steadily accelerating through the year. Indeed, the combination of upward revisions to the historical data and a stronger-than-expected pickup in activity through the year meant that the forecast we presented in last year's Green Budget – which at the time was at the more optimistic end of the market consensus – ultimately proved to be too pessimistic. However, thus far the recovery has been narrowly focused on the consumer and the housing market, with little support coming from business investment or exports. In this chapter, we discuss the outlook for the UK economy, beginning in Section 4.2 with short-term prospects, where we assess whether the recent strength of the recovery can be maintained and look at whether it is likely to broaden out into business investment and exports.

Moving our focus beyond the short term, we consider prospects for the 2014–18 period as a whole. As part of this, we analyse the amount of spare capacity in the economy by considering the degree to which the economy has suffered permanent damage to

potential output growth, before moving on to discuss the extent to which potential output will recover over the next five years (Section 4.3). Having set out our baseline forecast, we then assess how this compares with the most recent forecast from the Office for Budget Responsibility (OBR) and those of other independent forecasters (Section 4.4).

Section 4.5 analyses the risks around the baseline forecast and looks in detail at the potential impact of alternative global scenarios on the UK economy, including an upside scenario 'Golden Age' and a downside scenario involving the Eurozone sliding into deflation. Section 4.6 concludes.

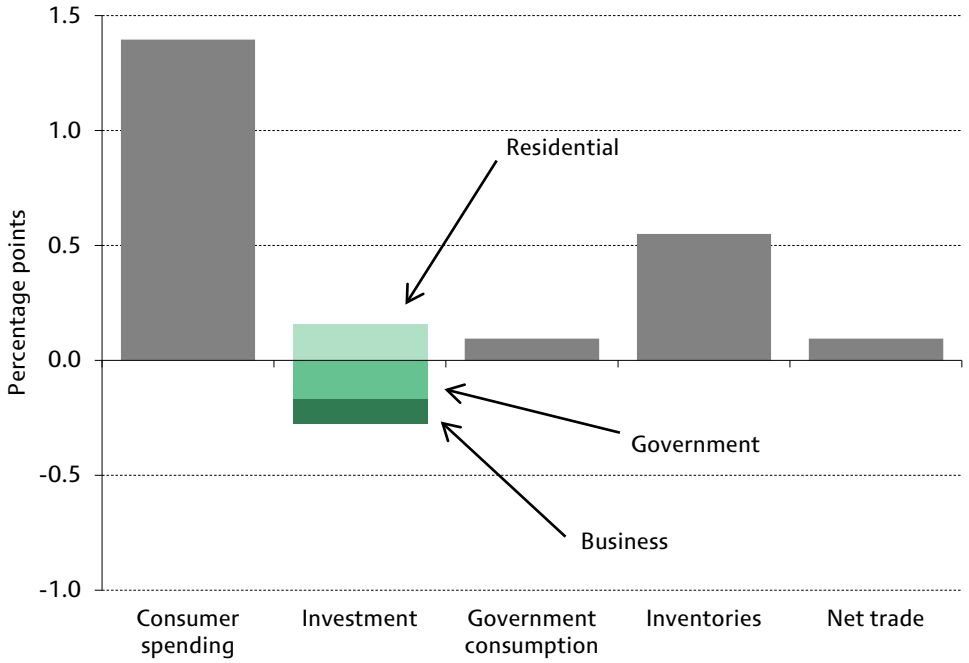
4.2 Will the recovery maintain its momentum in 2014 and 2015?

2013 – the year that the recovery finally took hold

The UK recovery finally got underway in earnest in 2013. The economy grew by 0.8% in both Q2 and Q3 and by 0.7% in the final quarter. This took GDP growth for 2013 to 1.9%, which represented the strongest performance of the UK economy since 2007.

The consumer has provided the drive behind the acceleration in activity, with private consumption accounting for 1.4 percentage points (ppts) of total GDP growth for 2013. The pickup in consumer spending occurred despite a small real-terms contraction in personal incomes, with households having financed additional expenditure through a sharp reduction in their rates of saving; the savings ratio is estimated to have fallen from 7.2% in 2012 to just 4.9% in 2013. This switch to a lower rate of saving reflected a strengthening in consumer confidence over the course of the year, which was underpinned by falling unemployment and which induced consumers to lower levels of precautionary saving. It was also a function of a steady decline in deposit rates, acting to reduce incentives to save and encouraging people to spend more.

Figure 4.1. Contributions to UK GDP growth in 2013



Source: Haver Analytics, Oxford Economics.

A further key contributor to the heightened levels of confidence was the strong recovery in the housing sector, particularly during the second half of 2013. At the height of the financial crisis, a lack of mortgage availability had left housing transactions at just a third of pre-crisis levels. However, following intervention from both the Bank of England and the government, there was a resurgence in transactions last year, with gross mortgage lending up more than 20%. In addition to the confidence channel, this also supported consumer spending through traditional wealth effects, as well as more directly through the sales of white goods and furniture.

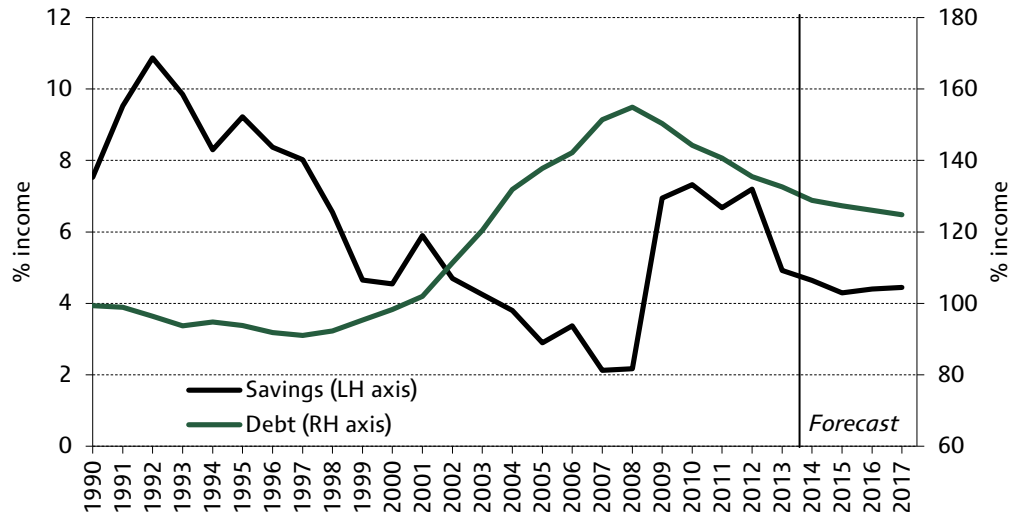
However, beyond the consumer and housing there was precious little support to the recovery; business investment was again a drag on growth, while the contribution of net trade was negligible (see Figure 4.1). The contribution of inventories looks suspiciously high, which is likely to reflect the Office for National Statistics (ONS) having problems reconciling the output and expenditure approaches to GDP; some of this is likely to be reassigned to other components over time, but even so it is unlikely to alter the perception of a very narrow-based recovery in 2013.

Consumer spending growth is set to cool …

As we have already established, the 2013 rebound in consumer spending was funded by lower rates of saving rather than real income growth. But given the extent to which the savings ratio has fallen, and the expectation that households will continue to deleverage over the short term in anticipation for when interest rates start rising, the scope for households to further reduce savings is somewhat limited (see Figure 4.2). Indeed, many high-frequency consumer indicators – most notably retail sales growth – weakened towards the end of last year, following sharp improvements in early 2013, indicating that the process of equalisation may have already started.

As the household savings ratio levels out, consumer spending is expected to realign and more closely follow the evolution of income growth over the next two years. Real household disposable incomes stagnated in 2013 and, at below 1% on an excluding-bonuses basis, wage growth remains anaemic. But the prospects for real income growth are a little brighter going into 2014.

Figure 4.2. Personal debt and savings ratio



Source: Haver Analytics, Oxford Economics.

The pace of improvement in the labour market has stepped up a notch in recent months. Labour Force Survey data for the three months to November showed that the level of employment increased by 280,000 on the quarter, the strongest net job creation on record, while over the same period the unemployment rate fell by 0.5ppts to 7.1%. The entire rise in employment has come from an increase in the number of full-time workers, highlighting the underlying strength of the labour market. Unemployment will continue to fall in line with the stronger performance of the economy, although with a record number of part-time employees looking to work on a full-time basis, the pace of deceleration should decline as businesses increasingly accommodate this slack.

With the much improved outlook for the labour market, the wage bargaining position of workers will also strengthen, and indeed a number of sectors are already reporting an emergence of skills shortages, most notably in construction. However, while private sector pay growth is likely to improve, the public sector pay squeeze will remain somewhat of a drag in the short term. We expect earnings growth to pick up to 2.6% this year, before accelerating to 3.2% in 2015.

Alongside this pickup in wage growth, we are due to see another above-inflation increase in the income tax personal allowance in April, which will provide an additional boost to incomes, although this boost will be partially offset by the government's decision to either freeze or limit the indexation of many social payments.

… despite lower inflation promising a return to real wage growth

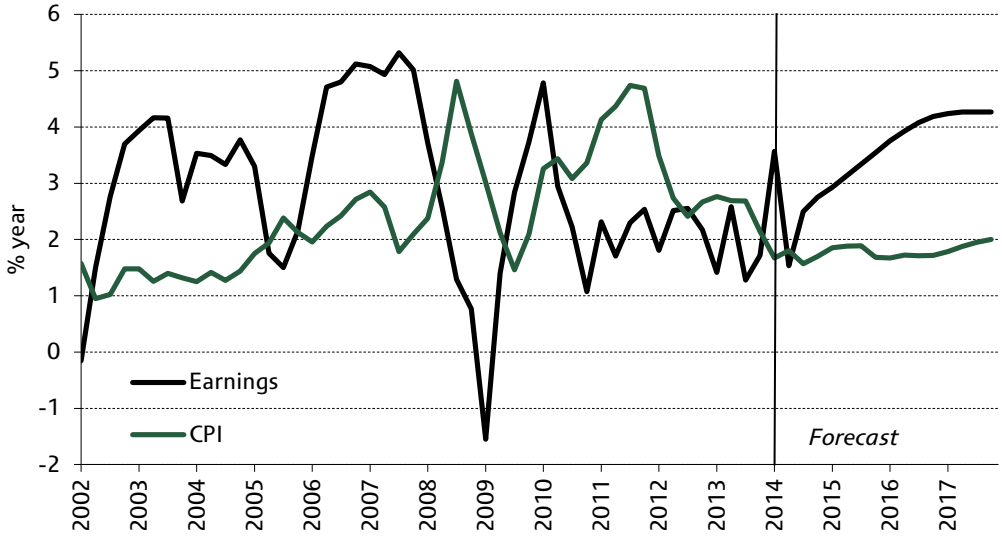
The UK economy has faced an unusual situation in recent times, with inflation remaining above target for the last four years despite the poor growth performance. But inflationary pressures cooled towards the end of last year, with CPI inflation falling to 2% in December. This provides some vindication of the Monetary Policy Committee (MPC)'s argument that inflation would fall back towards the target once the effects of several temporary factors had subsided.

Indeed, the slowdown in inflation has largely been a result of base effects falling away; big rises in food prices in the autumn of 2012 were not repeated last year as world commodity prices fell, and increases in domestic energy bills, while still very large, were also lower than in the previous year. In addition, the impact of higher university tuition fees was much reduced in 2013, further contributing to the slowdown in inflation.

There has also been a slowdown in underlying or 'core' inflation, with December's reading of 1.7% for CPI excluding food, energy, alcohol and tobacco being the lowest for more than four years. We attribute this to the combination of a large output gap, which continues to put pressure on profit margins and keep wage growth constrained, and the influence of a stronger pound, which has reduced the price of imported commodities.

We expect the slowdown in inflation to continue over the short term. There is no indication of pressures building up in the supply chain, with producer output price inflation slowing to less than 1% towards the back-end of 2013. Similarly, oil prices have been trading at a little under $110 per barrel recently, in line with the average for 2013 as a whole in dollar terms but, because of the appreciation of sterling, around 4% lower in sterling terms. The benefits are being seen at the pumps, with retail petrol prices currently around 3 pence per litre lower than over 2013 as a whole. We expect oil prices to slip back through 2014 as supply increases strongly, particularly through non-conventional output from North America, and while the pound is likely to weaken against the dollar as the US economy accelerates, we still expect petrol prices to be broadly flat

Figure 4.3. Inflation and earnings growth



Source: Haver Analytics, Oxford Economics.

through 2014. Furthermore, government intervention in domestic energy markets at the end of 2013 should act to ease the pace of energy price increases over the short term.

Underlying inflationary pressures are also likely to remain weak as the persistence of the large output gap will continue to bear down on operating margins and wages. Such weak underlying pressures should push inflation below the 2% target during the early months of 2014, where it is expected to remain throughout the year. Our forecast shows CPI inflation dropping from 2.6% last year to average 1.7% in 2014 and 1.8% in 2015.

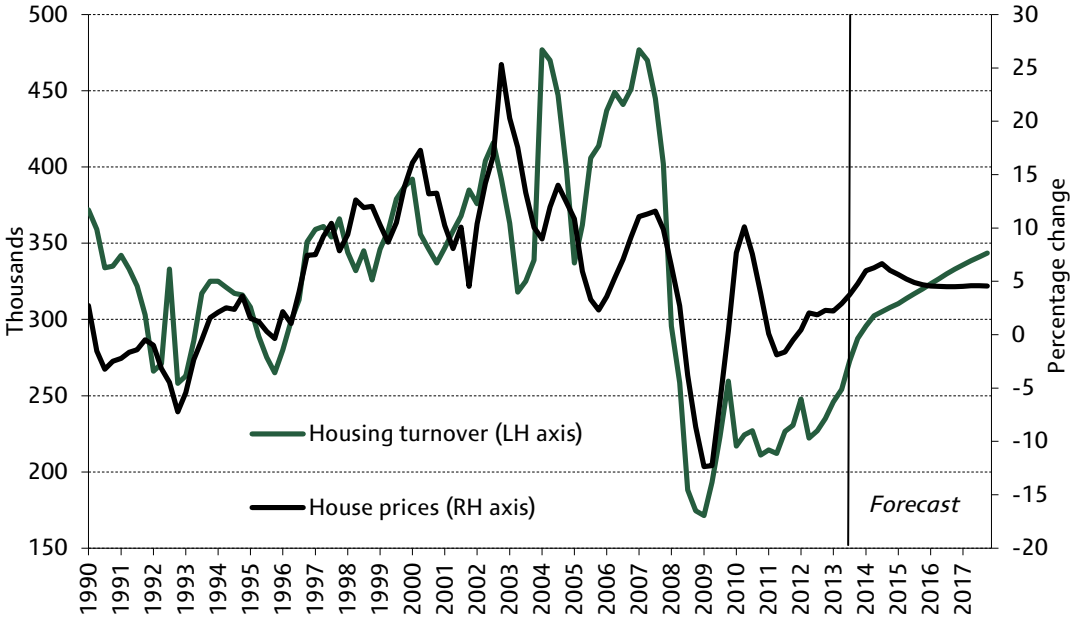
This combination of strengthening earnings growth and low inflation should be sufficient to ensure that real wages begin to increase again by the middle of this year (see Figure 4.3). This will provide households with a welcome improvement in their spending power, although this will be a gradual process and, with the savings ratio unlikely to fall much further, this suggests that the pace of consumer spending growth will cool a little in the near term. Our forecast shows consumer spending averaging 2.2% in both 2014 and 2015 – a significant improvement on recent years, but still well short of the 3.7% a year average over the decade prior to the financial crisis.

A buoyant housing market will provide strong support

House prices and activity exhibited strong growth through 2013 (see Figure 4.4). This was partly due to the more favourable macroeconomic backdrop, but was mainly a function of policy targeted at increasing mortgage lending. The Bank of England's Funding for Lending Scheme (FLS) was particularly effective at increasing the flow of mortgage credit and reducing its cost and this was supported by the first leg of the government's Help to Buy (HTB) policy, which provided equity loans for new-build properties and underpinned a strong pickup in demand for these properties. As a consequence, house price inflation accelerated above 5% towards the end of 2013.

This rapid recovery in the housing market, plus the launch of the second leg of HTB, which provides lenders with guarantees on high loan-to-value mortgages, has raised some concerns among commentators that the UK is once again in the early stages of a housing market bubble. Indeed, the Bank of England demonstrated its sensitivity to such

Figure 4.4. House prices and transactions



Source: Haver Analytics, Oxford Economics.

concerns in November by removing the mortgage lending incentive from the FLS. Given that mortgage interest rates have fallen since the launch of FLS, this move could cause them to rise once more. However, we expect the impact to be relatively minor, particularly given that many banks had been making less use of the scheme in the second half of last year. What the move has done, however, is send a clear signal that the Bank of England is willing to intervene in the housing market if necessary.

The latest survey data from the Royal Institution of Chartered Surveyors (RICS), indicating strong growth in new buyer enquiries, suggests growth in both activity and prices will remain firm in the short term. Indeed, our forecast sees housing activity accelerating further, as the impact of the second phase of HTB begins to filter through and the wider improvement in household incomes and employment provides further support.

However, there is little evidence that the market is overheating. Prices – as measured by the ONS – have only recently returned to pre-crisis levels in nominal terms but are still 15% lower in real terms, while affordability and indebtedness measures are far less stressed than they were during the financial crisis. It is a similar story when reviewing the level of activity. There has indeed been a firm acceleration in transactions, but in a similar vein to prices, the rebound started from a very low base. As such, transactions are still one-third below peak levels, while mortgage approvals and gross lending both remain over 50% lower.

Key to avoiding a bubble in the future will be ensuring that housing supply keeps pace with demand. Early evidence suggests that the stronger market has encouraged a robust pickup in residential construction, with new orders up 40% on a year ago. But housebuilding has averaged just over 150,000 a year for the past five years, some way short of the previous government's estimate of 240,000 as the number of new homes needed every year just to keep pace with demographic developments, which suggests that construction needs a period of catchup if the stock is going to return to a more sustainable level.

Our forecast sees housing investment continuing to recover, but only overtaking its 2006 peak in 2018. This should be sufficient to keep a lid on price growth, which is expected to average just over 6% a year in 2014–15, and would suggest that further intervention in the housing market will prove unnecessary. This forecast suggests an increase in the direct contribution of housing investment to GDP growth as well as indirect benefits of an increase in activity and prices on consumer spending through confidence and wealth effects.

A further discussion of trends in the UK housing market, and recent housing policies, can be found in Chapter 5.

Interest rates to remain low despite an improving labour market

We are fast approaching the point at which the Monetary Policy Committee will have to make a decision about the future of its much-maligned forward guidance policy. The policy, introduced back in August following the appointment of Mark Carney as Governor of the Bank of England, had been intended to bolster consumer and business confidence by providing reassurance that the bank rate would remain at 0.5% for a prolonged period of time. However, the economy, and in particular the labour market, has improved so rapidly that we expect the unemployment rate to hit the 7% threshold in the next few months, more than two years earlier than the Bank had initially forecast.

This provides a headache for the MPC, which continues to emphasise that 7% is a threshold not a trigger and reaffirm its intentions to keep rates on hold for as long as possible. Indeed, recent comments by Mark Carney have suggested that the Bank intends to make greater use of macroprudential tools in the future and that those are likely to be employed before interest rates are increased.

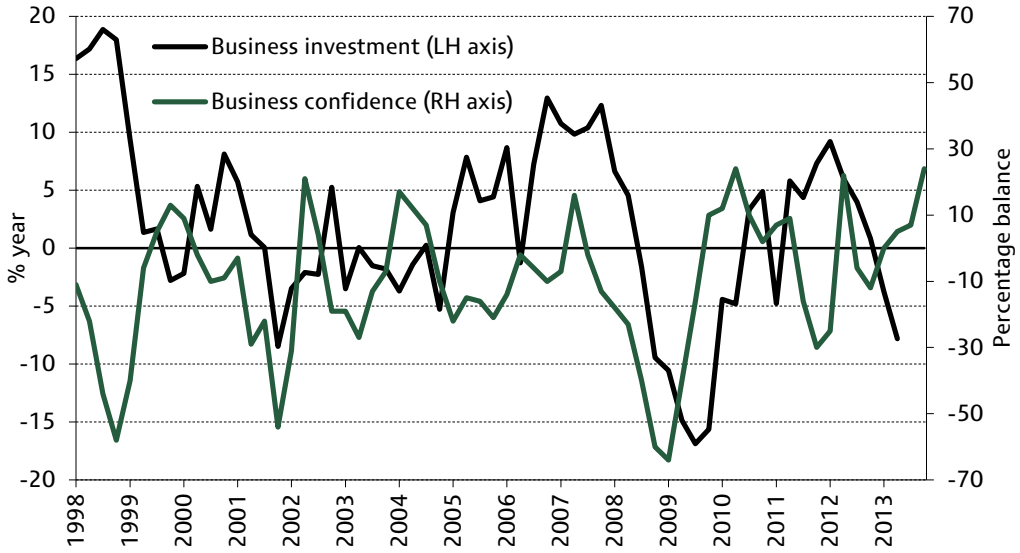
We therefore expect the bank rate to remain at 0.5% throughout 2014, even after the 7% unemployment threshold is breached, with the first rate rise not expected before the second half of 2015. This would provide additional breathing space to ensure that the recovery has sufficient momentum before having to weather tighter policy. The Bank could lower the threshold for unemployment, most probably to 6.5%, or abandon it altogether and switch to guidance that is not so tightly linked to a particular outcome. There are increasing signs that the Bank is leaning towards the latter option, which, given the teething problems experienced so far, is probably for the best.

Business is set to play a stronger part in the recovery

The performance of the corporate sector has been particularly disappointing, with the anticipated pickup in business investment still yet to materialise. We estimate that business investment fell by 3.9% in 2013 and remains well over 20% short of its pre-crisis peak, although we are very suspicious about the quality of the official business investment data following the methodological changes last summer that brought about substantial downward revisions right back to 1997.

Taking the investment figures at face value, the performance has been particularly disappointing given the relative strength of corporate finances. Non-financial corporations continued to run sizeable surpluses throughout 2013 and have now accumulated cash deposits equal to 30% of GDP, some 7ppts higher than the average of the decade prior to the financial crisis. In addition, although smaller firms continue to report problems in accessing funding, larger firms, which dominate investment spending in the UK, retain good access to bank finance.

Figure 4.5. Business confidence and investment growth



Source: Haver Analytics.

The dearth of capital spending over the past couple of years appears, therefore, to be largely a function of low corporate confidence, reflecting the earlier poor domestic growth performance and heightened uncertainty which increased concerns over the likely return on investment (see Figure 4.5). This uncertainty led firms to employ their cash reserves in other ways, rather than committing to large and irreversible investment projects in the UK.

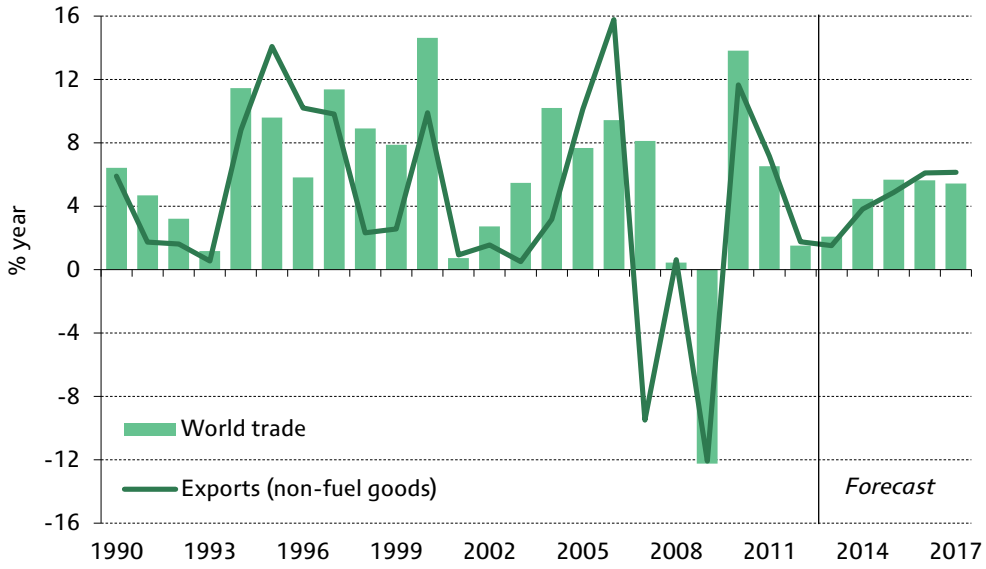
However, with the economy having moved onto a much firmer footing, the corporate sector is now well placed to start supporting the recovery. Corporate confidence is much improved in recent months, reflecting not just the enhanced growth outlook but also reduced downside risks, and business surveys are reporting much stronger investment intentions. The depressed levels of investment in recent years suggest a sizeable level of pent-up demand, and we expect this to be released as confidence continues to improve, encouraging firms to spend their accumulated cash surpluses. We are forecasting business investment to increase by 5.4% in 2014 and 7% in 2015, but these growth rates remain modest considering the strength of corporate balance sheets and when compared to the standards set in previous recoveries. As such, there is a good chance that the company sector could surprise on the upside, especially if the encouraging performance of the UK continues.

Export growth is also forecast to pick up

A key component underpinning the improving levels of corporate confidence in the UK is the strengthening export outlook, although this is yet to be seen in the official data. Business surveys reported a clear improvement in export demand throughout 2013 but, after promising signs in 2013H1, official data for the second half of the year were very disappointing.

Indeed, the UK's export performance since 2008 has been disappointing, especially when considering the sharp depreciation of sterling during 2008–09. This largely reflects sluggish demand in key export markets, with an over-reliance on poorly-performing developed economies, and the relative unresponsiveness of services exports to price movements. But it is also indicative of structural failings within the domestic economy,

Figure 4.6. Exports and world trade growth



Source: Haver Analytics, Oxford Economics.

which damage the non-price competitiveness and hamper export growth. A recent report from the EY ITEM Club[1] found evidence that exporters' efficiency has been hampered by factors such as red tape, the poor access of small and medium-sized enterprises (SMEs) to trade finance and a prolonged period of underinvestment in the transport and communications infrastructure networks. These problems have slowed the UK's pace of expansion into fast-growing emerging markets and limited the ability of exporters to capitalise on an increase in external demand.

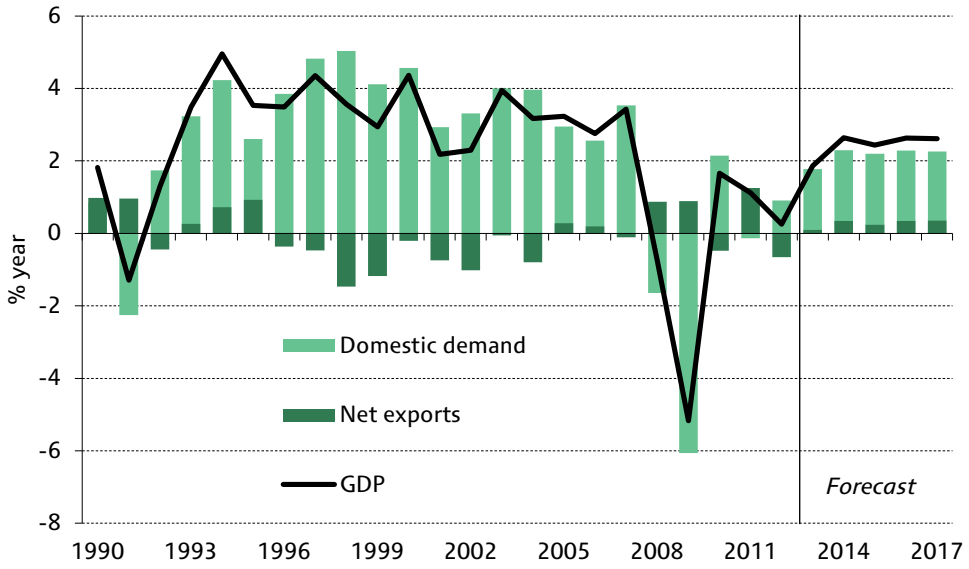
We are nevertheless optimistic that the stronger survey results will soon become noticeable in official statistics. The US recovery looks well entrenched and growth in emerging markets is expected to remain robust, if not spectacular. The Eurozone, meanwhile, has pulled out of recession and a stronger pickup in growth, particularly in Germany and the periphery, should help to strengthen UK export demand going forward. World trade, weighted by UK export shares, is expected to grow by 4.5% this year, up from 2.1% in 2013, before accelerating to 5.7% in 2015 (see Figure 4.6). Although these rates are unspectacular, and the pound is expected to appreciate modestly on a trade-weighted basis, this pickup in demand should be sufficient to underpin a steady acceleration in export growth. We expect export volumes to grow by 3.1% in 2014 and 4.0% in 2015. Import growth should be more subdued, given that consumer spending is unlikely to accelerate. As such, we expect net trade to make modest positive contributions to GDP growth moving forwards and the large current account deficit, estimated to have averaged 3.6% of GDP in 2013, will steadily shrink.

Recovery set to become entrenched and more balanced

Drawing these strands together, our forecast points to slightly weaker growth in the near term as consumer spending growth cools, with quarterly growth rates stepping down

[1] *EY ITEM Club Special Report on UK Export Performance*, November 2013, http://www.ey.com/Publication/vwLUAssets/ITEM_Club_special_report_12_2013_-_Exports_-_full_report/$FILE/EY-ITEM-Exports-special-report-December-2013-full-report.pdf.

Figure 4.7. Contributions to GDP growth



Source: Haver Analytics, Oxford Economics.

from 0.7–0.8% to nearer 0.6%. But as the recovery broadens out, with the contributions of business investment and exports improving, then the recovery will achieve the 'escape velocity' that Mark Carney is desperately seeking. Our forecast shows GDP growing by 2.6% in 2014, which would be the strongest growth for seven years, and 2.4% in 2015 (see Figure 4.7).

4.3 Medium-term recovery slower than usual

Over the medium term, we expect a steady 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 damage has the financial crisis done to potential output?

The question of the size of the output gap and forecasts for growth in potential output is crucially important to both fiscal and monetary policy. With regards to monetary policy, the MPC's apparent contentment to leave interest rates at their current level for a prolonged period is partly due to its belief that the UK has sufficient spare capacity to ensure that underlying inflationary pressures remain subdued. In terms of fiscal policy, these estimates 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 the 2013 Autumn Statement, when the OBR judged that the stronger economic performance through 2013 was cyclical in nature, so despite borrowing coming in lower than anticipated, the underlying fiscal position was little changed and the Chancellor had no additional room for manoeuvre against his fiscal targets.

However, the size of the output gap and the strength of potential output growth cannot be measured. As such, most commentators agree that the best approach is to use a range of different indicators to try to proxy the level of spare capacity. But these indicators do not

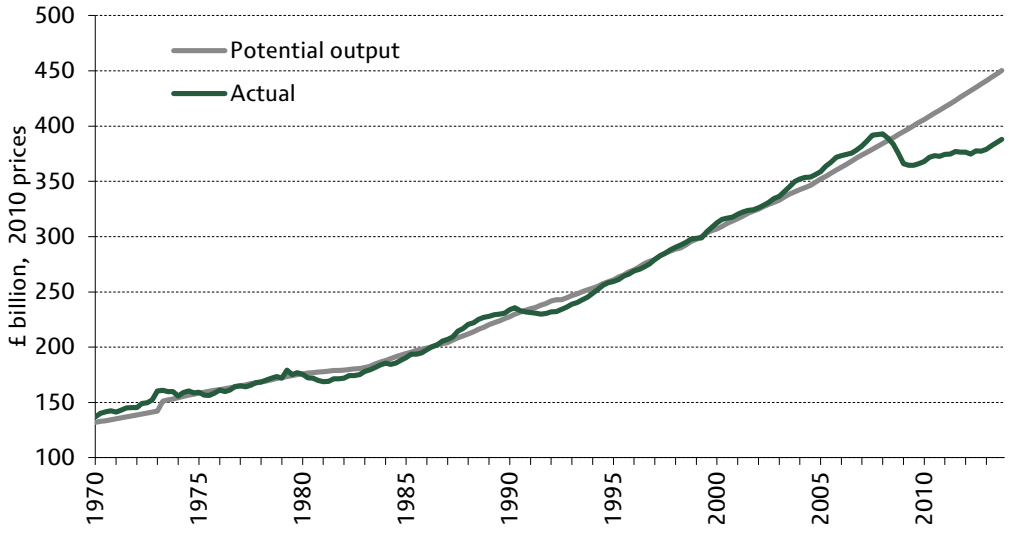
always corroborate one another. For example, labour market data suggest that the UK has a sizeable amount of spare capacity, with the unemployment rate around 2ppts higher than pre-recession levels and earnings growth very muted despite inflation having been persistently above the 2% target. Yet business survey results tell a markedly different story, with respondents reporting levels of capacity utilisation in the production industries that are above long-term average.

Therefore, a high degree of judgement is often required on behalf of the forecaster. Furthermore, economic data can often be subject to revision for many years after the event, which makes 'real-time' estimates of the output gap particularly difficult. Indeed, a working paper from the External MPC unit of the Bank of England[2] found that estimates of the output gap have become progressively more prone to revision and 'unreliable' over time, with the authors citing the difficulty of separating the trend from the cycle in economic data as being the main cause of this. This presents a significant challenge for policymakers.

The depth of the recession and the slow pace of the subsequent recovery make estimating the size of the output gap even harder at the current time. GDP fell by 7.2% from peak to trough during the recession and remains around 1¼% short of previous peaks. Were we to assume that potential output has continued to grow at historic rates since 2007, it would suggest an output gap of around 15% (see Figure 4.8). This experience is by no means uncommon and a number of the advanced economies would have double-digit output gaps if this were the case.

However, as commentators analyse the causes of the financial crisis and its implications, the general conclusion has been that it has inflicted structural damage to potential output

Figure 4.8. GDP relative to potential output



Note: Potential output series shows OE estimates from 1970 to 2006. Potential output is then grown in line with the long-term average (2.8% a year) from 2007 to 2013.
Source: Haver Analytics, Oxford Economics.

[2] A. Chiu and T. Wieladek, 'Did output gap measurement improve over time?', Bank of England, External MPC Unit, Discussion Paper 36, 2012, http://www.bankofengland.co.uk/research/Pages/externalmpcpapers/discussionpaper36.aspx.

which will never be reversed, implying much smaller output gaps. There is a substantial literature on previous crises and while the evidence generally leans in favour of this argument, the estimates of the degree to which potential output has been affected tend to vary widely across crises. The main findings of four prominent studies are summarised in Table 4.1.

Table 4.1. Selected literature on the impact of financial crises on potential output

Authors	Countries / Crises covered	Dates covered	Results
Reinhart and Rogoff (2008)[a]	18	1977–1995	The average drop in real output per capita is over 2% and it takes two years to return to trend. For the five most catastrophic cases, the drop in annual output growth from peak to trough was over 5% and growth remained well below the pre-crisis trend after three years.
NIESR – Barrell, Davis, Karim and Liadze (2010)[b]	13	1980–2008	On average, banking crises reduce the level of potential output by 2.5%. But crises that were 'systemic' in nature were associated with a 4% decline in potential output. Some crises did not affect trend output and some – e.g. Canada in the early 1980s – were not even associated with a subsequent recession.
OECD – Furceri and Mourougane (2009)[c]	30	1960–2009	On average, banking crises reduce the level of potential output by 2.4% and it takes five years for the full effects to be felt. But for 'severe' crises, the average effect was 3.8%. The 99% confidence intervals were very wide – from just under 1% to just under 5% for average crises and from just under 1% to over 7% for a severe crisis.
IMF – Balakrishnan, Brooks, Leigh, Tytell and Abiad (2009)[d]	88	1970–2002	On average, banking crises reduce the level of potential output by 10%, with the maximum impact being felt after four to five years. The impact varies across countries depending upon their demand and supply structures.

[a] C. Reinhart and K. Rogoff, 'Is the 2007 U.S. sub-prime financial crisis so different? An international historical comparison', *American Economic Review*, 2008, 98, 339–44.
[b] R. Barrell, E.P. Davis, D. Karim and I. Liadze, 'The effects of banking crises on potential output in OECD countries', National Institute of Economic and Social Research (NIESR), Discussion Paper 358, 2010, http://niesr.ac.uk/sites/default/files/publications/dp358.pdf.
[c] D. Furceri and A. Mourougane, 'The effect of financial crises on potential output: new empirical evidence from OECD countries', OECD Economics Department, Working Paper 699, 2009, http://www.oecd-ilibrary.org/economics/the-effect-of-financial-crises-on-potential-output_224126122024.
[d] R. Balakrishnan, P. Brooks, D. Leigh, I. Tytell and A. Abiad, 'What's the damage? Medium-term output dynamics after financial crises', chapter 4 of IMF, *World Economic Outlook: Sustaining the Recovery*, October 2009, http://www.imf.org/external/pubs/ft/weo/2009/02/pdf/text.pdf.

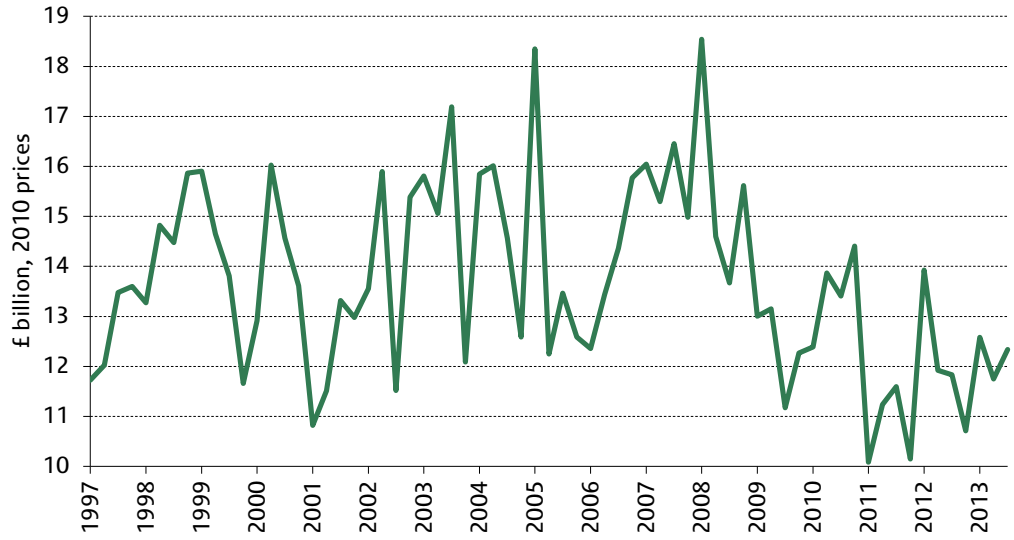
There is a range of views on how best to estimate potential output. We use a production function approach,[3] which provides a framework that relates the level of potential output to contributions from factor inputs – labour and capital – and the efficiency with which those inputs are used (so-called 'total factor productivity'). It also provides a consistent method for forecasting future growth in potential output, taking into account important changes such as demographic trends. For the economy to have suffered a permanent loss of potential output, the financial crisis and subsequent recession would have to have wreaked permanent damage to one, or more, of the size of the labour force, the level of capital it has to work with and total factor productivity.

Capital stock

The collapse in business investment during the recession could be a potential cause of a permanent loss. From the early-2008 peak, business investment fell by 30% due to a need to conserve cash, a shortage of external funding and a reassessment of how attractive the UK was as a place to produce. In effect, firms were forced to invest only on a 'care and maintenance' basis, with little investment in new capital equipment; investment in machinery and equipment fell by around 21% in 2008–09 and has fallen further since then (see Figure 4.9).

Verifying this argument is challenging for two reasons. First, the ONS usually only publishes estimates of the size of the capital stock after a lengthy lag, but in recent years it has decided not to publish estimates of the capital stock at all because of concerns over data quality. Second, the ONS introduced a number of methodological changes in mid-2013, which has resulted in the business investment series becoming incredibly volatile, and a number of commentators, including Bank of England Governor Mark Carney,[4] have expressed concerns about their accuracy.

Figure 4.9. Investment in machinery and equipment



Source: Haver Analytics.

[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: $\ln(Y^*) = \ln(A) + 0.65\ln(L) + 0.35\ln(K)$.

[4] 'Mark Carney hits back at critics of forward guidance on rates', *Financial Times*, 26 November 2013, http://www.ft.com/cms/s/0/e34ce498-568f-11e3-ab12-00144feabdc0.html?siteedition=uk#axzz2qCKxOrOl.

We can apply data on business investment to those data on the capital stock that have been published, in order to try to estimate the likely impact on the capital stock, albeit subject to substantial caveats because of the aforementioned data availability and quality problems. This suggests that the period since the beginning of the financial crisis has seen the capital stock contribute around 1ppt a year to potential output growth, down slightly from the 1.2ppt a year over the period from 1996 to 2006.

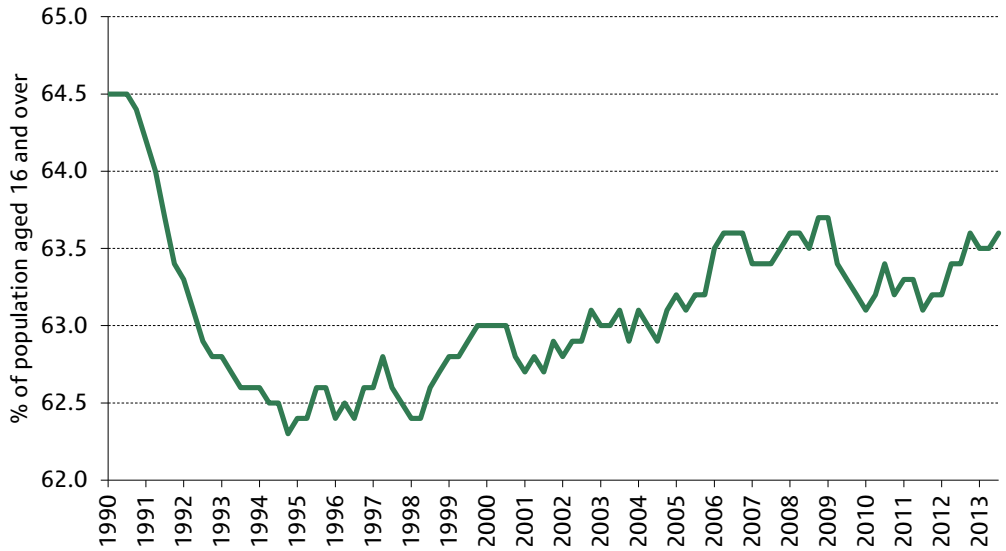
Labour supply

The contribution of the labour supply to potential output is dependent upon three factors: growth in the population of working age, participation rates and the level of the NAIRU.[5] We find that there is little evidence to suggest that the financial crisis has caused significant damage to any of these.

The strength of inward migration flows has been a constant source of surprise given the depth of the UK recession and the extent to which unemployment increased. Migrants typically tend to be of working age, so relative employment prospects are a key driver of migration flows, yet the UK has remained a popular destination in recent years; net inflows have averaged just over 200,000 a year since the financial crisis, well above long-term averages. This has ensured that the period since the beginning of the financial crisis has actually seen faster growth in the working-age population than the decade before.

Labour market participation fell back in the aftermath of the crisis (see Figure 4.10), though to a much lesser extent than in previous cycles. This is because the downward pressures from poorer employment prospects have been offset by a series of longer-term structural shifts. These include greater female participation, as well as both older workers delaying their retirement and pensioners returning to part-time work, in reaction to poor retirement prospects caused by low levels of pension saving. Over the past couple of years, the combination of strong employment growth and the staged increase in the state pension age for women has helped to encourage a recovery in participation rates and they have returned to their pre-crisis levels.

Figure 4.10. Economic activity rates



Source: Haver Analytics, Oxford Economics.

[5] 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.

Empirical evidence – notably Blanchard and Summers (1986)[6] and Ball (2009)[7] – suggests that significant shifts in aggregate demand can lead to changes in the NAIRU through hysteresis. 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. Ball 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 protracted period of weak or negative growth in the UK is a cause for concern. It is very difficult to measure the NAIRU in real time, but we think it unlikely that the UK has seen any significant impact through this channel thus far given the need for a period of time to pass in order for these unemployed workers to become detached from the labour market. However, the longer that demand remains low and unemployment rates stay elevated, the larger and more long-lasting these effects are likely to be, and we would expect to observe some hysteresis effects on the NAIRU over the next few years.

Total factor productivity

The OBR's analysis of the UK economy[8] has consistently identified total factor productivity as being the most important source of any permanent loss of potential output, an argument that is also advanced by Dicks (2010).[9] The arguments in favour of this theory generally centre on lower levels of innovation and research & development (R&D). This is generally caused by a lack of bank funding, resulting from a reduction of risk appetite or from forbearance on outstanding lending which prevents the reallocation of capital to more productive activities. Balakrishnan et al. (2009)[10] suggest that there is some evidence that the biggest effects are felt in those countries with a greater degree of financial development prior to the crisis.

The nature of total factor productivity makes this assertion virtually impossible to verify for the current cycle, but for countries such as the UK, which exhibits a high degree of financial development and where a significant proportion of the banking sector collapsed, there would appear to be a strong argument for some permanent damage to total factor productivity. There is certainly strong evidence that there was a funding crisis, with lending to the corporate sector having collapsed over the past five years (see Figure 4.11).

The other way that the contribution of productivity growth could have been damaged would be if there had been a shift in employment towards low-productivity sectors. Those arguing that this has occurred[11] cite the deep decline in output per worker as

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[6] O.J. Blanchard and L.H. Summers, 'Hysteresis and the European unemployment problem', in S. Fischer (ed.), *NBER Macroeconomics Annual*, Volume 1, 1986, http://www.nber.org/chapters/c4245.pdf.

[7] L.M. Ball, 'Hysteresis in unemployment: old and new evidence', National Bureau of Economic Research (NBER), Working Paper 14818, 1989, http://www.nber.org/papers/w14818.

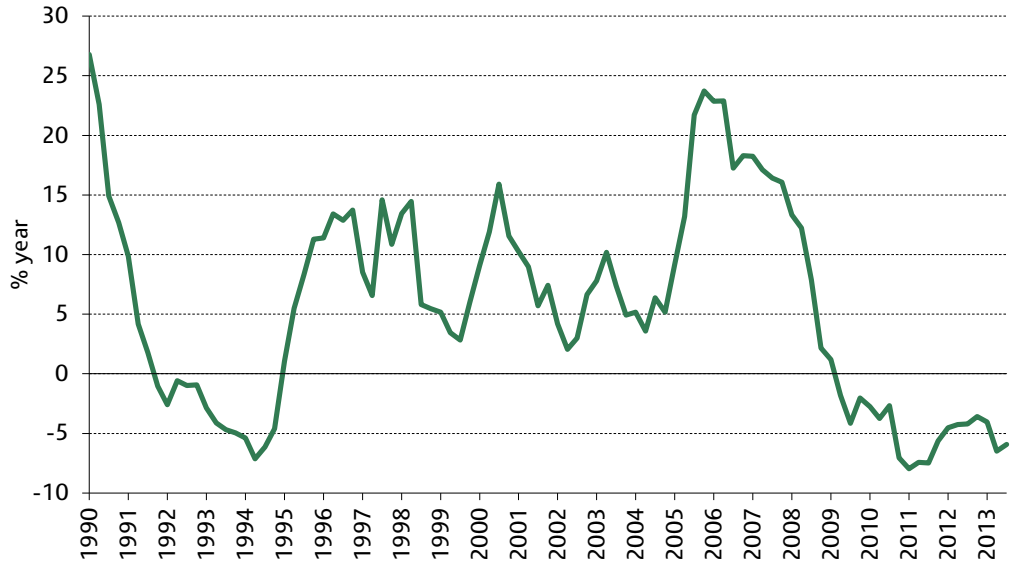
[8] See, for example, Office for Budget Responsibility, *Economic and Fiscal Outlook: December 2012*, http://budgetresponsibility.org.uk/economic-and-fiscal-outlook-december-2012/.

[9] M. Dicks, 'The UK's productive capacity: surveying the damage', in R. Chote, C. Emmerson and J. Shaw (eds), *The IFS Green Budget: February 2010*, http://www.ifs.org.uk/budgets/gb2010/10chap1.pdf.

[10] R. Balakrishnan, P. Brooks, D. Leigh, I. Tytell and A. Abiad, 'What's the damage? Medium-term output dynamics after financial crises', chapter 4 of IMF, *World Economic Outlook: Sustaining the Recovery*, October 2009, http://www.imf.org/external/pubs/ft/weo/2009/02/pdf/text.pdf.

[11] See, for example: HM Treasury, *Budget 2010: Securing the Recovery*, March 2010, http://webarchive.nationalarchives.gov.uk/20100407010852/http:/www.hm-treasury.gov.uk/budget2010.htm; S. Dale, 'Productivity and monetary policy', speech given at the South

Figure 4.11. M4 lending to private non-financial corporations

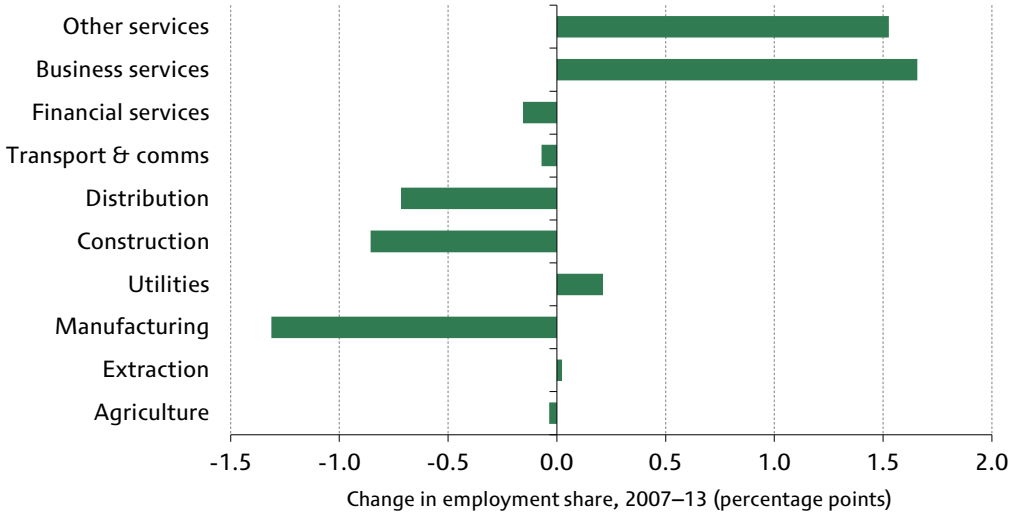


Source: Haver Analytics.

evidence of this phenomenon and point to the fact that several 'high-productivity' sectors – in particular, oil extraction and financial services – experienced large declines in activity in the aftermath of the crisis.

There is some evidence in favour of this view, but a sectoral shift would appear to have had a relatively small effect on the UK (see Figure 4.12). There has not been a discernible shift in the share of total employment accounted for by financial services. There has been a loss of share of manufacturing – a high-productivity sector – with gains for other (mainly public) services – a low-productivity sector – but the sectoral shifts appear

Figure 4.12. Change in share of total employment, 2007–13



Source: Haver Analytics.

Tyneside Manufacturing Forum, Bank of England, 21 September 2011, http://www.bankofengland.co.uk/publications/Documents/speeches/2011/speech519.pdf.

relatively minor. Indeed, Martin and Rowthorn (2012)[12] estimate that just a tenth of the UK productivity shortfall can be attributed to these shifts.

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. 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, though the unusually low rate of bankruptcies suggests that this allowance should be fairly small.

The output gap is likely to be very large

Drawing all of the various components of potential output together, we find that there is likely to have been a permanent loss of output in the UK, largely because of the systemic banking crisis which has hindered credit availability and damaged the contribution of total factor productivity. We also find that the magnitude of the damage to potential output is likely to be towards the higher end of the scale of those seen in previous financial crises because of the severity of this crisis.

This would imply an output gap averaging in the region of 5% of potential GDP in 2013. This implies a somewhat greater degree of spare capacity than that estimated by either the OBR (–2.3% of potential output) or the consensus of independent forecasters (–2.9% of potential output).[13] Some forecasters believe the output gap to be lower than 1% of potential output, but such a small output gap would imply permanent damage to potential output in the region of 13–14%, far in excess of those identified by the literature on past financial crises.

There is clearly a large discrepancy between our estimate of the output gap and those of other forecasters. In order to validate our assumptions, we have used our Global Economic Model to quantify the factors that explain why actual GDP has lagged behind potential output. We identify three key factors that explain the relatively weak recovery of the UK economy over the past five years: the pace of fiscal tightening, tight credit conditions and weak demand from the Eurozone. Table 4.2 shows the relative size of the factors explaining why UK GDP in 2013 is below its long-run trend.

Fiscal tightening

The UK was both quick to begin its austerity programme and aggressive in its implementation. Data from the International Monetary Fund (IMF) imply that the UK began to tighten fiscal policy in 2010, with policy having been tightened by in excess of 5% of GDP between 2010 and 2013.

Moreover, the UK's austerity programme has been heavily geared towards cutting investment spending, which typically has larger multipliers than either tax rises or cuts to current spending; this has arguably increased the damaging effects on output relative to tightening that was more evenly spread across the three areas. Using the IMF's estimates of the degree of fiscal tightening and the OBR's estimates of the size of the fiscal

[12] B. Martin and R. Rowthorn, 'Is the British economy supply constrained II? A renewed critique of productivity pessimism', Centre for Business Research, University of Cambridge, 2012, http://www.cbr.cam.ac.uk/pdf/BM_Report3.pdf.

[13] HM Treasury, *Forecasts for the UK Economy: A Comparison of Independent Forecasts, December 2013*, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/266744/201312forecomp.pdf.

multipliers, we estimate that fiscal retrenchment has reduced the level of GDP by 3.7% compared with what would have happened had there been no fiscal tightening.

Tight credit conditions

The most damaging effects of deteriorating credit conditions were felt in 2008–09, when a lack of credit availability forced corporates to slash inventories and investment spending in an attempt to improve liquidity. Nevertheless, the financial crisis has clearly left a legacy which has continued to damage growth in the recovery phase. The Oxford Economics model includes a measure of credit conditions, based upon work by Aron and Muellbauer (2006),[14] that seeks to proxy changes in credit conditions not reflected in the interest rate, so we can use this to quantify the impact of tight credit conditions on the recovery.

Given that credit conditions are generally acknowledged to have been too loose in the period immediately prior to the financial crisis, it would not be realistic to run a counterfactual scenario where credit conditions were set to 2007 levels. Therefore, in our scenario, we set credit conditions equal to where they were in 2005, prior to the last – and most damaging – leg of the credit boom. The results of our scenario suggest that tight credit conditions have reduced the pace of the recovery by 1.2ppts between 2010 and 2013, with the impact having receded over time, reflecting the notion that credit conditions have begun to gradually recover over the past two years.

Weak Eurozone demand

The export recovery has generally been disappointing and, with the Eurozone taking just under half of UK exports, the sovereign debt crisis and the Eurozone's subsequent slump back into recession in 2012 is typically cited as being the main cause of the UK's export slowdown.

Table 4.2. Decomposing why UK GDP in 2013 is below its long-run trend (%)

	%
Degree to which GDP is below the long-term trend	15
Impact of the financial crisis on potential output	
Impact on the capital stock	1
Impact on growth in the labour supply	0
Impact on total factor productivity	5
Why are we below capacity?	
Fiscal tightening	4
Tight credit conditions	1
Weak Eurozone demand	1
Residual, which is likely to include factors such as the under-recording of the current level of GDP and slow adjustment	3

Note: Figures may not sum exactly due to rounding.
Source: Oxford Economics.

[14] J. Aron and J. Muellbauer, 'Housing wealth, credit conditions and consumption', Centre for the Study of African Economies (CSAE), Working Paper WPS/2006-08, 2006, http://www.csae.ox.ac.uk/workingpapers/pdfs/2006-08text.pdf.

We used our model to construct a counterfactual scenario where the Eurozone is assumed to have grown at a pace equivalent to its long-term average over the past three years. The results of this scenario suggest that the level of UK GDP would have been around 0.7ppts higher in 2013 had Eurozone growth been faster. It is quite possible that the full impact of the Eurozone crisis might be a little larger, as this scenario does not allow for any impact on business confidence and, therefore, investment, but such effects are very difficult to quantify.

Reconciling these results

Aggregating these effects, we estimate that these three factors have reduced the level of GDP by 5.7ppts between 2010 and 2013, accounting for around two-fifths of the shortfall in GDP relative to pre-crisis trends. As such, this analysis confirms that there are grounds to believe that there is a sizeable amount of spare capacity. Indeed, given that this analysis suggests that around two-fifths of the gap to the pre-crisis trend can be explained by factors that have weakened demand, and that a similar amount of the shortfall can be attributed to permanent damage to potential output caused by the financial crisis, there is still a portion of the gap that remains unaccounted for. We believe that a comparison of the GDP data with other evidence on the health of the economy suggests the level of GDP might be under-reported.

Potential output growth to accelerate 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. To do this, we again use the production function approach to consider how the contributions of the various factor inputs are likely to evolve.

Capital stock

Our forecast shows a steady recovery in business investment, as diminishing downside risks and stronger economic growth underpin a strengthening in confidence and encourage firms to begin to release their accumulated cash surpluses. Furthermore, firms that have got through the past five years by patching up old machinery will increasingly come under pressure to replace it with new equipment and will also need to invest to expand capacity. This means that the contribution of the capital stock to potential output growth is expected to accelerate through the forecast period, from 0.6ppts in 2013 to 1ppt by 2018. However, this is not sufficient to regain levels consistent with the pre-recession trend.

Labour supply

Migration flows have slowed over the past two years, with the latest data, for the year to June 2013, reporting inward migration of 182,000. This followed a change to visa rules which means that foreign students cannot work on their student visas during or after their studies. The OBR's forecast adopts the low migration variant of the ONS population projections, which assumes a steady reduction in inward migration from 150,000 in the year to mid-2014 to 123,000 in the year to mid-2018. The forecasts look a little low for the current year, in light of the latest data, but otherwise look reasonable. Given that the bulk of migrants tend to be of working age, this implies a modest slowdown in the growth of the working-age population.

However, while growth in the working-age population may slow, we expect participation to increase. Improving employment prospects should steadily encourage some of the

inactive to seek work, while the continued increase in the state pension age (SPA) for women will continue to have an effect. However, some of this boost will be dampened by the fact that the population itself is ageing, and labour market participation is still substantially lower amongst those close to the SPA than amongst younger individuals.

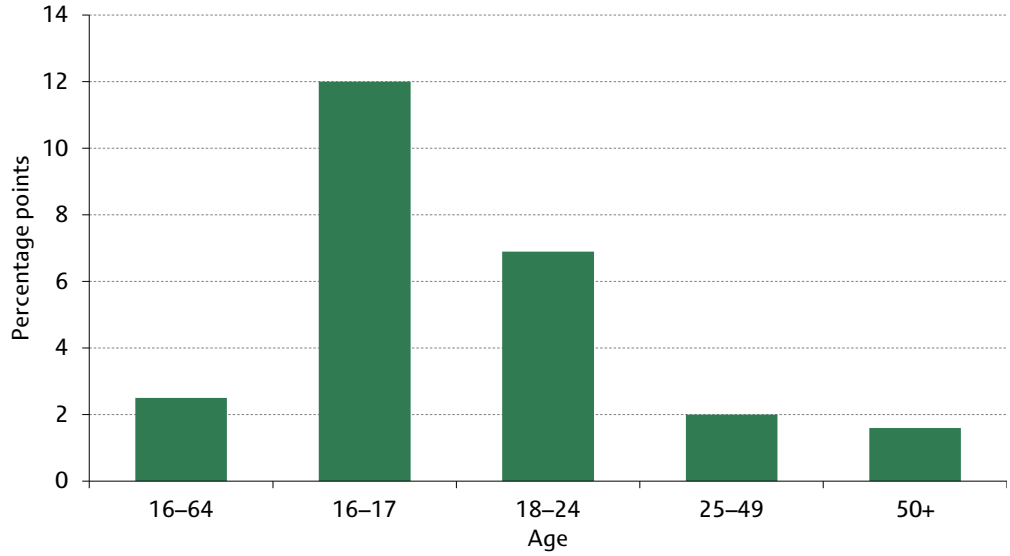
As we have established previously, there is empirical evidence to suggest that a prolonged period of weak activity can drive up the NAIRU through hysteresis. As a result, we assume that the NAIRU rises to around 6% throughout the forecast period, up from 5% ahead of the recession.

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. This means that the pool of available and suitably-skilled workers is reduced. This process could be exacerbated by the shift in employment from the public to the private sector, which could lead to a mismatch between skills and opportunities as the likelihood is that the regional pattern of public sector job losses – and private sector opportunities – will be very uneven.

Previous cycles may not provide a good guide for the likely movements in the NAIRU because, this time around, the increase in unemployment has been much more highly concentrated on the younger age groups (see Figure 4.13). Some argue that this may mean that the young miss out on the essential formative years of their career when they pick up many of their skills. However, we take the view that this should mean that the impact of a rising NAIRU is less marked than in previous cycles because we would expect that the younger unemployed would be better placed to retrain and re-enter the workforce than those from older age groups.

Bringing together our forecasts for population growth, participation and the NAIRU, we find that the contribution of the labour supply to potential output growth should pick-up from 0.1ppts a year over the period 2007–13 to 0.5ppts a year for 2014–18. However, this is down on the average contribution of 0.7ppts a year over 1996–2006, reflecting much lower levels of inward migration.

Figure 4.13. Increase in ILO unemployment rate by age, 2008Q1–2013Q3



Note: ILO is the International Labour Organisation.
Source: Haver Analytics.

Total factor productivity

As we have already established, the financial crisis is likely to have caused permanent damage to total factor productivity because of its impact on credit availability and the efficient allocation of resources. However, the literature would suggest that we have already seen the bulk of any permanent damage. As such, we assume that the contribution of total factor productivity to potential output growth moves back towards historical norms over a relatively short time period. Over the 2014–18 period as a whole, we assume that total factor productivity contributes 0.8ppts per year to potential output growth.

A forecast of potential output and the output gap

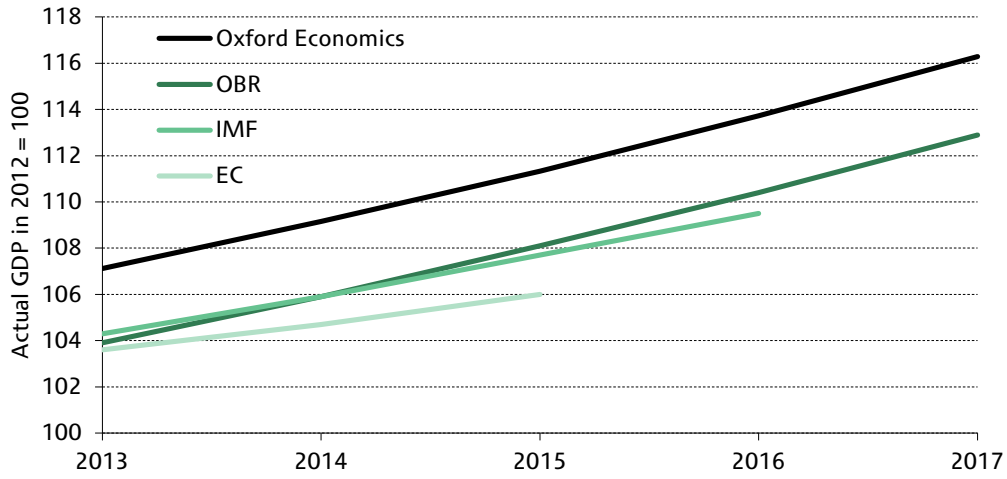
Bringing these factors together, we expect growth in potential output to accelerate through the forecast horizon. Our forecast shows potential output growing by 2.1% a year in 2014–18 (Table 4.3), with GDP growth during that period averaging 2.6%. Ordinarily, we might expect such a large output gap to foster stronger GDP growth; however, there are several important factors likely to limit GDP growth through the forecast horizon, which means it will take longer for the output gap to close. In our view, there is no reason why an output gap should have to close within a particular time frame, and in this case the headwinds to growth provide good reason to expect it to close at a slower pace than in previous cycles.

Table 4.3. Contributions to potential output growth (ppts per annum)

	1996–2006	2007–13	2014–18
Employment at the NAIRU	0.7	0.1	0.5
Capital stock	1.2	1.0	0.8
Total factor productivity	1.1	0.3	0.8
Potential output	**3.0**	**1.4**	**2.1**
Actual GDP	**3.3**	**0.3**	**2.6**

Note: Columns may not sum exactly due to rounding.
Source: Oxford Economics.

Figure 4.14. Forecasts of potential output



Note: Forecasts for OBR, IMF and EC calculated using data quoted in OBR, *Economic and Fiscal Outlook: December 2013*, http://budgetresponsibility.org.uk/economic-fiscal-outlook-december-2013/.
Source: Oxford Economics, OBR, IMF, European Commission.

Our forecast is similar to that of the OBR for this period. However, because we estimate that the permanent damage to potential output during the financial crisis was smaller, our forecast starts from a point where the level of potential output is higher than that of the OBR. As such, by 2018 our estimate of the level of potential output is around 3ppts higher than that of the OBR (see Figure 4.14). Given the uncertain nature of forecasting potential output, it is perhaps no surprise that there is a wide range of views across forecasters. Our forecast is at the top end of the range, ahead of the OBR. The European Commission (EC) is markedly more downbeat, assuming that potential output will grow by just 1.2% a year from 2013 to 2015. This means that by 2015 the EC estimates imply a level of potential GDP that is 5% lower than our forecast.

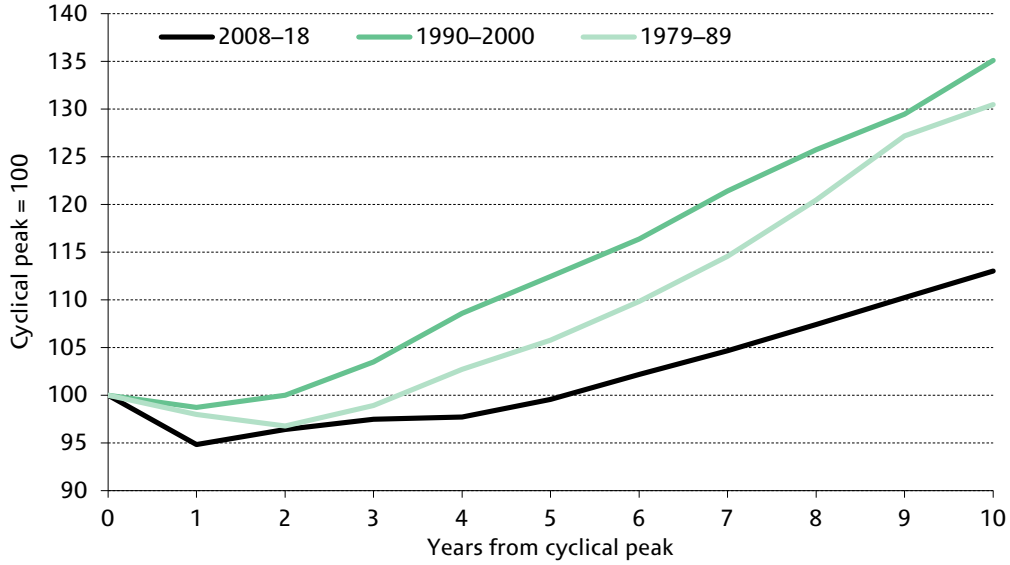
Recovery to remain firm over medium term but still weaker than previous upturns

The existence of such a large output gap should keep inflation low and create the conditions for growth to remain firm over the medium term. GDP growth is expected to average 2.6% a year over 2014–18.

Our expectations for the recovery phase are significantly weaker than previous recoveries, but this partly reflects the poor performance to date. As of end-2013, GDP was still around 1¼% below its 2008Q1 peak, which means that it is a long way behind where it was at the corresponding point of either of the previous two cycles (see Figure 4.15). Following the recession of the early 1990s, GDP was 12% above its previous peak by this stage, while the recovery of the early 1980s saw GDP around 6% above its previous peak by this stage. Our forecast (Table 4.4) suggests that, this time around, GDP will not regain its previous peak until mid-2014, a total of more than six years.

Even though growth accelerated during 2013, we estimate that the output gap narrowed only very marginally from 5.1% of potential output to 5%. With growth set to accelerate further this year, the output gap should start to narrow more rapidly and by the end of 2018 we expect it to have fallen to around 2¾% of potential GDP (see Figure 4.16). This forecast points to subdued inflationary pressures over the next few years, meaning that

Figure 4.15. Comparison of UK economic cycles



Source: Haver Analytics, Oxford Economics.

Table 4.4. Oxford Economics UK forecast (annual % change unless stated)

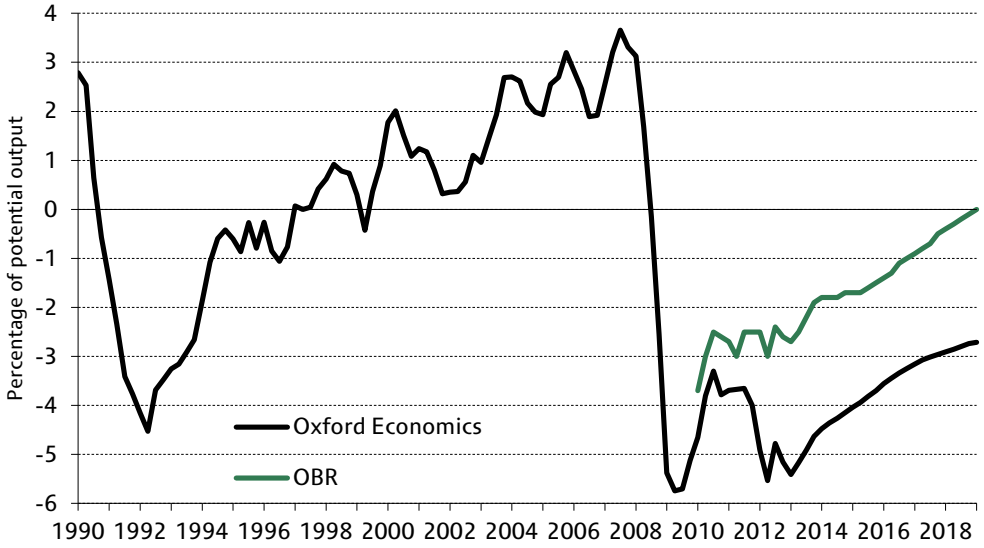
	2012	2013	2014	2015	2016	2017	2018
Domestic demand	1.2	1.8	2.2	2.2	2.3	2.2	2.2
Private consumption	1.5	2.2	2.2	2.2	2.3	2.5	2.6
Fixed investment	0.7	–2.2	6.5	6.3	6.5	5.9	4.3
Stockbuilding (% of GDP)	0.3	0.9	0.6	0.5	0.5	0.5	0.5
Government consumption	1.6	0.4	0.8	–0.3	–0.9	–1.5	–0.7
Exports of goods and services	1.1	1.1	3.1	4.0	5.2	5.3	4.6
Imports of goods and services	3.1	0.8	1.9	3.1	4.0	4.2	3.7
GDP	0.3	1.9	2.6	2.4	2.6	2.6	2.5
Industrial production	–2.5	0.1	2.8	1.7	1.6	1.5	1.3
CPI	2.8	2.6	1.7	1.8	1.7	1.9	2.0
Current balance (% of GDP)	–3.7	–3.6	–2.9	–2.3	–1.8	–1.5	–1.2
Short-term interest rates (%)	0.84	0.50	0.53	0.66	1.57	2.61	3.65
Long-term interest rates (%)	1.91	2.44	3.11	3.30	3.59	4.01	4.48
Exchange rate (US$ per £)	1.59	1.56	1.57	1.53	1.55	1.53	1.52
Exchange rate (euro per £)	1.23	1.18	1.21	1.23	1.27	1.27	1.27

Source: Oxford Economics.

the Bank of England will have plenty of scope to keep the bank rate at 0.5% until well into next year, even if the forward guidance threshold is breached before then, and will be able to tighten policy at a very measured pace beyond that point.

Our forecast shows a larger output gap than that of the OBR in 2013, to the tune of around 2¾ppts. This gap narrows only very slightly through the forecast horizon and is still more than 2½ppts by 2018. That our estimate for the size of the output gap is much larger than that of the OBR implies a smaller structural deficit and that the degree to which fiscal policy needs to be tightened may not be as great as the OBR suggests.

Figure 4.16. UK output gap

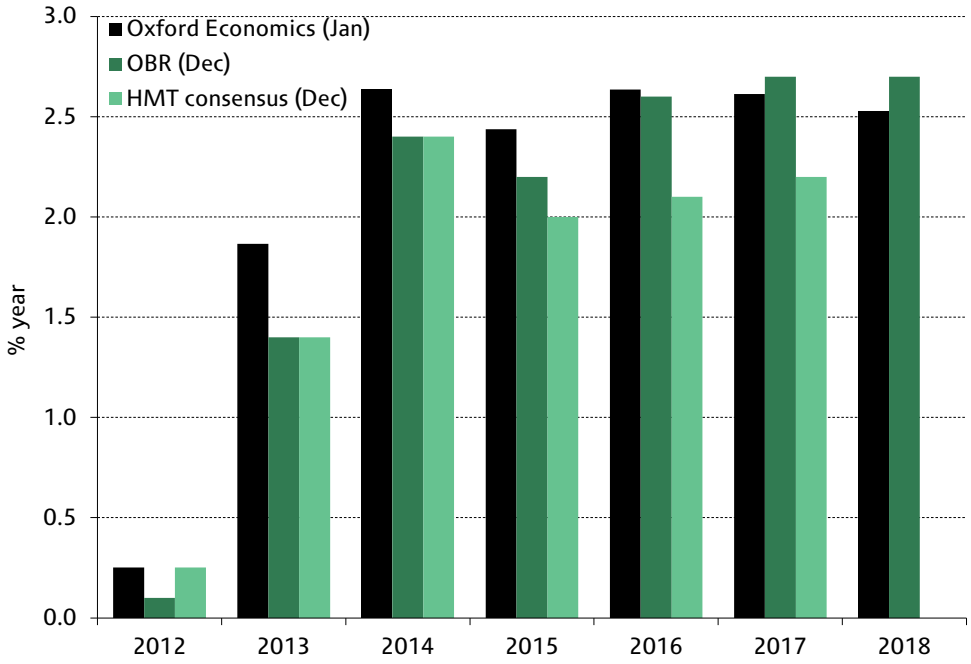


Source: Oxford Economics, OBR.

4.4 Comparison with other forecasts

Our short-term forecasts are a little higher than those of the OBR and the market consensus (Figure 4.17), which we attribute to our forecasts incorporating the revisions to National Accounts data published in late December, as well as the strong run of survey data over the past couple of months. Over the latter years of the forecast horizon, our forecast is similar to that of the OBR. The market consensus is much lower, 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.

Figure 4.17. Comparison of GDP forecasts



Source: Oxford Economics, OBR, HM Treasury.

4.5 Risks balanced: alternative scenarios for the UK economy

For much of the period since the financial crisis, the risks to our central forecast have been skewed heavily to the downside, reflecting several important international 'event risks', such as the threat of a Eurozone break-up or the US going over the 'fiscal cliff'. However, over the past 18 months, these risks have either diminished substantially or gone away and have been replaced by a more normal – and more balanced – pattern of macroeconomic risks. We attach a probability of around 50% to an outcome similar to our baseline scenario and identify several areas of risk to the upside and downside.

Domestic risks

Domestically, several sources of upside risk have emerged. Companies have accumulated large amounts of cash on their balance sheets over recent years and could respond to the improved economic climate more aggressively than we anticipate. This scenario would be

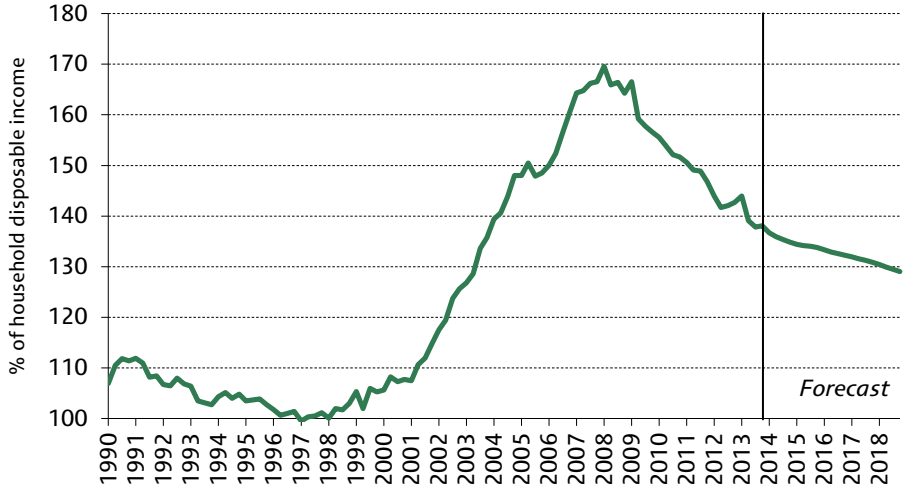
more likely to play out if there were a more significant improvement in credit availability for corporates, particularly SMEs.

The housing market is also a key source of risk. On one hand, the second phase of Help to Buy could underpin a stronger pickup in housing activity and prices, which in turn would be expected to boost economic growth through its impact on household wealth and confidence. However, while such a scenario might boost growth in the short term, it could store up problems later on, if it were to be accompanied by a renewed build-up of household debt and triggered earlier increases in interest rates.

Indeed, there remains a high degree of uncertainty surrounding the household sector. Households have been repairing their balance sheets over the past six years, but recently the pace of deleveraging has eased and the level of household debt remains high by historical standards (see Figure 4.18). Our forecast assumes that households continue to deleverage in a relatively orderly fashion, with the low interest rate environment giving them room to plot a path towards more sustainable debt levels. However, this outcome is far from certain; consumers may opt to use the anticipated acceleration in income growth to make more rapid inroads into their debts, or they may be forced into this action by earlier and more aggressive increases in interest rates. Such a scenario would dampen the pace of the UK recovery.

There is also considerable uncertainty surrounding future trends in productivity and, by extension, employment. Productivity has slumped in recent years and is now around 15% below where it would have been had the pre-recession trend continued. We assume that a portion of this decline is due to cyclical factors, which will unwind as economic growth recovers. However, some economists argue that almost all of the decline can be written off as being permanent and that the economy has moved to a new equilibrium some way below old levels. If this is the case, then the scope for job creation in the short term may be higher as the economy recovers, providing some upside for consumer spending. But on the flip side, if the level of productivity has shifted downwards and productivity continues to grow at slower rates, this would imply weaker potential output growth and, as such, poorer medium-term growth prospects.

Figure 4.18. Household debt-to-income ratio



Source: Haver Analytics, Oxford Economics.

External risks

As we established in Chapter 3, the risks to the global outlook are more evenly balanced than they have been for some time. In the rest of this section, we look at the two alternative scenarios for the global economy set out in Chapter 3 and consider how they might affect the UK economy.

Golden Age

The global economy could accelerate more swiftly than we currently envisage if a number of uncertain developments turn out positively in advanced economies. In particular, the US could benefit more than we currently forecast from its strong competitive position and fast pace of technological change. Moreover, the reform process currently underway in the Eurozone peripheral countries could yield larger benefits than we currently assume. And if the 'third arrow; of reforms by Japan's Prime Minister, Abe, proves successful, our growth forecast for Japan could turn out to be too low.

This scenario would generate stronger growth in world trade and, given the relative importance of the US and Eurozone to UK exports, the UK would be ideally placed to take advantage. Similarly, a growing risk appetite would be expected to bolster corporate confidence and convince firms to implement capital spending plans more aggressively.

Under this scenario, we would expect the UK economy to grow by 3.3% this year and by 3.5% in 2015. The stronger recovery would prompt the Bank of England to start increasing interest rates from mid-2014, rather than mid-2015 in the baseline. We would attach a probability of around 15% to a scenario where the global economy surprises on the upside in this way.

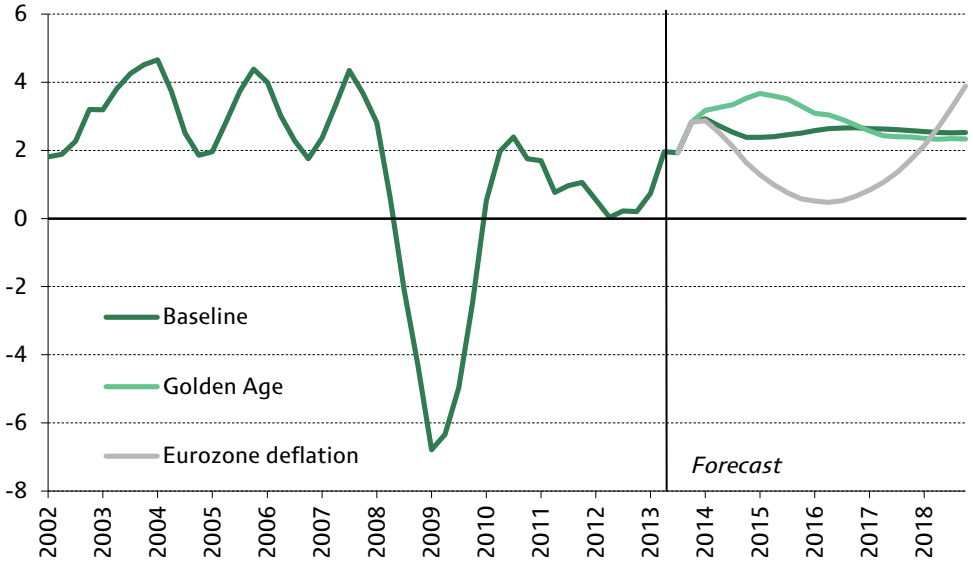
Eurozone slides into deflation

Inflation has reached strikingly low levels in the Eurozone and, with a significant output gap and only slow growth forecast, it could well fall further. The risk of deflation then becomes real. In a region characterised by high levels of public and private debt, a sustained fall in general prices would have devastating effects. In this scenario, a stronger euro and weaker growth combine to push the Eurozone into deflation in 2015–18. Weaker growth and deflation significantly raise the burden of public and private debt and peripheral countries in particular see debt increase as a proportion of GDP. Even for France, issues of debt sustainability become much more serious in this scenario. For Greece, deflation has the potential to trigger renewed doubts about the country's viability in the Eurozone. Without additional debt relief on interest payments and possibly capital owed to other governments and EU institutions, Greece would most likely be pushed out of the Eurozone.

In such a scenario, the UK would be one of the countries hardest hit outside of the Eurozone because of its strong reliance on the Eurozone for exports and the likely negative impacts on consumer and business confidence. The strong financial linkages would also ensure that the UK is badly affected through financial contagion. GDP growth would slow sharply to just 0.9% in 2015 and 0.5% in 2016, compared with our baseline forecasts of 2.4% and 2.6% respectively. Inflation would slow sharply in this scenario, while the bank rate would remain at 0.5% throughout the five-year horizon. We would attach a probability of around 15% to this downside scenario.

Figure 4.19 shows GDP forecasts for the UK economy, based upon these alternative scenarios.

Figure 4.19. GDP forecasts for alternative scenarios for the UK economy



Source: Oxford Economics.

4.6 Conclusion

After a much better than expected 2013, the UK recovery appears to have finally become entrenched and we expect growth to remain firm over the coming five years. The main hurdle is ensuring that the recovery broadens out from its narrow focus on the consumer and the housing market towards business investment and exports; recent business survey data offer encouragement that this is beginning to happen and our forecast shows growth becoming more balanced as we move through the forecast horizon.

We think that there is currently a significant amount of spare capacity in the economy, with the output gap estimated to have averaged around 5% of potential output in 2013. Though the financial crisis is likely to have caused substantial permanent damage to potential output, our estimate of the scale of this damage is somewhat smaller than those of other forecasters, including the OBR, and we believe that the vast bulk of this damage has already occurred. Our forecast shows potential output growth averaging 2.1% a year over the period from 2014 to 2018. Such a large output gap will provide the conditions for the recovery to gain momentum over the medium term, with GDP growth expected to average 2.6% a year from 2014 to 2018.

The risks around our forecast are more balanced now than they have been for much of the period since the financial crisis. Domestically, the main areas of uncertainty are the housing market and the state of household balance sheets, with doubts around the extent to which house prices will rise in response to schemes such as Help to Buy and the impact that this will have on households' deleveraging. A further source of uncertainty is the labour market, where the collapse in productivity over the past six years makes future developments very uncertain. Externally, stronger recoveries in the US and Eurozone are a plausible alternative, a scenario which would be particularly beneficial to the UK given its strong trading links with those areas. The biggest downside risk is also related to the Eurozone; deflation is becoming an increasingly serious threat to the Eurozone because of its high levels of private and government indebtedness. Were the Eurozone to fall into deflation, it could lead to Greece being forced out of the Eurozone and set in train events that would cause the UK's recovery to slow sharply.

5. Housing market trends and recent policies

Daniel Chandler and Richard Disney (IFS)

Summary

- In the last year, the government has initiated a number of housing policies including equity loans and mortgage guarantees via the 'Help to Buy' programme and a revamped 'Right to Buy' scheme for council house tenants. In the short run, these policies were introduced to stimulate demand for housing and to revitalise the construction industry. They also reflect a longer-term objective, dating back to at least the 1980s, of encouraging wider homeownership.
- Whether influenced by these policies or by faster-than-forecast growth in economic activity, the UK housing market has picked up significantly in the past year, with prices increasing across most of the UK in 2013. However, prices remain about 9% below their previous peak in nominal terms, and 25% below in real terms. Only in London have prices reached their previous nominal peak – although they are still 17% lower in real terms. Other indicators of housing market activity have also seen a marked upturn.
- There is concern among commentators as to whether a housing 'bubble' is developing in the UK. A bubble – as opposed to simply an upturn in prices – arises when price trajectories are driven largely by speculative buying based on expected future price increases, rather than by economic 'fundamentals' such as improving underlying economic conditions and easier access to finance. On balance, the data currently available do not provide clear evidence of a housing bubble, even in London – though the likelihood of a bubble is greatest there.
- The 'Help to Buy' scheme aims to increase homeownership by reducing the deposit required to purchase a house, either via an equity loan (which directly reduces monthly repayments) or via insurance to lenders on high loan-to-value mortgages. Help to Buy will likely exert an upwards pressure on prices. Whether this ultimately makes it more difficult for first-time buyers to access homeownership depends on whether this boost to price expectations leads to an increase in supply. The government should consider targeting the policy on first-time buyers and/or reducing the cap on eligible property values (currently £600,000) in order to increase the policies' impact on affordability. In addition, if the government is concerned about a potential house price bubble, it should consider reducing the cap for both schemes and/or restricting the mortgage guarantee to new builds.
- 'Right to Buy' has been an extremely influential factor behind the expansion of homeownership since the early 1980s. Given the excess demand for public housing in some localities, there can be a trade-off between the goal of promoting homeownership through council house sales and retaining sufficient public housing to meet demand. The government seems to have signalled a major shift towards the goal of increasing homeownership, by raising maximum discounts across the country. As yet, it is unclear whether the policy will achieve the desired balance between increasing homeownership and minimising reductions in social housing.

5.1 Introduction

The past year has seen a sharp revival in activity and rising prices in the UK housing market. UK house prices, having fallen by 19% in nominal terms between 2007Q3 and 2009Q1, grew by 7.3% over 2013, rising to about 9% below their previous peak by 2013Q4. There was also a substantial increase in the number of housing market transactions and in the construction of new homes: the number of housing market transactions rose to almost 100,000 per month in 2013Q4, well above its low of 52,000 in January 2009, though still below the average of 119,000 per month between 1997 and 2007.

The upturn in the housing market has coincided with the announcement and (partial) introduction of two major government schemes designed to stimulate housing demand and revitalise the construction industry: 'Help to Buy: equity loan', which provides interest-free equity loans on new builds and 'Help to Buy: mortgage guarantee', which offers insurance to lenders of high loan-to-value mortgages (up to 95%) on new and old properties. Both schemes are open to existing owners as well as first-time buyers, on properties worth up to £600,000. The government has committed to providing up to £3.5 billion in equity loans over three years, and to a contingent liability of up to £12 billion, which it estimates is sufficient to insure up to £130 billion of mortgages (equivalent to 10% of the current stock of household mortgage debt). The government has also attempted to stimulate homeownership by revitalising the 'Right to Buy' policy for council housing, and to encourage house building by simplifying planning regulations.

There is considerable debate about how to interpret recent trends in the housing market and the impact of government policy on these trends. Concerns have been raised as to the risks to financial and macroeconomic stability arising from the ongoing rise in house prices, particularly in London, and about the implications of rising prices for the long-term challenge of affordability for those wanting to get into the housing market. Moreover, given the apparent acceleration of activity and price growth since the announcement of 'Help to Buy', there is concern that current policy will exacerbate these trends.

All this raises the issue of whether the Chancellor should be changing course in his forthcoming Budget. Should he be worrying about a housing 'bubble' and therefore reining back on some of the measures designed to stimulate the market? Are there particular changes he could make to the Help to Buy and Right to Buy schemes? This chapter seeks to address these issues.

The remainder of the chapter is structured as follows. Section 5.2 examines possible rationales for government intervention in the housing market. Section 5.3 describes recent trends in the housing market – particularly prices and other indicators of activity, and how these differ between regions – before assessing whether this evidence supports claims that the UK is experiencing a housing bubble. Section 5.4 evaluates three flagship policies aimed at stimulating the housing market and increasing homeownership: the Help to Buy: equity loan and mortgage guarantee schemes and the revamped Right to Buy policy. Section 5.5 concludes.

5.2 Government intervention in the housing market

Public policy towards the housing market has sought to achieve (at least one of) three distinct goals: to provide shelter and accommodation for all families; to encourage homeownership; and to encourage construction as a tool of counter-cyclical macroeconomic policy.

Traditionally, social housing has existed to ensure the availability of accommodation of an acceptable standard and at 'affordable' prices for all. It has been the province of local authorities, supported by central government through the provision of capital grants. In addition, benefit payments have been available to poor families in both social and privately rented accommodation. From the 1920s until the early 1980s, local authorities built large amounts of new social housing each year, with annual completions of local authority dwellings averaging over 150,000 per year between 1950 and 1980, while housing associations built around 14,000 per year. Building by local authorities declined throughout the 1980s and 1990s to just 350 dwellings per year during the 2000s. Housing associations now play a more important role, building an average of 25,000 per year during the 2000s.[1]

The use of government policy to promote homeownership is a more recent development. Initially, the tax system was used for this purpose. In 1969, mortgage payments were granted tax relief. Although this incentive was abolished in 2000, the tax system continues to favour owner-occupation over other forms of housing tenure.[2] Housing is also treated favourably relative to many other assets in the sense that capital gains on owner-occupied houses are exempt from tax – though this favourable treatment is counterbalanced by stamp duty land tax, a transaction tax on residential housing which raises significant revenue (around £4.9 billion in 2012–13).[3]

In 1980, the introduction of a statutory 'Right to Buy' policy requiring local authorities to sell council houses at a discount to eligible tenants marked a significant shift in government policy towards homeownership. The policy was subsequently extended to other forms of social housing through 'Right to Acquire'. Between 1981 and 2003, the stock of council-owned properties as a proportion of the total housing stock fell from 27% to just over 11%.[4]

More recently, government policy has sought to ensure that the supply of new housing delivered by the market keeps pace with rising demand. As discussed in Box 5.1, the relationship between supply and demand ultimately determines the price of housing and, as such, policies to encourage new supply are important both for ensuring decent and affordable shelter and accommodation and for widening access to homeownership.

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[1] Table 2.2 of C. Jones and A. Murie, *The Right to Buy: Analysis and Evaluation of a Housing Policy*, Blackwell, Oxford, 2006; DCLG, live table 241, 'House building: permanent dwellings completed, by tenure', https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/259907/LiveTable241.xls.

[2] See Chapter 16 of J. Mirrlees et al., *Tax by Design*, OUP for IFS, Oxford, 2011, http://www.ifs.org.uk/mirrleesreview/design/ch16.pdf.

[3] Data for stamp duty on residential property transactions only. See HMRC, *UK Stamp Tax Statistics 2012-13*, September 2013 (http://www.hmrc.gov.uk/statistics/stamp-duty/stamp-tax-sep13.pdf). Receipts were 16% higher in 2012–13 than in 2011–12.

[4] Table 4.1 of C. Jones and A. Murie, *The Right to Buy: Analysis and Evaluation of a Housing Policy*, Blackwell, Oxford, 2006.

Box 5.1. The economics of housing

At the most basic level, the price of housing reflects the balance of demand and supply: all else equal, an increase in demand will raise the price of housing, while an increase in supply will see prices fall.

The demand for housing is influenced by a range of factors, the most important of which are population size, the structure and spatial allocation of the population, real income levels, the price of housing relative to other goods, services and assets, and the availability of mortgage credit. Expectations of future price increases are also important in inducing potential buyers into the market: rising prices increase the expected benefit to getting into the market (because asset values are appreciating) while also increasing the expected costs of delaying (because down-payment costs are also rising). Evidence suggests that price expectations are heavily influenced by recent trends – a feature of the housing market that tends to exacerbate price volatility.[a]

In the long run, growing real incomes and demographic change are likely the most fundamental drivers of housing demand.[b] The UK has certainly seen a growing population and, until recently, growing real incomes. There has also been a long-term trend towards smaller household units, such that there are more households in the market for a given population size (although changing house prices and availability of housing finance also affect household composition choices).[c] A long-run trend towards greater financial liberalisation has also increased access to credit for house purchases. Finally, housing assets may have become more attractive relative to other assets such as occupational pensions, given low interest rates and falling annuity rates. In the short run, the cost of borrowing (determined by the interest rate) and the availability of credit (determined primarily by the lending requirements set by banks) have had an important impact on housing demand.

In the short run, the overall supply of housing is relatively fixed. This means that short-term increases in demand typically feed through into rising prices. Over longer periods, the responsiveness of supply to changes in house prices will depend above all on the supply of land, which in turn depends on the planning system, and on the competitiveness, capacity and incentives faced by the construction industry. In a 2003–04 review, Kate Barker suggested that, even over longer periods, UK housing supply was not responding to price signals and that in large part this reflected constraints embedded in the planning system.[d]

Given these longer-term pressures on demand, the long-run increases in the real price of owner-occupied housing in the UK and in the ratio of the value of housing wealth to income are likely to continue.

[a] For a discussion, see the 2008 special issue of *Oxford Review of Economic Policy* (24:1) on housing policy, especially J. Muellbauer and A. Murphy, 'Housing markets and the economy: an assessment'.
[b] Typical estimates of the 'income elasticity of demand' for housing lie in the range 0.5 to 0.8. For a summary of the empirical literature, S. Malpezzi and S. Wachter, 'Housing demand', in *International Encyclopedia of Housing and Home,* Elsevier, 2012. See also J. Ermisch, J. Findlay and K. Gibb, 'The price elasticity of housing demand in Britain: issues of sample selection', *Journal of Housing Economics*, 1996, 5, 64–86.
[c] See, for example, pages 32–4 in Office for National Statistics, *2011 Census: Population and Household Estimates for England and Wales, March 2011*, 2012, http://www.ons.gov.uk/ons/dcp171778_270487.pdf.
[d] For a discussion, see K. Barker, *Review of Housing Supply – Delivering Stability: Securing Our Future Housing Needs, Interim Report*, HM Treasury, 2003, http://webarchive.nationalarchives.gov.uk/+/http:/www.hm-treasury.gov.uk/consultations_and_legislation/barker/consult_barker_index.cfm#report.

Finally, policies to encourage homeownership may be used as an instrument for counter-cyclical macroeconomic policy. This is one potential explanation of current government policy: when there is spare capacity in the construction industry – as was the case following the 2008 recession – the case for boosting housing demand as a form of economic stimulus looks attractive. Funds for the provision of social housing could also be increased to this end.

In Section 5.4, we consider how these policy goals relate to the recent 'Help to Buy' schemes and the revamped 'Right to Buy' policy. In particular, we seek to clarify the objectives of these policies: are they designed to address short-term problems, such as spare capacity in the construction industry or market failures in the mortgage markets, and/or longer-term objectives such as increasing access to homeownership. Moreover, we examine whether they are likely to achieve these objectives.

5.3 Trends in the housing market

Trends in house prices

The past year has seen a strengthening of the UK housing market, with prices growing in most regions and a range of indicators of housing market activity showing marked increases. While this has been welcomed by some as a symptom of wider economic recovery, rising house prices have also raised two distinct concerns: first, that rising prices might indicate the development of a house price 'bubble', which in turn could burst, leading to financial instability and (potentially) hitting household consumption; and second, that even without a bubble, rising prices might put homeownership beyond the reach of many and could worsen the affordability of basic shelter and accommodation. Box 5.2 reviews, very briefly, the reasons why house prices might matter for the wider economy and for questions of equity and 'affordability'.

Box 5.2. Why do house prices matter?

House prices can have a range of economic and distributional effects.

Most obviously, house prices may influence overall activity via their effect on the construction industry. In addition, house prices may affect household behaviour. For example, there is a strong correlation between house prices and households' consumption. However, it is not clear how far this reflects the causal influence of house prices on consumption (i.e. higher prices increase consumption via a 'wealth effect') or the fact that house prices and consumption are driven by common causes (e.g. a cut in interest rates might increase both house prices and consumption). House prices also affect household levels of savings and debt, both through the direct impact of mortgages and because mortgages may substitute for other (unsecured) forms of debt. House prices may also affect labour market decisions, via their impact on household wealth.

The nature and direction of these relationships are not straightforward, and a full discussion is beyond the scope of this chapter. Nonetheless, recognising the links between house prices and wider economic activity is crucial for understanding the implications of rising prices for the wider economy – whether or not they result from a 'bubble'.[a]

Rising prices also have distributional effects. In particular, concerns about 'affordability' typically refer to the possibility that rising house prices will put homeownership out of

reach for certain groups. This is a particular issue in the UK, where rising house prices over the 1990s and 2000s seem to have caused, at least in part, a decline in homeownership, with the proportion of households in England and Wales that owned their own home falling from 69% to 64% between 2001 and 2011.[b]

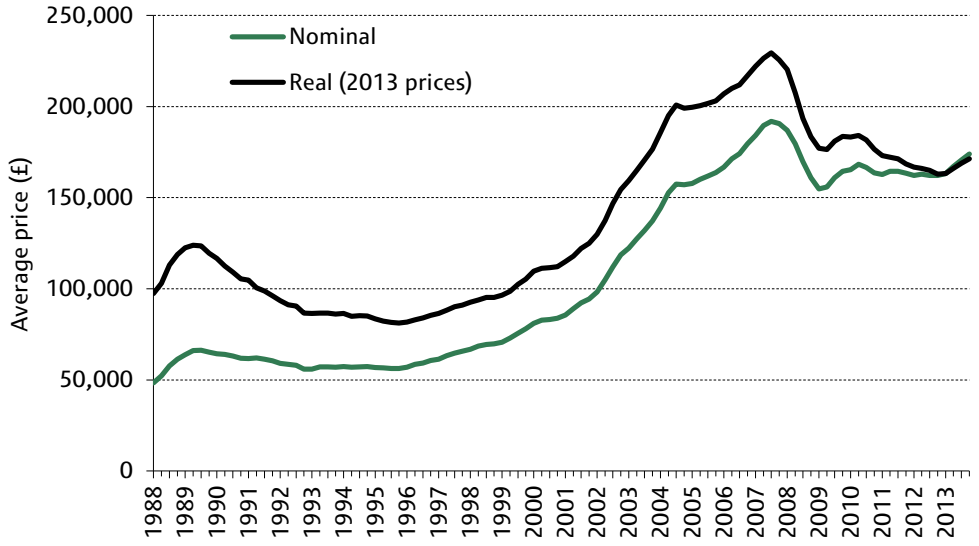
The distribution of homeownership raises issues of equity. Wealth is highly unequally distributed in the UK, and the unequal distribution of housing wealth is an important component of this. Moreover, housing wealth is an important source of inheritance and a mechanism by which wealth is transferred from one generation to the next. Finally, higher prices may also spill over into the level of private rents. If other forms of social and public housing are not easily available, access to housing in general will become more difficult and/or more expensive.

[a] We will address some of these issues concerning the wider implications of the housing market for economic activity in a forthcoming IFS publication to be released shortly.
[b] Office for National Statistics, 'A century of home ownership and renting in England and Wales', http://www.ons.gov.uk/ons/rel/census/2011-census-analysis/a-century-of-home-ownership-and-renting-in-england-and-wales/short-story-on-housing.html.

Prices across the UK are yet to recover from the largest decline on record

The recent upturn in the housing market follows the deepest and sharpest decline in house prices since at least the 1950s, when reliable data on house prices begin. The price of a 'typical' house, as measured by the average of the Nationwide and Halifax house price indices, fell from a peak of £192,000 in the third quarter of 2007 to £155,000 in the first quarter of 2009 – a fall of 19% in just 1½ years. This compares with a fall of around 16% during the last house price crash between 1989 and 1993, a period of 3½ years from

Figure 5.1. Average UK house prices since 1988



Note: The average nominal house price is the average of the Nationwide and Halifax quarterly house price indices. The real house price is deflated using the CPI all-items index, taking 2013Q1 as the base. The Halifax measure for 2013Q4 has been estimated as the average of the monthly figures for October to December 2013, because the figure for 2013Q4 is not yet available
Source: Nationwide, 'UK house prices since 1952', http://www.nationwide.co.uk/~/media/nationwide.co.uk/pdf/hpi/downloads/UK_house_price_since_1952.xls ; Halifax, table 1 (All(SA)) in 'Historical house price data', http://www.lloydsbankinggroup.com/media1/economic_insight/halifax_house_price_index_page.asp; CPI is ONS series D7BT.

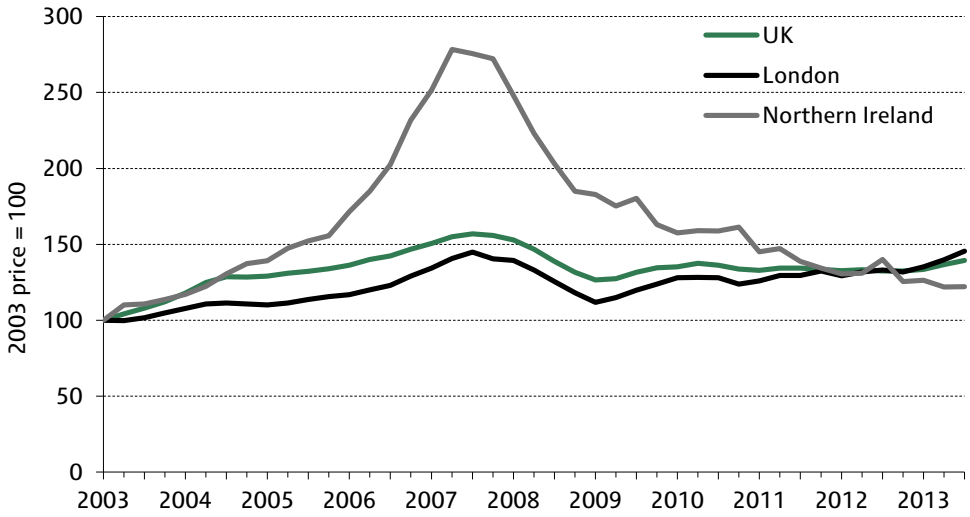
peak to trough using the same index.[5] In the fourth quarter of 2013, nominal prices for the UK have recovered to about 9% below their previous peak.[6] (See Figure 5.1.)

Figure 5.1 also shows the evolution of real house prices, i.e. the nominal price deflated by the consumer price index (CPI). This measures the price of housing *relative* to other goods. The broad trend of the real house price index is similar to that of the nominal index: a fall from 1989 into the early 1990s, a long boom from the mid- to late 1990s up to 2007, and then a sharp crash in 2008. Since 2007, the real index has fallen further and for longer than the nominal index, to a low of 29% below its 2007Q3 peak in 2012Q4. That real prices continued to decline over 2010–12 reflects the fact that, over this period, inflation averaged about 3.5% while nominal house prices were largely flat.[7] During 2013, house prices again started to outpace inflation, though in the 2013Q4 real prices remained 25% below their previous peak.

London and Northern Ireland are two exceptions to the overall UK trend

Most regions have broadly followed the overall UK trend since 2007, with two exceptions – Northern Ireland and London (see Figure 5.2).

Figure 5.2. Average nominal house prices: UK and selected regions



Note: The average nominal house price is the average of the Nationwide and Halifax quarterly house price indices. London corresponds to 'London' for Nationwide and 'Greater London' for Halifax. Data go up to 2013Q3, as regional 2013Q4 data are not yet available for the Halifax index.
Source: Nationwide, 'Regional quarterly indices (post '73)', http://www.nationwide.co.uk/~/media/nationwide.co.uk/pdf/hpi/downloads/All_prop.xls; Halifax, table 1 (All(SA)) in 'Historical house price data', http://www.lloydsbankinggroup.com/media1/economic_insight/halifax_house_price_index_page.asp.

[5] Halifax data are available only since 1983. Nationwide publishes an index going back to 1952, though there were significant changes in the underlying methodology in 1983. Nonetheless, the only comparable fall in house prices since 1950 occurred between 1989 and 1993. A simple measure of average house prices going back to the 1930s shows another major decline of about 15% in the 1930s; see DCLG, live table 502, 'Housing market: house prices from 1930, annual house price inflation, United Kingdom, from 1970', https://www.gov.uk/government/statistical-data-sets/live-tables-on-housing-market-and-house-prices.

[6] Unless stated otherwise, price data in this chapter are for the average of the Nationwide and Halifax house price indices. See the online appendix for a more detailed discussion of the differences between different house price indices (http://www.ifs.org.uk/budgets/gb2014/gb2014_ch5_appendix.pdf).

[7] CPI inflation was 3.3% in 2010, 4.5% in 2011 and 2.8% in 2012. See ONS series D7BT (http://www.ons.gov.uk/ons/datasets-and-tables/data-selector.html?cdid=D7G7&dataset=mm23&table-id=1.2).

Northern Ireland experienced a much more dramatic price crash, following a much more extreme house price boom in the years immediately preceding the recession. This likely reflects similarities with the housing market in the Republic of Ireland, where house prices have suffered a similarly dramatic boom and bust.[8] Given the differences between the experience in Northern Ireland and that in the rest of the UK, we focus the remainder of our discussion on Great Britain.

London has seen a stronger recovery than any other region.[9] Most indices suggest nominal house prices in London are above their pre-recession peak. They were 9% above their previous peak in 2013Q3 according to Nationwide, 11% above according to the Land Registry in September 2013, and 19% above according to the Office for National Statistics (ONS) in 2013Q3.[10] The Halifax, on the other hand, estimates that prices in 2013Q3 remain about 8% below their peak. Real prices in London remain 17% below their 2007 peak, according to the average of Nationwide and Halifax.

As we shall see below, much discussion of whether or not there is a 'bubble' in the London housing market relies on simple comparisons of nominal prices with their 2007 peak. The choice of house price index clearly has an important bearing on this question. However, differences between these measures reflect a range of differences in the underlying samples and in the methodology behind the indices, which are difficult to pick apart (see the online appendix for a more detailed discussion of these differences[11]). The Land Registry's index is based on the most comprehensive data and is likely to be the most accurate estimate.[12] The ONS measure, on the other hand, is likely to overstate the true increase in prices, because it is affected by changes in the composition of properties being sold, with the higher price reflecting stronger sales activity and growth in the 'prime' London market in recent years. It is not clear what explains the difference between the Halifax measure and the other indices. On balance, it seems likely that prices in London are now above their nominal peak.

Although prices in London seem to have exceeded their 2007 peak in nominal terms, this is not the case for the rest of the UK, as Figure 5.3 makes clear. Looking outside London (and excluding Northern Ireland), prices have recovered more quickly in southern and eastern England, and more slowly in northern England, Wales and Scotland.

[8] Housing statistics for Ireland can be accessed at http://www.environ.ie/en/Publications/StatisticsandRegularPublications/HousingStatistics/.

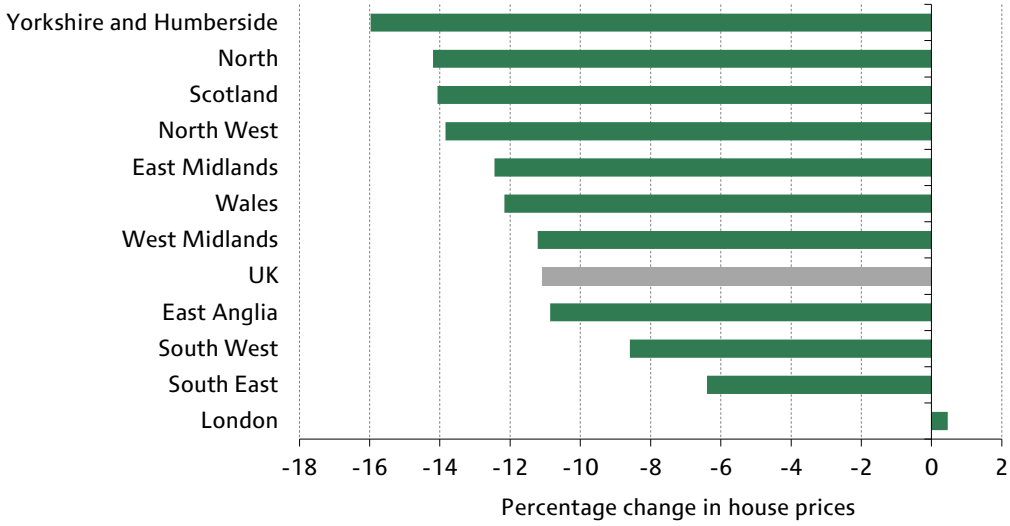
[9] It is also interesting to note that prices in fact grew more slowly in London than in the rest of the UK in the five years preceding the recession.

[10] Data for each index are relative to the peak price in London for that index. Nationwide, Halifax and ONS data are quarterly, whereas Land Registry data are only provided as a monthly index. Source: ONS, 'House price index (HPI) reference tables', table 14, http://www.ons.gov.uk/ons/rel/hpi/house-price-index/november-2013/rft-monthly-and-qtly-november-13.xls; Land Registry, 'Indices (SA)', http://www.landregistry.gov.uk/__data/assets/file/0003/67836/HPI_Tables.xls.

[11] http://www.ifs.org.uk/budgets/gb2014/gb2014_ch5_appendix.pdf.

[12] Although the Land Registry is probably the most accurate source of data, we have used the average of the Nationwide and Halifax indices for two main reasons. First, they cover the whole of the UK, while the Land Registry only covers England and Wales. Second, they provide more timely data, because there is a time lag between mortgage offers being made (the data used by Nationwide and Halifax), a property being sold, and registration of this sale with the Land Registry (used for its price index).

Figure 5.3. Nominal house prices compared with 2007



Note: See Figure 5.2. Compares average of Nationwide and Halifax indices in 2007Q3 and 2013Q3 (the latest date for which regional quarterly data are available). Although Nationwide data are available for 2013Q4, Halifax data are only available up to 2013Q3. 2007Q3 is the quarter in which the average of the Nationwide and Halifax price indices reached its peak, though some regions peaked in 2007Q4.
Source: See Figure 5.2.

Prices are expected to continue growing in the short term

On average, the house price indices suggest that most regions saw positive growth between 2012Q4 and 2013Q4. Average price growth for the UK as a whole was 7.3%, with faster growth in London and slower growth elsewhere. Looking forward, prices are widely expected to continue growing into 2014 and 2015. The Office for Budget Responsibility (OBR) has developed an economic model that predicts house prices on the basis of the underlying supply and demand dynamics in the housing market. It estimates that house prices for the UK as a whole will rise by more than 5% in 2014 and 7% in 2015.[13]

Various measures of market expectations also indicate further price growth. The Royal Institute of Chartered Surveyors (RICS)'s monthly poll of estate agents in England and Wales shows that, as of December 2013, prices were expected to increase by more than 3% nationally over the following 12 months (compared with expectations of 0.1% price growth in December 2012 for the subsequent 12 months) and by around 5% per year for the next five years (up from 2.5% last year).[14] A similar pattern is evident among homeowners: the Knight Frank / Markit house price sentiment index (HPSI) measures homeowners' expectations of future price changes. The index has been a fairly reliable leading indicator of changes in house prices since its inception in 2009, and it is now at a

[13] OBR, *Economic and Fiscal Outlook*, December 2013, http://cdn.budgetresponsibility.independent.gov.uk/Economic-and-fiscal-outlook-December-2013.pdf; OBR, 'Supplementary forecast information release: house price model', December 2013, http://budgetresponsibility.org.uk/wordpress/docs/House-price-model-Dec-13.pdf. The OBR model assumes (1) that any increase in prices raises expected prices and hence increases demand for housing and (2) that the elasticity of supply of housing is very low. The model suggests that current (2013) prices are roughly at their equilibrium level but predicts that policies such as 'Help to Buy' will raise prices.

[14] RICS, 'Residential Market Survey – December 2013', January 2014, http://www.rics.org/uk/knowledge/market-analysis/uk-residential-market-survey/rics-residential-market-survey-dec-2013/.

series high (when measured as a three-month series average), with homeowners expecting strong growth in house prices over the next year.[15]

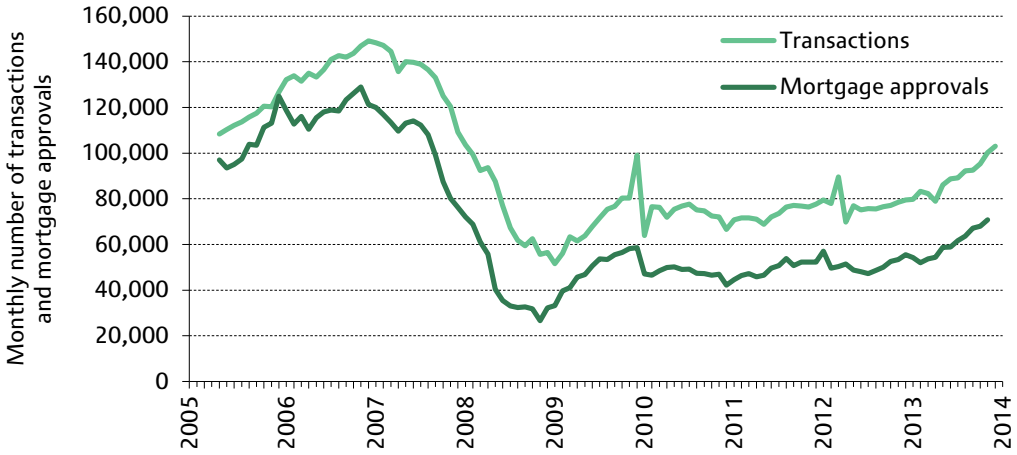
Other indicators of housing market activity

The decline in house prices starting in late 2007 was accompanied by an even more dramatic decline in other indicators of housing market activity. These indicators have all improved over the past year.

The numbers of housing transactions and mortgage approvals are rising

The number of monthly housing market transactions fell from a peak of almost 150,000 at the end of 2006 to a low of 52,000 in January 2009, before rising to 73,000 per month over 2010–11. The past year has seen the number of transactions increase further, reaching almost 100,000 per month in the fourth quarter of 2013, though this is still 16% below the average for the decade between 1997 and 2007 of 119,000 per month.[16] As Figure 5.4 shows, the number of mortgage approvals for house purchase has followed a very similar pattern, though as of November 2013 mortgage approvals were just under 71,000, 31% below the average for 1997–2007 of 103,000 per month.

Figure 5.4. Housing market activity since 2005



Note: 'Transactions' is the number of residential property transactions in the UK with a value of £40,000 or above, seasonally adjusted. 'Mortgage approvals' is the monthly number of total sterling approvals for house purchase to individuals in the UK, seasonally adjusted. Prior to 2005, HMRC data on transactions only cover England and Wales.
Source: Transactions data from HMRC, 'UK property transaction statistics', 21 January 2014, http://www.hmrc.gov.uk/statistics/transactions.htm. Mortgage approvals from Bank of England series LPMVTVX, http://www.bankofengland.co.uk/boeapps/iadb/fromshowcolumns.asp?Travel=NIxSCxSUx&FromSeries=1&ToSeries=50&DAT=RNG&FD=1&FM=Jan&FY=1963&TD=20&TM=Jan&TY=2014&VFD=Y&html.x=25&html.y=15&CSVF=TT&C=112&Filter=N.

[15] Knight Frank and Markit, 'Knight Frank/Markit House Price Sentiment Index (HPSI) – December 2013', December 2013, http://www.markiteconomics.com/Survey/PressRelease.mvc/f6f7d9cdcc0d4c49a7a6b3fb052aebb4.

[16] Table 1 on page 20 of Bank of England, *Inflation Report*, November 2013, http://www.bankofengland.co.uk/publications/Documents/inflationreport/2013/ir13nov.pdf.

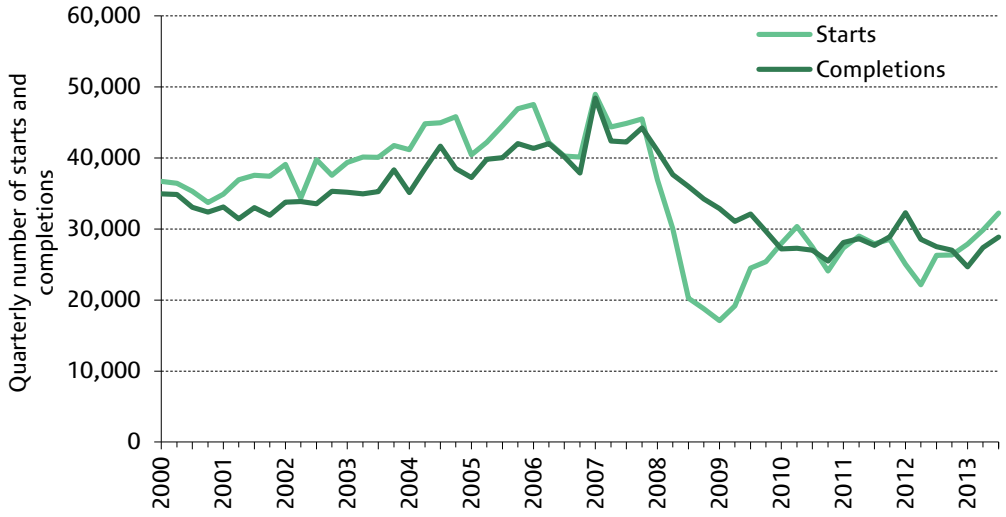
Residential construction is also on the increase

Construction is starting to respond to the increase in housing market activity and prices. New housing starts and completions both increased during 2013, though in 2013Q3 they remained 21% and 23%, respectively, below their quarterly average for 2000–07: see Figure 5.5.

There is some evidence that construction companies have large stocks of residential sites with planning permission. If obtaining planning permission typically constrains supply (see Box 5.1), and companies are sitting on land that already has planning approval, then one might expect supply to respond more rapidly to the recent upturn in prices than in previous periods.

As of 31 March 2013, there were almost 6,500 schemes with unimplemented residential planning permission in England and Wales (i.e. schemes with planning permission that were either under construction or yet to start) – comprising almost 400,000 potential new dwellings. Of these, 61% of schemes, and 48% of units, were unstarted, with the remainder already under construction. However, the total number of unimplemented schemes and of units have both fallen by about 25% since March 2008, largely because of a decline in the number of planning applications being made. Although the total quantity of dwellings with planning permission that are yet to begin construction is large (184,000 units in England and Wales, compared with 115,000 new-build completions in England in 2012[17]), it is smaller than it was before 2008. This raises doubts as to whether there will be a faster supply response than in previous periods.[18]

Figure 5.5. Housing market activity since 2000



Note: Permanent dwellings started and completed in England, quarterly, seasonally adjusted. Data include private enterprises, housing associations and local authorities.
Source: DCLG, live table 222, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/259904/LiveTable222.xls.

[17] Table 1b of DCLG, 'House building: September quarter 2013, England', Statistical Release, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/259891/House_Building_Release_-_Sept_Qtr_2013.pdf.

[18] Local Government Association, *An analysis of unimplemented planning permissions for residential dwellings 2013*, October 2013, http://www.local.gov.uk/documents/10180/11831/Unimplemented+planning+permissions+analysis/efb571d3-c869-4199-aaec-234f71eef76d.

It seems likely that the responsiveness of supply will continue to be constrained by the planning system. Of course, the planning system has also changed over this period, with the government introducing a range of measures aimed at simplifying the planning process. How far these measures will lead housing supply to respond more quickly to rising prices is yet to be seen.[19]

Is there a bubble in the housing market?

As the previous figures showed, there has been an increase in house prices and in housing market activity alongside a more limited increase in housing supply. This has led a

Box 5.3. What is a bubble and how can we identify one?

The idea of a 'bubble' is that asset prices are driven by expectations of future price increases rather than by the intrinsic value of the asset involved. A classic example of an asset bubble is the famous Dutch 'tulip mania' in the seventeenth century, where tulip bulbs were bought and sold at extraordinarily high prices not because of the intrinsic value of the tulip but because investors expected shortly to sell the asset on at a profit. The three elements of a classic bubble are: speculative buying for capital gain; speculative lending of money not on the credit-worthiness of clients but on the expectation of future price gains (even if the asset had to be repossessed and sold by the lender); and a trajectory of explosive price increase followed by an equally spectacular collapse.[a]

Broadly, there are two approaches used to test for bubbles. One is to seek to measure whether a data series diverges in a systematic way from some long-run underlying relationship. For example, we can seek to assess whether house prices are moving out of line with what we would expect based on long-run trends in the demand for and supply of housing services. Of course, this requires an assessment of the long-run trends. The OBR makes such an assessment using an economic model of housing demand (based on evolving demographics, real incomes and household preferences) and housing supply (based on land prices, land availability and the availability of housing finance).[b] From such a model, one can predict the 'appropriate' trajectory of house prices and test whether the actual price is deviating from this.

A second approach to testing for bubbles is to investigate whether the behaviour of economic agents is driven by fundamentals (e.g. purchasing a house as a medium- to long-term asset for residential purposes) or by a desire to speculate on an asset's value. Examples of this include considering whether house purchasers are reporting that they are buying primarily for capital gain (as Case and Shiller demonstrated had begun to happen in the 'hot' housing markets in the United States in the mid-2000s) or whether we observe lenders increasing the exposure of their loan book to risk because they believe that even repossessed assets can be sold at a profit.

[a] For a general discussion of the nature of bubbles and their detection, see K. Case and R. Shiller, 'Is there a bubble in the housing market?', *Brookings Papers on Economic Activity*, 2003, 299–362, http://www.brookings.edu/about/projects/bpea/papers/2003/bubble-housing-market-case-shiller.

[b] Office for Budget Responsibility, 'Supplementary forecast information release: house price model', December 2013, http://budgetresponsibility.org.uk/wordpress/docs/House-price-model-Dec-13.pdf.

[19] For a discussion of planning related to housing, see L. Smith, *Planning for Housing*, House of Commons Library, Standard Note SN/SC/3741, December 2013, http://www.parliament.uk/briefing-papers/sn03741.pdf.

number of analysts and commentators to raise concerns that the housing market, particularly in London, is in the early stages of a 'bubble'.

The term 'bubble' is used quite loosely in popular debate, sometimes simply to refer to a situation in which prices are increasing rapidly. However, a 'boom' in house prices does not necessarily signal a 'bubble'. In a bubble, price increases are being driven largely by behaviour arising from the expectation of future price increases, whereas in a boom prices are driven by a shift in economic 'fundamentals' (namely, the underlying drivers of supply and demand for housing, as discussed earlier in Box 5.1).

It is, of course, difficult to know whether or not a particular market is in the grip of a bubble, especially in its earlier stages. Box 5.3 discusses some of the economic literature on bubbles, and the techniques that economists use to detect them. It is beyond the scope of this chapter to provide a rigorous answer to the question of whether or not the UK housing market is in a bubble. In what follows, therefore, we examine what evidence can be adduced that is relevant to this question.

Of course, as discussed previously in Box 5.2, rapidly rising prices may have a range of economic and distributional effects whether or not they are caused by a bubble. However, the fact that, for example, certain groups may be priced out of homeownership is not evidence of a bubble. It is simply evidence that certain groups are losing out from rising prices.

Most measures of prices and activity in the housing market are still well below their previous peaks

Much of the debate about whether or not there is a bubble in the housing market rests on comparisons of price and activity levels with their previous peaks in 2007. In particular, proponents of the view that there is a bubble point to the fact that, on some measures, prices have exceeded previous highs. Implicit in this approach is the idea that 2007 was a bubble, and that a return to the prices and activity levels seen in 2007 might herald another house price crash. Although both nominal and real prices are frequently referred to in this debate, and we discuss both below, real prices are typically the more appropriate measure, because they tell us whether house prices are increasing over-and-above the general rate of price inflation.

In the run-up to the 2007 crash, the housing market did exhibit some of the features characteristic of a bubble: a rapid rise in prices relative to the growth of household earnings and incomes, and a range of loose lending practices from mortgage providers, such as self-certificated mortgages and loan-to-value ratios of 100% (or more) – both justified by optimistic price expectations based on the relatively long period prior to 2007 of continued house price increases. However, available evidence is not conclusive as to whether a bubble in fact arose. The OBR model of the housing market (see Box 5.3) suggests that, in 2007, prices were not overvalued relative to underlying 'equilibrium' values (this model also suggests that prices are now roughly at their equilibrium level).[20] In contrast, other work points to them being slightly overvalued.[21] Nonetheless, 2007

[20] See OBR, *Economic and Fiscal Outlook*, December 2013, http://cdn.budgetresponsibility.independent.gov.uk/Economic-and-fiscal-outlook-December-2013.pdf; OBR, 'Supplementary forecast information release: House price model', December 2013, http://budgetresponsibility.org.uk/wordpress/docs/House-price-model-Dec-13.pdf.

[21] See J. Muellbauer and A. Murphy, 'Housing markets and the economy: the assessment', *Oxford Review of Economic Policy*, 2008, 24, 1–33.

remains an intuitive point of comparison, and one that has dominated much discussion in the media.

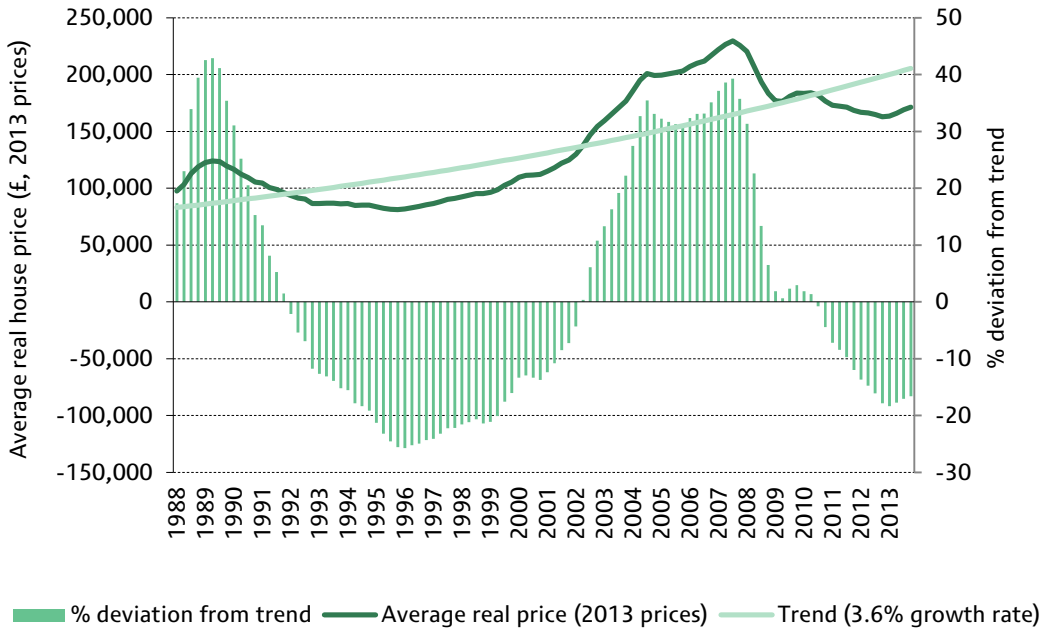
By this imperfect criterion, only London – where nominal prices have exceeded their previous peak on most measures – seems to be a particular source of concern. As we have seen, at a national level, prices remain about 9% below their previous peak. However, once we account for the effect of inflation, even prices in London remain 17% below their previous peak.

Both nominal and real prices are below their long-term trends

This simple comparison with the 2007 peak ignores the long-term upward trend in prices. A slightly more sophisticated approach, then, is to compare these indicators not just with their 2007 peak, but with their longer-term trend. While a long-term rising trend in prices may be a cause for concern – because, for example, it may signal a structural imbalance between the demand for and supply of housing – long-term trends in prices cannot, by definition, be termed a bubble.

An obvious starting point is to examine whether recent price growth is fast by historical standards. Real prices grew by 5.1% between 2012Q4 and 2013Q4. This is significantly lower than the average annual growth rate of real prices in the decade to 2007 of 9.9%, but higher than the trend growth rate over the past 25 years of 3.6%. Performing the same calculations for nominal prices reveals a similar result: nominal prices grew by 7.3% between 2012Q4 and 2013Q4, lower than the average growth rate of 11.6% in the

Figure 5.6. Real house prices compared with their long-term trend, UK



Note: Trend growth sees real house prices grow at a constant rate of 3.6% per year, 1988Q1 to 2013Q4.
Source: authors' calculations using Nationwide and Halifax house price indices (see Figure 5.1), deflated using the CPI taking 2013Q1 as the base.

decade to 2007, but slightly higher than the trend growth rate over the past 30 years of 6.3% per year.[22]

Figure 5.6 shows real prices compared with their trend for the past 25 years. The bars show the percentage deviation of prices from the price predicted by the long-term trend. Real prices for the UK as a whole are 16.6% below what would be predicted by their longer-term trend (2013Q4). Performing the same calculations for nominal prices reveals a similar result: nominal prices are currently 17.3% below their longer-term trend.

A similar picture is evident for London. Although nominal prices roughly reached their 2007Q3 level by 2013Q3, this is 11.7% below what would be predicted by their longer-term trajectory. Real prices are 16.9% below their previous peak and 12.7% below their longer-term trajectory.

Prices are growing more quickly than earnings in London

A widely used measure of the sustainability of house price levels is the ratio of prices to earnings – a sharp rise in this ratio might reflect a housing bubble, insofar as sharply increasing ratios of house prices to earnings are presumably unsustainable in the long run. We might nonetheless expect the house-price-to-earnings ratio to rise over time, albeit more steadily, for three reasons: first, if people are willing to spend a greater proportion of their income on housing;[23] second, if the finance for purchasing houses becomes more readily available or cheaper; and third, because of the shift towards dual-earning households, so a measure of the ratio of house prices to individual earnings may underestimate household resources available to purchase properties. On the other hand, while a rising trend of house prices to earnings may be sustainable over the short to medium term, one would expect there to be a limit to the proportion of earnings that households are willing to spend in order to own a home.

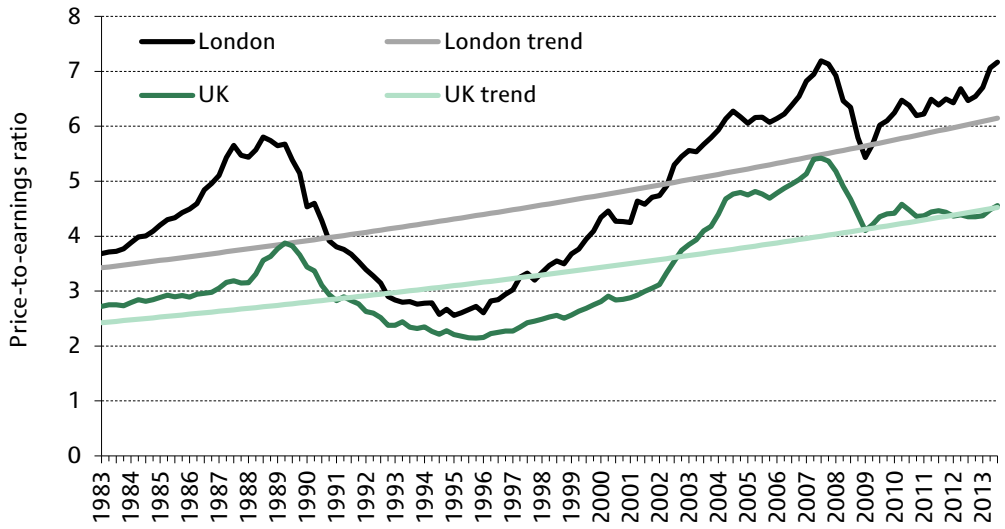
The ratio of price to earnings is particularly important for first-time buyers, as it has an important bearing on whether or not they can afford to purchase a home. Figure 5.7 shows the ratio of the price paid by first-time buyers (according to Nationwide data) to average earnings, for the UK and London over time, compared with long-run trends. A number of points are worth noting. First, higher price levels in London are only partially accounted for by higher earnings: although prices in London are 85% higher than the average for the UK as a whole, median earnings for a full-time worker in 2013 were just 19% higher (though earnings and prices in London are likely to be skewed towards the top end of their respective distributions).[24] Second, the price-to-earnings ratio grew faster in London between the mid-1990s and mid-2000s than in the UK as a whole. Third, faster price growth in London since the recovery has not been driven by faster growth in earnings. Indeed, the price–earnings ratio for first-time buyers has already reached its previous peak in London, and it now lies above its longer-term trend.

[22] Growth rates are annual growth rates measured on a quarterly basis. For example, the annual growth rate in 2013Q3 is the growth in prices between 2013Q3 and a year earlier (2012Q3). The average growth rate in the decade to 2007 is just the average of these growth rates for each quarter between 1998Q1 and 2007Q4 inclusive.

[23] However, the evidence cited in note b in Box 5.1 suggests that, while housing is a normal good (i.e. demand increases with income), the income elasticity of the demand for housing is less than 1.

[24] Median gross weekly pay for full-time workers living in the area, ONS, Annual Survey of Hours and Earnings - Resident Analysis, 'Earnings by residence', https://www.nomisweb.co.uk/reports/lmp/gor/2013265927/report.aspx.

Figure 5.7. Nominal house-price-to-earnings ratio for first-time buyers

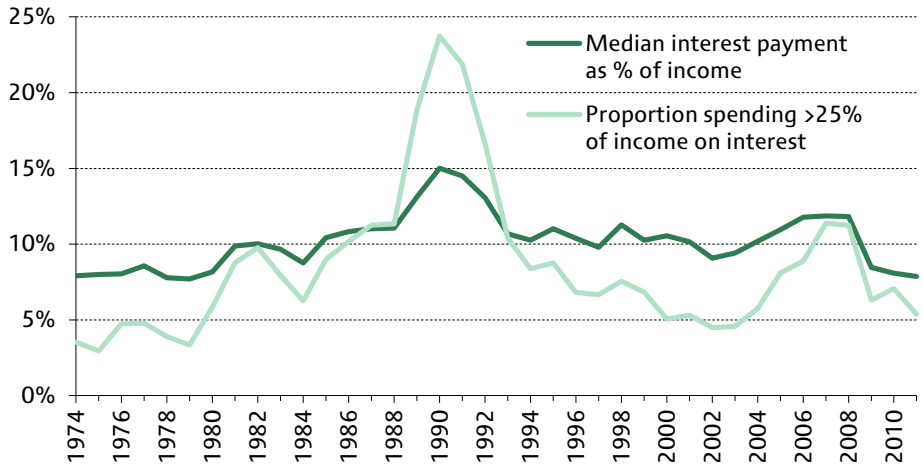


Note: The ratio of house prices to earnings is calculated as the ratio of the (nominal) Nationwide first-time buyer house price divided by mean gross earnings in each region.
Source: See Figure 5.1. Earnings data are from the ONS Annual Survey of Hours and Earnings, and pre-1998 the New Earnings Survey, where the NES data have been adjusted to create a consistent series. Mean earnings for a full-time worker on adult rates are used. Quarterly earnings data are calculated using straight-line interpolation; points after the last annual observation are extrapolated using average growth rates and hence are subject to revision.

Low interest rates have kept mortgage interest payments low

The relationship between mortgage payments and household income is another useful measure of the sustainability of house prices. If households cannot afford these payments, they will fall into arrears and ultimately default on their mortgage, leading to potential repossession of the property. If this happens to a large number of households, the market could be flooded with properties that lenders want to sell quickly, bringing down prices.

Figure 5.8. Mortgage interest payments relative to incomes



Note: Individual ratio of mortgage interest (and no capital) payments to household net disposable income, for those with a mortgage.
Source: Authors' calculations based on the Living Costs and Food Survey (formerly the Expenditure and Food Survey, formerly the Family Expenditure Survey).

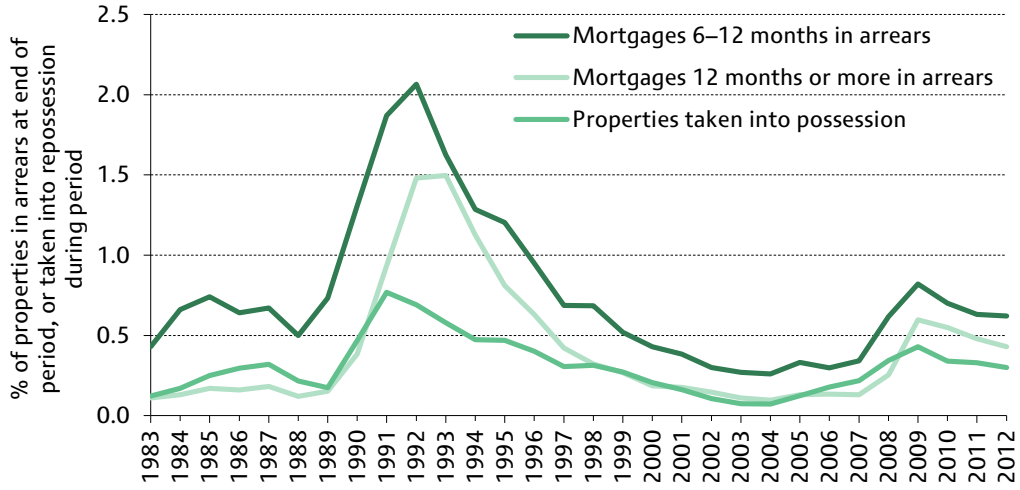
Figure 5.8 shows the average proportion of households' net disposable income spent on mortgage interest payments over time. Looking just at households with a mortgage, the proportion of income currently spent on mortgage interest payments by the median household (ranked in terms of mortgage interest payments) was just under 8% in 2011 – its lowest level since 1979. The figure also shows the proportion of households with a mortgage that are spending more than a quarter of their net disposable income on mortgage interest payments. This figure stood at 5.4% in 2011 – its lowest since 2003, and below the average since 1974 of 8.5%.

The proportion of income spent on mortgage payments is heavily influenced by interest rates, which have been at historically low levels since 2008. Low interest rates have two countervailing effects on mortgage payments, which typically balance each other out: while they directly reduce interest payments on a given loan, they may induce households to borrow larger amounts, therefore increasing their total monthly payments.

However, if sharply rising interest rates follow a period of rising house prices, this can have a substantial impact on households' ability to service their debts, leading to rising arrears and repossessions. This is precisely what happened in the late 1980s and early 1990s in the UK, as illustrated in Figure 5.9. The sharp increase in mortgage payments in the late 1980s and early 1990s coincided with, and may have caused, the large decline in prices seen over the same period.

In contrast, the decline in prices since 2007 was not preceded or accompanied by a rise in mortgage costs, in large part due to the loose monetary policies pursued by the Bank of England, including a historically low base rate, and measures such as Funding for Lending and Quantitative Easing. Relatively low housing costs are reflected in lower rates of arrears and repossession, compared with the period from 1989 to the mid-1990s (see Figure 5.9) – though the low rate of repossessions may also have reflected a change in policies by lenders, conscious that a high rate of repossessions might increase short-term losses by depressing market prices further.

Figure 5.9. Percentage of properties in the UK with mortgage arrears or taken into possession



Note: Relatively low levels of arrears and repossessions since 2007 may reflect special forbearance policies on the part of lenders, as well as government initiatives such as the Mortgage Rescue Scheme.
Source: DCLG, live table 1300, 'Number of outstanding mortgages, arrears and repossessions, United Kingdom, from 1969', https://www.gov.uk/government/statistical-data-sets/live-tables-on-repossession-activity.

However, interest rates are expected to increase over the next few years, and this will put an upward pressure on households' mortgage payments. It is difficult to say whether these predicted increases in interest rates will increase mortgage defaults and ultimately bring down house prices. Recent research has suggested that if the Bank of England base rate rises as projected (from 0.5% in early 2014 to 3% by 2018), the proportion of households with outstanding debts paying more than 50% of their disposable income on debt interest *and* repayment would rise from 4% to 8–10% (compared with 6% in 2007).[25]

Why are prices growing faster in London?

The preceding analysis suggests that, on the basis of fairly simple comparisons with long-term trends, London is the region most likely to be experiencing (the early stages of) a housing market bubble. However, (at least) three features of the London economy and housing market might explain the more rapid growth of house prices without reference to a bubble:

- a larger gap between population growth and the construction of new homes;
- the stronger performance of London's economy, on some measures, since 2007;
- the high level of foreign investment in London.

The gap between population growth and the number of new homes in London is greater than that for the rest of the UK, and seems to be increasing

In the long run, an important driver of demand for housing is the growth rate in the population.[26] Table 5.1 shows that population growth between 2001 and 2011 was faster in London than elsewhere in England, but that the dwelling stock grew at similar rates: while growth in the number of new homes outstripped population growth for England as a whole, in London the reverse was true, with population growth significantly faster than growth in the housing supply. This additional pressure on the housing stock likely put an upward pressure on house prices, and might help explain why, for the first time in a century, the average household size in London increased. In contrast, household size continued to decline in the rest of England.

Table 5.1. The gap between supply and demand for houses in London

	England	London
Population growth 2001–11	7.2%	11.6%
Growth in dwelling stock, 2001–11	8.3%	8.7%

Note: Estimates of dwelling stock account for new builds and conversions, less demolitions.
Source: Population growth data from ONS, '2011 Census – population and household estimates for England and Wales, March 2011', 2012, http://www.ons.gov.uk/ons/rel/census/2011-census/population-and-household-estimates-for-england-and-wales/stb-e-w.html. Dwelling stock data from ONS, live table 125, 'Dwelling stock estimates by local authority district: 2001 to 2012', https://www.gov.uk/government/statistical-data-sets/live-tables-on-dwelling-stock-including-vacants.

[25] M. Whittaker, *Closer to the Edge? Debt Repayments in 2018 under Different Household Income and Borrowing Cost Scenarios*, Resolution Foundation, 2013, http://www.resolutionfoundation.org/publications/closer-edge-debt-repayments-2018-under-different-h/.

[26] The ONS defines a 'household' as one person living alone, or a group of people (not necessarily related) living at the same address with common housekeeping – that is, a shared living room or sitting room or at least one shared meal a day.

These demographic pressures in London are set to intensify. Projections from the ONS, based on the 2011 Census, suggest that London's population will grow by 14.2% over the decade from 2011, significantly faster than over the previous decade. The growth in population for England as a whole will also increase, though by less far, to 8.6%.[27] The growth rate of new homes in London will have to exceed its pre-recession average significantly in order to keep up with this population growth.

London's economy has outperformed the rest of the UK since 2007 on some but not all measures

London has outperformed the rest of the UK economy in terms of the change in total output and employment since 2007 (see Table 5.2), and this may have improved both the confidence and financial situation of housing market participants. However, both household income per capita and individual earnings have grown slightly more slowly than the UK average, suggesting that the faster growth in output is accounted for, in part, by faster population growth.

Table 5.2. London's economic performance since 2007

Change in key economic indicators	**UK**	**London**
% change in total gross value added (2007–12)	8.5	12.8
Change in employment rate (Sep–Nov 2007 to Sep–Nov 2013)	–0.7	1.9
% change in gross disposable household income per head (2007–11)	12.1	11.5
% change in individual earnings (2007–13)	13.1	12.2

Note: Estimates of gross value added, household incomes and earnings are all in nominal terms. London estimates are provided on a residence basis (i.e. income/earnings of commuters is allocated to where they live rather than their place of work). Employment rate is as a percentage of those aged 16–64. Individual earnings are median gross weekly pay for all full-time workers, relating to a pay period in April.
Source: ONS Regional Gross Value Added (Income Approach) NUTS1, table 1.5, http://www.ons.gov.uk/ons/rel/regional-accounts/regional-gross-value-added--income-approach-/december-2013/rft-nuts1.xls. Employment rate from ONS LFS Headline Indicators, https://www.nomisweb.co.uk/reports/lmp/gor/2013265927/subreports/nrhi_time_series/report.aspx. Household income from ONS Regional Household Income, Spring 2013, table 1.1, http://www.ons.gov.uk/ons/rel/regional-accounts/regional-household-income/spring-2013/rft-nuts1.xls. Earnings from Annual Survey of Hours and Earnings – resident analysis https://www.nomisweb.co.uk/reports/lmp/gor/2013265927/subreports/gor_ashew_time_series/report.aspx.

Foreign investment has put an upwards pressure on London house prices

The London market also differs from the rest of the UK in that it attracts a large number of foreign investors, particularly to so-called 'prime' London areas. A number of factors have increased demand from foreign investors since 2007, including: a 20% depreciation in the value of sterling,[28] effectively cutting the price of London property for those buying in foreign currencies; 'safe haven' flows of capital, as investors looked for assets with a

[27] ONS, 'Interim 2011-based subnational population projections for England', Statistical Bulletin, September 2012, http://www.ons.gov.uk/ons/dcp171778_279964.pdf.

[28] Source: Bank of England, annual average effective sterling exchange rate index (Jan 2005 = 100), series XUAABK67.

relatively certain value in light of the euro debt crises; and rising global equity prices, making housing a relatively more attractive investment.[29]

Data on the extent of foreign investment and its impact on the London housing market are relatively poor, and what data exist largely focus on the 'prime' London market. Research by Knight Frank, an estate agent, suggests that in the 12 months to June 2013, 49% of '£1m+ sales in prime central London' went to non-UK nationals, with 28% going to non-UK residents. Foreign investors play a disproportionately large role in the market for new-build properties, with 69% of new builds in 'prime' London in the two years to June 2013 being bought by non-UK nationals and 49% by non-UK residents. The proportion of new-build sales to non-UK residents fell to about 20% when including 'inner' London and 7% when including 'outer' London.[30]

It is difficult to assess the impact of foreign investment on the London market as a whole. The Bank of England, using data from Knight Frank and Savills, estimates that foreign purchases have accounted for around 3% of all transactions in London.[31] The high value of many foreign purchases suggests that this would be higher as a proportion of the total *value* of all transactions. Clearly, the effect of foreign investment on prices will be strongest in the particular market segments where it has a significant presence (prime London properties and new builds). But there are likely to be much wider knock-on effects – for example, as those who would previously have bought in 'prime' London move further out, pushing prices up elsewhere, and so on.

London buyers have been able to borrow more, suggesting strong price expectations

As discussed in Box 5.3, another way of testing for the presence of a bubble is to see whether price expectations are a key aspect of behaviour. In particular, in a housing bubble, we might expect buyers to pay more than they otherwise would for a property, in expectation of making a speculative gain or out of concern that delaying their purchase will only make it harder to purchase a house in the future.

There is little direct evidence on motivations for purchase in the UK (in contrast to the high-quality surveys that have been carried out on understanding house price expectations in the US). This means that, rather than looking at trends in expectations, we have to look at trends in behaviour that might reveal something about underlying expectations. In particular, evidence of high loan-to-value (LTV) ratios might suggest strong price expectations, as the higher the LTV the greater the exposure to both gains and losses. High loan-to-income multiples may suggest greater confidence of lenders, in that, even if borrowers default on payments, lenders expect strong price growth will allow them still to avoid losses.

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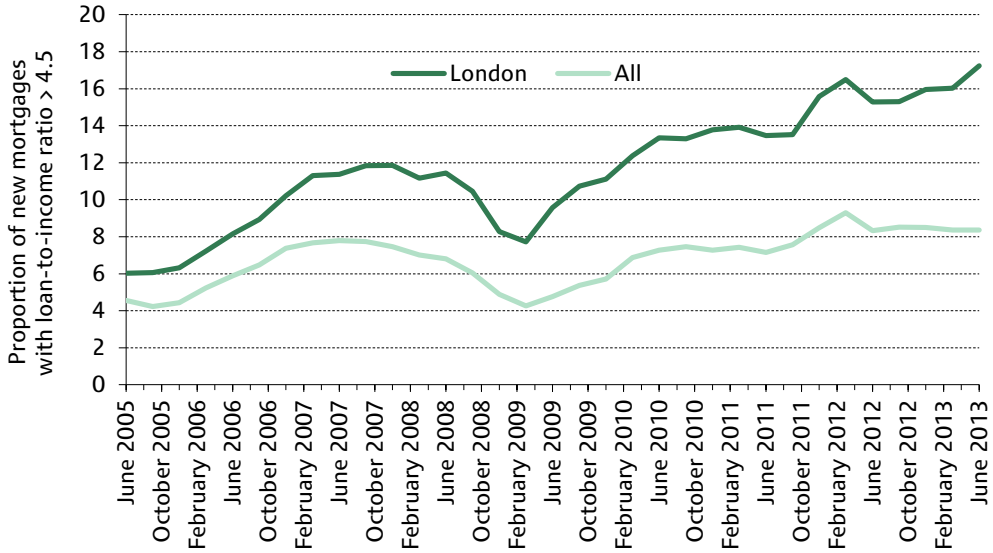
[29] For a discussion of the factors driving prices in the 'prime' London market, see Development Securities PLC/Fathom Consulting, *Prime Central London: One Year On, and Even Higher*, 2013, http://www.developmentsecurities.co.uk/devsecplc/dlibrary/panda/PCL_Report_2013_v2.pdf.

[30] Knight Frank, *International Buyers in London*, October 2013, http://my.knightfrank.com/research-reports/international-buyers-in-london.aspx. The 'prime' London market typically refers to the best properties in the most expensive areas of central London, though there is no single agreed definition. Knight Frank defines 'prime central London' as Belgravia, Chelsea, Hyde Park, Islington, Kensington, Knightsbridge, Marylebone, Mayfair, Notting Hill, Regent's Park, St John's Wood, Riverside[,] the City and the City Fringe; and it defines 'prime London' as these areas plus Canary Wharf, Fulham, Hampstead, Richmond, Wandsworth, Wapping and Wimbledon (see http://my.knightfrank.co.uk/research-reports/prime-central-london-sales-index.aspx).

[31] Page 24 of Bank of England, *Financial Stability Report*, November 2013, http://www.bankofengland.co.uk/publications/Pages/fsr/2013/fsr34.aspx.

Figure 5.10. Share of new mortgages for house purchase with loan-to-income ratio greater than 4.5



Source: Chart 2.26 of Bank of England, *Financial Stability Report*, November 2013, http://www.bankofengland.co.uk/publications/Pages/fsr/2013/fsr34.aspx.

The latest data (from 2012) do not indicate any significant increase in LTV ratios for first-time buyers in London.[32] LTV ratios dropped in London and across the UK in 2008–09 and remain lower than they were at their peak. On the other hand, *loan-to-income* ratios have typically been rising faster in London than in the rest of the UK. For example, Bank of England data suggest that the proportion of mortgages for house purchases with a loan-to-income ratio greater than 4.5 in London has effectively doubled since 2009 and far exceeds the previous peak – a much faster rate of growth than elsewhere in the country (see Figure 5.10). However, it is not clear whether this indicates *excessive* confidence among lenders about the trajectory of house prices in London.

Summary

The evidence we have been able to gather does not suggest that the features of a housing bubble are present to any great extent in the UK housing market as a whole. In particular, both nominal and real prices are still below both their previous peaks and the levels that would be predicted by longer-term trends. Nevertheless, the Bank of England will be tracking carefully the behaviour of lenders, the trajectory of house prices and the motives of purchasers. The greater emphasis of the Bank on *financial stability* rather than simply monetary policy targeting is welcome in this respect.

The market that should be a particular focus of concern in this respect is the London market. As demonstrated here, the distinct aspects of activity in this market – the proximity of nominal prices to their 2007 peak, a rising as opposed to stable ratio of house prices to earnings (and, in fact, rising faster than its long-run trend would suggest), and the rising number of high mortgage offers relative to income – indicate that the likelihood of a bubble is greatest in London, and they warrant careful monitoring.

[32] Council of Mortgage Lenders, *Housing in London: Challenges and Solutions*, November 2012, http://www.cml.org.uk/cml/filegrab/Housing%20in%20London:%20challenges%20and%20solutions?ref=8479.

5.4 Recent innovations in housing policy

This section describes and evaluates three flagship policies introduced by the coalition government since 2010 in order to stimulate homeownership. These are Help to Buy: equity loan, Help to Buy: mortgage guarantee, and the reinvigorated Right to Buy policy for council house tenants.[33]

Help to Buy

In the March 2013 Budget, the government announced a new policy called 'Help to Buy' designed to support homeownership. There are two distinct components of this policy:

- 'Help to Buy: equity loan' provides interest-free government loans of up to 20% to purchasers of newly-built homes. It was launched in April 2013.
- 'Help to Buy: mortgage guarantee' provides mortgage lenders the option of purchasing insurance for high loan-to-value (LTV) mortgages on all new and existing properties. Participating lenders have been able to offer eligible mortgages since October 2013, though government guarantees have only been in place since January 2014.

Both schemes will make it easier to buy a home with just a 5% deposit.

Eligibility for both schemes is essentially the same and fairly broad. The schemes are open to existing homeowners as well as first-time buyers, and there is no restriction on household income for eligibility. The schemes are for residential purposes and properties cannot generally be sublet or rented out. In addition, they are not open to individuals who own any other property at the time of purchase. Both schemes can be used to purchase properties up to a value of £600,000. The major difference between the strands of the policy is that Help to Buy: equity loan is specifically for newly-built properties.

Help to Buy: equity loan involves the direct provision by the government of up to £3.5 billion in loans over three years from April 2013. Help to Buy: mortgage guarantee is a form of government-provided insurance policy with a contingent liability to the government capped at £12 billion, which will run for three years from January 2014.[34]

Help to Buy: equity loan

Policy details and objectives

Help to Buy: equity loan provides loans up to 20% of the value of new-build homes worth up to £600,000, with no interest or charges for the first five years. In essence, the government buys up to 20% of the purchaser's property but charges no rent for five years.[35]

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[33] See 'Helping people to buy a home', https://www.gov.uk/government/policies/helping-people-to-buy-a-home.

[34] Page 39 of HM Treasury, *Budget 2013*, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/221885/budget2013_complete.pdf.

[35] For a brief summary of the scheme, see https://www.gov.uk/government/policies/helping-people-to-buy-a-home/supporting-pages/help-for-first-time-buyers. Help to Buy: equity loan builds on a similar scheme, FirstBuy, which also provided 20% equity loans on new properties. The major differences between the two policies are that Help to Buy significantly expanded eligibility, including home movers as well as first-time buyers, abolishing the household income cap of £60,000, and more than doubling the maximum eligible

In the sixth year, the government charges a fee of 1.75% of the loan's value. After this, the fee increases every year by the retail price index (RPI) plus 1%, if this is positive. So, for example, if RPI growth in the seventh year of homeownership is 3%, the interest payable would increase by 4%, from 1.75% to 1.82%; in year 15, assuming RPI of 3% each year, the interest rate on the loan would be 2.5%. This structure is designed to induce borrowers to pay off the loan at some point.

The loan is fully repayable when the owner sells their home or at the end of their mortgage, whichever comes first, although a minimum of 10% of the total property value can be part repaid at any time after the first year of the loan. At the point of sale, owners must repay the percentage equity loan that is outstanding. So, for example, someone who takes out a 20% loan and does not make any repayments before selling will need to pay back 20% of the market value on sale. A 10% part repayment prior to that time (for example) will also be repaid as a 10% fraction of the current market value. Hence, the government shares in any capital gain or loss.

The government has not spelled out the rationale for this scheme in any great detail. However, it has at least two clear aims: to enable more people to access homeownership and to increase the supply of new-build homes. The scheme will increase access to homeownership in two ways:

- reducing the minimum deposit to 5%;
- reducing households' monthly payments, because no interest is charged on the equity loan for a set period of five years.

It aims to increase construction by increasing demand for new-build homes.

In addition, the policy is likely to act as a short-term measure to support capacity in the construction industry, which, as we saw in Section 5.3, continues to operate below pre-crisis levels.

The total public funding set aside for the Help to Buy: equity loan scheme is £3.5 billion over the three years from April 2013. The government predicts that this sum will help up to 74,000 home-buyers, implying an average loan of £47,000.[36] Assuming these loans represent the maximum of 20% of the total house price, this implies a house purchase price of around £235,000, which is higher than the average of Nationwide and Halifax house prices (around £171,000 in 2013Q3), though closer to the ONS average house price (£246,000).

Evaluation of Help to Buy: equity loan

The Help to Buy: equity loan scheme is relatively new and any assessment of its impact is necessarily preliminary. It can be evaluated in two facets: in terms of enhancing affordability at the household level and in terms of stimulating new construction.

Data released in November 2013 covering the scheme's first six months showed:[37]

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property value from £280,000 to £600,000. It also represents a big increase in funding – from £490 million over two years (see http://hoa.org.uk/2012/09/government-to-extend-firstbuy-scheme/) to £3.5 billion over three years.

[36] HM Treasury, *Budget 2013*, 39 (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/221885/budget2013_complete.pdf)

[37] DCLG, 'Help to Buy: equity loan scheme and NewBuy statistics: data to September 2013, England', https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/260034/HelptoBuy_and_NewBuy.pdf. Further data will be released on a quarterly basis, with the next release due in February 2014.

- 5,375 properties were bought with the support of the Help to Buy: equity loan scheme. The total value of these equity loans was £208 million, with the value of the properties sold under the scheme totalling £1.04 billion.
- The average price of a property bought under the scheme was £194,167, with an average equity loan of £38,703. Fewer than 15% of houses were purchased for more than £250,000.
- 27.2% of completions were for households with a gross income between £30,001 and £40,000 a year; 22.5% had an annual household income of between £20,001 and £30,000. Fewer than 15% had incomes of £60,000 or more.
- 92 per cent of all loans were made to first-time buyers.

Affordability

How much difference does the scheme make to the typical household that has used it to date, i.e. a household with an income of £35,000, taking out the average loan of almost £39,000? To buy the same property with a 75% mortgage, the household would require an extra deposit. This would add a further five years' delay to the purchase, assuming they saved an extra 20% of their income each year (considerably higher than the average household saving rate). If the household instead bought the property with its 5% deposit and a 95% mortgage, it would (assuming it would qualify for such a mortgage) be facing immediate monthly repayments of around £1,090 per month, compared with £780 on a typical 75% mortgage.[38]

Most households purchasing under the scheme have above-average incomes. However, they have lower incomes than typical house purchasers – as would be expected given the way in which the scheme is targeted on households that could not reasonably purchase their home without this support. Over half (54%) of those purchasing through Help to Buy: equity loan have a total gross household income of less than £40,000, compared with 42% of those borrowing to purchase a home in 2012 (the last year for which such data are available); and whereas 42% of those borrowing to buy a home had an income over £50,000, this was the case for just 27% of those taking out equity loans.[39]

The official data also suggest that (a) the upper limit of £600,000 on a new house under the scheme is not binding (i.e. most purchases are at a level well below this price) and (b) that the majority of users of the scheme are first-time buyers. This should ameliorate the concern that the scheme would be used by existing homeowners to purchase expensive new properties, which would do little to address 'affordability'.

Nevertheless, from the perspective of 'affordability', it is somewhat surprising that the ceiling on prices was set at such a high level and that the scheme was not focused explicitly on first-time buyers, as had been the case with the previous 'FirstBuy' scheme.[40] Reducing the cap on prices and/or restricting the policy to first-time buyers would target

[38] Calculations using the BBC Mortgage Calculator (http://www.bbc.co.uk/homes/property/mortgagecalculator.shtml, accessed 18 December 2013) on the basis of a 25-year repayment mortgage, with an interest rate of 5% for a 95% mortgage and 4% for a 75% mortgage. These are based on typical fees for a two-year fixed-rate residential mortgage.

[39] Family Resources Survey data for the latest available year (2011–12) suggest that over half of households have a gross unequivalised income of less than £20,000 a year, compared with just 4.6% of households purchasing under the equity loan scheme. Data on incomes of those borrowing to purchase a home is from ONS, House Price Index, table 21, 'Housing market: distribution of borrowers' incomes, United Kingdom, from 1990', http://www.ons.gov.uk/ons/rel/hpi/house-price-index/november-2013/rft-annual-november-2013.xls.

[40] See footnote 35 for a discussion of key differences between FirstBuy and Help to Buy: equity loan.

the policy in this respect. In addition, if a potential bubble in the London housing market is a concern, then one policy response would be to reduce the cap, as this is likely to have the strongest impact in London, where prices are highest. However, it seems likely that these changes would have a limited impact, given that most purchases to date are by first-time buyers, and well below the cap.

Help to Buy and the housing market

Assessing the impact on new construction is more difficult. As discussed in Section 5.3, there has been a marked increase in residential construction orders over the past year. However, it is difficult to distinguish the increase in construction due to the direct impact of the equity loan scheme on construction and its indirect effect on price expectations, from those due to wider improvements in the economy and housing market. Official data suggest that 18,050 reservations for new homes were made through Help to Buy: equity loan in its first seven months (April–October 2013).[41] To give a sense of scale, this compares with around 44,150 new private housing completions in the two quarters between April and September 2013.[42]

An important concern is whether this policy is simply subsidising existing would-be purchasers of newly-built homes. The criteria for eligibility for Help to Buy are fairly wide, and the terms of the scheme are such that most of those who are eligible have an incentive to participate. The challenge for government is that it cannot distinguish purchasers who would have bought a new home in the absence of the scheme ('current buyers') from those who would not ('additional buyers'). As a result, some of the estimated 74,000 loans will go to current buyers and, in this sense, will be a deadweight loss.

The extent of the deadweight loss from the scheme will depend on the fraction of the total (estimated) 74,000 equity loans that go to 'current buyers', i.e. those who would have bought a new home even without the scheme. The total number of current buyers each year is presumably roughly equal to the number of private new-build completions (around 90,000 in 2012, so in the region of 270,000 over three years). In one extreme scenario, then, there are sufficient current buyers to absorb all the funding for the scheme. On the other hand, significant numbers of current purchasers may not be eligible for the scheme, including foreign investors, buy-to-lets, purchasers of second houses, those who are assessed by the local Help to Buy agent as being in a position to obtain a mortgage without requiring the equity loan,[43] and those who want to purchase a house worth more than £600,000. The greater the proportion of 'current buyers' who are *not* eligible for the scheme, the more likely it is that the scheme will fund genuinely additional purchases.

This question over deadweight costs arises in addition to the entirely separate question of whether, if there *are* net new would-be purchasers as a result of the scheme, the

[41] See DCLG, 'New homes build Britain's recovery', November 2013, https://www.gov.uk/government/news/new-homes-build-britains-recovery--2.

[42] DCLG, House Building: September Quarter 2013, England, November 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/259891/House_Building_Release_-_Sept_Qtr_2013.pdf.

[43] The basic criterion used in assessing whether this applies is the fact that a 'typical' mortgage multiple is 4.5 times current earnings: hence, for example, a household with an income of £30,000 seeking to buy a £120,000 property would probably be assessed as ineligible and not able to substitute the Help to Buy scheme for a mortgage provided from other sources. See page 10 of http://www.homesandcommunities.co.uk/sites/default/files/our-work/help_to_buy_buyers_guide_sept_2013.pdf.

additional housing construction will be sufficient to absorb the extra demand (rather than pushing up prices). This will depend on the responsiveness of housing supply to demand and prices, which, as discussed in Box 5.1 is subject to much debate and difficult to predict.

Help to Buy: mortgage guarantee

Policy details and objectives

Help to Buy: mortgage guarantee is a scheme designed to boost the supply of high LTV mortgages by existing mortgage providers, via the provision of government insurance against potential losses.

The scheme works by offering lenders the option to purchase a government guarantee on all approved mortgages with an LTV ratio of 80–95%. The guarantee will compensate mortgage lenders for a portion of the net losses resulting if they repossess a property: specifically, it will cover 95% of net losses down to 80% of the value of the property (but none of the losses beyond this). The fee paid by participating lenders has been designed so that the scheme is expected by the Treasury to be self-financing, covering expected losses, the cost of capital of providing the guarantee, and the scheme's administration costs.[44]

The rules of the scheme are designed to ensure responsible lending and avoid moral hazard – in particular, the risk that lenders use the scheme only for their most 'risky' loans. The scheme aims to ensure responsible lending by requiring lenders to demonstrate that they have subjected borrowers to a range of affordability tests, and via an audit process to ensure that lenders' standard policies are being applied to loans under the scheme. Lenders choose whether or not to participate in certain LTV bands. However, once they decide to participate for a particular band, they must put all eligible loans that they originate into the scheme. This prevents individual lenders using the scheme to guarantee the riskiest loans within a given LTV band. However, it cannot prevent lenders with the riskiest portfolios choosing to participate in the scheme whilst those with lower-risk high LTV ratios choose not to.[45]

The scheme was fully launched in January 2014, though lenders were able to start offering eligible mortgages from October 2013, with these loans transferred into the scheme in January. The government has committed to making available up to £12 billion in guarantees over three years, which it estimates will be sufficient to support £130 billion of high LTV mortgages, albeit at an average LTV ratio somewhat below the maximum of 95%.[46] Useful benchmarks with which to compare these magnitudes are the

[44] Page 11 of HM Treasury, 'Help to Buy: mortgage guarantee scheme outline', March 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/221897/help_to_buy_mortgage_guarantee_scheme_outline.pdf.

[45] Current participants in the scheme as at December 2013 were Bank of Scotland, Royal Bank of Scotland, the NatWest and the Halifax.

[46] Page 39 of HM Treasury, *Budget 2013*, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/221885/budget2013_complete.pdf. For a discussion of the average LTV ratio implied by these numbers, see C. Goodhart and M. Baker, 'Help to Buy: more beneficial than the market thinks', VOX, 18 October 2013, http://www.voxeu.org/article/help-buy-macroprudential-policy.

totals of £29 billion of loans to first-time buyers in the four quarters to 2013Q2 and of £83 billion in all loans made for owner-occupation over the same period.[47]

As with Help to Buy: equity loan, the scheme aims to improve affordability in the short term by reducing the deposit required to buy a house. Unlike Help to Buy: equity loan, however, the policy is not targeted at new builds. To the extent that the policy seeks to generate new supply, then, it is presumably assumed that this will happen via boosting confidence in the mortgage market and expectations of higher house prices.[48]

There are little data as yet on who is receiving mortgages via Help to Buy. The government released provisional information in January 2014 looking at applications for mortgages covered by the government guarantee during the first 12 weeks of the scheme.[49] In that time, more than 6,000 people had put in offers on a property and applied for a Help to Buy mortgage. On average, they are looking to buy homes worth £160,000 – just below the average house price of around £170,000 (as measured by Nationwide and Halifax). More than three-quarters of applicants are from outside London and the South East, and more than 80% are first-time buyers.

Evaluation of Help to Buy: mortgage guarantee

The mortgage guarantee scheme aims to address the reduction in the availability of high LTV mortgages since the recession.[50] Implicitly, therefore, the policy assumes (1) that a greater fraction of new mortgages with an LTV ratio above 75% is a desirable object of policy and (2) that the failure of financial institutions currently to offer such a high fraction of high LTV mortgages arises from some form of market failure that can be ameliorated by an intervention of this form.

The most plausible account as to why there may be a market failure is that a combination of restructuring of balance sheets by banks and greater general uncertainty in financial markets in the period since the financial crisis has led banks to an over-cautious assessment of risk, resulting in either excessive risk premiums attached to high LTV loans or a refusal to lend at high LTV ratios at all.

There is a range of evidence that the market for high LTV loans contracted in the post-2007 period. Figure 5.11 shows that the proportion of new mortgages with an LTV ratio over 90% fell from a high of 33% at the end of 2007, to just 13% of total mortgages offered in June 2013. The proportion of loans with an LTV over 80% fell somewhat less,

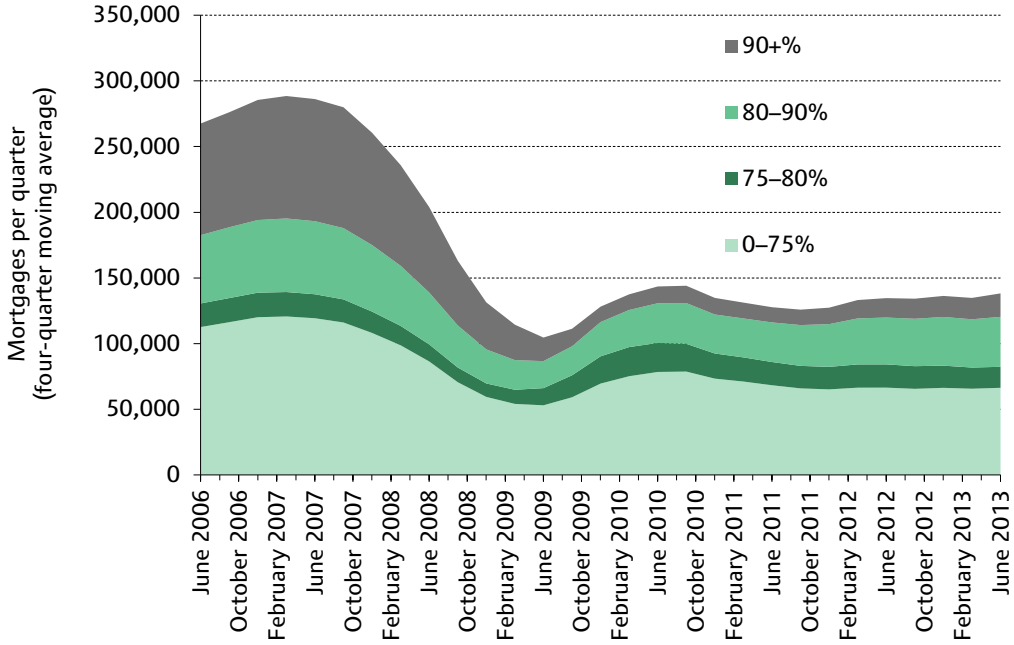
[47] Bank of England, 'Mortgage lenders and administrators statistics: Q2 2013', September 2013, http://www.bankofengland.co.uk/pra/Documents/regulatorydata/mlar/2013q2/mlar2013q2statisticalrelease.pdf.

[48] Help to Buy: mortgage guarantee builds on a similar scheme, NewBuy, launched in March 2012 which enables participating lenders to offer high LTV mortgages on new-build properties through a housebuilder- and government-backed 'mortgage indemnity' scheme; see https://www.gov.uk/government/policies/increasing-the-number-of-available-homes/supporting-pages/newbuy-guarantee-scheme.

[49] Prime Minister's Office, 'Help to Buy sees £1 billion of new loans and supports 6,000 applicants in 3 months' 2 January 2014, https://www.gov.uk/government/news/help-to-buy-sees-1-billion-of-new-loans-and-supports-6000-applicants-in-3-months.

[50] The scheme is explicitly designed to address a cyclical issue, rather than a structural change in the mortgage market. See paragraph 3.12 of HM Treasury, 'Help to Buy: mortgage guarantee scheme outline', March 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/221897/help_to_buy_mortgage_guarantee_scheme_outline.pdf.

Figure 5.11. Volume of new mortgage lending by loan-to-value ratio



Source: Chart 2.24 of Bank of England, *Financial Stability Report November 2013*, http://www.bankofengland.co.uk/publications/Pages/fsr/2013/fsr34.aspx.

from 51% to 40% over the same period. Data from the Council of Mortgage Lenders show that, on average, 60% of mortgage advances to first-time buyers went to those with a 10% (or less) deposit during the period 1990–2007. This figure fell dramatically during the recession, and it stood at 26% in 2013Q2.[51] The median first-time buyer LTV ratio fell from 90% during most of the 2000s to a low of 75% in 2009, before rising back to 80% where it currently stands.[52]

Turning to the effects of the policy, we are interested, first, in what has happened to lending at high LTV ratios in recent months and, second, in what has happened to the risk premiums (as reflected in interest rates) attached to high LTV ratios after the Help to Buy policies were announced. We would expect the *direct* effects of the policy to be an increase in the fraction of high LTV ratio mortgages provided by mortgage lenders that are participating in the scheme, and (potentially) a fall in associated interest rates. The *indirect* effect of the policy might be to increase the availability of high LTV ratio mortgages elsewhere in the housing market (i.e. among non-participating lenders) and/or to lower the risk premiums attached to high LTV ratio mortgages, due to competition from participating lenders. These potential impacts can be only partially assessed in the time since the policy was announced in the 2013 Budget.

The current evidence suggests there has been an increase in the availability of high LTV loans. The Bank of England's latest quarterly survey of bank and building society lenders reports a general increase in the availability of secured loans to households, and particularly those looking for high LTV products, with the expectation of further significant increases in the first quarter of 2014. The Bank reports that many lenders attributed this increase in the availability of high LTV loans to participation in Help to

[51] Direct communication with the Council of Mortgage Lenders.

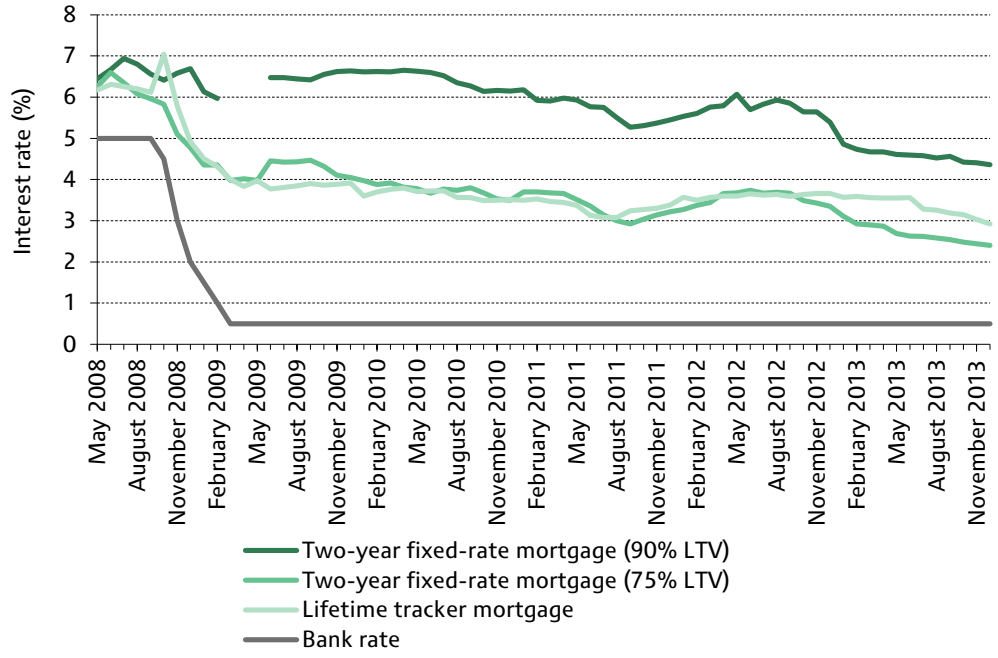
[52] HM Treasury, 'Help to Buy: mortgage guarantee – context and rationale', slide-pack provided to IFS. For recent data, see Council of Mortgage Lenders, http://www.cml.org.uk/cml/media/press/3724.

Buy and/or to competition associated with the scheme.[53] There are limited data available on actual lending at different LTV ratios since the introduction of Help to Buy in October 2013. Looking at 2013 as a whole, there has been a large increase in the volume of high LTV lending: data based on mortgage valuations carried out by e.surv show that high LTV lending (deposits of 15% or less) in December 2013 was 60% up on a year earlier, compared with a 40% increase in total lending over the same period.[54]

In addition, average interest rates on high LTV mortgages have fallen: the average interest rate for two-year fixed-rate mortgages at 90% LTV fell to 4.36% in December 2013, compared with 5.39% in December 2012 (see Figure 5.12). However, it is not clear how far this can be attributed to Help to Buy, as it continues a trend that started before the policy was announced. In addition, we might expect a subsidy on high LTV mortgages to reduce rates on those mortgages faster than those with a lower LTV ratio (though these too might fall because of a shift in demand from low to high LTV products). Figure 5.12 suggests this has not been the case – with rates falling at similar rates across the board.

Are Help to Buy mortgages cheaper than those on offer outside the scheme? It has been suggested that many mortgage providers outside the scheme are now offering high LTV

Figure 5.12. Quoted mortgage rates since 2008



Note: Bank rate as at end of month. Mortgage rates are end-month sterling quoted rates, calculated as a weighted average of rates from a sample of banks and building societies with products meeting specific criteria (see http://www.bankofengland.co.uk/statistics/Pages/iadb/notesiadb/household_int.aspx). No data are available for the two-year fixed-rate mortgage (90% LTV) from March to May 2009.
Source: Bank of England data series IUMB482, IUMBV34, IUMBV24 and IUMBEDR.

[53] Bank of England, *Credit Conditions Survey: Survey Results – 2013 Q4*, January 2014, http://www.bankofengland.co.uk/publications/Documents/other/monetary/ccs/creditconditionssurvey140108.pdf.

[54] e.surv is the largest distributor and manager of valuations in the UK. For data, see LSL Property Services, 'Mortgage monitor', January 2014, http://www.lslps.co.uk/documents/esurv_mortgage_monitor_dec13.pdf.

loans at rates that are competitive with those under Help to Buy.[55] This evidence, admittedly anecdotal, suggests that there may have been indirect effects on the wider mortgage market and some increase overall in high LTV ratios. To what extent this would have happened as the economy began to recover in the absence of the policy is, of course, hard to judge.

Wider issues

Help to Buy: mortgage guarantee has been widely criticised on the grounds that, by boosting demand without any direct mechanism for increasing supply, the scheme will increase prices, thereby worsening the underlying affordability problems that it is meant to address. Estimating the effect of the policy on house prices is extremely difficult, in part because the eventual take-up from the scheme is unknown and, moreover, because it would need a detailed model of the housing market, which in turn would require controversial assumptions about, for example, the responsiveness of housing supply.

Nonetheless, analysis by the OBR, based on its house price model discussed in Section 5.3, suggests that a 1% addition to the stock of mortgage lending would increase prices by 1% within a year, via its effect on price expectations and given its assumption of a limited short-run supply response. The OBR has concluded that 'a slow response of supply to price signals … would mean additional mortgage lending feeds mainly into upward pressure on house prices'.[56] At one extreme, therefore, if the mortgage guarantee programme is taken up to its maximum capacity, underpinning mortgage offers on the scale of 10% of the current total stock of household mortgage debt, *and* if these mortgage offers would not otherwise have been made (a strong assumption), then, according to the OBR's model, Help to Buy could lead to a 10% increase in house prices over three years. However, if fewer mortgages are taken out through the scheme, and/or if some Help to Buy mortgages would have been made in the absence of the policy, and/or if the supply response is larger than expected, then the effect on prices will be more limited.

Overall assessment of Help to Buy

Help to Buy was developed and announced in a period when the housing market was showing slow signs of recovery. In retrospect, given the sharp recovery of the UK economy during 2013, and the concurrent improvement in the housing market, this package of direct and indirect financial incentives might not have been necessary in order to put the housing market on a trajectory towards historically 'normal' price and activity levels. Indeed, the Bank of England's decision at the end of November 2013 to announce an end to the Funding for Lending Scheme for mortgage providers may be taken as evidence that the Bank feels that existing policies of low interest rates, the Help to Buy policy and the existing recovery in the housing market are sufficient for purpose.[57] Nevertheless, it can be argued that the announcement of these policies was helpful in inducing and then maintaining the housing market recovery.

However, there are questions as to whether the Help to Buy schemes are sufficiently targeted, given their objective of increasing access to homeownership. Both schemes

[55] http://www.thisismoney.co.uk/money/mortgageshome/article-2502772/The-best-5-deposit-mortgages-beat-Help-Buy.html.

[56] OBR, 'Supplementary forecast information release: house price model', December 2013, http://budgetresponsibility.org.uk/wordpress/docs/House-price-model-Dec-13.pdf.

[57] See http://www.bankofengland.co.uk/publications/Pages/news/2013/177.aspx.

could be modified in ways that would target them more effectively at those who may not otherwise be able to access homeownership. In particular, they could be restricted to first-time buyers, and/or the cap on eligible property values could be reduced (which would also be likely to target the scheme at first-time buyers, who typically buy cheaper properties). However, as has already been noted, most lending through Help to Buy to date has been well within the cap, and to first-time buyers, so it is not clear that these changes would have a substantial impact.

In addition, concerns have been raised that Help to Buy will increase the risk of a house price bubble. As discussed in Section 5.3, we do not believe there is clear evidence of a housing bubble, though the risk of one developing is clearly highest in London. If the risk of a bubble becomes a major concern, the government may want to consider two modifications. First, a reduction in the cap on property value – for example, to £300,000 (half its current value) – would, in addition to targeting the policy on first-time buyers, be likely to have the greatest impact on the London market, where the average price is over £300,000. A more significant change would be to restrict the mortgage guarantee scheme to lending on new-build properties. At present, the implicit mechanism by which Help to Buy: mortgage guarantee will encourage greater housing supply is by raising house price expectations. Restricting the scheme to mortgages on new builds would mitigate the risk of providing a significant stimulus to demand without inducing an increase in supply, thereby driving up prices.

Right to Buy

A second major reform introduced by the coalition government in order to increase homeownership is a revamp of Right to Buy, a policy originally introduced in 1980 which gave council housing tenants a right to buy their property at a heavily discounted rate relative to market prices.[58]

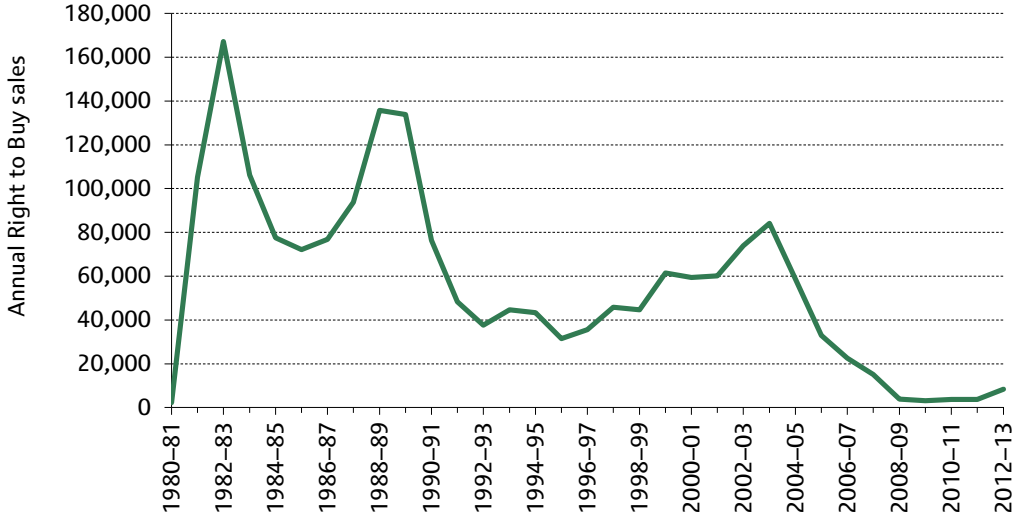
At the heart of debates about Right to Buy is a tension between two competing goals with respect to the role of social housing. The first goal, which motivated the introduction of Right to Buy in 1980, is that of increasing homeownership, achieved by selling social housing at a discount. As sales took place, however, this goal has increasingly come into conflict with the (statutory) requirement for local authorities to provide housing to the homeless and others in need of housing. Inasmuch as increasing homeownership through Right to Buy reduces the stock of social housing, the policy makes it more difficult for local authorities to meet obligations towards those in need of housing through social housing provision, requiring them to provide accommodation through more expensive means such as private rentals.

Background: Right to Buy, 1980–2010

Right to Buy (RTB) was a flagship policy of the Thatcher government, introduced in the Housing Act of 1980. Under RTB, council tenants with at least three years' tenure in their council house gained a statutory right to buy their home at discounts ranging from 33% to 50% of the market price depending on their length of tenure. In addition, local authorities were required to make mortgages available to would-be purchasers, subject to standard age limits and income requirements. The discount would be repayable if the property was sold within five years of purchase.

[58] For further detailed discussion and a more formal economic analysis of the policy, see G. Luo, R. Disney and J. Gathergood, 'The Right to Buy public housing in Britain: a welfare analysis', mimeo, 2014 (available from the authors).

Figure 5.13. Annual Right to Buy sales in England



Note: Includes Right to Buy sales by local authorities and 'preserved' Right to Buy sales by registered social housing associations (individuals may retain a 'preserved' Right to Buy if their home was transferred from a local authority to another landlord (e.g. a housing association) while they were living in it), but excludes other sales of social housing.
Source: DCLG, table 678, 'Social housing sales: annual sales by scheme for England: 1980–81 to 2012–13', https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/249037/Table_678.xls.

Council house sales under RTB averaged nearly 100,000 per year during the 1980s, peaking following the introduction of the policy in 1980, and the liberalisation of eligibility conditions and increased discounts in the mid-1980s (see Figure 5.13). Sales continued through to the late 1990s, as new tenants became eligible by attaining residency requirements and as councils that had implemented the policy more slowly continued to sell social housing. In England, the total stock of council-owned properties as a share of total dwellings fell from 27% in 1981 to just over 11% in 2003.[59] The policy was extended to tenants of properties owned by housing associations through the Right to Acquire policy in 2003, albeit with tighter restrictions on eligibility and discounts.

The major beneficiaries of RTB were, unsurprisingly, the tenants who were able to buy properties at heavily discounted rates. RTB brought about a significant shift in owner-occupation in the UK, which increased from 59% in 1981 to 69% in 2003.[60] Central government was a beneficiary too, at least in the short run, in the sense that most receipts from sales were effectively returned to the treasury.[61] In the short run, councils fared less well because they had access to just 25% of the capital receipts, though they also benefited from savings due to reduced maintenance costs and no longer having to subsidise rents.

On the other hand, the gradual decline in the council housing stock has created difficulties. Of around 6.5 million council properties in 1979, around 2.8 million had been

[59] ONS, live table 104, 'Dwelling stock: by tenure, England (historical series)', https://www.gov.uk/government/statistical-data-sets/live-tables-on-dwelling-stock-including-vacants.

[60] See previous footnote.

[61] For further discussion of the operation of the policy, see House of Commons Library, 'The Right to Buy', Research Paper RP99/36, 1999, http://www.parliament.uk/business/publications/research/briefing-papers/RP99-36/the-right-to-buy.

sold by the mid-2000s.[62] Yet local authorities still have a statutory obligation to house the homeless and those in pressing housing need. In some councils – particularly in metropolitan areas – shortages of social housing led to longer waiting lists and housing of families in unsuitable or more expensive properties.

Partly in response to these concerns about the availability of social housing, the incoming Labour administration in 1997 tightened up the rules for selling council houses – narrowing eligibility, reducing discounts, limiting access to public mortgages and reducing the capacity of RTB buyers to sell their properties within a short period at a profit. One of the most important of these changes was the reduction in maximum discounts. Up to 1999, there was a national maximum discount of £50,000. In 1999, these ceilings were reduced across the board, and applied differentially across regions: areas with higher prices had higher ceilings, ranging from £38,000 in London to £22,000 in northern England. In 2003, the policy on discount ceilings was changed further, so that they could be reduced in areas where there was clear evidence of a public housing shortage. This led to significant reductions in caps in areas of high pressure on public housing, with nine local authorities in the South East and all but two London boroughs reducing the ceiling to £16,000. Having increased from around 46,000 to 84,000 between 1997–98 and 2003–04, sales of social housing under RTB in England then fell rapidly, reaching a low of just over 3,000 in 2009–10.[63]

Right to Buy: changes since 2010

The coalition government has sought to 'reinvigorate' RTB sales via large increases in maximum discounts: in April 2012, these were raised to £75,000 in England, and the maximum discount in London was raised further to £100,000 in March 2013. The changes also reduced the qualifying period before tenants become eligible for RTB from five to three years. These changes signal a reprioritisation towards the goal of increasing homeownership, relative to the concern – more prominent under the previous government – with managing the stock of social housing.

While increasing homeownership seems to be the primary goal of recent reforms, the government has introduced changes designed to mitigate any further decline in the availability of social housing. In particular, local authorities have been allowed to retain a greater proportion of receipts from RTB sales,[64] and there is a commitment to one-for-one replacement, at a national level, of homes sold under RTB with homes provided at 'affordable rents' (i.e. rents at 80% or less of market rates).

These changes only apply to England: the Welsh government has maintained a maximum discount of £16,000, while the Scottish government has announced its intention to end RTB entitlements entirely, subject to the passage of the Housing (Scotland) Bill.[65]

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[62] Table 4.2 of C. Jones and A. Murie, *The Right to Buy: Analysis and Evaluation of a Housing Policy*, Blackwell, Oxford, 2006.

[63] Pages 3–4 of House of Commons Library, 'Incentivising the Right to Buy', Standard Note SN/SP/6251, 2014, http://www.parliament.uk/business/publications/research/briefing-papers/SN06251/incentivising-the-right-to-buy; DCLG, table 678, 'Social housing sales: annual sales by scheme for England', https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/249037/Table_678.xls.

[64] Following a consultation, the government has decided on a model whereby local authorities can retain net receipts of social housing only if they can commit to limit the contribution of these receipts to 30% of the total cost of new social housing. See House of Commons Library, 'Reforming the Right to Buy in 2012 & 2013', Standard Note, 2013.

[65] See 'Buying your Council House', http://wales.gov.uk/topics/housing-and-regeneration/housing-supply/buying-and-selling/council-house/?lang=en and '"Right to Buy" to be scrapped in Scotland', http://www.bbc.co.uk/news/uk-scotland-23155904.

Evaluation: reforming Right to Buy

Right to Buy was one of the more politically popular policies of the Conservative administrations of the 1980s and 1990s and it is understandable that, as part of a package of measures to boost homeownership, the current administration would wish to return to this topic after a period in which the policy appeared to have run out of steam. However, with up to half of council housing in some areas having already been sold off, there is much greater concern at present as to the implications of further sales of social housing for local access to affordable housing. In evaluating the policy, then, we are interested both in whether it has increased sales, and in whether the commitments to one-for-one replacement and to allowing local authorities a greater role in replenishing their social housing stock are likely to mitigate further pressures on the remaining social housing.[66]

Data available to date suggest that the reinvigorated RTB policy has succeeded in increasing sales of social housing. The government envisages that 20,000 additional RTB sales will take place in England over the three-year period to 2015.[67] There has indeed been a marked upturn in sales, with Right to Buy sales increasing from an average of 3,600 between 2008–09 and 2011–12, to 8,400 in 2012–13. As is clear from Figure 5.13, these remain below their levels in the mid-2000s, and well below the peaks in the 1980s (though to some extent this might be expected given the smaller size and lower quality of the remaining social housing stock).

It is not clear whether this increase in sales will be matched by sufficient new social housing to maintain the current stock. The commitment to one-for-one replacement is that, on a national basis, each property sold under the revamped Right to Buy will be replaced by a property let at 'affordable rent'. However, as a number of commentators have noted, this commitment will not replace social housing on a like-for-like basis, and may still lead to additional pressure on social housing.

One concern is that social housing will be replaced with properties let at a higher rent. 'Affordable rent' is a new category of social housing introduced by the current government, which allows housing associations to charge rents up to 80% of market rents. Affordable rents are typically much higher than so-called 'social rents': average affordable rents in England in 2011–12 were 68% of market rents, while average social rents were just 50% of market rents.[68] If properties let at 'social rents' are replaced with those at 'affordable rents', there will be a decline in the stock of social housing at the lowest rents.

A second concern is that – because the commitment is to replace social housing one-for-one at a national, as opposed to local, level – properties will be sold in desirable areas where there may also be pressure on the social housing stock, and replaced in areas where this will be cheaper but where the need is less pressing. Whether this happens will depend, in large part, on the mechanism by which revenues from RTB are distributed to

[66] For information on these commitments, see pages 8–10 of House of Commons Library, 'Incentivising the Right to Buy', Standard Note SN/SP/6251, 2014, http://www.parliament.uk/business/publications/research/briefing-papers/SN06251/incentivising-the-right-to-buy.

[67] House of Commons Library, 'Incentivising the Right to Buy', Standard Note SN/SP/6251, 2014, http://www.parliament.uk/business/publications/research/briefing-papers/SN06251/incentivising-the-right-to-buy.

[68] Table 4.C of DCLG, 'Social housing lettings and sales in England, 2011/12: Continuous Recording (CORE) data', https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/9362/2219871.xls.

central or local government in order to build new 'affordable' properties. Following a consultation, the proposal now being implemented by the government is that, if a local authority can make the case that it requires and can implement a policy of replacing the sale with an affordable property, it will enter into an agreement with the Department for Communities and Local Government (DCLG) to do so; otherwise, the DCLG will retain the receipts with the presumed intention to transfer them to a local authority in an area of greater housing 'need'. As the eventual outcome will depend on case-by-case negotiations, it is too early to say whether the policy will generate the supply of social housing where it is most needed.

5.5 Conclusion

The past year has seen strong growth in house prices and other measures of housing market activity across the UK, following a period in which they fell further and faster than any other time since the 1950s, before stabilising well below their previous peaks.

Rising house prices and increasing construction activity reflect, and to some extent are driving, the wider economic recovery and, in this general sense, are welcome. However, rising prices have raised concerns that the housing market, particularly in London, might be in the early stages of a 'bubble' and therefore vulnerable to a downwards correction, with potentially damaging economic consequences. In addition, even if rising prices reflect a shift in economic 'fundamentals', there are concerns that if prices rise faster than earnings, this will put homeownership beyond the reach of many.

The evidence for and against the existence of a house price bubble in the UK is inconclusive. On the basis of the fairly simple historical comparisons that dominate much of the debate – namely, how prices and other measures compare with their previous peaks and with long-term trends – there is not, at least yet, clear evidence for a housing bubble in the UK as a whole. Prices are about 9% below their 2007 peak in nominal terms and 25% below in real terms, and about 17% below longer-term trends in both nominal and real terms. London is at greatest risk of a housing bubble, in the sense that nominal prices are just above their previous peak (though real prices remain 17% below). Moreover, in contrast to the rest of the UK, London prices are rising significantly faster than average earnings (and have moved above the level predicted by their long-run trend), and purchasers are taking out larger loans relative to their incomes. On the other hand, faster growth in London may also reflect special features of the London housing market, including faster population growth, stronger economic performance (at least on some measures), and demand from foreign investors. In any case, a more definitive assessment of the sustainability of the UK and London housing markets is clearly needed – one that goes beyond historical comparisons and is based on more sophisticated modelling of supply and demand for housing.

The government has introduced a number of housing initiatives with overlapping objectives. The Help to Buy scheme aims to make it possible for a wider range of households to purchase a home, either directly via the provision of equity loans to purchasers, or indirectly via the option of insurance for lenders of the high LTV mortgages typically required by first-time buyers. In addition, the equity loan scheme is specifically targeted at increasing the construction of new homes. A 'revamped' Right to Buy policy has increased discounts on council homes, with the primary aim of increasing sales.

It is too soon to evaluate these schemes in detail. The principal concern with respect to the equity loan scheme is that it may not generate additional new construction. This is because it is difficult, if not impossible, to distinguish applicants who would have bought a new home without the scheme from those who would not. It is not clear there is much more the government can do to mitigate this risk. The main concern with respect to the mortgage guarantee scheme is that it will boost demand without inducing an increase in supply, worsening the affordability problems it seeks to address. In the short term, the scheme is likely to put an upwards pressure on prices. Whether supply will respond in the medium term is far from clear. Targeting the policy on new homes might ameliorate this concern. Both schemes could do more to improve affordability by targeting first-time buyers and/or reducing the cap on property values (currently £600,000).

The government's reforms to the Right to Buy policy for council tenants represent an attempt to regenerate a policy that appeared to have run its course. The policy raises discounts for buyers considerably, particularly in London where they had been tightened, while introducing a mechanism by which (at least in principle) revenues from sales can be returned to local authorities to build affordable housing. It is too early to say whether these changes will better balance the twin goals of encouraging homeownership through Right to Buy sales while managing pressures on social housing.

6. The squeeze on incomes

Abi Adams (IFS and Oxford), Andrew Hood (IFS) and Peter Levell (IFS)

Summary

- Average living standards have fallen dramatically since the recession, as income growth has failed to keep pace with the rate of inflation. Our projections suggest that real median household income in 2013–14 is more than 6% below its pre-crisis peak. This fall in average incomes has largely been driven by declines in real earnings.
- Households have differed in their inflation experiences. On average, low-income households have benefited less from falls in mortgage interest rates and have been hit harder by high food and energy price inflation than high-income households. We estimate that over the period 2008–09 to 2013–14, the inflation rate for low-income households was, on average, 1 percentage point higher per year than that for high-income households. As a result, we calculate that the average price level faced by households in the bottom quintile rose by 7.1 percentage points more than that faced by households in the top quintile between 2007–08 and 2013–14.
- The declines in living standards experienced by low- and high-income households appear very similar once differences in their inflation rates are accounted for. When we assume that the living costs of all households grew in line with the CPI, it appears that the fall in real income between 2007–08 and 2013–14 was 6.3 percentage points larger at the 90th percentile of the income distribution than at the 10th percentile. However, once the differences in their inflation rates are taken into account, we estimate that the fall at the 90th percentile was only 0.7 percentage points bigger.
- Looking forward, there is little reason to expect a strong recovery in living standards over the next few years. According to the Office for Budget Responsibility, real earnings are not expected to return to their 2009–10 levels until 2018–19. Further discretionary cuts to benefits and tax credits will put downward pressure on real incomes, particularly for low-income households. Given this, it seems highly unlikely that living standards will recover their pre-crisis levels by 2015–16.

6.1 Introduction

The UK has still not recovered from its most severe economic downturn since the 1950s. Real GDP fell by 7.2% between the first quarter of 2008 and the second quarter of 2009 and remains below its pre-recession peak. Unsurprisingly, this has had a large impact on the living standards of UK households. In the aftermath of the recession, nominal income growth has failed to keep pace with the rate of inflation, causing real household incomes to fall to their lowest level in almost a decade. Yet, despite the label 'cost-of-living crisis', it is not the case that prices have risen particularly fast in recent years. Falls in real incomes since the beginning of the recession have largely been driven by very low nominal income growth, rather than by unusually high inflation.

In this chapter, we describe the changes in incomes and prices that have resulted in falling living standards. Section 6.2 discusses the large falls in average real incomes that have occurred since the recession and why these falls have differed across the income distribution. Sections 6.3 and 6.4 explore how the inflation rate has varied between different groups in society, allowing a more accurate assessment of how living standards have changed for each group. Section 6.5 concludes.

6.2 Changes in incomes

In what follows, we use official income data drawn from the Department for Work and Pensions (DWP)'s Households Below Average Income (HBAI) series up to 2011–12, and our own projections for household incomes since 2011–12, for our analysis. The HBAI series is based on data from the Family Resources Survey (FRS), an annual repeated cross-section of about 25,000 households, which collects detailed information on income levels and income sources.

As the most recent HBAI series is for the financial year 2011–12, analyses based on this official source alone would be unable to present a picture of the changes in living standards that have occurred in the last two years. For this reason, we use microsimulation techniques to project the income distribution in 2012–13 and 2013–14, taking into account known or predicted changes to demographics, government policy and macroeconomic performance. We are thus able to look at income changes at the median (and other percentiles of the distribution) between 2011–12 and 2013–14.[1] Box 6.1 contains more details on the methodology underlying our projections.

Box 6.1. Methodology underlying household income projections

This box contains an overview of the steps taken to produce our income projections and discusses some of the limitations of our methodology.[a]

- We begin with the latest available micro-data on household incomes in the UK: a sample of 20,697 households from the 2011–12 FRS. The data come with a set of weights to ensure that the weighted sample is representative of the UK as a whole in 2011–12.
- We reweight the data to account for changes in the demographic characteristics of the population, and the number of people employed, between 2011–12 and 2013–14. We use the Office for Budget Responsibility (OBR) figures (including a forecast for 2013–14) for average total employment in each financial year, and we allow employment trends to vary across the UK by region and industry according to forecasts produced by Oxford Economics.
- Financial variables (most importantly, earnings) in the FRS data are increased in line with OBR projections (including a forecast for 2013–14). Earnings growth is allowed to vary across industries according to forecasts produced by Oxford Economics.
- We calculate tax liabilities, and benefit and tax credit entitlements, using the IFS tax and benefit microsimulation model, TAXBEN. We then adjust for the fact that not all means-tested benefit and tax credit entitlements are taken up: if a household did

[1] We do not present mean income projections because data limitations make it extremely difficult to project changes at the very top of the distribution. We also do not present separate projections for pensioner incomes, as future pensioners are likely to have higher pension entitlements (which we do not model) than current pensioners.

not report receiving a particular benefit or tax credit in 2011–12, but the data suggest that they were entitled to it, we assume that the household will continue not to take up that entitlement.

- From this, we create a measure of disposable income as close as possible to that used when calculating official income statistics.

These projections are subject to a number of uncertainties and limitations:

- There are uncertainties surrounding demographic and macroeconomic forecasts.
- There is sampling error in the data.
- Our methodology does not directly account for behavioural responses to tax and benefit policies, though they are accounted for indirectly to the extent that they are incorporated in the demographic and economic forecasts that are used in our model.

That said, we believe that this methodology results in the best available estimate of incomes in 2012–13 and 2013–14. Using the same method, we projected a fall in median income of 2.6% in 2011–12,[a] compared with an actual fall of 2.8%.

[a] A full description and discussion can be found in J. Browne, A. Hood and R. Joyce, *Child and Working-Age Poverty in Northern Ireland from 2010 to 2020*, IFS Report R78, 2013, http://www.ifs.org.uk/publications/6668.

Throughout this section, we adjust incomes for inflation using the consumer price index (CPI) unless otherwise stated. This is different from the official HBAI income statistics, which use a variant of the retail price index (RPI) that excludes council tax expenditures.[2] Box 6.2 provides a discussion of the relative merits of these different inflation measures.

Box 6.2. The choice of price index to deflate nominal income

Going from statements about changes in incomes to statements about changes in living standards requires raw income figures to be adjusted, or 'deflated', to reflect changes in the cost of goods and services over time. However, there is no one measure of the cost of living to apply in this circumstance. We present income figures deflated by both the consumer price index and a variant of the retail price index that excludes council tax expenditures.

The CPI is the level of inflation that is targeted by the Bank of England and is the default measure used by the government to uprate benefits, tax credits and public service pensions. However, the CPI does not cover owner-occupied housing costs. As will be discussed in Section 6.3, this causes difficulties in making statements about living standards when deflating incomes using the CPI, because of the large changes in mortgage interest costs that have occurred since the recession.

The RPI (minus council tax expenditures) does include owner-occupied housing costs and is used to deflate nominal incomes in the official HBAI income series. However, the RPI lost its National Statistics status in March 2013 owing to concerns about the upward bias caused by the mathematical formula – the Carli index – that underlies its calculation. As a consequence, the RPI is thought to overstate somewhat the true rise in living costs experienced by households.

[2] This variant of the RPI is used to adjust HBAI incomes measured before housing costs because the income measure used nets off council tax payments.

Versions of the RPI that do not make use of the Carli index (the 'RPIJ') and of the CPI that include owner-occupied housing costs (the 'CPIH') exist. Ideally, we would use these indices for our analysis as they improve upon the RPI and the CPI respectively. However, the CPIH is not available before 2005 and neither index is forecasted by the OBR. Further, price indices are not published for the subcomponents of the RPIJ, which precludes its use in our analysis in Section 6.4. Given that we are interested in the changes in living standards that have occurred since the early 2000s, and in those that will occur in the future, we use the CPI as our default measure for deflating incomes and discuss the effect of housing costs on our conclusions in more depth in Section 6.3. In practice, the CPIH does not tend to differ greatly from the CPI (on average between 2006 and 2013, inflation measured by the CPIH was 0.2 percentage points lower than inflation measured by the CPI).

Table 6.1 documents the change in mean and median real household income since 2001–02, adjusting for inflation using the CPI and RPI excluding council tax.

The fall in real average household incomes since the recession has left them at their lowest level for the best part of a decade. This conclusion does not depend on the choice of price index used to deflate nominal incomes, though the magnitudes differ. Relative to the RPI, our projections suggest that median incomes are more than 2% lower now than they were in 2001–02. When using the CPI deflator, on the other hand, real incomes appear higher now than in 2001–02, yet lower than in 2004–05.

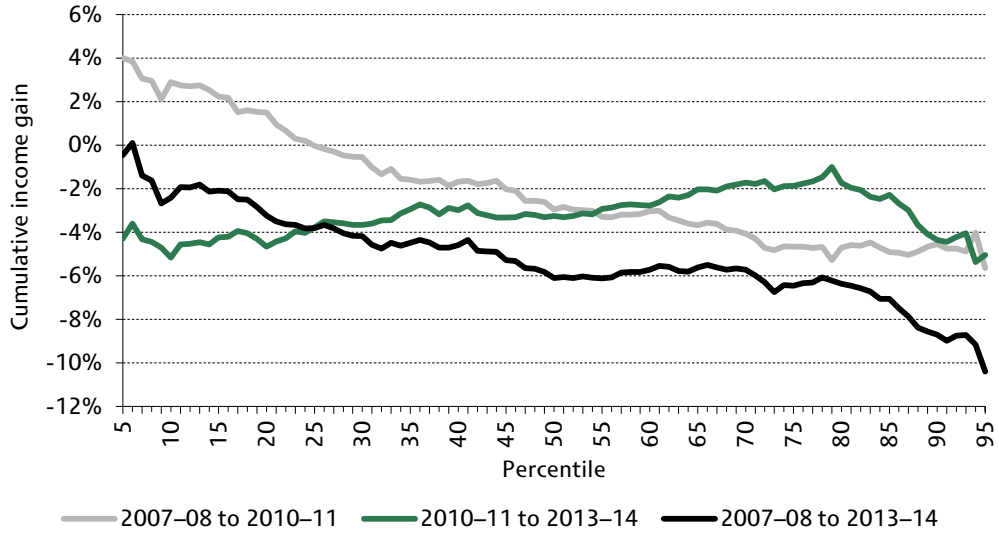
The different price deflators also give different indications as to when incomes started falling post-recession. When deflated by the CPI, average incomes began to fall in 2008–09, whilst when deflated by the RPI, they continued to rise until 2010–11. This difference

Table 6.1. Mean and median real household income deflated by the CPI and RPI (Great Britain)

	CPI deflated		*RPI deflated*	
	Mean	**Median**	**Mean**	**Median**
HBAI data				
2001–02	100.0	100.0	100.0	100.0
2002–03	102.0	102.7	101.3	102.0
2003–04	102.7	103.8	100.9	102.0
2004–05	105.7	106.5	102.3	103.1
2005–06	107.6	108.1	103.7	104.2
2006–07	109.7	109.7	104.5	104.5
2007–08	113.0	112.0	105.7	104.7
2008–09	113.0	111.6	106.6	105.2
2009–10	112.7	110.4	108.2	106.1
2010–11	107.9	108.7	102.1	102.8
2011–12	106.8	106.3	100.5	99.9
Our projections				
2012–13	-	104.5	-	97.7
2013–14	-	105.1	-	97.7

Note: 2001–02 = 100. Incomes are measured before housing costs are deducted, are equivalised using the modified OECD scale to the amounts for a childless couple and are expressed in 2013–14 prices. When deflating by the RPI, we use a variant that excludes council tax payments. We complete the value of the price level for 2013–14 using December 2013 OBR forecasts for the RPI and CPI. Figures for 2012–13 and 2013–14 are derived using microsimulation methods described in Box 6.1.
Source: Authors' calculations using TAXBEN and the Family Resources Survey, various years.

Figure 6.1. Real cumulative income growth by percentile point (Great Britain)



Note: See note to Table 6.1. Percentiles 1–4 and 96–99 are excluded because of large statistical uncertainty. Incomes are adjusted for inflation using the CPI.
Source: Authors' calculations using TAXBEN and the Family Resources Survey, various years.

is explained by the fact that mortgage interest payments, which are included in the RPI but not the CPI, fell dramatically in 2009 (see Section 6.3 for further details).

The precise magnitude of the fall in incomes is also affected by the inflation measure used. According to the CPI-deflated statistics, mean real household income fell by 5.5%, and median real household income by 5.1%, between 2007–08 and 2011–12. The falls in average real incomes were larger according to the RPI: between 2009–10 and 2011–12, real household income fell by 7.1% at the mean and 5.8% at the median.

Our projections indicate that median income continued to fall in 2012–13, before stabilising (according to the RPI) or rising very slightly (according to the CPI) in 2013–14. The result is that median income in 2013–14 deflated by the CPI is projected to be 6.2% lower than its pre-crisis peak and below the level seen in 2004–05. When incomes are deflated by the RPI, the picture is even bleaker: median income in 2013–14 is 7.9% lower than its pre-crisis peak and below its level throughout the 2000s.

The timing and magnitude of these falls in incomes have not been the same for households in different parts of the income distribution. Figure 6.1 shows the projected changes in income between 2007–08 and 2013–14 for each percentile point of the income distribution. We exclude the tails of the income distribution (1st to 4th and 96th to 99th percentiles) because of large statistical uncertainty.

Between 2007–08 and 2010–11, changes in income were very different for low- and high-income households. Incomes at the 10th percentile actually *grew* by 2.9%, while incomes at the 90th percentile fell by 4.5%. Since 2010–11, the changes in income have been much more evenly distributed, with cumulative falls of between 2% and 5% across almost the whole distribution.

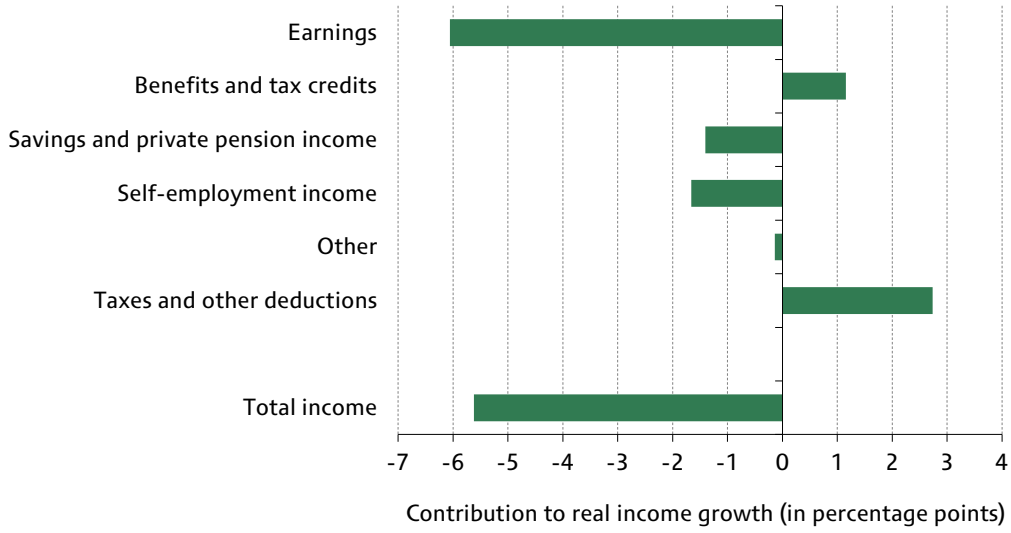
As a result, incomes have fallen across the distribution since the recession, but by different amounts. Incomes at the 10th percentile are projected to be only 2.4% lower in 2013–14 than in 2007–08, compared with falls of 6.1% at the median and 8.7% at the

90th percentile. These falls in incomes are relative to the CPI; if instead we had deflated incomes using the RPI, the fall at each point of the distribution would be 0.6 percentage points larger over the period as a whole. Either way, this analysis assumes that households at different points in the income distribution experienced the same inflation rates. In Section 6.4, we investigate how inflation experiences may have varied by income over this period.

What explains these changes in real incomes? Figure 6.2 shows the contribution of different income sources to the change in real mean household income seen between 2007–08 and 2011–12 (the last year of data available).[3] It is immediately obvious that falling real earnings were the most important explanation for the falls in living standards seen over this period. The fall in gross real earnings would have led mean income to fall by 6.1% across the period, compared with the actual fall of 5.6%. However, the tax system automatically counteracts the effect of falling gross earnings on incomes.

The primary role played by negative real earnings growth in driving the falls in living standards over this period helps to explain the different changes in incomes seen across the distribution. Whereas middle- and high-income households tend to rely on employment income, those towards the bottom of the distribution get more of their income from benefits and tax credits. As Figure 6.2 shows, income from benefits and tax credits was actually higher in 2011–12 than in 2007–08. The fact that pensioners get most of their incomes from (index-linked) state and private pensions and little from earnings helps explain why they have done much better than those of working age.[4]

Figure 6.2. Contribution of different income sources to the change in real mean income, 2007–08 to 2011–12 (Great Britain)

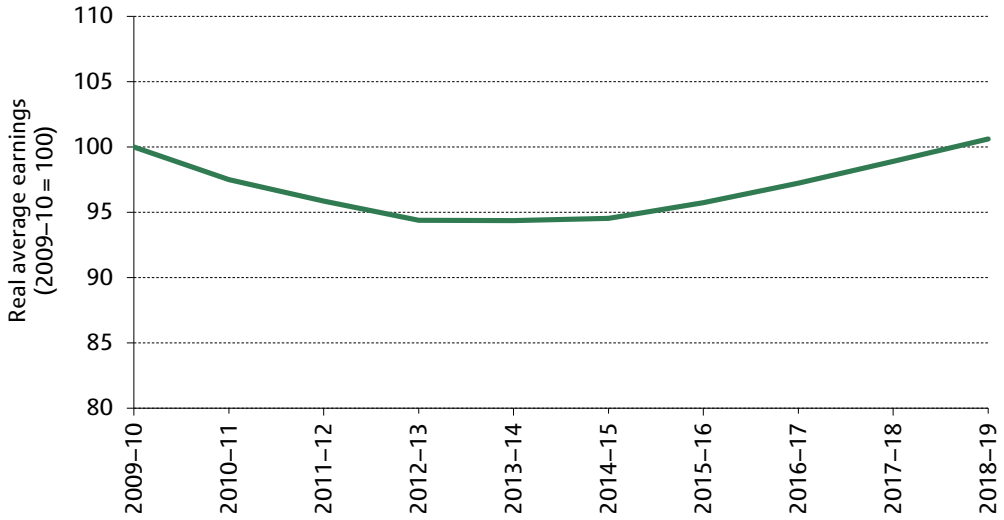


Note: See note to Table 6.1. Figures relate to a subsample of households in the HBAI, which excludes households with negative incomes. Incomes and income sources are adjusted for inflation using the CPI.
Source: Authors' calculations using the Family Resources Survey, various years.

[3] We do not present projections of changes by income source, as they are affected by changes at the very top of the distribution.

[4] For further details, see J. Cribb, A. Hood, R. Joyce and D. Phillips, *Living Standards, Poverty and Inequality in the UK: 2013*, IFS Report R81, 2013, http://www.ifs.org.uk/comms/r81.pdf.

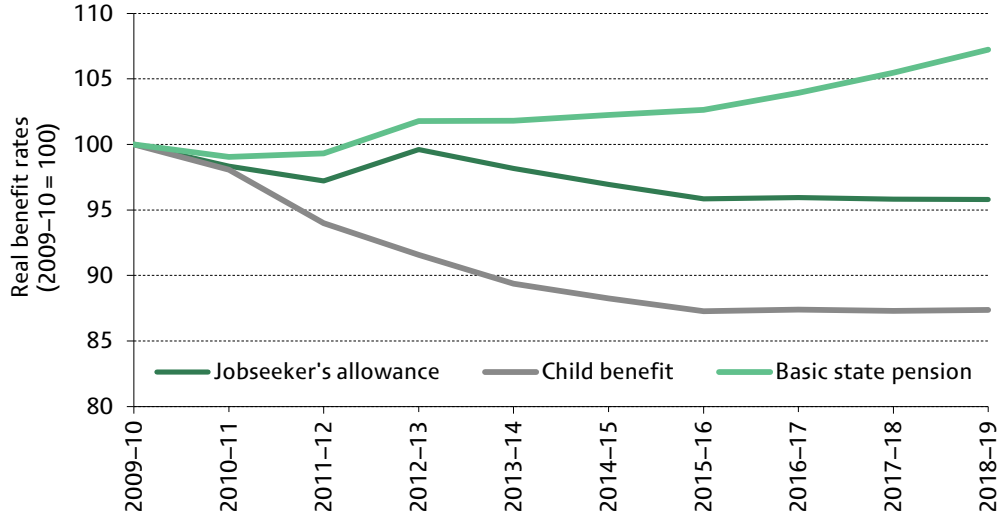
Figure 6.3. Real average earnings



Note: Average earnings is defined as the total compensation of employees minus employers' National Insurance contributions, divided by the total number of employees, which is given by total employment minus the number of self-employed. Earnings figures are deflated using the OBR's projections for CPI inflation.
Source: Authors' calculations using the OBR's December 2013 economic forecasts.

More recently, however, the falls in real earnings have slowed. As Figure 6.3 shows, average real earnings (as measured by total employee compensation minus employers' National Insurance contributions, divided by the total number of employees) continued to fall in 2012–13, but are forecast by the OBR to be flat in real terms in 2013–14 and to increase thereafter. Meanwhile, there have been a number of discretionary cuts to benefits and tax credits, including the 1% nominal uprating of most working-age benefits and tax credits in April 2013 (shown in Figure 6.4). Overall, the downward pressure on income from earnings is easing, but there is increased pressure from reductions in benefit and tax credit income. This change is reflected in our projections for incomes across the distribution between 2010–11 and 2013–14. As falls in real earnings come to a halt, and

Figure 6.4. Real benefit rates



Note: Jobseeker's allowance is the rate for a single individual aged 25 or over. Child benefit is the rate for the first child in a family. Benefit rates are deflated using the OBR's projections for CPI inflation.
Source: Authors' calculations using the OBR's December 2013 economic forecasts.

the effect of benefit cuts increases, projected falls in incomes are larger in the bottom half of the income distribution than in the top half.

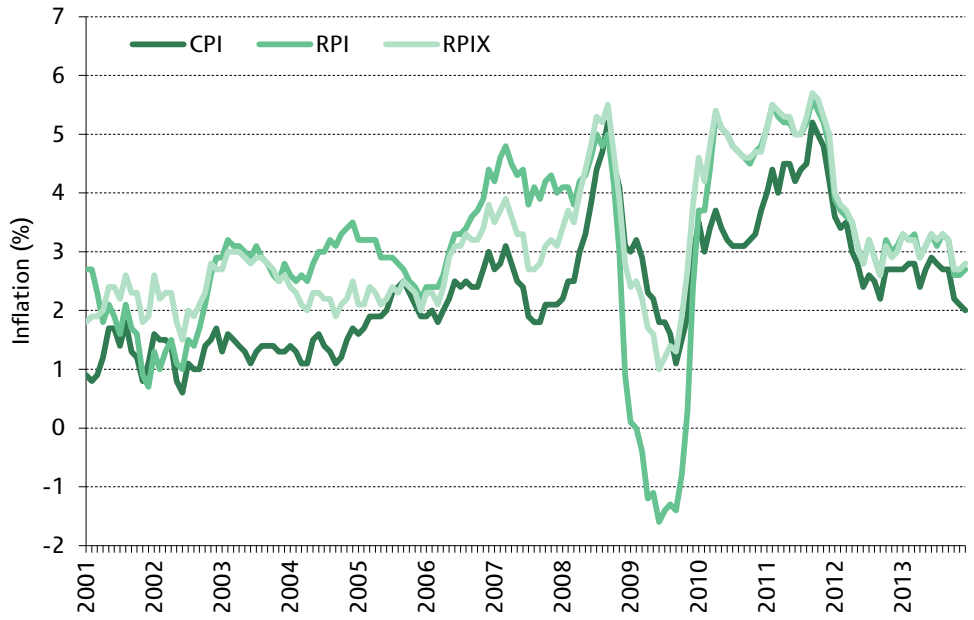
Looking forward, there is little reason to expect a strong recovery in living standards over the next few years. Earnings are expected to grow only 0.2% faster than CPI inflation in 2014–15, and as Figure 6.3 shows, real earnings are not expected to return to their 2009–10 levels until 2018–19 on that basis. However, the 1% nominal uprating of most working-age benefits in April 2014 and April 2015 will see the rates of those benefits and tax credits fall in real terms in 2014–15 and 2015–16, as Figure 6.4 indicates. Since earnings and benefits are the two largest components of household incomes, this suggests living standards are highly unlikely to recover their pre-crisis levels by 2015–16.

6.3 Changes in living costs

We saw in Table 6.1 that trends in real average income depend on the choice of price deflator – in particular, because the CPI and RPI have evolved rather differently over the last 10 years (see Figure 6.5). With the exception of 2009, the RPI has recorded a higher rate of inflation than the CPI, explaining the larger decline in real incomes since the recession when incomes are deflated using the RPI. In 2009, however, the RPI fell below the CPI and actually recorded a fall in prices for much of that year. This caused real incomes deflated using the RPI to continue rising in 2009–10, while they fell when deflated with the CPI.

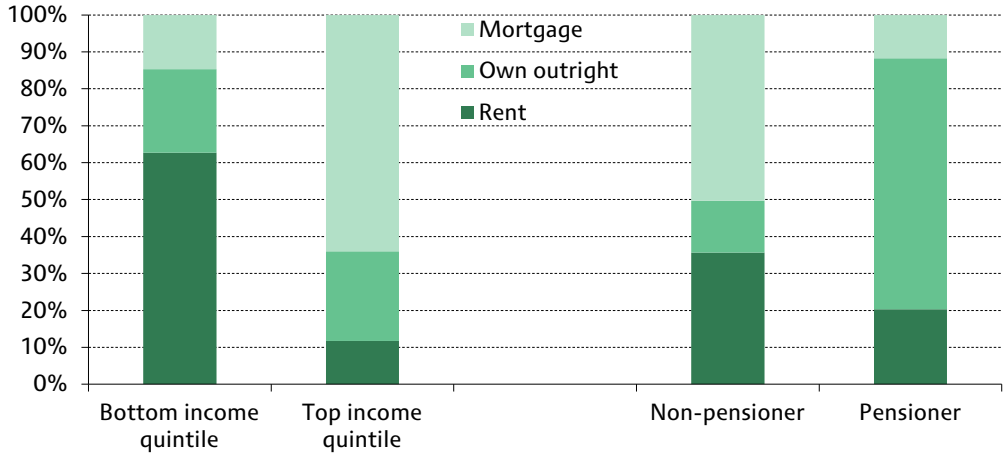
The especially large differences between the RPI and the CPI in 2009–10 can be explained by differences in their treatment of mortgage interest costs. This can be seen by comparing the RPI and CPI to the RPIX – a derivative of the RPI that excludes mortgage interest. In 2009–10, the RPIX and CPI were quite similar, while RPI inflation fell sharply because of the falls in mortgage interest costs that occurred when the Bank of England

Figure 6.5. CPI, RPI and RPIX monthly changes



Source: Office for National Statistics.

Figure 6.6. Proportions renting, owning outright and owning with mortgages for different groups, 2010–11



Note: Pensioners are defined as households with someone of pensionable age in the first benefit unit. Incomes are equivalised using the modified OECD scale. All figures are for Great Britain.
Source: Authors' calculations from the Living Costs and Food Survey.

reduced interest rates in response to the recession. As a result, the difference between the RPI and RPIX increased to almost 3 percentage points in April 2009.

This fall in mortgage interest costs, however, did not affect all households in the same way, as many households either own their homes outright or rent. Figure 6.6 shows the systematic differences in tenure across the population: lower-income households are less likely to be homeowners with a mortgage – as many as 63% of individuals in the bottom income quintile live in rented homes. Pensioners, on the other hand, are far more likely to own their homes outright. This suggests that, other things being equal, richer households will have experienced lower inflation than low-income and pensioner households.

This raises the wider question of whether it is appropriate to use an average inflation rate to deflate incomes when we compare the living standards of different groups. Inflation rates such as the RPI and CPI are calculated by averaging the price changes of different goods and services in the economy, with each good or service 'weighted' according to its importance in the budget of an average consumer. However, the spending patterns of rich and poor households differ from the average in ways that could cause them to experience higher or lower inflation than headline rates. These differences will not be reflected when we deflate the incomes of all households by a common deflator.

In the following section, we explore in more detail how the inflation experiences of different income groups have varied in recent years.

6.4 Differences in inflation rates

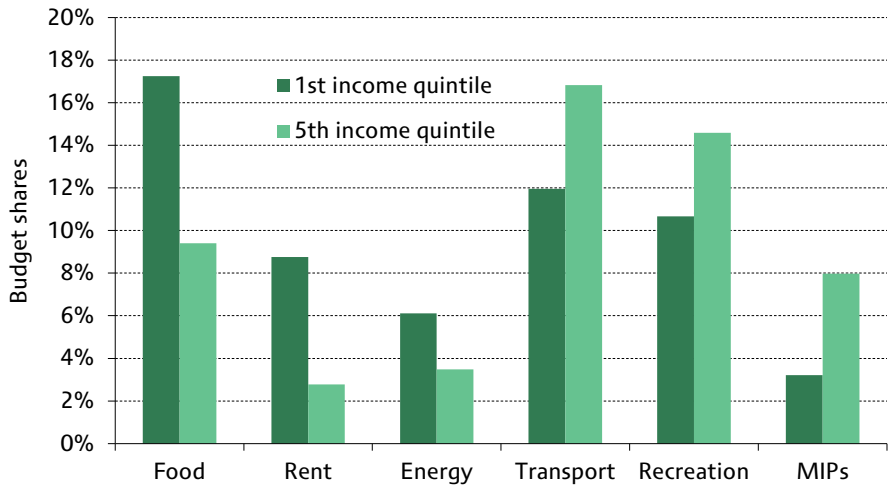
To determine whether there are large differences in the inflation rates experienced by rich and poor households, two questions must be answered:

1. Are there significant differences in the spending patterns of low- and high-income households?
2. Have prices changed differently for goods that are disproportionately consumed by low- or high-income households?

Differences in spending patterns across households

As one might expect, spending patterns vary systematically across the income distribution. Figure 6.7 shows the budget shares of a selection of goods – food, rent, energy, recreation, transport and mortgage interest payments (MIPs) – calculated using the Office for National Statistics (ONS)'s Living Costs and Food Survey (LCF) for the financial year 2010–11 (the latest data available). It is clear that individuals in low-income households (first quintile) spend more of their budget on food, rent and energy, while individuals in richer households (fifth quintile) spend more on recreation, transport and MIPs. The differences in budget shares can be large. For instance, the bottom quintile spent 17.2% of its budget on food, which compares with just 9.4% for the top quintile.

Figure 6.7. Budget shares for key goods for the top and bottom income quintiles, 2010–11



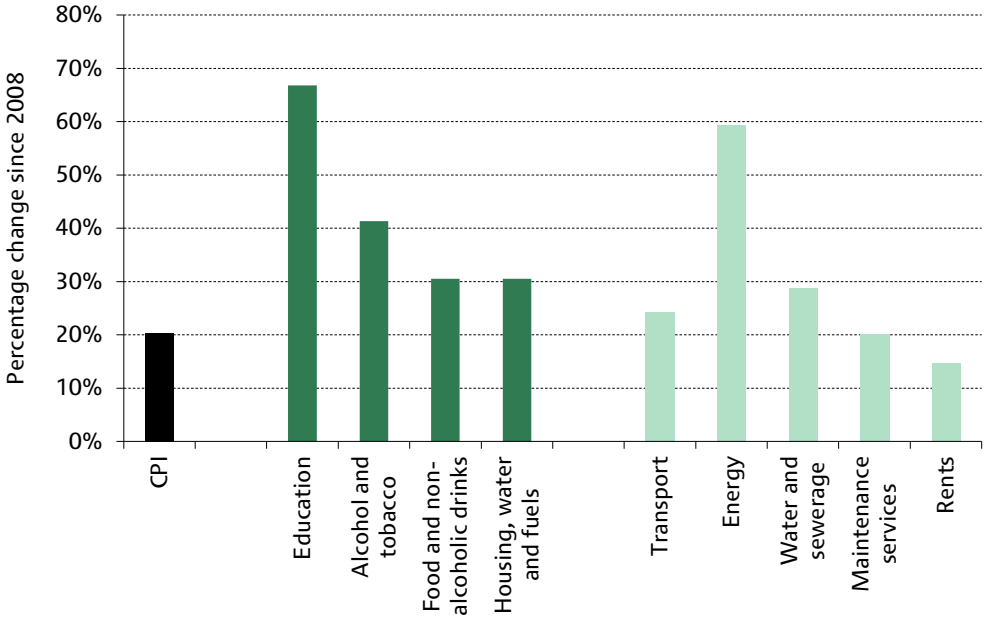
Note: MIPs are mortgage interest payments. Budget shares are taken out of total spending for each income quintile; each household's total budget covers spending on those goods included in the CPI plus mortgage interest. Budget shares for good X are given by averaging the spending attributed to each individual within each quintile and then dividing by total spending within the quintile. Incomes are equivalised using the modified OECD scale. All figures are for Great Britain.
Source: Authors' calculations from the Living Costs and Food Survey.

Consistent with what we would expect considering the differences in tenure patterns shown in Figure 6.6, there are also large differences in the patterns of spending on housing. Those in the bottom quintile spend relatively more on rent (8.8% versus 2.8% in the top quintile) and less on MIPs (3.2% versus 8.0%) because they are more likely to rent and much less likely to own their homes than richer households.

Differences in price changes of goods

The differences in spending patterns between low- and high-income households are important because the prices of different goods have risen at different rates in recent years. Figure 6.8 shows the price changes of the five goods covered by the CPI whose costs have grown most strongly since 2008 – education; alcohol and tobacco; housing, water and fuels; food and non-alcoholic drinks; and transport – as well as the subcomponents of housing, water and fuels, which are energy, water and sewerage, rents and maintenance services. The overall increase in the CPI is included for comparison.

Figure 6.8. Five CPI categories that saw the largest price increases, 2008–13



Note: Light green bars are subcomponents of the category housing, water and fuels.
Source: Office for National Statistics.

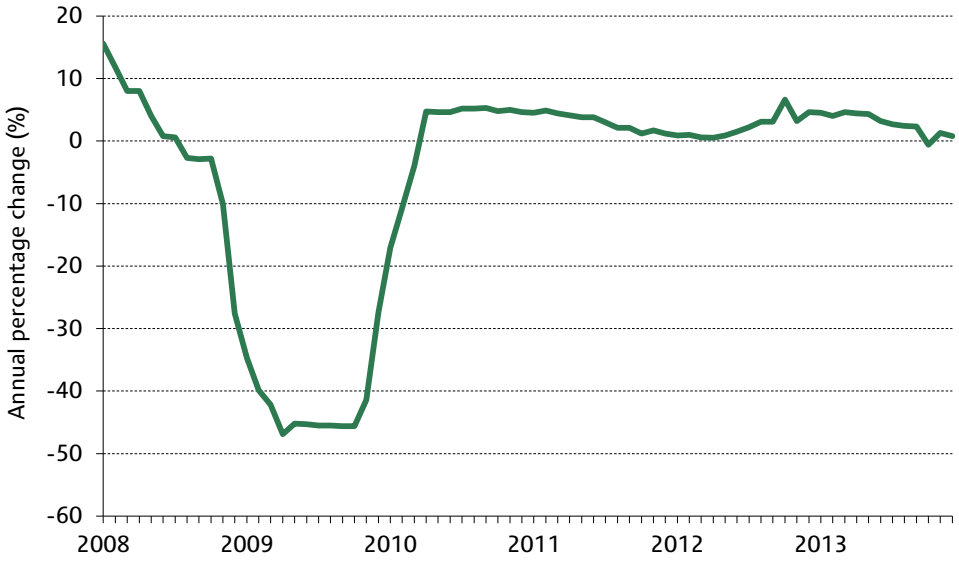
Energy was subject to especially high price inflation in recent years, with prices rising by 60% since 2008 (the reasons for this are discussed extensively in Chapter 9). This is of particular interest considering that low-income households spend more of their budget on energy than high-income households. The price of food, another proportionally significant expenditure for low-income households, has also increased strongly in recent years, rising by 50% more than the average price level since 2008.

Education saw the fastest price increase of all CPI categories, increasing by 67% since 2008. The price change for this category was largely driven by increases in fees for higher education from October 2012. The impact of these fee increases was to push up the measured price of the education CPI category by 19% between October 2011 and October 2012, and by a further 10% between October 2012 and 2013. That said, the increase in the price of education as measured by the CPI arguably does not reflect the change in the total cost of education faced by individual students completely accurately. The ONS takes the price of education to be the cost of fees less any grants (but not less student loans). However, in some ways, the loan system became more generous to students at the same time as the changes to fees were introduced, meaning that for many students the total lifetime costs of education are now actually lower than they were before.[5]

The CPI does not include mortgage interest costs but, as we have discussed, these have varied quite dramatically in recent years and will have had a larger effect on richer households. Figure 6.9 shows how the price associated with mortgage interest costs in the RPI has changed since 2008. The dramatic fall in these costs of over 45% in 2009 is immediately obvious and occurred because of the fall in variable-rate mortgage costs that followed the reduction of the Bank of England base rate. We note that the size of the

[5] See H. Chowdry, L. Dearden, A. Goodman and W. Jin, 'The distributional impact of the 2012–13 higher education funding reforms in England', *Fiscal Studies*, 2012, 33, 211–36.

Figure 6.9. Changes in mortgage interest costs



Note: In March 2010, the RPI switched from using a 'standard variable rate' to an 'average effective rate' (AER) to calculate mortgage interest costs.
Source: Office for National Statistics.

decline in average mortgage interest costs is likely to be somewhat overstated by the RPI in 2009 because interest costs were measured by the 'standard variable rate' at this time, which does not take the cost of fixed-rate and tracker mortgages into account. In March 2010, the RPI switched to using an 'average effective rate' measure of mortgage costs, which covers a wider range of mortgage types and is thus likely to be less variable than the previous measure.[6] Indeed, since 2010, the growth of mortgage interest costs has been relatively stable and has averaged 2.3% a year since 2011.

Group-specific inflation rates

To get a complete picture of how inflation experiences have differed between low- and high-income households, we must account for the price change of all goods simultaneously. To do this, we calculate our own inflation rates for the poorest and richest income quintiles using each income group's budget shares as the weights in the calculation. This allows us to take into account how, for example, high transport inflation (which tends to affect high-income households more) offsets any differences between rich and poor caused by, for example, large energy price increases (which tend to affect low-income households more).

In what follows, we use household-level expenditure data from the ONS's Living Costs and Food Survey for Great Britain for the period 2001–02 to 2010–11 (the most recent financial year for which data are available) to calculate each group's budget shares.[7] To get a picture of what has been happening to the inflation experiences of different households up to the latest year, we assume that budget shares in calendar years 2012 and 2013 were the same as those in 2011. For information on the price changes of

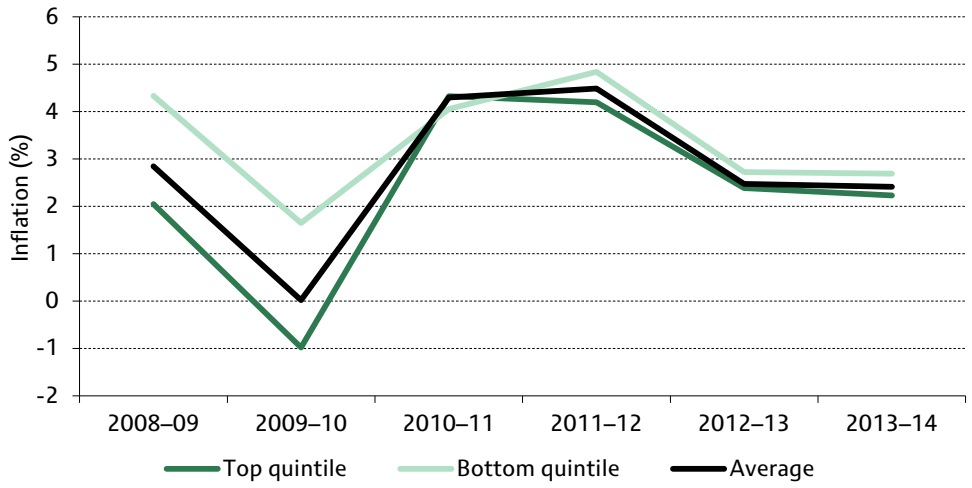
[6] For details, see http://www.ons.gov.uk/about/consultations/closed-consultations/measurement-of-mortgage-interest-payments-within-the-retail-prices-index--2009-/index.html.

[7] Group-level budget shares are calculated as shares of total spending within each group rather than averages of individual budget shares.

different goods, we use ONS data on the price of the 85 'classes' of goods that make up the CPI. We also include housing costs in our analysis (despite their exclusion from the CPI) due to their importance for overall price changes and because of their variation across household types. To do this, we include spending on MIPs in our calculation of budget shares and take the 'price' of this category of spending from the MIPs class of the RPI.[8] At the time of writing, we only have access to price data until the end of 2013, and so inflation rates for the period '2013–14' only include the final three quarters of 2013. One important limitation of our method is that the price changes used are national average changes, and so do not account for differences in how the cost of the same good has varied over the years for different types of consumers.

Figure 6.10 shows that inflation rates since the recession have tended to be higher than average for low-income households and lower than average for high-income households. The average rate of inflation experienced by low-income households over the period 2008–09 to 2013–14 was 3.4%, compared with 2.4% for high-income households. This has caused the average price level faced by households in the bottom quintile to rise by 7.1 percentage points more than that faced by households in the top quintile since 2007–08. The difference in inflation experienced by the top and bottom income quintiles was especially large in the wake of the recession: the inflation rate of low-income households was 2.3 percentage points higher in 2008–09 and 2.6 percentage points higher in 2009–10.

Figure 6.10. Inflation rates experienced by top and bottom income quintiles



Note: Income equivalised using the modified OECD scale. The budget shares used to calculate inflation for all four quarters of 2012 and 2013 are the same as those for 2011. The period 2013–14 only includes the final three quarters of 2013 (as we do not have prices for the first quarter of 2014). All figures are for Great Britain.
Source: Authors' calculations from the Living Costs and Food Survey and price data from the ONS.

[8] We therefore use the measure of the cost of owner-occupied housing employed in the RPI. We do not include a measure of the costs associated with depreciation because they are not easily imputed to individual households. Although the CPIH contains a measure of imputed rental costs to homeowners, we do not use this measure because it is less appropriate for considering changes in living standards across households: if house prices increased, a household that owned its home with no mortgage would appear *worse off*, which would be a perverse outcome.

Table 6.2. Average contributions to group-specific inflation for selected goods, 2008–09 to 2013–14

	Bottom income quintile	Top income quintile
Food	0.9	0.5
Energy	0.6	0.3
Transport	0.4	0.5
MIPs	–0.2	–0.6
Education	0.2	0.3
Other	1.5	1.4
Total inflation	**3.4**	**2.4**

Note: See note to Figure 6.10.
Source: Authors' calculations from the Living Costs and Food Survey and price data from the ONS.

Which goods have driven the differences in inflation between rich and poor? Table 6.2 shows the contributions that certain selected goods made to the inflation rates of low- and high-income households for the period 2008–09 to 2013–14. As one would expect given the analysis above, a large part of the differences between low- and high-income households was driven by the heterogeneous impact of the reduction in mortgage interest costs in 2009. Changes in mortgage interest costs reduced the inflation rates of the top quintile by an average of 0.6 percentage points, compared with just 0.2 percentage points for the bottom quintile. Food and energy price inflation made much larger contributions to the inflation rates of those in low-income households. Transport and education, on the other hand, had a slightly larger impact on the inflation experience of the rich.

Differences in real income

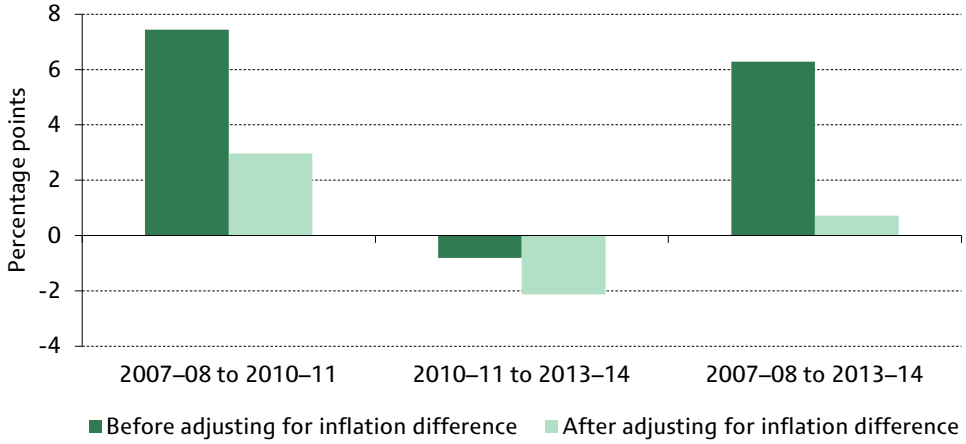
Poorer households have thus experienced higher inflation than average, while richer households have experienced lower inflation than average. This suggests that deflating all incomes by a common price index will understate the relative fall in living standards experienced by the former and overstate the relative fall of the latter.

The conclusion that the living standards of low-income households have fared better than those of high-income households since the recession is therefore significantly weakened once relative inflation experiences are taken into account.

Figure 6.11 compares the difference in real income growth at the 10th and 90th percentiles when incomes are deflated by the CPI (labelled 'Before adjusting for inflation difference') and when they are deflated by income-group-specific inflation rates (labelled 'After adjusting for inflation difference').[9] When all incomes are deflated by the CPI, the fall in real incomes between 2007–08 and 2013–14 was 6.3 percentage points smaller at the 10th percentile than at the 90th percentile. This gives the impression that the living standards of low-income households have so far been relatively protected. However, once differences in the inflation rates experienced by low- and high-income households are taken into account, it appears that households at the 10th and 90th percentiles suffered

[9] The actual levels of inflation rates calculated using our data are not comparable to the CPI as we include MIPs, and the weights for the official CPI are drawn from a different source. We therefore take the *deviations* for low- and high-income households from the average inflation rate calculated from our data, and add these on to the headline CPI to produce new income-group-specific deflators. This assumes that the differences in inflation that have been experienced by rich and poor households since 2007–08 were the same size as the differences in inflation rates between the bottom and top income quintiles that we found above.

Figure 6.11. Difference in real income growth experienced by the 10th percentile compared with the 90th percentile since 2007–08



Note: The inflation rate at the 10th percentile is equal to the CPI plus the difference between the inflation rate for the bottom quintile and the average inflation rate that we calculate. The inflation rate at the 90th percentile is defined analogously.
Source: Authors' calculations from the Living Costs and Food Survey, the Family Resources Survey and price data from the ONS.

very similar percentage declines in their real incomes – falls at the 90th percentile have only been 0.7 percentage points larger. Unless the difference in inflation rates is reversed over the coming years – which may happen if mortgage interest rates rise – this finding suggests that low-income households may end up seeing the largest falls in living standards, as cuts to benefits and tax credits continue but real earnings start to recover.

6.5 Conclusion

The recession has had a dramatic impact on living standards. Large falls in real earnings and cuts to benefits and tax credits are projected to have pushed real median household income more than 6% below its pre-crisis peak. Given forecasts of weak earnings growth, and further cuts to benefits, it seems highly unlikely that average living standards will have recovered to their pre-crisis levels by 2015–16.

Changes in average living standards can mask important differences in the experiences of households across the income distribution. Households at the bottom of the distribution have experienced higher-than-average inflation rates since the recession, while better-off households have experienced lower inflation rates. One important driver of this difference has been the decline in mortgage interest costs, which has largely benefited richer households. Increased food and energy prices have also hit lower income groups harder than the better off.

Once these differences in living costs are taken into account, the declines in real income experienced at the top and bottom of the income distribution look relatively similar; the stronger growth in nominal incomes experienced by low-income households has been eroded by the higher inflation rates that they have faced. Looking forward, however, the combination of recovering real earnings and further cuts to benefits and tax credits is likely to mean that nominal income growth will be lower towards the bottom of the distribution. Unless differences in inflation are reversed, this could mean that low-income households will see the largest falls in living standards over the period of recession and fiscal consolidation as a whole.

7. Policies to help the low paid

Andrew Hood, Robert Joyce and David Phillips (IFS)

Summary

- Low pay is more common among groups whose productivity is lower. This does not mean that low pay is entirely due to low productivity – it may reflect the ability of some employers to use market power to pay workers less than their productivity.
- Policymakers should be clear about whether they want to help low-paid individuals or low-paid families. A substantial minority (30%) of those who are low paid have partners who are not low paid. Hence, policies that help all low-paid individuals would also help some relatively high-income families.
- Further increases to the income tax personal allowance would not be particularly effective in helping the low paid. The lowest-income 17% of workers will pay no income tax in 2014–15 anyway. A large majority of the giveaway would go to families in the top half of the income distribution, or with no one in work (mostly pensioners). And many of the lower-income gainers would gain only partially as their universal credit and/or council tax support would be automatically reduced.
- Raising the employee NICs threshold would be a better way of supporting the low paid, and strengthening their work incentives, through the direct tax system. Aligning this threshold with the personal allowance would cut taxes for 1.2 million workers with earnings too low to benefit from an increase in the personal allowance, would benefit only workers, and would simplify the direct tax system.
- In-work benefits provide a more precise and cost-effective way of supporting low-earning working families than changes to direct taxes. Raising by 20%, from currently planned levels, the amounts that a family can earn before universal credit starts to be withdrawn would exclusively benefit this group. It would be a bigger giveaway in entitlements to working families in the bottom three income deciles than the gains to that group of raising the personal allowance to £12,500, despite costing £10 billion per year less. But it would make 200,000 more families eligible for universal credit (although some may not take up this entitlement), leading to weaker incentives for some people to earn more and higher administration costs.
- The Chancellor favours real increases to the National Minimum Wage (NMW) to help those on low pay. Although the NMW appears not to have had negative employment effects so far, increases should be considered carefully.
- The Labour Party plans to incentivise employers to increase the wages of all their workers to the Living Wage. Despite its voluntary nature, the policy may distort employers' behaviour in undesirable ways: for example, firms may not employ some low-paid workers who they otherwise would have, as in order to get the tax rebate all employees must be paid the Living Wage. Employers may also simply alter the timing of wage increases to benefit from the policy, leaving pay unaffected in the long term. Overall, it is unclear whether the policy would raise revenue for the exchequer, as claimed by the Labour Party.

7.1 Introduction

Average weekly earnings have fallen by 8.6% relative to CPI inflation since October 2007, just before the onset of the Great Recession. As a result, there has been an increasing focus on living standards – particularly for the modestly paid, hard-working people so frequently referred to in political debate.

A desire to help workers on low and middle incomes has been cited as a reason for the government's flagship policy of raising the income tax personal allowance throughout this parliament.[1] Looking forwards, the Prime Minister, David Cameron, stated last month that 'the priority is to target tax reductions on the poorest people in our country'[2] and it has been reported that both governing parties may pledge further rises in the personal allowance for the next parliament.[3] Meanwhile, the Labour Party has proposed to reintroduce a 10% starting rate band of income tax and to provide financial incentives to firms to pay the 'Living Wage' (which in 2014 is £8.80 per hour in London and £7.65 per hour elsewhere in the UK) and the Chancellor George Osborne has stated he believes there is scope for an above-inflation increase in the National Minimum Wage.[4] This chapter provides an assessment of these proposals, along with other ways that a government might attempt to help low-paid workers.

The rest of the chapter proceeds as follows. As background, Section 7.2 sets out the characteristics of the low paid and compares them with other employees. Section 7.3 analyses tax and benefit policies designed to help the low paid. Section 7.4 discusses policies aimed at increasing the pre-tax pay of the low paid – a goal labelled by Labour Party leader Ed Miliband, among others, as 'predistribution'. Section 7.5 concludes.

7.2 Who are the 'low-paid'?

Low pay might be a concern for at least two reasons. First is the link between low pay and low living standards. Official statistics show that around two-thirds of poor children and half of poor working-age adults without children live in a family where someone is working. Previous analysis of these data by IFS researchers shows that this in-work poverty is concentrated in low-paying sectors and occupations and is more strongly linked to low hourly pay than to low hours of work.[5] Substantial amounts are spent on in-work benefits and tax credits in order to boost the incomes of low-income working families (especially those with children). A second concern is the possibility that low pay reflects exploitation of workers by firms that are able to use their power in the labour market to pay workers less than their productivity would warrant (i.e. less than the value of the output that they produce). Related to this are concerns that some parts of the population face discrimination in the labour market and are low-paid as a result.

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[1] For example, see the section entitled 'Policy objective' in HMRC's assessment of the impact of increases in the personal allowance (http://www.hmrc.gov.uk/budget2012/tiin-2044.pdf).

[2] Quote from an interview with Andrew Marr on 5 January 2014, a transcript of which is available at http://news.bbc.co.uk/1/shared/bsp/hi/pdfs/05011401.pdf.

[3] For example, 'Tories plan to raise personal allowance to £12,500', *Financial Times*, 13 October 2013, available at http://www.ft.com/cms/s/0/95b97f76-30fa-11e3-b478-00144feab7de.html#axzz2np8YouhL.

[4] Reported by the BBC at http://www.bbc.co.uk/news/uk-politics-25766558.

[5] J. Cribb, A. Hood, R. Joyce and D. Phillips, *Living Standards, Poverty and Inequality in the UK: 2013*, IFS Report R81, 2013, http://www.ifs.org.uk/publications/6759.

In this section, we examine the characteristics of low-paid jobs and low-paid workers. These suggest, as one would expect, that productivity is an important factor in explaining low pay. We also examine the position of low-paid workers' families in the income distribution to see the extent to which low pay feeds through to low family income.

Before doing this, however, we need to answer a fundamental question: what is 'low pay'? This is really (at least) two questions.

First, does low pay mean currently having a low hourly wage, or having low earnings in total (e.g. over a week, month, year or lifetime)? Here, we look at both of these types of 'low pay'. Hourly pay should, in a competitive labour market, reflect workers' productivity: low hourly pay therefore reflects low productivity and/or people being paid less than their productivity would warrant due to an imperfectly competitive labour market. Weekly or monthly earnings depend also on the number of hours worked. There are at least two reasons why this measure of pay is of independent interest. A significant minority of those with low weekly pay state that they would like to work longer hours at the same rate of hourly pay but are unable to procure the extra hours.[6] In addition, the tax and benefit system is one obvious lever for helping people on low pay, and it is better placed to redistribute to those with low weekly pay than to those with low hourly pay.

Second, what level of (hourly or weekly) pay is considered to be 'low'? For hourly pay, we use the level of the 'Living Wage' as calculated by the Greater London Authority for London (currently £8.80 per hour) and the Centre for Research in Social Policy for the rest of the UK (£7.65 an hour). This is not because we believe this to be the most appropriate threshold for determining whether hourly pay is low. The OECD for instance, uses a definition of pay below two-thirds of the median, which has the benefit of ensuring 'low pay' is defined with reference to a measure of average wages (as measured by the median). The precise level of any chosen threshold will be somewhat arbitrary. But we choose the 'Living Wage' because this is the level of hourly pay that the Labour Party has said it plans to incentivise employers to pay (see Section 7.4) and we want our analysis to be informative of who might gain from such a policy if it were successful in boosting wages.

The data we use in this analysis come from the Labour Force Survey (LFS) and the Family Resources Survey (FRS) and cover the 2011–12 financial year (the most recent year of FRS data available). Measuring hourly wages robustly using these data is not straightforward. Box 7.1 explains how we do this using an imputation method.

Using the resulting measure of hourly wages, an estimated 29% of employees were paid below the Living Wage in their main job in 2011–12.[7] This is considerably higher than the 20% reported for 2012 by the Resolution Foundation using data from an alternative survey, the Annual Survey of Hours and Earnings (ASHE).[8] Our judgement is that the true figure probably lies somewhere between 20% and 29%: the ASHE-based estimate is likely to be an underestimate and the LFS-based estimate is likely to be an overestimate.

[6] According to the Labour Force Survey, 17.5% of those in the bottom three-tenths of the weekly earnings distribution in 2011–12 would have liked to work more hours at their basic hourly pay rate.

[7] The Living Wage in 2011 was £8.30 in London and £7.20 in the rest of the UK.

[8] M. Whittaker and A. Hurrell, *Low Pay Britain 2013*, Resolution Foundation, London, 2013, http://www.resolutionfoundation.org/media/media/downloads/Low_Pay_Britain_2013.pdf.

Box 7.1. Estimating hourly wages in the LFS and FRS

Conventionally, analyses of hourly wages use a measure derived by dividing reported gross weekly earnings by reported weekly hours of work. However, this introduces significant measurement error and leads to a measure of derived hourly wages that has greater dispersion than actual hourly wages. This, for instance, leads to a substantial overestimate of the number of individuals paid below the level of the National Minimum Wage using this measure of hourly wages. The LFS also collects a direct measure of a worker's basic hourly rate of pay for those workers who are paid by the hour. This does not suffer from the same problems, and research has concluded that this direct measure of hourly pay is more accurate than the derived hourly wage for those towards the bottom of the hourly wage distribution.[a]

The direct measure is only available for those paid by the hour in the LFS, and is not available at all in the FRS, the second survey we use in the analysis contained in this chapter. However, we use this direct measure of hourly wages to impute what are, hopefully, more accurate hourly wages for those workers who are not paid by the hour, or who are otherwise unable to provide their basic hourly pay rate in the LFS, and for all workers in the FRS. The method we employ has been used in a number of analyses of low pay and it works as follows:[b]

- For those workers in the LFS for whom we have both a derived and a directly measured hourly wage, we regress the direct measure on the derived measure and a set of explanatory variables including demographic and job characteristics.
- We then predict a value for the direct wage measure for all workers in both the LFS and the FRS, whether or not they are paid by the hour, drawing randomly from the (estimated) distribution of prediction errors and the distribution of uncertainty around the estimated parameters of the regression.
- For each of the workers for whom we do not have a direct hourly wage measure, we impute a value by taking the actual value from the 'closest' observation that has a direct measure available (where 'closest' means the smallest absolute difference in the predicted values from the previous step).

We then define whether someone has a low hourly wage based on this imputed wage. We also use this imputed wage to assess how large a wage increase they would need to reach the 'Living Wage'. However, when calculating family net incomes to show the position of low-paid workers in the income distribution, we use workers' reported weekly earnings as our main measure of income (rather than the imputed wage multiplied by reported hours). This means that we implicitly assume that hours rather than weekly earnings are misreported if there is a discrepancy between imputed and derived hourly pay.

[a] C. Skinner, N. Stuttard, G. Beissel-Durrant and J. Jenkins, 'The measurement of low pay in the UK Labour Force Survey', *Oxford Bulletin of Economics and Statistics*, 2002, 64 (Supplement), 653–76.

[b] This method was initially proposed in C. Skinner, N. Stuttard, G. Beissel-Durrant and J. Jenkins, 'The measurement of low pay in the UK Labour Force Survey', *Oxford Bulletin of Economics and Statistics*, 2002, 64 (Supplement), 653–76. It has subsequently been used in M. Brewer, R. May and D. Phillips, *Taxes, Benefits and the National Minimum Wage*, Low Pay Commission Research Report, 2010, http://webarchive.nationalarchives.gov.uk/20130626202215/http://www.lowpay.gov.uk/lowpay/research/pdf/FromLPC_Document_Feb.pdf and in M. Brewer and P. De Agostini, *The National Minimum Wage and its Interaction with the Tax and Benefits System: A Focus on Universal Credit*, Low Pay Commission Research Report, 2013, https://www.gov.uk/government/publications/national-minimum-wage-a-focus-on-universal-credit.

ASHE asks employers rather than employees to report hours and earnings, and for this reason is usually agreed to measure weekly earnings and paid hours of work more accurately than the LFS. However, because employers may not be aware of the unpaid overtime that people not paid by the hour work, ASHE may underestimate total hours of work and thus overestimate actual hourly pay for some people. In addition, the way the ASHE sample is selected – based on people with active income tax or National Insurance records at HMRC – means that those with low weekly/monthly/annual pay are under-represented. Because of the correlation between low hourly and low weekly pay, this means those with low hourly pay are also under-represented. Sample weights are provided with the data to try to account for this, but these are unlikely to overcome this problem fully.[9]

The LFS-based estimates are also problematic, however. The imputation procedure used (see Box 7.1) involves imputing hourly wages for those *not* paid by the hour using information from the wages of those who are. This has been shown to be a reliable procedure at the very bottom of the wage distribution – for example, around the level of the National Minimum Wage – but may be less reliable further up the wage distribution – such as around the level of the Living Wage – where the number of people paid by the hour starts to decline.

The main reason our analysis uses the LFS rather than ASHE is that the LFS contains many more demographic variables and, unlike ASHE, it is possible to combine it with the FRS to analyse the family incomes of the low paid. Because of the discrepancies between figures based on the LFS and those based on ASHE, we present statistics on the characteristics of the low paid, and the *relative* rather than *absolute* prevalence of low pay among different parts of the population. That is we provide information on, for instance, what fraction of the low paid are aged under 25 and how much more likely it is that someone in this age group is low-paid compared with someone older, rather than the proportion of under-25s who are low-paid.

For weekly pay, we define low pay as those in the bottom 30% of the distribution of weekly earnings (from all employee-jobs) so both our hourly and weekly measures cover approximately the same fraction of employees. The overlap between the two groups is significant but not complete: just over two-thirds of those estimated to have a job paying a low hourly rate of pay also have low weekly earnings, and vice versa.

Characteristics of low-paid jobs

In this subsection, we describe the characteristics of the main jobs of low-paid workers. Approximately 97% of all jobs with low hourly pay are the worker's main job, so the focus on main jobs is not very restrictive.

Hours of work

Unsurprisingly, lower weekly earnings are strongly associated with working fewer hours:

- 63% of people with low weekly earnings worked for fewer than 30 hours per week in their main job, compared with 6% of those who had higher weekly earnings.
- Conversely, only 4% of those with low weekly earnings worked for 45 hours a week or more in their main job, compared with 31% of higher earners.

[9] The ASHE weights are based on matching age, sex, region and occupation totals as recorded in the LFS. No direct correction for the under-recording of those with low weekly/monthly/annual pay is attempted.

- This means that the prevalence of low weekly pay among those working under 30 hours per week was around 16 times as high as it was among those working 45 hours a week or more.

There is also a strong association between low *hourly* pay and low hours of work:

- 13% of main jobs paying a low hourly rate were of fewer than 16 hours per week, compared with 4% of higher-paying jobs; and 28% were of between 16 and 29 hours, compared with 11% of higher-paying jobs.
- This means that the prevalence of low hourly pay among those working fewer than 30 hours per week was almost 2.5 times higher than it was among those working 30 or more hours per week.

Occupation and industrial sector

Low pay is particularly concentrated among certain occupational groups and sectors of the economy. For instance, jobs that are classified as being part of the elementary occupation group[10] comprise 27% of all main jobs with low hourly pay, compared with 5% of higher-paid jobs. Main jobs classified as part of the caring and personal services group or the sales and customer services group also make up a substantially larger share of jobs with low hourly pay than they do of higher-paid jobs. In contrast, jobs in the managerial, professional, technical and crafts groups make up only 17% of jobs with low hourly pay, compared with 61% of higher-paying jobs. This means, for instance, that those whose main job is an elementary occupation are just over twice as likely as average to be low-paid, and almost six times more likely to be than someone whose main job is in the managerial, professional, technical or crafts groups.

The retail and hospitality sectors together make up around one-third of main jobs with low hourly pay and of jobs with low weekly earnings. In contrast, they make up just 7% of all higher-paying main jobs. This means the prevalence of low hourly pay among jobs in these sectors is almost three times as high as among other jobs. Low hourly pay is also concentrated in the residential care sector, and among the 'other personal services' sector (which includes activities such as hairdressing). Jobs in the health, education and social care sector are substantially less likely to have low hourly rates of pay than average. However, the substantial number of people working part time in these sectors means that such jobs are about as likely as average to have low weekly pay.

Size of workplace

Low-paying jobs are also concentrated in workplaces with few employees:

- 47% of main jobs with low hourly rates of pay are at workplaces containing fewer than 25 employees, compared with 27% of higher-paying jobs.
- Conversely, only 8% of low-paying main jobs are at workplaces with 500 or more employees, compared with 23% of other main jobs.
- This means the prevalence of low hourly pay among those working in workplaces with fewer than 25 employees is over three times as high as it is among those in workplaces with 500 or more employees.
- Similar patterns are found for low weekly pay.

[10] This comprises jobs considered to involve the lowest skill, such as cleaning, basic food preparation, and labouring.

Length of tenure

Employees in low-paying jobs have been in these jobs for a shorter length of time, on average, than those in higher-paying jobs:

- Almost a quarter of people in a main job with a low hourly rate of pay have been in that job less than a year, compared with a tenth of those with higher-paid jobs.
- Just 18% of those with low hourly pay in their main job have had the job for 10 or more years, compared with 37% of those with higher hourly pay.
- This means jobs held for a year or less are almost three times as likely to be low-paid as jobs held for 10 or more years.
- The pattern for weekly pay is similar.

Characteristics of low-paid workers

Age

Younger workers and, to a lesser extent, older workers are over-represented among those with low pay:

- The under-25s make up around 27% of those with a low hourly pay rate in their main job and 24% of those with low weekly pay, but just 6–7% of other employees.
- The prevalence of low hourly pay among the under-25s is just over double the average among the population as a whole and around three times as high as among people in their 30s and 40s.
- Those aged 60 or over are only slightly more likely to have low hourly pay than average. But they are 1.5 times as likely to have low weekly pay, reflecting the lower-than-average working hours of this group.

Education

Low pay is concentrated among those with low levels of education and those still in full-time education:

- Those leaving full-time education aged 16 or younger are around twice as likely to have a low hourly pay rate as those leaving full-time education aged 19.
- The rate of low hourly pay among those still in full-time education is more than twice the average among those who have completed their education.

The greater incidence of low pay among the young and those either still in education or with low levels of education is consistent with low productivity playing a role in explaining low pay (these are groups that are more likely to have low productivity). However, this does not mean that low productivity explains all instances of low pay.

Sex

According to the LFS, 49% of all employees in 2011–12 were women. However, women were a clear majority of the low paid:

- 58% of those with a low hourly rate of pay in their main job were women.
- 71% of those with low weekly pay were women, reflecting the fact that, on average, employed women work fewer hours than employed men.
- A woman is just over 1.5 times as likely as a man to have low hourly pay and around 2.5 times as likely to have low weekly pay.

Much of this may be explained by the types of jobs women have – they are more likely to work in lower-paying occupations and sectors, and to work in part-time work. But even

controlling for a range of such job and individual characteristics (such as education and age), women are more likely to be low-paid than men.[11]

Ethnicity

Low pay is more common among ethnic minority groups than among white people. This is particularly true of those of Bangladeshi or Pakistani ethnicity, for whom low hourly pay is around 1.6 times more common than for those of white ethnicity. Again, this is explained in part by differences in individual and job characteristics.

Family type

Low pay is concentrated among single adults, both with and without children:

- Single adults without children are around 1.7 times as likely as someone living in a couple (with or without children) to have a low hourly rate of pay.
- Lone parents are 1.9 times as likely to have a low hourly rate of pay as someone living in a couple and 2.3 times as likely to have low weekly pay.

Region of residence

People living in Northern Ireland, northern regions of England, and Wales are around 1.5 times as likely to have low hourly pay as those living in the South East of England. Despite the Living Wage being around 15% higher in London than in the rest of the UK, people in London are less likely to be paid the Living Wage than people in any region other than the South East of England.

The position of the low paid in the family income distribution

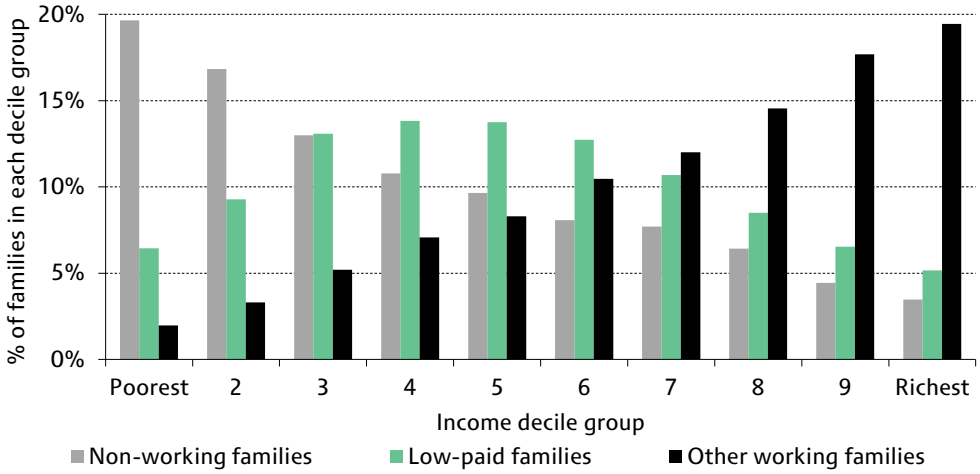
As discussed above, official statistics show that more than half of poor children and working-age adults live in families where someone works. And overall, around 11% of people living in families where someone works are in poverty. While the methodology we use here to look at low pay does not allow direct comparisons with those numbers, we can examine where in the income distribution families containing someone who is low-paid are found. This is done for low hourly pay in Figure 7.1.

The figure shows that around 16% of families with a low-paid worker are in the bottom fifth of the income distribution. This compares with around 36% of families where no one works (including pensioners) and around 5% of working families where everyone is paid more than the Living Wage. In other words, low-paid workers are substantially less likely to have low family incomes than those in workless families, but substantially more likely than higher-paid workers.

Figure 7.1 also shows that low-paid workers are relatively heavily represented around the lower-middle part of the income distribution (decile groups 3 to 6). But they can be found right the way up the family income distribution: 44% are in the top half of the distribution and 12% are in the top fifth. This largely reflects the fact that for many families, low-paid work is not the only source of earnings: in around 30% of families with at least one low-paid worker, such work contributes less than half of total earnings from employment and self-employment. This is generally due to someone paid a low hourly wage having a higher-paid partner (in some cases it is because the low-paid job is a second job).

[11] This finding (and the finding on ethnicity below) comes from a probit regression that examines the links between low pay status and individual and job characteristics.

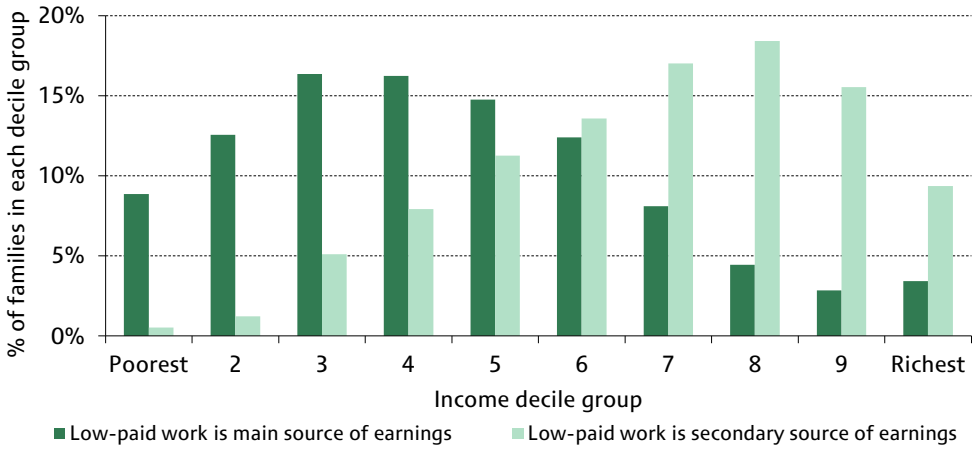
Figure 7.1. The position of families by low-pay status in the net family income distribution



Note: Low-paid families are those with at least one low-paid worker. Low pay is defined as earning no more than the Living Wage. Income decile groups are 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 the population, decile group 2 the second poorest, and so on up to decile group 10, which contains the richest tenth.
Source: Authors' calculations using TAXBEN, the 2011–12 Family Resources Survey and contemporaneous waves of the Labour Force Survey.

Figure 7.2 splits low-paid families into those where a low-paid job is the main source of earnings and those where it is a secondary source of earnings. The figure shows that those families where a job with low hourly wages is the main source of earnings are most concentrated in the lower and lower-middle part of the income distribution: almost half can be found in decile groups 3 to 5. In contrast, those families where it is a secondary source of earnings are predominantly found in the upper-middle part of the income distribution, with more than half in decile groups 7 to 9.

Figure 7.2. The position of low-paid families by low-pay source in the net family income distribution



Note: See note to Figure 7.1. Low-paid work is defined as the main source of earnings for a family if the sum of earnings from any jobs paying a low hourly wage is equal to at least half of the family's total earnings from employment and self-employment. Otherwise it is defined as a secondary source.
Source: See source to Figure 7.1.

Summary

The incidence of low pay is highest among those types of people and jobs where productivity tends to be lower: the young, the low-educated, and occupations and sectors that tend to require relatively low levels of skill such as cleaning, retail and hospitality. However, this does not rule out the possibility that some low pay is a result of some employers paying people less than their productivity warrants. Nor does it rule out discrimination when setting pay. For instance, low pay is more common among women and ethnic minority groups even after controlling for some broad individual and job characteristics (although this does not prove discrimination either, as productivity may be affected by more detailed considerations than we are able to control for).

Low pay does not necessarily translate into low family income. In a substantial minority of families where someone is low-paid, low-paid work is not the main source of earnings (for example, one partner is low-paid but the other has higher earnings). And other sources of income – such as benefits and tax credits – boost the incomes of many low-paid workers. However, families for which low pay is the main source of earnings are found predominantly in the lower and lower-middle of the family income distribution. And low hourly pay is associated with being in relative income poverty.[12] Boosting the incomes of the low paid would therefore help reduce in-work poverty.

The extent to which one cares about low pay and low income is likely to depend on whether they are temporary or persistent. The analysis suggests that for many people, low pay is a temporary phenomenon – for example, when they are young, still in education, or they have recently started a new job and have yet to acquire many job-specific skills. Using data that track the same people over time, the Resolution Foundation finds that a substantial number of low-paid people do move out of low pay, especially among the young.[13] However, it also estimates that almost three-in-ten people who were low-paid in 2002 only ever had low-paid jobs in the subsequent decade, and this was especially true among older low-paid people. This suggests that a substantial number of people do persist in low-paid employment, which, if it is their family's main source of income, is likely to translate into relatively low income.

7.3 Tax and benefit policies

Having established who the low paid are, we now consider ways in which the government might try to help them. In this section, we analyse the options available via the tax and benefit system.

We begin by examining the effects of a further rise in the income tax personal allowance, to £12,500 – a policy that has been mooted as a possible central plank of both the Conservative and Liberal Democrat manifestos for the 2015 general election. We then turn our attention to alternative reforms to direct taxes: the reintroduction of a 10p starting rate of income tax advocated by the Labour Party; and increasing the threshold above which employees start paying National Insurance contributions (NICs), as well as increasing the personal allowance, in a way that aligns the two. Finally, we show how the

[12] J. Cribb, A. Hood, R. Joyce and D. Phillips, *Living Standards, Poverty and Inequality in the UK: 2013*, IFS Report R81, 2013, http://www.ifs.org.uk/publications/6759.

[13] A. Hurrell, *Starting Out or Getting Stuck? An Analysis of Who Gets Trapped in Low Paid Work – and Who Escapes*, Resolution Foundation, London, 2013, http://www.resolutionfoundation.org/media/media/downloads/Starting_out_or_getting_stuck_FINAL_1.pdf.

low paid could be helped via in-work benefits – specifically, by increasing the work allowances in universal credit.

All of the analysis here is based on modelling that assumes universal credit is fully in place. Its roll-out is now planned to barely start until 2016–17, but we are considering permanent reforms to the tax and benefit system, so it is more informative to model impacts under universal credit than under the benefits it will replace. This matters, not just for the analysis of in-work benefit reform but also for direct tax changes. Gains from direct tax cuts would, for some, be significantly offset by knock-on reductions in universal credit (as with housing benefit under the current system, but unlike tax credits).

Increasing the income tax personal allowance to £12,500

In April 2014, the current government will meet its commitment to raise the income tax personal allowance for under-65s to £10,000. The personal allowance will then be £2,545 higher than under the plans the government inherited, at an estimated cost of £10.7 billion[14] per year – a substantial tax cut at any time, and even more so in an era of severe fiscal restraint. This will have taken 2.0 million people out of income tax, meaning that the 4.6 million lowest-income workers[15] (17% of all workers) will pay no income tax. The two major stated objectives of these increases have been 'to help lower and middle income earners'[16] and 'to reward work'.[17]

It has been widely reported that a commitment to increase the personal allowance to £12,500 may be an election pledge for both the Conservatives and the Liberal Democrats in 2015.[18] The Liberal Democrats have explicitly linked this commitment to an aspiration to take all minimum-wage workers out of income tax – £12,500 is roughly the annual earnings of an individual working full time at the National Minimum Wage (NMW).[19]

Although such an increase would probably be implemented in phases over a period of time, for illustrative purposes we model the effects of increasing the personal allowance to £12,500 in April 2014. This is, of course, sooner than is being proposed, but such a policy is likely to cost a similar amount and have similar effects to an attempt to take minimum-wage workers out of income tax by a somewhat later date (the personal

[14] This is the sum of the costings given in the '2014–15' columns of table 2.2 of the March 2011 Budget (http://webarchive.nationalarchives.gov.uk/20130129110402/http://cdn.hm-treasury.gov.uk/2011budget_complete.pdf); tables 2.1 and 2.2 of the March 2012 Budget (http://cdn.hm-treasury.gov.uk/budget2012_complete.pdf); table 2.1 of the 2012 Autumn Statement (http://cdn.hm-treasury.gov.uk/autumn_statement_2012_complete.pdf); and table 2.1 of the 2013 Budget (https://www.gov.uk/government/publications/budget-2013-documents). It is calculated net of various simultaneous adjustments to the higher-rate threshold designed to limit the cost.

[15] By 'lowest-income workers', we mean the workers with the lowest taxable incomes. This group is similar, but not identical, to the 4.6 million lowest-*earning* workers. The difference is because some low earners have unearned taxable income that takes them above the personal allowance. 4.0 million of the 4.6 million lowest-income workers are also among the 4.6 million lowest-earning workers.

[16] See HM Government, 'The Coalition: our programme for government', 2010, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/78977/coalition_programme_for_government.pdf.

[17] See the section entitled 'Policy objective' in HMRC's assessment of the impact of increases in the personal allowance (http://www.hmrc.gov.uk/budget2012/tiin-2044.pdf).

[18] See 'Tories plan to raise personal allowance to £12,500', *Financial Times*, 13 October 2013, available at http://www.ft.com/cms/s/0/95b97f76-30fa-11e3-b478-00144feab7de.html#axzz2np8YouhL.

[19] See http://www.publicfinance.co.uk/news/2013/09/take-minimum-wage-workers-out-of-tax-say-libdems/. Someone working 37.5 hours a week at the current National Minimum Wage of £6.31 an hour would earn £12,300 per year. A £12,500 personal allowance would not quite take all minimum-wage workers out of income tax, as some have unearned taxable income.

allowance increases in cash terms over time as a result of uprating, but so does the NMW).

We also assume throughout this subsection that the higher-rate tax threshold is left unchanged from current plans. This means that higher-rate taxpayers have their income tax liability reduced by the same cash amount as basic-rate taxpayers from increases to the personal allowance (as has been the case for some of the increases during the current parliament).[20] It also means that the number of higher-rate taxpayers is unaffected by any of the changes that we model.

A £2,500 additional increase to the personal allowance in April 2014 would cost around £12 billion per year relative to current plans, taking another 2.9 million individuals out of income tax and giving a tax cut to around 28 million individuals.[21] If £12,500 were instead a cash-terms target to be met in some future year (as the £10,000 target was during the current parliament), then the giveaway could be significantly smaller (and the cost significantly lower). For example, raising the personal allowance to £12,500 by April 2020 would cost around £5 billion per year in 2014–15 prices (given current forecasts for inflation).[22] Although still a significant tax cut, this would probably not take all minimum-wage workers out of income tax, because the NMW will probably be significantly higher in cash terms by April 2020 than it is now.

Distributional impact

We focus initially just on working individuals because that is the obvious target group for policies to help the low paid. (But there are non-workers – mostly pensioners – who gain too, so we broaden the focus below.)

If an individual has an income of less than £10,000 per year, then they would pay no income tax anyway, and so they could benefit only through the effect of the reform on a higher-income partner. Under existing policy, this will be the case for the lowest-income 17% of workers (4.6 million) in 2014–15. Table 7.1 gives an indication of who these workers are. Two-thirds are women, and more than 40% are secondary earners in a couple. They are also disproportionately likely to be students: 10% are in full-time education, compared with only 2% of all workers.

This suggests that many of the workers who pay no income tax are either only temporarily on low incomes (students) or not the primary source of family earnings (secondary earners). Nevertheless, even excluding students, around a quarter of workers who pay no income tax are in relative poverty according to the government's definition based on household income (their household income is less than 60% of the median), and

[20] This requires a reduction to the basic-rate limit. Without any adjustment to the basic-rate limit, higher-rate taxpayers would gain twice as much in cash terms as basic-rate taxpayers from personal allowance increases. This is because the higher-rate threshold is defined as the sum of the personal allowance and the basic-rate limit. Therefore, an increase in the personal allowance in isolation increases the higher-rate threshold by the same amount. Without a corresponding adjustment to the basic-rate limit, the effect on higher-rate taxpayers is to save them 40% tax over a range of income (rather than 20% as for basic-rate taxpayers).

[21] Source: Authors' calculations using TAXBEN and uprated data from the 2011–12 Family Resources Survey. Our central estimate of the cost is £12.2 billion per year.

[22] This is the estimated cost of increasing the personal allowance to £11,067 in 2014–15. This would mean that it would subsequently reach £12,500 in 2020–21 given current inflation forecasts. The actual cost of implementing the policy in 2020–21 may differ because of fiscal drag and interactions with any future changes to the tax and benefit system. The source for the inflation forecasts is the Office for Budget Responsibility (OBR): http://cdn.budgetresponsibility.independent.gov.uk/Economic-and-fiscal-outlook-December-2013.pdf. We assume CPI will remain at 2% beyond the end of the forecast period.

Table 7.1. Characteristics of workers with annual taxable incomes above and below £10,000

	Workers paying no income tax (income ≤£10,000)	**Workers paying income tax** (income >£10,000)	**All workers**
Women	67%	43%	47%
Secondary earners	43%	25%	28%
Full-time students	10%	0%	2%
In relative poverty	24%	4%	7%

Note: Secondary earners are defined as those earners in a family with a higher earner. Those in relative poverty are those with household income less than 60% of the median in 2011–12.
Source: Authors' calculations using TAXBEN and uprated data from the 2011–12 Family Resources Survey.

this is far higher than the 4% rate of poverty among workers who would gain from increases to the personal allowance.[23]

Figure 7.3 shows the impact of increasing the income tax personal allowance to £12,500 on the family income of working individuals. Because 17% of workers already pay no income tax, those with the lowest earnings benefit little from a further increase to the personal allowance. This is a significantly bigger consideration now than it was at the start of the parliament, because 2.0 million of the lowest-paid will already have been lifted out of income tax by increases to the personal allowance up to April 2014. Note also that many with incomes slightly above £10,000 will lose some of the gains in the form of

Figure 7.3. Impact of increasing the personal allowance to £12,500 (leaving the higher-rate threshold unchanged) among workers only, by individual earnings decile group

Note: Earnings decile groups are derived by dividing all individuals with positive earnings into 10 equal-sized groups according to their earnings. Decile group 1 contains the tenth of earners with the lowest weekly earnings, decile group 2 the second lowest, and so on up to decile group 10, which contains the highest-earning tenth.
Source: Authors' calculations using TAXBEN and uprated data from the 2011–12 Family Resources Survey.

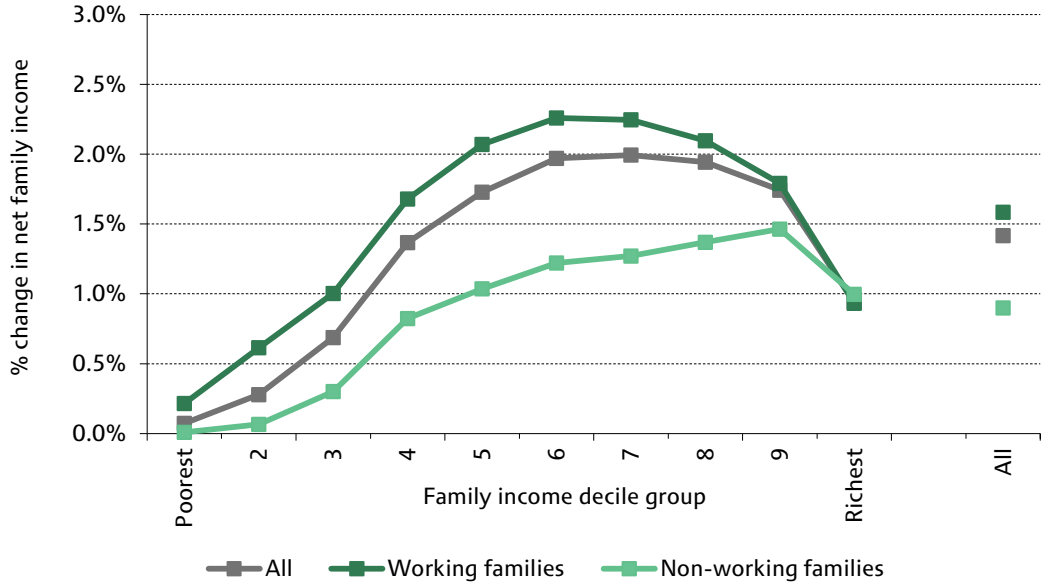
[23] Precisely, these are the actual poverty rates in the 2011–12 data among individuals who we simulate will (or will not) be income taxpayers in 2014–15, based on assumed earnings growth between 2011–12 and 2014–15.

withdrawn benefits (discussed in detail around Figure 7.5). On average, the workers who would gain most in percentage terms from this further increase are those in the lower-middle of the individual earnings distribution. All those with incomes between £12,500 and £120,000 have their income tax liability reduced by £500, and this tends to be a larger percentage of family income for earners towards the bottom of that band.[24]

Note that individuals with taxable incomes exceeding £122,500 per year actually lose from this policy. This is because the personal allowance is gradually withdrawn as taxable income rises above £100,000, and our modelling keeps the higher-rate threshold fixed – which, given a higher personal allowance, means reducing the amount of income over which the 20% basic rate is payable (see footnote 24). Hence, these very high-income individuals would lose overall because they would be paying a 40% marginal rate (rather than a 20% one) over a larger range of income.

Figure 7.3 looked only at the population of workers. Of course, many of the lowest-income families are out of work and paying no income tax, so do not gain at all from increases to the personal allowance. The figure also ranked people by their individual earnings, rather than their family's total income. This will miss the fact that two-earner couples, who tend to be relatively far up the family income distribution, can gain double the amount (in cash terms) that one-earner families can gain. Hence, when we look across the whole population at the distributional impact by family income, the picture is different. As Figure 7.4 shows, the families that gain the most from a £12,500 personal allowance are those in the upper-middle of the overall income distribution.

Figure 7.4. Impact of increasing the personal allowance to £12,500 (leaving the higher-rate threshold unchanged), by family income decile group and work status



Note: See note to Figure 7.1.
Source: See source to Figure 7.3.

[24] It is important to note that this distributional pattern is dependent on the assumption that the benefit to higher-rate taxpayers is limited to the same cash amount. If there were no adjustment to the basic-rate limit, the gains for high-income families would be larger. On the other hand, if the basic-rate limit were reduced until higher-rate taxpayers did not gain at all, the gains would be much smaller towards the top of the income distribution.

Looking at the impact on both workers and non-workers, as Figure 7.4 does, highlights another point. Families with *unearned* incomes above £10,000, the large majority of which are pensioner families, would gain from further rises to the income tax personal allowance. There is an important difference here between the rises in the personal allowance we have seen over the current parliament and any further significant increases. Most individuals aged 65 and above have a different (higher) personal allowance from under-65s. They have therefore not benefited from the increases in the under-65s' allowance up to £10,000 (though pensioners with relatively high incomes have benefited).[25] However, those higher age-related allowances are now little higher than the under-65s' allowance and they are being phased out.[26] This means that around 4.7 million individuals aged 65 and above would receive a tax cut if the personal allowance were increased to £12,500. Of course, a government might want to give a tax cut to pensioners. But this does reduce the extent to which increases in the personal allowance target low-paid workers – a key justification given for the rises so far.

Overall, the numbers underlying Figure 7.4 imply that 69% (£8.4 billion) of the £12.2 billion per year giveaway would go to working families in the top half of the income distribution, and a further 16% (£1.9 billion) would go to non-working families (mostly pensioners). Just 15% (£1.9 billion) would go to working families in the lowest-income half of the population.

The interaction between the tax and benefit systems reduces the extent to which a rise in the personal allowance will benefit the low paid. Families on universal credit (UC), for example, would typically keep no more than 35% of the reduction in income tax resulting from the higher personal allowance.[27] Under the means-tested benefits system that UC is replacing, the same issue applies to in-work recipients of housing benefit. But most in-work support currently given to low-income families is provided through tax credits, and tax credit entitlement is means-tested on the basis of a family's pre-tax income (so is unaffected by increases in the personal allowance). The subsuming of tax credits within UC thus represents an important change in this respect.

Entitlement to council tax support (CTS, which is being kept separate from UC) is also assessed against net earnings. Across the large majority of Great Britain, its withdrawal rate is 20%.[28] Hence, low-paid workers whose family receives both UC and CTS will typically keep no more than 28p from a £1 reduction in income tax.[29]

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[25] The lower personal allowance also applies to individuals aged 65 or over if their taxable income exceeds (as of April 2014) £28,000 per year, because additional age-related allowances are tapered away as income rises above (as of April 2014) £27,000.

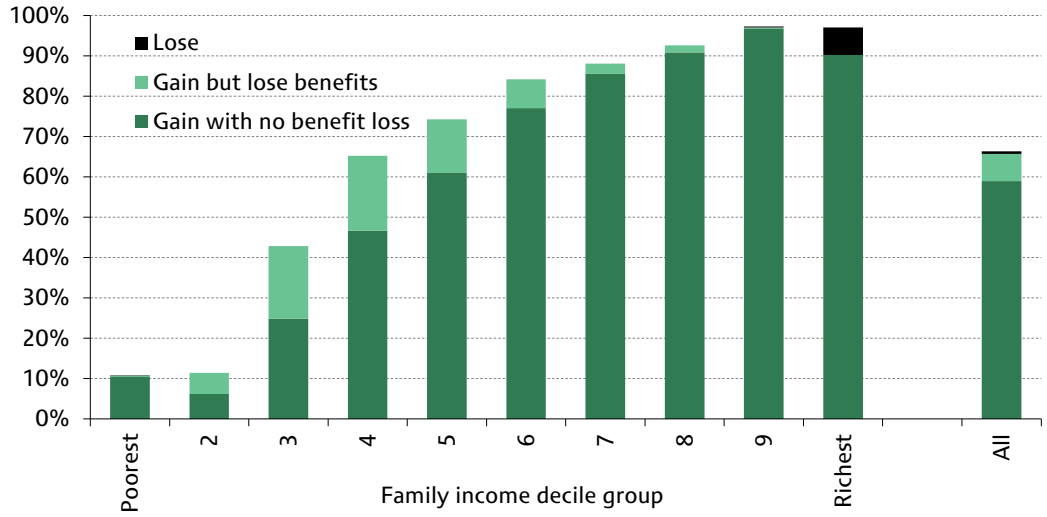
[26] The allowance is being frozen at £10,500 for those born between April 1938 and April 1948 and £10,660 for those born before April 1938, until it is no higher than the under-65s' allowance – after which, individuals of all ages will have the same allowances.

[27] Analysis by the Resolution Foundation has also considered this issue: see D. Hirsch, *Will Future Tax Cuts Reach Struggling Working Households?*, Resolution Foundation, London, 2013, http://www.resolutionfoundation.org/publications/will-future-tax-cuts-reach-struggling-working-hous/.

[28] Support for council tax was localised in April 2013. The devolved governments in Scotland and Wales both decided to retain the previous system, which included a withdrawal rate of 20%. 249 out of the 326 English local authorities (76%) have retained the 20% taper rate. 20 local authorities have explicitly increased it, and 3 have explicitly reduced it. A further 54 have 'implicitly' reduced the taper rate by implementing a flat percentage cut in entitlements for all recipients. See S. Adam, J. Browne, W. Jeffs and R. Joyce, *Council Tax Support Schemes in England: What Did Local Authorities Choose, and with What Effects?*, IFS Report R90, 2014, http://www.ifs.org.uk/publications/7057. A spreadsheet of scheme characteristics across English local authorities is available at http://www.ifs.org.uk/publications/7005.

[29] The 28p figure would apply if UC counts as income in the CTS means test (and the CTS taper rate is 20%). That is because a £1 cut in income tax would increase post-UC income by 35p, and a further 7p (20% of 35p) would be lost via reduced CTS. In the modelling, we do assume that UC counts as income in CTS means tests

Figure 7.5. Proportion of families affected in different ways by increasing the personal allowance to £12,500 (leaving the higher-rate threshold unchanged), by family income decile group



Note: See note to Figure 7.1.
Source: See source to Figure 7.3.

Among the 2.2 million families paying income tax and entitled to either UC or CTS, net family income increases by an average of only 0.8% as a result of a £12,500 personal allowance (on an entitlements basis), compared with an average 1.9% increase among other gainers. The gainers affected by this interaction with means-tested benefits are far more likely to be the lower-income ones. Figure 7.5 shows that more than 40% of the gainers in the second and third income deciles of the overall family income distribution could lose some of that additional income through reduced entitlement to UC or CTS.[30] It is important to note, however, that non-take-up of these benefits will mean some of these families do in fact gain in full, as they have no benefits to lose even though they are entitled to them (to the extent that non-take-up persists under UC and the new CTS schemes).

In summary, although the policy results in the same cash reduction in income tax liability for all individuals with taxable incomes between £12,500 and £120,000, those on lower incomes are much more likely to see reduced benefit entitlement offset much of that gain.

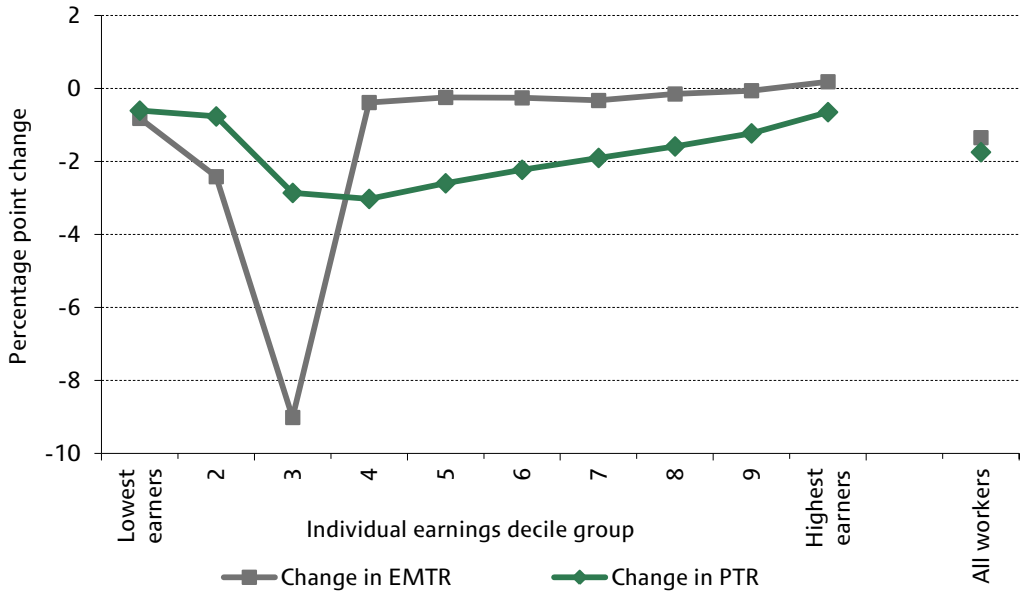
Work incentive effects

Figure 7.6 summarises the effects on work incentives across the earnings distribution. Participation tax rates (PTRs) measure the percentage of earnings lost in taxes and withdrawn benefits when an individual moves into work (i.e. they measure the incentive

(see the next footnote). If it did not, then with a 20% CTS taper rate people subject to both UC and CTS withdrawal would keep only 15p of a £1 reduction in direct tax.

[30] The modelling assumes that the means tests in the local systems of CTS count UC as income but add rents to work allowances. We also assume that all English local authorities have a minimum council tax payment, net of CTS, of 10.4% of the bill for working-age families. This is roughly what is required to make a 10% overall cut to spending on council tax support relative to the national system of council tax benefit that existed before April 2013. The UK government is providing English local authorities and the devolved governments with a grant for council tax support worth only 90% of what would otherwise have been spent on council tax benefit. The devolved governments have so far maintained the previous system and absorbed the funding cut elsewhere in their budgets. In 2013–14, 83% of English local authorities have changed the system and 70% have introduced minimum council tax payments.

Figure 7.6. Impact of increasing the personal allowance to £12,500 (leaving the higher-rate threshold unchanged) on work incentives, by earnings decile group



Note: See note to Figure 7.3.
Source: See source to Figure 7.3.

to work at all). Effective marginal tax rates (EMTRs) measure how much of an additional pound of earned income an individual would lose in taxes or withdrawn benefits (i.e. they measure the incentive to increase earnings slightly). In both cases, higher numbers indicate weaker work incentives.

By lowering the marginal income tax rate from 20% to 0% on incomes between £10,000 and £12,500, the policy would strengthen the incentive for individuals with income (or potential income) above £10,000 to be in work. But it has very little impact on the lowest earners, because they would pay no income tax anyway. The policy would strengthen the incentive for those with taxable income between £10,000 and £12,500 – most of whom are in the third earnings decile – to increase their earnings slightly.

Reintroducing a 10% starting rate of income tax

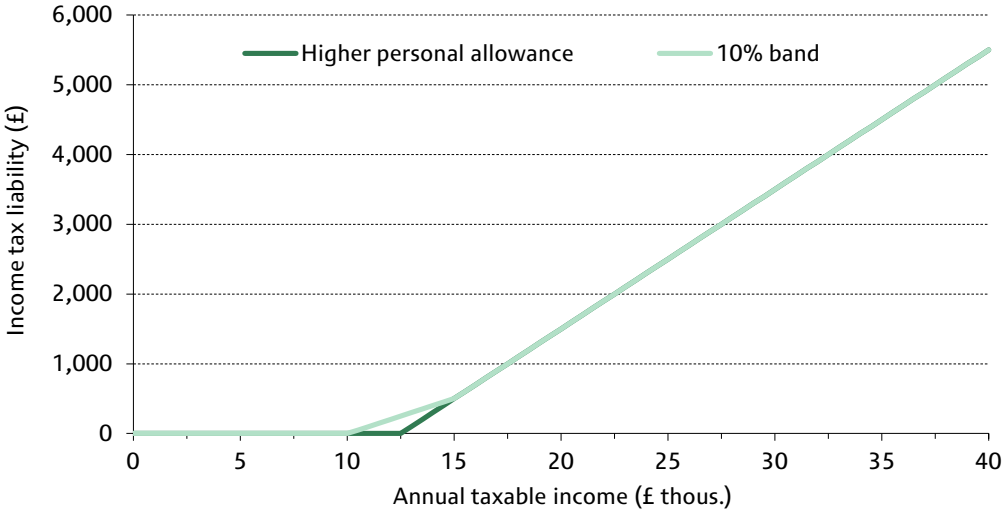
Further increases in the personal allowance are not the only change to the income tax system that has been suggested with the goal of helping the low paid. In February 2013, Ed Miliband announced that a future Labour government would seek to reintroduce the 10% starting rate of income tax abolished by Gordon Brown in the 2007 Budget.[31]

As announced, the policy would be funded by the introduction of a 'mansion tax' on houses worth over £2 million, and the width of the 10% marginal rate band would depend on the revenue raised from that tax.[32] However, to facilitate comparison of the policy with further increases in the personal allowance, we consider the introduction of a 10% marginal rate band of £5,000 (applying on taxable income between £10,000 and

[31] See http://labourlist.org/2013/02/a-mansion-tax-to-fund-a-10p-tax-rate-ed-milibands-speech-in-full/.

[32] For further details, see J. Browne, P. Johnson and B. Roantree, 'Better options exist to help low earners than 10p tax rate', IFS Observation, 2013, http://www.ifs.org.uk/publications/6606.

Figure 7.7. Income tax paid with personal allowance of £12,500 and with 10% marginal rate between £10,000 and £15,000



Source: Authors' calculations.

£15,000). This would cost a very similar amount to raising the personal allowance to £12,500 (around £12 billion per year).[33] Given that a mansion tax would raise less than £2 billion a year,[34] this is clearly on a much bigger scale than the policy being suggested by the Labour Party. It is also a larger giveaway than simply restoring the 10% band abolished in 2007, which we estimate would cost around £7 billion in 2014–15.[35] Our conclusions on the relative effects of a 10p tax rate and an increased personal allowance are not very sensitive to the precise scale of the giveaway.

The key point to note is that the impact of a small 10% starting-rate band would be almost identical to the impact of a slightly smaller rise in the personal allowance. Figure 7.7 shows income tax liabilities at different levels of taxable income under the two reforms. For anyone with annual taxable income below £10,000 or above £15,000, the tax paid under the two systems is identical. Raising the personal allowance is slightly more progressive, because the lowest-earning beneficiaries from both policies – those on just above £10,000 – have their marginal income tax rate reduced to zero rather than to 10%.

In short, the reintroduction of a 10% marginal rate band would add unnecessary complexity to the income tax system. There is no plausible economic objective which could not be better and more simply achieved through further increases to the personal allowance. Of course, there may also be other policies preferable to both. We discuss a strong contender in the next subsection.

Aligning the employee National Insurance threshold with the income tax personal allowance

The effectiveness of further reforms to income tax in helping the low paid will be limited by the fact that, even under existing policy, the lowest-income 17% of workers (around

[33] The introduction of a £5,000 10% marginal rate band would in fact cost about £200 million per year less.

[34] See http://labourlist.org/2013/02/a-mansion-tax-to-fund-a-10p-tax-rate-ed-milibands-speech-in-full/.

[35] This is the estimated cost of applying the 10% starting-rate limit (£2,880 in 2014–15) to all taxable income, rather than only to savings income as is currently the case.

4.6 million people) will pay no income tax in 2014–15. However, of that 4.6 million, around 1.2 million will still pay tax on their earnings. This is because the point at which workers start paying National Insurance contributions will be more than £2,000 per year lower than the personal allowance, at £7,956. Raising this threshold would cut taxes for a group with lower earnings than anyone who would benefit from increases in the personal allowance. Since NICs cuts affect only the tax paid on earned income, this would also be better targeted on workers – and on strengthening work incentives – than further rises in the personal allowance.[36]

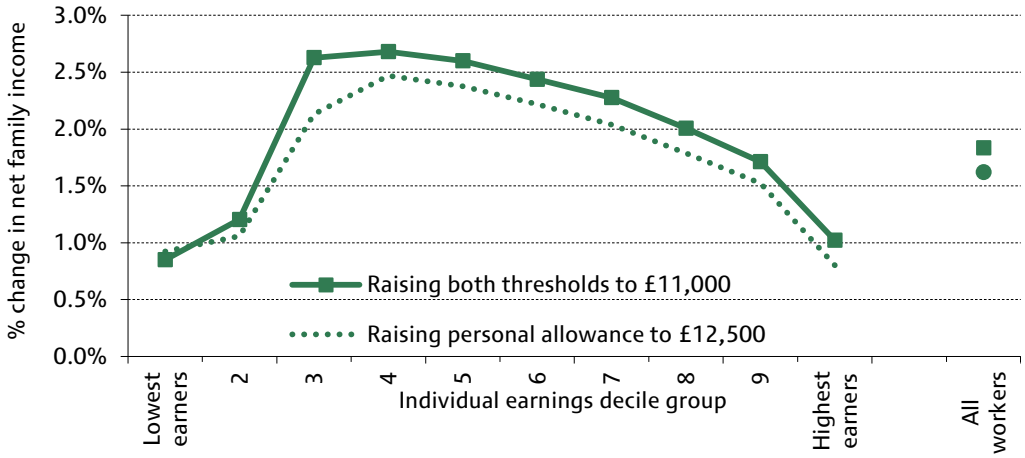
In this subsection, we consider the effects of increasing both the personal allowance and the employee NICs threshold to £11,000 in 2014–15. This would cost the same (about £12 billion per year) as increasing the personal allowance alone to £12,500. It would take 1.8 million people out of direct tax altogether.[37] The alignment of the two thresholds would, in itself, be advantageous because it would slightly simplify the overall structure of the direct tax system that workers face.

Note that, for ease of exposition, we do not consider changes to the *employer* NICs threshold, although ultimately we would expect these also to affect workers' incomes through knock-on effects on wages. Ideally, both employer and employee NICs thresholds would be aligned with the personal allowance. Ultimately, there is a strong case for full integration of income tax and NICs.[38]

Distributional effects

Figure 7.8 shows the impact of the policy on the family income of working individuals. To ease comparison, it also reproduces the same analysis for the policy of increasing the

Figure 7.8. Impact of increasing the personal allowance and employee National Insurance threshold to £11,000, by individual earnings decile group



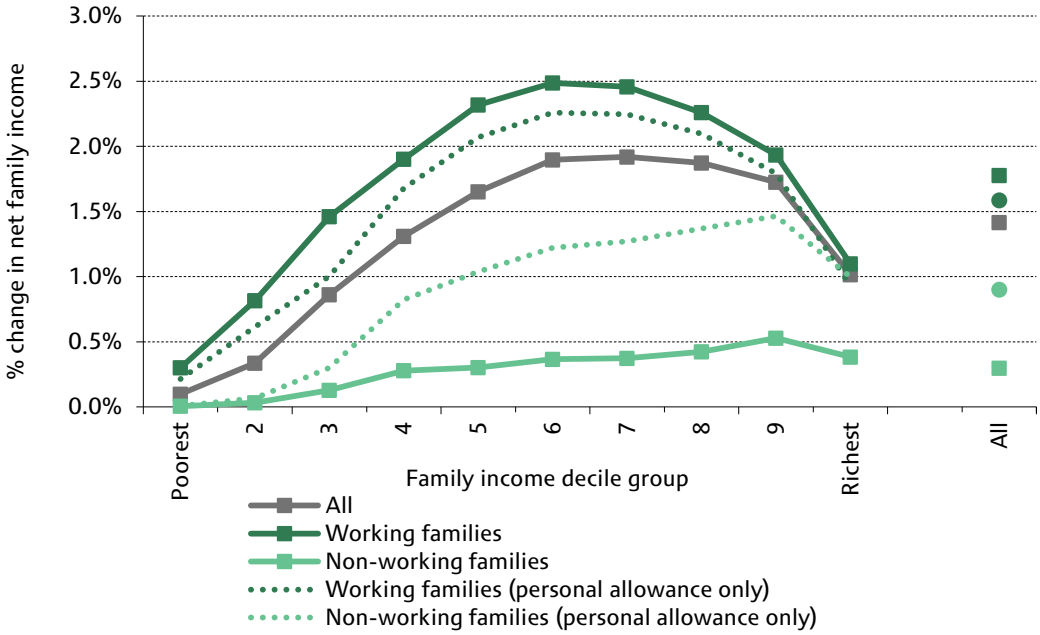
Note: See note to Figure 7.3.
Source: See source to Figure 7.3.

[36] Cuts to employee NICs would not directly benefit workers aged over the state pension age, as they do not pay employee NICs.

[37] We again assume that the higher-rate threshold (and the upper earnings limit for NICs, which is aligned with the higher-rate threshold) is unchanged.

[38] See chapter 5 of J. Mirrlees, S. Adam, T. Besley, R. Blundell, S. Bond, R. Chote, M. Gammie, P. Johnson, G. Myles and J. Poterba, *The Mirrlees Review: Tax by Design*, Oxford University Press for IFS, Oxford, 2011, http://www.ifs.org.uk/mirrleesreview/design/ch5.pdf.

Figure 7.9. Impact of increasing the personal allowance and employee National Insurance threshold to £11,000, by family income decile group and work status



Note: See note to Figure 7.1.
Source: See source to Figure 7.3.

personal allowance to £12,500 shown in Figure 7.3 (which is estimated to cost the same amount). The first thing to note is that the gains for workers are larger across almost the whole distribution.[39] This is because the total giveaway is the same in both cases, but none of the gains from the cut to NICs accrue to non-workers. As with increasing the personal allowance, those with the lowest earnings see only small gains. That is because the very lowest earners already pay no NICs, while some others on low incomes would see their benefit entitlements reduced. However, because the employee NICs threshold is currently lower than the personal allowance, this policy is slightly more tightly focused on lower earners than just raising the personal allowance.

Figure 7.9 shows that the policy looks less progressive when we consider the family-level impacts across the whole income distribution, for the same reasons as with a rise in the personal allowance alone (see earlier). It also shows that working families throughout the distribution gain more from this policy than from raising the personal allowance alone at the same cost. Again, this is because the whole tax cut is on earned income.

To summarise, aligning the employee NICs threshold and the personal allowance represents a better way to help the low paid than further increases in the personal allowance alone. First, there is a group of low-paid individuals who already pay no income tax, but whose tax burden can be reduced through cuts to NICs. Second, because cuts to NICs reduce taxes only on earned income, the gains for workers are larger at a given exchequer cost than the gains from increasing the personal allowance. For the same reasons, it is a better to way strengthen the work incentives of those with low earnings

[39] Earners in the bottom decile benefit more from the personal allowance increase, on average. This is due to individuals with small amounts of earnings who also have unearned taxable income which makes them income tax payers (for example, older individuals doing small amounts of paid work whilst also receiving state pensions).

(or potential earnings) as well. The alignment of the employee NICs threshold and the personal allowance also has the advantage of simplifying the marginal tax rate schedule that workers face, eliminating a small (but growing) 12% marginal rate band.

Increasing work allowances in universal credit by 20%

So far, this section has considered reforms to the tax system. There are, however, at least two reasons why in-work benefits may be a better instrument to use when wanting to focus support on low-income working families. First, entitlements to means-tested benefits are, by definition, restricted to those on relatively low incomes. Hence, there exists an automatic mechanism for focusing any increase in generosity on the lowest paid (unlike with tax cuts). Second, one can get round the issue, highlighted earlier, that cuts in direct taxes are partially offset for some of the lowest paid by knock-on effects on in-work benefit entitlement.

Another important difference between using taxes and in-work benefits to help the low paid is that entitlement to means-tested benefits is assessed at the family level. Hence, changes to the benefits system target those with low *family* incomes better than changes to direct taxes, which are assessed against *individual* income. This is an important distinction. For example, as Section 7.2 showed, many of those with low individual incomes are second earners with relatively high family incomes.

There is an inevitable downside of policies that focus increases in generosity on those with the lowest incomes. While reducing the cost of providing a given level of support to those people, withdrawing the extra support as income rises weakens the incentive for some workers to earn a little more. Increasing in-work benefits might also result in higher administration costs; and take-up rates for means-tested benefits are inevitably less than 100% (though, in what follows, we model entitlement and will therefore likely be overstating the gains to families and the exchequer cost).

An obvious way of helping the low paid using in-work benefits is through the 'work allowances' in universal credit. A family's work allowance is the level of total (net) earnings above which UC entitlement starts to fall. The levels of allowance are set to differ substantially across family types. For example, it will be £111 per month for single individuals and £734 for lone parents not claiming for housing costs. Raising work allowances helps low-earning families by allowing them to keep more of their benefits. Note also that it *cannot* help families where no one is in work – it is a policy whose beneficiaries are exclusively in-work families with relatively low earnings.

Since universal credit was first announced, the government has made a number of changes to the planned levels of the work allowances.[40] On average, these have significantly reduced the planned allowances – although the changes have been different for different family types – at an exchequer saving, relative to original plans, of around £1.5 billion per year (in 2014–15 prices) once UC is fully in place. In the remainder of this subsection, we examine the distributional and work incentive effects of spending around that sum on raising all UC work allowances by 20% from their currently planned levels.[41]

[40] In the 2012 Autumn Statement, the work allowances were changed significantly for different family types, becoming less generous on average, and it was announced that they would be uprated by a maximum of 1% in nominal terms in April 2014 and April 2015. In the 2013 Autumn Statement, it was announced that in fact they would be frozen in nominal terms for three years from April 2014.

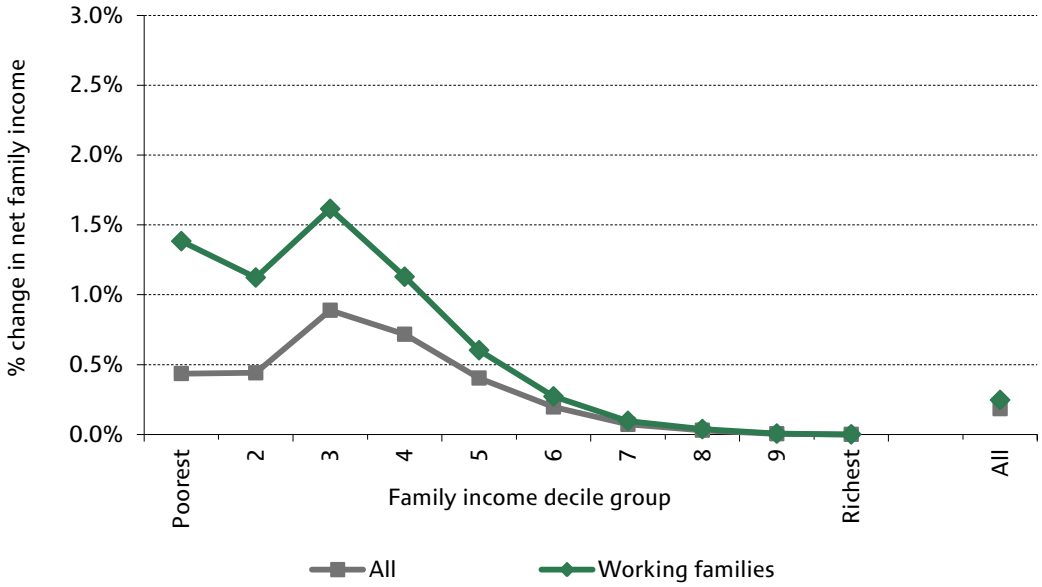
[41] The cost of this policy would be around £1.7 billion per year.

Note therefore that the overall scale of this giveaway is much smaller than that for the personal allowance increases and employee NICs cuts considered earlier.

Distributional effects

Figure 7.10 shows the impact of the increase in UC work allowances on family incomes across the distribution. The change is much more tightly targeted on lower-income working families than the tax policies considered earlier. Of the 3.8 million families that gain, 3.3 million are in the bottom half of the income distribution. Despite costing £10 billion per year less than those policies, raising work allowances by 20% would increase the incomes of working families in each of the bottom three deciles by more, on average. Note also that, unlike income tax cuts, this policy exclusively benefits families where someone is in work.

Figure 7.10. Impact of increasing UC work allowances by 20%, by family income decile group and work status



Note: See note to Figure 7.1.
Source: See source to Figure 7.3.

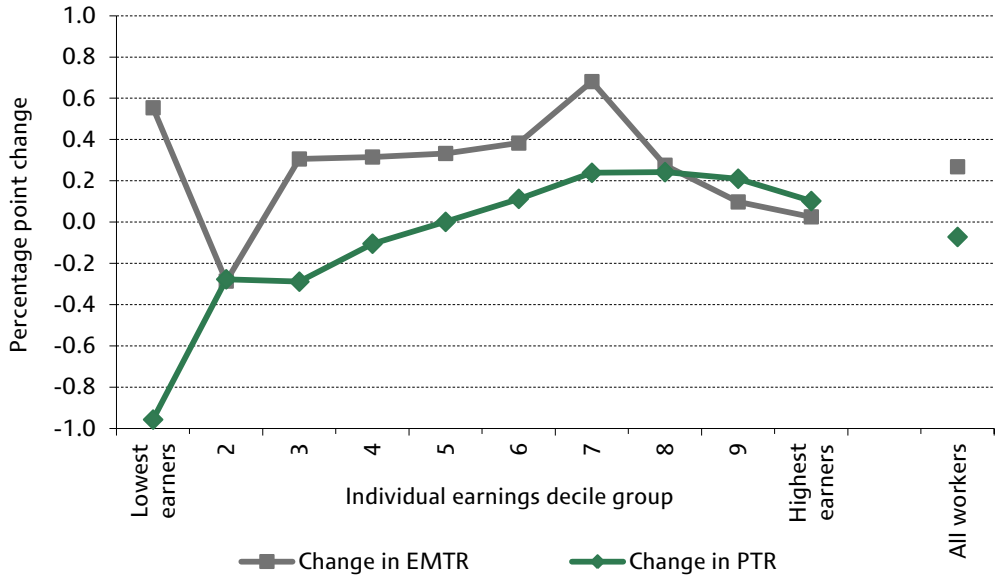
Work incentive effects

Increasing work allowances strengthens the incentive for some families to have someone in work, because they lose less in withdrawn benefits. For some of the lowest earners, it also strengthens the incentive to earn a little more because they would no longer lose some UC when doing so. Many slightly higher-earning families would find that their incentive to earn more – by existing workers increasing earnings slightly, or by a second person entering work – is weakened, because they could face the withdrawal of more UC than if the work allowance were lower (i.e. than if more of their entitlement had already been withdrawn).

Figure 7.11 summarises the average impacts on work incentives across the individual earnings distribution.[42] The policy is particularly effective at strengthening the incentive for those with low earnings to be in work. The 1 percentage point fall in the average PTR

[42] This figure is on a different scale from the previous figure showing work incentive effects, reflecting the much smaller scale of the policy, in terms of both impact and exchequer cost.

Figure 7.11. Impact of increasing UC work allowances on work incentives, by earnings decile



Note: See note to Figure 7.3.
Source: See source to Figure 7.3.

for the lowest tenth of earners is larger than that delivered by either of the direct tax policies discussed earlier, despite costing more than £10 billion per year less. But the policy weakens the incentive for the top half of earners to be in work, on average, because of effects on workers with a working partner (see above). It also tends to weaken the incentive to earn slightly more for the lowest-earning second earners (this explains the rise in average EMTRs in the bottom earnings decile) and earners in the lower-middle of the earnings distribution or above.

Overall, 3.5 million workers (2.7 million of them being the only worker in the family) would see their incentive to be in work strengthened; 4.2 million workers with a working partner would see their incentive to be in work weakened; and 200,000 more families would be made eligible for UC – meaning that they could lose entitlement if they increase their earnings.

Summary

There are better ways to help the low paid via the tax and benefit system than through further increases in the income tax personal allowance. The 4.6 million lowest-income workers will pay no income tax in 2014–15 even under existing policy, and further significant increases to the personal allowance would benefit many pensioners, or others with unearned income, as well as working families. Overall, just 15% of the gains from increasing the allowance to £12,500 would accrue to workers in the bottom half of the income distribution.

Introducing a 10p starting rate of tax over a small band of income would have almost the same impact and, if anything, would be even less well targeted on the low paid. It would therefore introduce unnecessary additional complexity. It is hard to think of any economic rationale for such a policy.

A better way to help the low paid – and strengthen their work incentives – through the direct tax system would be to align the employee NICs threshold with the personal

allowance (and then – if desired – raise both together). Aligning the thresholds would cut taxes for 1.2 million low-paid individuals whose earnings are too low for them to benefit from further increases to the personal allowance. It would also simplify the direct tax system.

If the key objective is to help the low paid, though, there are significant advantages to using in-work benefits rather than direct taxes. Any increases in generosity are focused on that group, rather than benefiting almost everyone who pays direct tax. Indeed, many of the lowest paid may gain relatively little from tax cuts if they lead to loss of means-tested benefits. Policymakers may also see it as an advantage that in-work benefits support only low-income working *families*, rather than individuals with low earnings or low incomes. On the other hand, increasing their generosity would extend means-testing further up the income distribution. This would weaken the incentives of a number of slightly higher earners, and second earners in a family, to earn more; and it would increase the costs of administration. Non-take-up also means that not all eligible families would actually benefit – although the government does expect take-up to increase under universal credit.[43]

7.4 Policies to increase pre-tax wages

As Chapter 6 shows, recent years have seen a substantial fall in real wages, which is the main factor driving a substantial fall in average household incomes. Notwithstanding the large increases in the income tax personal allowance (at an annual cost of just over £10 billion) that the current government has delivered, the large structural deficit has perhaps made it harder to find further large sums to spend on giveaways through the tax and benefit system. These factors have led to a renewed debate on the scope for policies to increase the *pre*-tax-and-benefit incomes of low-income families, which has sometimes been termed 'predistribution'.

In the long run policies, aimed at things such as improving education, and thus productivity, might be most effective in achieving higher earnings. More immediately, incentivising and supporting moves into employment and increases in hours of work, by tightening work-search conditions, or increasing the affordability of childcare may also help (see Chapter 8). Here, though, we focus on proposals aimed at increasing hourly rates of pay among low-paid workers directly.

The effectiveness of such policies will depend on the reasons why people have low hourly pay in the first place.

In the classic model of a perfectly competitive labour market, workers are paid what their output is worth to their employer (their 'marginal product'). In this case, low pay is the result of low productivity, and efforts to tackle low pay should focus on raising the productivity of low-paid workers. Compelling employers to pay a higher wage via a legally binding minimum wage (such as the National Minimum Wage) would in this case hurt, rather than help, those with the lowest wages: they would lose their jobs, because their output would be worth less than the wage they would have to be paid. Efforts to

[43] HM Treasury, *Impact on Households: Distributional Analysis to accompany Autumn Statement 2013*, 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/263548/impact_on_households_autumn_statement_2013.pdf.

improve productivity through, for example, the education and training system should be at the centre of any long-term strategy to improve the wages of the low paid.

But no labour market will be perfectly competitive and other more direct interventions may have merit too. If employers have some power in the labour market, some low-paid workers may be paid less than their productivity warrants (and indeed the same could be true of some higher-paid workers). This market power may result from costs to employees of searching for and moving jobs (including, for instance, the loss of income associated with knowledge or skills that are useful to the current employer but not to other employers). It may be particularly important where workers are tied to a very limited geographic location, perhaps because of childcare responsibilities. In this case, a minimum wage – at least if not set too high – may not have negative employment effects and instead would redistribute from the owners of capital, higher-paid employees or consumers, to low-paid employees.

The UK has had a National Minimum Wage (NMW) since 1999. This is currently set nationally at £6.31 per hour for those aged 21 or over. Approximately 5.3% of all employee jobs were paid the NMW in 2012, the most recent year for which data are available.[44] The Low Pay Commission (LPC), which is tasked with recommending the level of the NMW and monitoring its impact on the labour market and wider economy, has commissioned a substantial amount of research to ascertain the effects of the NMW on wages, employment, hours of work, productivity, training, prices and profits.

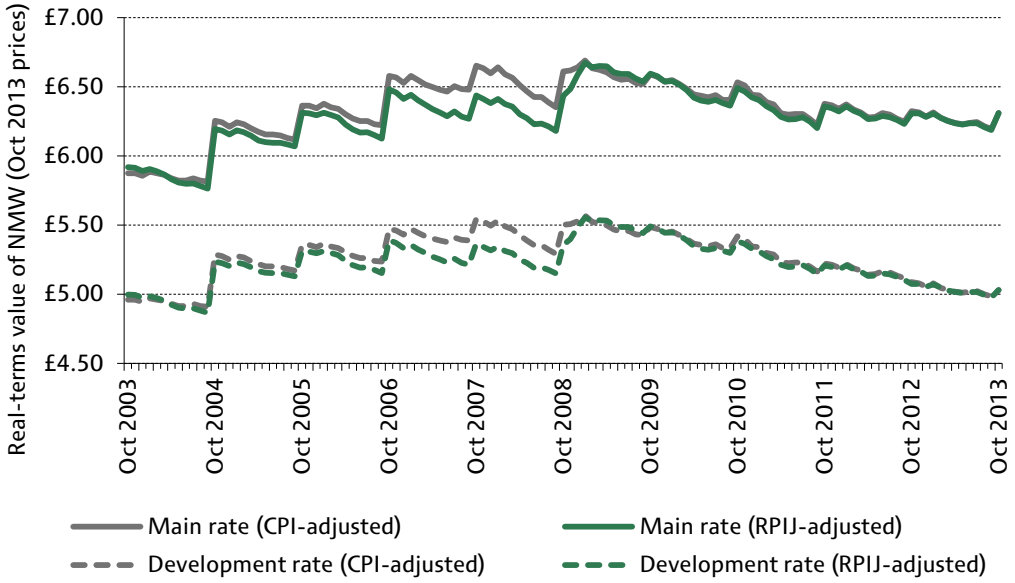
The conclusions of the LPC's analyses are not unanimous. However, the broad consensus is that there is little evidence of negative employment effects of the NMW in the UK, although hours of work may have declined a little (but not to the extent that this offsets the higher hourly wages). Higher wages may have been paid for, at least in part, by higher prices for goods and services whose producers employ a large fraction of low-paid labour and where output is produced largely for the domestic market (for example, hairdressing). There may also have been some small increases in productivity among low-paying firms, although the evidence on whether this is due to additional investment in training is unclear. But increases in prices and productivity do not look to have been big enough to pay for the higher wages: studies have generally found increases in the NMW have led to reductions in the profits of employers in low-pay sectors. This suggests that, at least in part, the NMW has redistributed from the owners and shareholders of low-paying employers to low-paid workers, and that employers do have some market power in some parts of the labour market (and the product market).

After increasing substantially in real terms in the years up to 2007, the NMW has failed to keep pace with inflation since the onset of the 'Great Recession'. Figure 7.12 shows the real-terms value of the main (solid lines) and development[45] (dashed lines) rates of the NMW between October 2003 and October 2013. In the six years between October 2007 (the last increase before the recession) and October 2013 (the most recent increase), the main adult rate of the NMW fell substantially in real terms: by 5.1% relative to CPI

[44] Low Pay Commission Report 2013 (http://www.official-documents.gov.uk/document/cm85/8565/8565.pdf), which defines a minimum-wage job as one that paid below, at or up to 5p above the NMW. The analyses in that report, and references therein, are also the sources for the 'consensus' findings discussed in the following paragraph.

[45] The NMW rate that applies to those aged 18 to 20.

Figure 7.12. Real-terms value of the NMW (October 2013 prices)



Note: The jumps in the real-terms value of the NMW each October reflect the October upratings of the NMW, which are then progressively eroded by inflation during the following year.
Source: Authors' calculations using NMW rates and CPI and RPIJ inflation.

inflation and by 2.0% relative to the new RPIJ measure of inflation.[46] If it had kept up with CPI inflation since October 2007, it would have been £6.65 in October 2013, rather than £6.31; if it had kept pace with RPIJ inflation, it would have been £6.44.[47] The development rate, paid to those aged 18 to 20, has seen smaller nominal increases than the main adult rate in recent years, meaning it has fallen even further in real terms during the same period: by 9.3% relative to the CPI and by 6.2% relative to the RPIJ.

However, these real-term falls in the NMW have taken place at the same time as real-terms falls in earnings right across the income distribution. For instance, it can be seen from Figure 7.13 that median hourly pay fell by 5.7% relative to the CPI and 3.4% relative to the RPIJ between April 2007 and April 2013 according to ASHE: this exceeds the 4.0% (CPI) or 1.6% (RPIJ) real-terms fall in the main adult rate of the NMW during the same period.[48] In other words, although the main adult NMW has fallen in real terms, it has actually risen a little relative to median hourly pay, pushing it a little further up the pay distribution. Despite this, in recent months, there have been increasing calls from MPs in each of the three main UK parties for a substantial increase in the NMW to undo, at least in part, the real-terms falls, and to move the NMW somewhat closer towards the so-called 'Living Wage' (which is currently £7.65 per hour outside of London and £8.80 in London).[49] The Chancellor, George Osborne, added his support to such an increase on 16 January 2014, saying that 'I want to make sure we are all in it together, as part of the

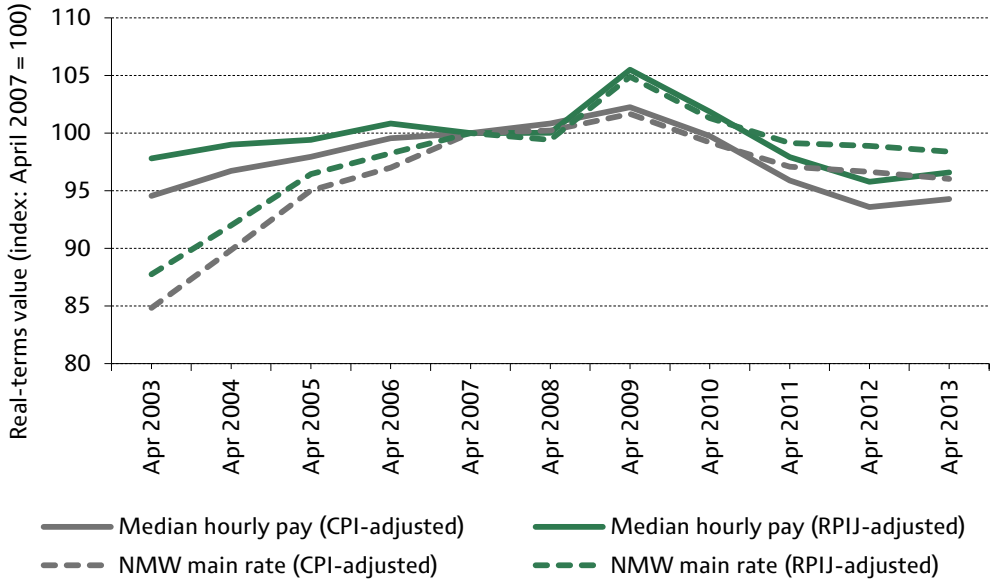
[46] The real-terms value of the main adult NMW rate actually peaked in January 2009 following the temporary cut in VAT to 15% (which reduced prices). Between January 2009 and October 2013, the NMW fell by 5.7% relative to CPI inflation and by 5.4% relative to RPIJ inflation.

[47] In order to match its real-terms peak in January 2009, the NMW would have needed to be set at £6.69 (CPI) or £6.67 (RPIJ) in October 2013.

[48] ASHE figures are only available for April of each year.

[49] See, for instance, articles in the *New Statesman* (http://www.newstatesman.com/politics/2014/01/how-will-labour-respond-tories-minimum-wage-plans) and the *Guardian* (http://www.theguardian.com/society/2014/jan/07/tories-nicking-lib-dem-low-pay-policies).

Figure 7.13. Comparison of real-terms value of NMW and median hourly pay (index: April 2007 = 100)



Source: Authors' calculations using NMW rates, ASHE 2003 to 2013, and CPI and RPIJ inflation.

recovery, which is why I want to see above-inflation increases in the minimum wage, precisely because the British economy can now afford that'.[50]

We cannot know who would ultimately gain or lose from an increase in the NMW to the Living Wage or to any level between the NMW and the Living Wage. That will depend on the effects on employment, prices, profits and the wages of higher-paid workers. What we can do is show where in the family income distribution those who potentially stand to directly gain from a higher NMW sit, and discuss how big their gains could be relative to their existing income.

Recall Figure 7.1 (in Section 7.2): this shows the position in the family income distribution of families in which someone is paid no more than the Living Wage. It shows that such families are found right across the income spectrum, but are more likely to be in the lower-middle of the income distribution (just over half are in decile groups 3 to 6). In contrast, just 6% are in the bottom decile group and 5% are in the top decile group (although a full 44% are in the top half of the income distribution, reflecting the fact that many low earners live with high-earning partners or have other sources of income). This means that more of the potential direct gainers from increases in the NMW towards the Living Wage would be in the middle of the income distribution rather than towards the bottom, and many would be relatively well-off.

Among those families that could potentially gain, however, those towards the bottom of the income distribution would gain more, on average. This reflects at least two factors. First, earnings from jobs paying less than the Living Wage are more likely to be the main source of earnings – rather than a secondary source – than for families further up the income distribution. Second, those families towards the very bottom of the income

[50] Reported by the BBC at http://www.bbc.co.uk/news/uk-politics-25766558. The Chancellor also stated that an increase to £7.00 by 2015 would restore the NMW to its pre-recession real-terms value. An NMW of £7.00 in October 2015 would equal its October 2007 real-terms value if CPI inflation averaged 2.6% between October 2013 and October 2015. It would equal its January 2009 peak if CPI inflation averaged 2.3% over the same period.

distribution would lose less of the increase in gross earnings in the form of tax and reductions in benefit entitlements than families towards the lower-middle and middle of the income distribution. Overall, we estimate the potential gains in net income among those families containing a worker who could potentially benefit from a rise in the NMW to be around 12% among the poorest tenth of families, 9% among the second-poorest tenth, and between about 4% and 6% across the rest of the income distribution. This suggests that the potential income gains from a higher NMW would be concentrated towards the lower and middle parts of the income distribution.

Of course, unless productivity were to increase in line with the higher wages, higher income for those benefiting from a higher wage would need to be paid for by lower income for other people via lower wages, lower profits or higher prices – and the last may also undo at least some of the increase in income for those families directly gaining from the higher NMW. And although the broad consensus is that the NMW has not had significant negative employment effects *so far*, this does not imply that it could be substantially increased from its current level without such effects.

The Labour Party's proposed 'Make Work Pay' contracts

Rather than compelling employers to increase the wages of low-paid workers by raising the National Minimum Wage, another approach is to encourage them to do so *voluntarily*. This is the approach taken in the Labour Party's proposed 'Make Work Pay' contracts announced on 3 November 2013.[51]

Under these contracts, employers that increase the wages of all their workers to the Living Wage or higher and become accredited Living Wage employers in the first year of a Labour government (if elected in 2015) would receive a tax rebate for one year, equal to 32p for every £1 increase in wages up to the level of the Living Wage.[52] This 32p is equal to the basic rate of income tax plus employee NICs. The Labour Party argues that this policy would raise revenue in its first year in operation, as more would be raised from employer NICs and less would be spent on means-tested benefits and tax credits. After the first year, the government would also benefit from the higher income tax and employee NICs revenues if these higher wages persisted. On average, the combined rate of income tax, National Insurance, and benefit and tax credit withdrawal for someone below the Living Wage is around 50%.[53] All else equal, this would mean a gain to the exchequer of around 50p, on average, for every £1 increase in wages for those paid less than the Living Wage. When that additional income was spent, the exchequer would also gain in the form of higher VAT and excise duty revenues. The gain to the low-paid workers would be about 60p for every £1 increase, on average.[54]

Is this a sensible proposal?

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[51] The policy was communicated to the press in time for articles published on 3 November. Ed Miliband first spoke about the policy during his Living Wage Week speech on 5 November (http://labourlist.org/2013/11/ed-milibands-cost-of-living-crisis-speech-full-text/).

[52] Employers that already pay all their workers the Living Wage or more prior to the policy commencing would not benefit from the tax rebate.

[53] The Labour Party cites a figure of 49%, while IFS's tax and benefit microsimulation model, TAXBEN, suggests a figure of 51%.

[54] The total gains to the exchequer and to the employee exceed £1, on average, because the employer rather than the employee would pay the higher employer NICs (the change in employer NICs is around 10–11p per £1, on average).

The first thing to note is that some qualifying employers would likely increase the pay of at least some low-paid workers in the absence of the policy. Because the temporary tax rebate applies to the entire cost of the wage increase needed to reach the Living Wage, part of it acts to subsidise wage increases that would have taken place anyway.

More importantly, the tax rebate is not particularly well targeted at addressing the underlying factors that may drive low pay. If low pay is a result of low productivity, then a temporary subsidy that covers only part of the wage increase required to reach the Living Wage would not be enough to incentivise employers to raise pay. It also seems unlikely to encourage pay increases by those employers that are able to pay low wages by exploiting their labour market power, although it may change the relative bargaining power of low- and high-paid employees (albeit perhaps only temporarily).

The Living Wage campaign argues that employers that pay the Living Wage benefit from higher productivity, as a result of lower absenteeism, lower staff turnover and increased effort. [55] It also reports that Living Wage employers see improvements in customer service and in their reputation with their customers.[56] Thus, the argument goes, an employer that raises the pay of its lowest-paid workers to the Living Wage may actually see lower costs and higher profits as a result. But if this were the case, additional financial incentives for paying the Living Wage should not be required – the lower costs / higher profits would provide sufficient incentives on their own – although they may incentivise a few employers on the margin, especially if some face credit constraints.

Of course, one may not expect employers to increase wages voluntarily as a result of the tax rebate unless they believed doing so would make them better off in some way. But employers' decisions could be distorted in undesirable ways; and a decision that makes an individual employer better off may have negative feedback effects on the rest of the economy.

The most obvious potential distortions are to the timing of pay increases.[57] Employers may collude with their employees to distort the timing of pay increases: reducing or freezing pay in the run-up to the policy; increasing pay to the level of the Living Wage when the policy is in place; and then, if there is no mechanism to ensure employers remain Living Wage employers thereafter, reducing or freezing pay subsequently. This would allow an employer to benefit from the temporary tax rebate and potentially share it with workers – to incentivise them to agree to such a scheme – but may leave the longer-term level of wages paid by the employer unchanged. Thus, the Treasury may lose out by subsidising employers to change merely the timing of workers' remuneration.

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[55] The higher productivity reported by Living Wage employers may not be a good indicator of its effect on economy-wide productivity. Consider the case where their higher productivity is due to their pay being relatively higher than that of other employers (rather than absolutely higher). In such circumstances, those employers paying less than the Living Wage may find that the productivity of their workforces falls. This is because jobs paying less than the Living Wage would then be relatively less well paid, making them less attractive to employees – potentially leading to difficulties recruiting and retaining able staff and reductions in staff effort. In addition, the initial productivity gains among early adopters of the Living Wage may start to decline as more employers sign up to it (the pay of the early adopters now looks relatively less attractive). Therefore, any increase in productivity seen when an employer increases its wages to the Living Wage may be reflected, at least in part, by falls in productivity among other employers. Such falls in productivity could result in lower profits, lower wages, lower employment or higher prices charged to customers – all of which would cost the exchequer money, offsetting some (or even all) of the gains from the higher wages for those now benefiting from the Living Wage.

[56] Living Wage Foundation, *Living Wage: A Guide for Employers*, London, 2013, http://www.livingwage.org.uk/guide-employers.

[57] Other production decisions may also be distorted. For instance, an employer may change the type of workers it employs in advance of the policy or change the extent or way in which it outsources work.

Furthermore, the voluntary nature of the policy does not mean that there would be no adverse effects on some low-paid workers. This is because an employer must pay all of its workers the Living Wage (and ensure plans are in place to ensure subcontractors do the same) to become accredited and benefit from the tax rebate. Hence, the most cost-effective way for them to satisfy this condition may be to increase the wages of some of their low-paid workers but not to employ others (perhaps, instead, using higher-paid workers or investing in additional capital).

In summary, the Labour Party's proposals would provide some financial incentive for employers to increase pay and would raise the profile of the Living Wage campaign. Both of these may lead to employers that would otherwise have paid lower wages increasing wages to the Living Wage, although the impact looks likely to be modest. But the policy also has two key problems. First, it does not seem particularly well targeted at addressing the ultimate causes of low pay – low productivity and/or exploitation by employers with substantial labour market power. Second, it may distort the behaviour of employers in ways that reduce employment and economic output, and reduce rather than increase exchequer revenue.

7.5 Conclusion

Falls in real earnings since the recession have increased concerns about low pay and the effects of low pay on living standards. Our own work using official incomes statistics has shown that more than half of children and working-age adults below the poverty line live in a family in which someone is in work.

In considering possible policy responses to this issue, it is first important to be clear that low earnings and low family income are not the same. Those with the lowest incomes are generally not in work at all. And many of those with low earnings have higher-paid partners. Those families where low-paid work *is* the main source of earnings are found predominantly towards the lower-middle part of the overall income distribution.

To the extent that low family income is the reason for concern about low pay, the most cost-efficient response via the tax and benefit system would be to increase in-work benefits. But there are downsides to such a policy too, including weakened work incentives for some (especially those with a working partner), increased complexity and less than full take-up.

Cuts to direct taxes also benefit those on higher incomes. As a result, they are much less well targeted on the low paid, and hence a much more expensive way of providing a given amount of additional support to them. On the other hand, they result in stronger work incentives for higher earners as well as some lower earners, and the administration is simpler. Of possible changes to the direct tax system aimed at helping those on low pay, increasing the point at which National Insurance contributions start to be paid clearly dominates further increases in the personal allowance. Of other policies recently mooted, (re)introducing a 10p starting rate of income tax is least well targeted – it is hard to think of a good economic rationale for such a policy.

Ideally, of course, one would tackle the underlying problem and then wages themselves would rise. In the long run, that is likely to require improved education and skills and higher levels of productivity. In the shorter term, increasing the National Minimum Wage could help those on low pay, but significant increases risk raising unemployment. It is

very difficult to say what level of the NMW could spark a significant increase in unemployment, but a large and immediate rise in the NMW would be risky.

Proposals to incentivise employers to pay higher wages look attractive on the face of it. But it is difficult to design such policies in ways that avoid gaming by employers and other distortions. They could still lead to employers employing fewer people.

As ever, there are no free lunches here. There may well be employers that exploit their power in the labour market to pay less than workers' marginal product, but a large part of low pay is explained by low productivity. That will only be tackled in the long run by improving levels of skill, education and investment.

8. State support for early childhood education and care in England

Mike Brewer (University of Essex and IFS), Sarah Cattan (IFS) and Claire Crawford (University of Warwick and IFS)

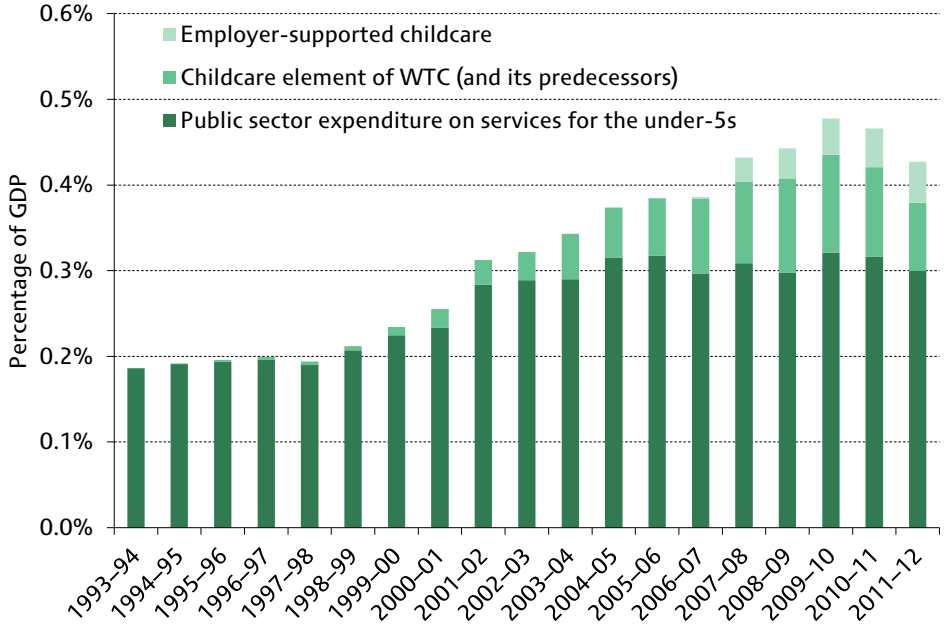
Summary

- Policymakers have devoted increasing attention to the challenge of enabling parents to access high-quality, cost-effective early childhood education and care (ECEC) over the last 15 years. The government currently subsidises childcare costs in England in three major ways: employer-provided vouchers that are tax advantaged; support for low-income working families via tax credits; and access to a free part-time nursery place for all 3- and 4-year-olds and disadvantaged 2-year-olds.
- The last Budget announced that tax relief for employer-provided vouchers would be phased out in favour of a more accessible scheme that is equivalent to making childcare spending free of basic-rate income tax. It also announced a number of changes to the way in which childcare support will be provided via universal credit. Because of the way these two systems will interact, there will effectively be three different regimes subsidising working families' spending on childcare from 2015, each with different rules. It would be simpler if these different schemes were combined into one.
- As well as the government's latest reforms, policies to help families meet the costs of childcare have received increasing attention from other parties, with proposals to extend free entitlement to nursery education (at least for some families) having been made by both Labour and the SNP. Yet despite increasing cross-party support, there is a remarkable lack of clarity over the objectives and evidence underlying the current public debate.
- It is not clear whether the main aims are to improve child development, increase parental labour supply or reduce socio-economic inequalities: a clear overarching strategy would help bring some much-needed focus to the debate in this area. And while there is good evidence that high-quality childcare benefits children's development, especially children from less advantaged backgrounds, robust evidence on the impact of ECEC on parents' employment is surprisingly limited. We also know very little about the impact of the policies to support childcare that have been introduced in England in recent years.
- Given all these uncertainties, the case for further extending universal provision of ECEC is in fact not as easy to make as would seem to be implied by the growing consensus in this area. There is a danger that the current policy bidding war – welcome as it will be to many parents looking for additional support – will result in ill-targeted and inefficient use of scarce resources. We have already stumbled a long way in the dark in this policy area. It is time to stop stumbling, shine a light on the policy landscape, and plot an effective route forward.

8.1 Introduction[1]

Over the last 20 years, early childhood education and care (ECEC) – broadly speaking, childcare for the under-5s – has become a major policy priority in the UK. It is difficult to find consistent series on spending on childcare or ECEC over time, but Figure 8.1 shows that government spending on the main programmes we consider in this chapter grew substantially over this period, peaking in cash terms at around £7 billion in 2010–11, before falling back somewhat since then. Despite this substantial increase in government spending to support childcare, however, the public debate on this issue still cites expensive childcare as being a major barrier to work, contributing to the so-called 'cost-of-living crisis'.

Figure 8.1. Spending on the main sources of childcare support in the UK over time



Note: These figures are lower than OECD figures, which also suggest that spending on childcare and pre-primary education (including 5-year-olds) has been rising, from 0.6% of national income in 1998 to 1.1% in 2009.

Source: *Public sector expenditure on services for the under-5s:* Public Expenditure Statistical Analyses from 2013, 2009, 2004 and 1999 (https://www.gov.uk/government/publications/public-expenditure-statistical-analyses-2013 and http://webarchive.nationalarchives.gov.uk/20101128151454/http://www.hm-treasury.gov.uk/pespub_index.htm).

Childcare element of WTC (and its predecessors): http://www.hmrc.gov.uk/wftctables/wftc_tables.pdf, http://www.hmrc.gov.uk/wftctables/wftc_nov_02.pdf, http://webarchive.nationalarchives.gov.uk/20121106034049/http://www.hmrc.gov.uk/stats/personal-tax-credits/final-award-main.htm and http://www.hmrc.gov.uk/statistics/fin-main-stats/cwtc-awards.xls. Note that this expenditure covers childcare costs for children of all ages rather than just for the under-5s. The figures for 1993–94 to 2002–03 also cover Great Britain only rather than the whole of the UK.

Employer-supported childcare: http://www.hmrc.gov.uk/statistics/expenditures/table1-5.pdf, http://webarchive.nationalarchives.gov.uk/20100407010852/http://www.hm-treasury.gov.uk/d/pbr09_taxreadyreckoner.pdf and http://webarchive.nationalarchives.gov.uk/20100407010852/http://www.hm-treasury.gov.uk/d/pbr08_taxreadyreckoner_287.pdf. Figures before 2007–08 were not immediately available. Again, this expenditure covers childcare costs for children of all ages.

[1] This chapter draws on work supported by ESRC grant ES/K003232/1, 'The Effect of Free Childcare on Maternal Labour Supply and Child Development'.

The government has used recent Budget speeches to make major announcements about reforms to childcare policy. The Labour Party has promised to subsidise childcare still further were it to win the next general election. The SNP government has promised extensions to free provision in an independent Scotland. This remarkable cross-party support has been accompanied by relatively little critical assessment of the rationale and evidence underpinning the proposals that are being made.

In general, ECEC is thought to be valuable because it can potentially increase parental labour supply and improve children's outcomes, and government intervention in the market – on either the demand side or the supply side – can in principle be justified on the basis of various market failures or concerns about equity. This chapter summarises the current policy framework in England[2] and examines some of the proposed reforms in light of the underlying economic rationales for subsidising childcare, as well as the existing international evidence on the effectiveness of policies designed to do so.

Section 8.2 describes the current policy environment and critically assesses some of the government's recent reforms. Section 8.3 calculates the costs of extending free entitlement to nursery provision (as has been suggested by Labour, the SNP and the Liberal Democrats). Section 8.4 summarises the economic rationale for government intervention to support childcare and the evidence on the effectiveness of such policies. Section 8.5 discusses some of the big issues that have received relatively less attention in the current policy debate. Section 8.6 concludes.

8.2 Current policy environment

Background

The large increase in government spending to support the use of formal childcare in the UK has coincided with a big rise in the proportion of families with all adults in paid work and with pre-school children that use formal childcare (Figure 8.2).

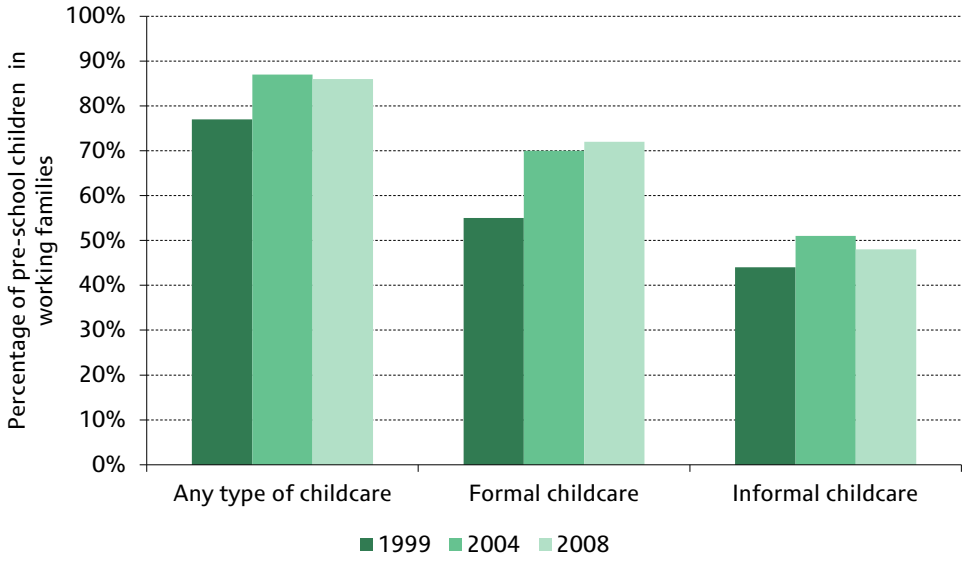
It is also clear that older pre-school children – those who, as we shall see below, are eligible for the largest childcare subsidies – are substantially more likely to use formal childcare than younger pre-school children: 86% of 3- to 4-year-olds use formal childcare compared with just 36% of 0- to 2-year-olds.[3]

The proportion of mothers in paid work has also increased substantially over this period, particularly amongst those with pre-school children (Figure 8.3).

[2] Childcare is a devolved matter, and this chapter mostly considers policies in England only (although some schemes are common across the UK). It also does not consider childcare policy for older children.

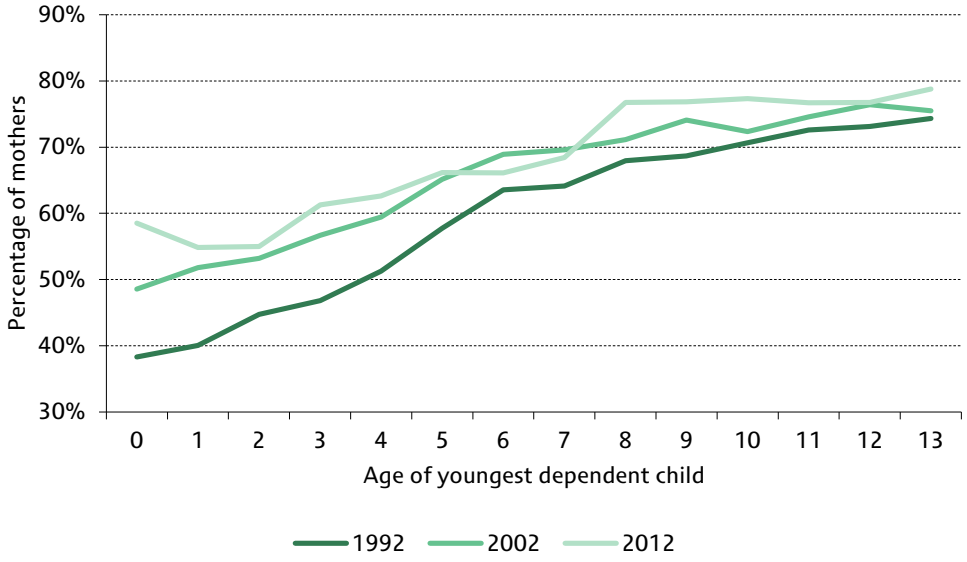
[3] Table 2.4 of Childcare and Early Years Survey of Parents 2011, Department for Education.

Figure 8.2. Percentage of pre-school children in working families using different types of childcare over time



Source: Table 3.9 of C. Bryson, M. Brewer, S. Butt and L. Sibieta, *The Role of Informal Childcare: A Synthesis and Critical Review of the Evidence*, Report to the Nuffield Foundation, London, 2012, http://www.nuffieldfoundation.org/sites/default/files/files/The_role_of_informal_childcare_FULL_REPORT.pdf.

Figure 8.3. Maternal employment by age of youngest dependent child in household in 1992, 2002 and 2012



Source: Labour Force Survey, April–June 1992, 2002 and 2012, for mothers aged16–64 living in the UK.

Government support for childcare in England

Central government support for ECEC in England has taken three main forms:[4]

- tax and National Insurance relief on childcare vouchers provided by employers for employees to spend on registered childcare for dependent children of any age (by definition, this is limited to working parents) at an annual cost of £800 million;[5]
- subsidies, delivered through in-work benefits or tax credits, paid to low- to middle-income working families with dependent children of any age, offsetting some of their spending on formal childcare at an annual cost (in 2011–12) of £1.2 billion;[6]
- entitlement to a free, part-time, place at an ECEC setting for pre-school children of various ages, regardless of parents' employment status or family income,[7] at an annual cost of £2.2 billion.[8]

Annex 8.1 shows the evolution of policies in these three areas.

The current government has announced or enacted reforms in all three areas, and we discuss current policy and the changes announced by this government below.

Tax relief on childcare vouchers provided by employers

Since 2005, employers have been able to provide their employees with childcare vouchers with which to purchase childcare from a registered provider. These schemes usually operate via a salary sacrifice, whereby workers forgo a certain amount of gross earnings per week in return for a voucher of equivalent value on which they do not have to pay income tax or employee National Insurance contributions (NICs). Employers, who have to administer the scheme (or more commonly pay another company to do this for them), do not have to pay employer NICs on the value of these vouchers. Since 2005, employees have been able to receive a voucher of up to £55 per week (£28 for higher-rate taxpayers and £22 for additional-rate taxpayers since 2010). It is estimated that 17% of employers take part in the voucher scheme, benefiting around 500,000 workers, at an average annual cost of around £800 million, working out at an average tax subsidy of £30 per recipient per week.[9]

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[4] Central government intervenes in the market for childcare in other ways, such as by setting up the regulation and inspection regime and by influencing the way that childcare workers are trained. The government has also announced various changes to the way in which childcare is regulated and inspected (see Department for Education, *More Great Childcare*, January 2013, https://www.gov.uk/government/publications/more-great-childcare-raising-quality-and-giving-parents-more-choice and Department for Education, *More Affordable Childcare*, July 2013, https://www.gov.uk/government/publications/more-affordable-childcare), but we do not discuss these in detail, as it is not yet clear which of these reforms is going ahead. Our classification of ways in which ECEC is supported also disregards money spent by government improving the skills and qualifications of ECEC workers.

[5] HMRC, 'Estimated costs of the principal tax expenditure and structural reliefs', 2013, http://www.hmrc.gov.uk/statistics/expenditures/table1-5.pdf.

[6] Derived from figures in HMRC, *Child and Working Tax Credits Statistics Finalised Annual Awards 2011-12*, 2013, http://www.hmrc.gov.uk/statistics/fin-main-stats/cwtc-awards.xls.

[7] Note that we use the word 'parent' to refer to the adult(s) in the family who are deemed to have responsibility for the dependent children.

[8] National Audit Office, *Delivering the Free Entitlement to Education for Three- and Four-Year-Olds*, Report by the Comptroller and Auditor General, HC 1789, Session 2010–2012, 2012, https://www.nao.org.uk/report/delivering-the-free-entitlement-to-education-for-three-and-four-year-olds/; Department for Education, 'Impact assessment of two year olds' entitlement to early education: options for extended eligibility in the first phase of the entitlement', 2012, http://www.legislation.gov.uk/ukia/2012/392/pdfs/ukia_20120392_en.pdf.

[9] Laing and Buisson, *UK Day Nurseries Market Report*, London, Laing and Buisson, London, 2011; H. Waldegrave, *Quality Childcare: Improving Early Years Childcare*, Policy Exchange, London, 2013, http://www.policyexchange.org.uk/images/publications/quality%20childcare.pdf.

In Budget 2013, the government announced that it would introduce a new scheme providing tax-free childcare for working families from Autumn 2015, with the aim of reducing the cost of childcare for working parents.[10] To be eligible, all parents need to be in paid work, neither parent can be paying income tax at the additional (45%) rate, and the family cannot also be receiving support for childcare costs through tax credits or universal credit (see below). To benefit, parents will have to open an online account with a voucher provider; the government will then 'top up' payments into this account at a rate of 20p for every 80p that families pay in, subject to an annual limit of a £1,200 contribution from the government for each child. Technically, the scheme does not actually provide tax-free childcare, as non-taxpayers who are in work can also benefit from these top-ups, but the size of the government top-up is such that it is equivalent to receiving an income tax break on spending on childcare of up to £6,000 a year (or £115 a week) for a basic-rate taxpayer.

From Autumn 2015, all children up to age 5 (i.e. those born on or after 1 September 2010) will be eligible. These children (as well as all born in the future) will continue to be eligible until the September after their 11th birthday.[11] The government estimates that around 2.5 million working families in the UK will ultimately be eligible, and that the cost will initially be £750 million a year but is expected to rise to some £1.5 billion a year.[12] The scheme of employer-supported childcare vouchers will be phased out, although existing recipients will be able to choose whether to remain on their current scheme or move to tax-free childcare.

The companies that administer the voucher schemes will need to be paid for their efforts, and it is not yet clear who will bear these costs. The government's consultation says: 'Whatever market option is chosen, it will need to genuinely deliver Tax-Free Childcare and a net 20 per cent support for parent's childcare costs. The Government wants to deliver Tax-Free Childcare without parents paying fees that erode the value of the Government's support.' (para. 5.17); if this means that parents will not be paying any fees to voucher companies, or seeing the value of their online accounts reduced in any way, then the burden will fall either on government or on childcare providers.

Box 8.1 analyses the likely winners and losers from replacing the existing tax relief on vouchers with this new tax-free childcare scheme.

[10] The opening two paragraphs of the recent consultation (see the next footnote) read: 'The Government is committed to promoting aspiration, rewarding work, and supporting households' standard of living. It is determined to support those who are in work and those who want to work. The high cost of childcare is one of the biggest financial challenges that parents face. It is often so high that it simply does not pay for parents to work. And so at the Mid-Term Review in January 2013, the Government announced its intention to support working families with their childcare costs.' The fact that the scheme is limited to families in which all parents work is consistent with the scheme's aim being to make childcare cheaper for parents who work, rather than to improve child development.

[11] These and other details come from HM Treasury and HMRC, *Tax-Free Childcare: Consultation on Design and Operation*, 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/226460/tax-free_childcare_consultation_on_design_and_operation.pdf.

[12] Paragraph 5.4 of HM Treasury and HMRC (2013, op. cit.) says they expect the annual voucher turnover to reach £7.5 billion, and £1 in every £5 of this will come from government top-ups.

Box 8.1. Winners and losers from the new tax-free childcare scheme

Overall, the government eventually expects to spend more money on its new scheme than the cost of the existing tax relief on employer-provided vouchers, but some families will find that they benefit more from the new scheme and some will benefit more from the existing scheme (although existing beneficiaries of the tax relief on vouchers will be able to continue receiving vouchers and so will not lose out). There are several factors leading to a complicated pattern of 'winners' and 'losers':

Role of employers: Families whose employer does not operate the employer-supported childcare scheme (including the self-employed) do not benefit from the current scheme, and so can only benefit more from the new scheme.

Age of children: The current scheme allows parents to spend vouchers on the childcare of any child under 16, but the new system initially allows parents to use tax-free childcare only for children aged under 5 (or disabled children under age 17), rising to 12 over time.

Whether both parents in a couple are working: Couple families with only one person in work will not be eligible for support under the new system, but the employed parent in such a family can currently receive support through employer-supported childcare.

Size of subsidy at the margin: For those whose childcare spending is below the cap, the new tax-free scheme provides a smaller subsidy for childcare spending at the margin than the current scheme, as existing childcare vouchers are free of both (basic-rate) income tax and NICs, but the new system effectively provides a relief against only (basic-rate) income tax (the new top-up scheme would need to pay 38p for every 80p of parental spending if it were to be equivalent to childcare spending being free from both income tax and employee NICs). This difference is even more marked for higher-rate taxpayers.

Cap on support that can be received: The new scheme imposes a cap on the amount of support that can be provided for each child, whereas the current scheme effectively imposes a cap for each parent in work. Accordingly, families with two or more qualifying children will face a higher, more generous, cap on the support they can receive under the new system than under the current one, and families with just one qualifying child that have two parents in work will face a lower cap. Obviously, the increase in these caps does not benefit families that are spending relatively small amounts on childcare.

Costs of operating the scheme: Under the current employer voucher scheme, private sector voucher companies typically charge employers for the costs of administering their scheme, a cost that is usually offset by the savings employers make by not paying employer NICs on the value of the vouchers. It is not yet clear who will effectively be compensating the various private sector companies that will provide an online voucher system, but it seems that it has to be government and/or childcare providers, as employers will not have a role in the new system and the government has said that it wants parents to see a net 20% support for their childcare costs.

Given the objective of reducing the extent to which childcare costs deter parents from working, the way that support relates to family circumstances seems more sensible under the new scheme than under the existing scheme, since under the new scheme:

- support will be greater for those with more than one child than for those with one child (presumably reflecting that the cost of childcare increases with the number of children);
- support will not be reliant on employer involvement;
- support will not be available to couples where only one adult is in paid work (reflecting the desire to focus on families that need the childcare to facilitate paid employment);
- support will be provided at the same rate to couples with two earners as to lone parents (rather than at a higher rate for couples, as is the case at present), reflecting that the cost of providing childcare to a child with two working parents is no higher than the cost of providing childcare to a child with a working lone parent.

On the other hand, although the government is still consulting on the precise details of implementation, the more complicated eligibility criteria of the new scheme (i.e. the fact that support is not available to recipients of universal credit) suggest that it will be more costly to administer.

Subsidies to low- to middle-income working parents through tax credits and universal credit

Since 1994, the government has provided some form of subsidy to low- to middle-income working parents who spend money on formal childcare, through in-work benefits or tax credits.[13] The scope and generosity have increased markedly over time: only around 45,000 parents benefited in the late 1990s (at a cost of some £52 million in cash terms).[14] In 2011–12, 416,000 families benefited from the childcare element of the working tax credit (WTC), on average receiving £55.91 per week, implying an annual cost of £1.2 billion (some of which will be being received in respect of school-age children).[15] There is also an equivalent scheme that is part of the housing benefit system, which means that low-income working families receiving housing benefit and the childcare element of WTC receive an effective subsidy of 96% on their spending on childcare (subject to the same caps on spending as in the childcare element of the WTC).

The government has said that there will be a broadly equivalent scheme to the childcare element of WTC under universal credit (UC), the new means-tested benefit that is intended to replace income-related tax credits and means-tested benefits. Most UC

[13] This is intended to be complementary to the tax-free vouchers because parents cannot claim a subsidy on childcare that they have bought using a voucher. In general, a family entitled to the childcare element of working tax credit will be better off paying for childcare themselves and claiming additional tax credits than accepting a tax-free voucher from their employer.

[14] August 1999 figures (the last under the family credit programme) taken from Inland Revenue, *Working Families' Tax Credit and Family Credit Statistics Quarterly Enquiry November 1999*, 2000, http://www.hmrc.gov.uk/wftctables/wftc_tables.pdf.

[15] HMRC, *Child and Working Tax Credits Statistics Finalised Annual Awards 2011-12*, 2013, http://www.hmrc.gov.uk/statistics/fin-main-stats/cwtc-awards.xls. This statistic is based on families that are assessed to have had an entitlement to the childcare element of tax credits when their annual income is eventually known for certain. HMRC also estimates how many families are currently in receipt of the childcare element of tax credits, and latest statistics run to December 2013, but some of these families are later found to have been ineligible and will have to repay some of their tax credits. However, these data on receipt of the childcare element (HMRC, *Child and Working Tax Credit Statistics December 2013*, 2013, http://www.hmrc.gov.uk/statistics/prov-main-stats/cwtc-dec13.pdf) show that the number in receipt is now 13% below its peak, achieved in December 2010, something which probably reflects the real cuts in tax credit entitlement made by this government.

recipients will be entitled to a subsidy of 70% of their spending on childcare: compared with the childcare element of WTC, this represents a more generous scheme for families where parents are working fewer than 16 hours a week (which are currently not eligible at all for childcare support through tax credits) but a less generous scheme for working parents also receiving housing benefit. There will also be a higher subsidy rate of 85% applying to families where both parents pay income tax (expected to benefit about 200,000 families): this is intended to compensate these families for not being able to benefit from the tax-free childcare scheme (as the two are mutually exclusive).

Considered in isolation, this final change introduces a 'cliff edge' into the amount of support for ECEC that the government provides to individuals, as taxable income of an extra £1 (to bring a parent from below to above the income tax personal allowance) immediately brings with it an additional 15% subsidy on the family's childcare spending (or up to £2,340 extra support per year). Cliff edges exist in the current childcare element of WTC (as all parents have to work 16 or more hours to be eligible for the childcare element), but it is not clear what the rationale is for having a cliff edge aligned with the personal tax allowance, and we note that one of the intentions behind UC was to remove these sorts of cliff edges.

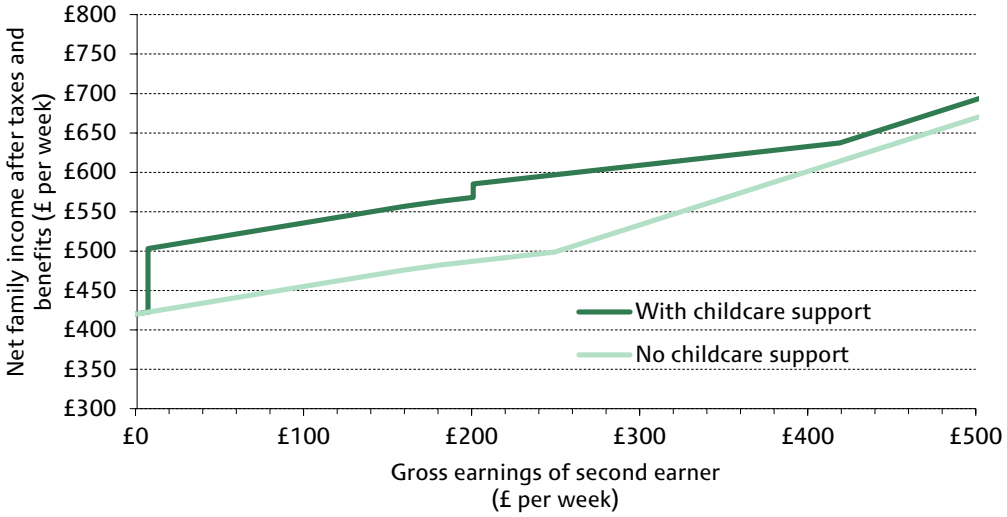
Combining the tax-free childcare and UC schemes described above, from 2015 there will be three different levels of subsidy available to parents who spend money on childcare (assuming UC is rolled out and excluding those families still receiving tax credits):

- Parents in a family where all adults work and which is not receiving UC can receive support through the tax-free childcare scheme of 20% of each pound they spend on childcare, up to a maximum level of support of £1,200 per child per year.
- Parents in a family receiving UC and where all adults work and earn enough to pay income tax can receive support of up to 85% of each pound they spend on childcare, up to a maximum level of support of 85%×£175 a week (with one child) or 85%×£300 a week (with more than one child), although the size of this subsidy will fall as income rises.
- Parents in a family receiving UC and where all adults work but where some earn too little to pay income tax can receive support of up to 70% of each pound they spend on childcare, up to a maximum level of support of 70%×£175 a week (with one child) or 70%×£300 a week (with more than one child), although the size of this subsidy will fall as income rises.

This can be seen in Figure 8.4, in which the gap between the two lines represents the amount of support the family receives towards childcare. The figure depicts the situation for a second earner with a relatively low-paid partner, as the gap jumps up when the second earner becomes an income tax payer (at around £200 per week in 2016), before falling from around £250 p.w. (as childcare support through UC begins to be tapered away) until earnings of around £420 p.w., when the family would be better off switching to the tax-free childcare system.

There are three reasons why this situation is far from ideal. First, although it is reasonable that the support for ECEC should fall as family income rises (both because low-income families are more likely to be credit constrained and because ECEC is likely to be of more benefit to children in such families than in better-off families), it is difficult to see why the size of subsidy for ECEC paid to working families should rise (from 70% to

Figure 8.4. Net income in April 2016 for a specimen family with and without support for childcare through UC and tax-free childcare



Note: Authors' calculations using TAXBEN. The figure shows the situation facing the second earner in a couple family with two pre-school children that spends £6,000 a year on ECEC. The first earner is assumed to earn £15,600 a year.

85%) and then fall (to 20%) as a family's income rises. Second, each of the three regimes is aimed at different sorts of families, depending on their individual and combined taxable income and the number of eligible children. But family circumstances change frequently: children age, new children are born, incomes fluctuate, and couples split up and are formed. The recent consultation on the new tax-free childcare support makes it clear that it will be the responsibility of families to report changes in their relevant family circumstances to voucher providers; because eligibility to the tax-free childcare is based on more criteria than the current voucher scheme, the reporting requirements will become more onerous. Third, some 50,000 recipients of UC could find themselves in a situation where they would be better off stopping a claim of UC and instead paying for their childcare through the new tax-free childcare system.[16]

One way to avoid these perverse design features and expensive-to-administer and confusing eligibility rules would be to scrap support for childcare through UC and operate a single scheme, open to all parents (or all working parents), where the government tops up payments made by parents (like the proposed tax-free childcare scheme), but where the size of the top-up varies with family circumstances. For example, families eligible for support under UC will receive a subsidy of 70% of their spending on childcare, and this would be equivalent to the government adding 70p to every 30p that parents paid into an account (or equivalent to a £1.87 top-up for every 80p paid in by parents, to compare with the 20p top-up for every 80p paid in by parents that is currently proposed for non-UC parents under the tax-free childcare system). Such a system could, if desired, be designed to be as precisely targeted as is the proposed regime (for example, the size of the top-up could depend on the income of the family, the age of the children and the work status of all the parents, as the system under UC and tax-free childcare will) but without

[16] See paragraph 6.19 of HM Treasury and HMRC, *Tax-Free Childcare: Consultation on Design and Operation*, 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/226460/tax-free_childcare_consultation_on_design_and_operation.pdf.

the confusion and additional administration and compliance costs caused by operating three mutually-exclusive regimes. Such a system might also reduce some of the unfortunate timing issues inherent in the current tax credits and proposed UC system, whereby parents have to pay out their full childcare costs to providers and then wait to be reimbursed by the government.

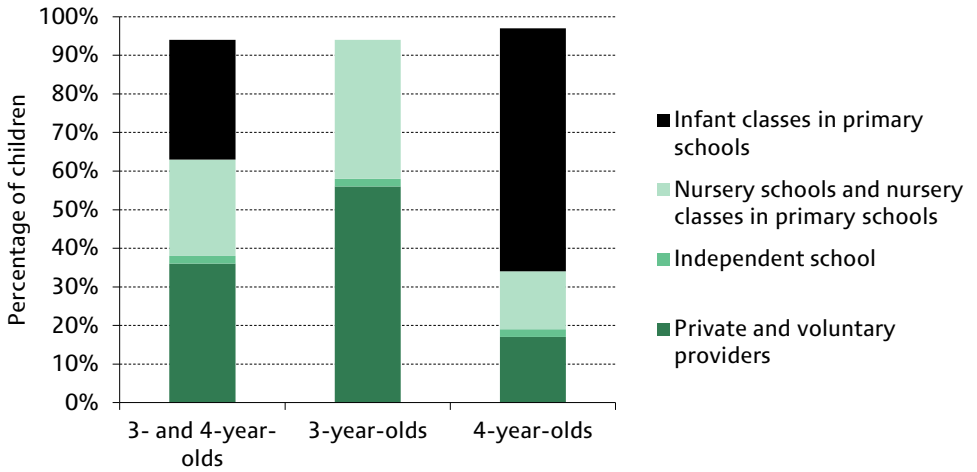
Entitlement to a free place at an ECEC provider

Parents of pre-school children in England have been entitled to a free, part-time place at an ECEC provider since 1998 for 4-year-olds, 2004 for 3-year-olds, and 2013 for 2-year-olds looked after by the local authority or in families who would be eligible for free school meals (broadly, those claiming out-of-work benefits, or those claiming child tax credit with a gross annual family income of no more than £16,190).[17]

The entitlement for 3- and 4-year-olds is universal, in the sense that it does not depend upon the income or employment status of the parents, but for 2-year-olds it is related to family income. Parents are free to take up their entitlement at any registered provider; Figure 8.5 shows that the majority of 3-year-olds are in free places provided by private, voluntary and independent (PVI) providers and the majority of 4-year-olds are in the maintained sector, mostly in reception classes in infant or primary schools.[18]

After various extensions, children are now entitled to 15 hours a week of free provision for 38 weeks a year beginning the term after their third birthday (or second birthday, if they meet the above criteria). It is currently estimated that the government's free entitlement programme benefits 864,590 3- and 4-year-olds at an average annual cost of

Figure 8.5. Percentage of 3- and 4-year-olds benefiting from free early education, by type of provider, 2013

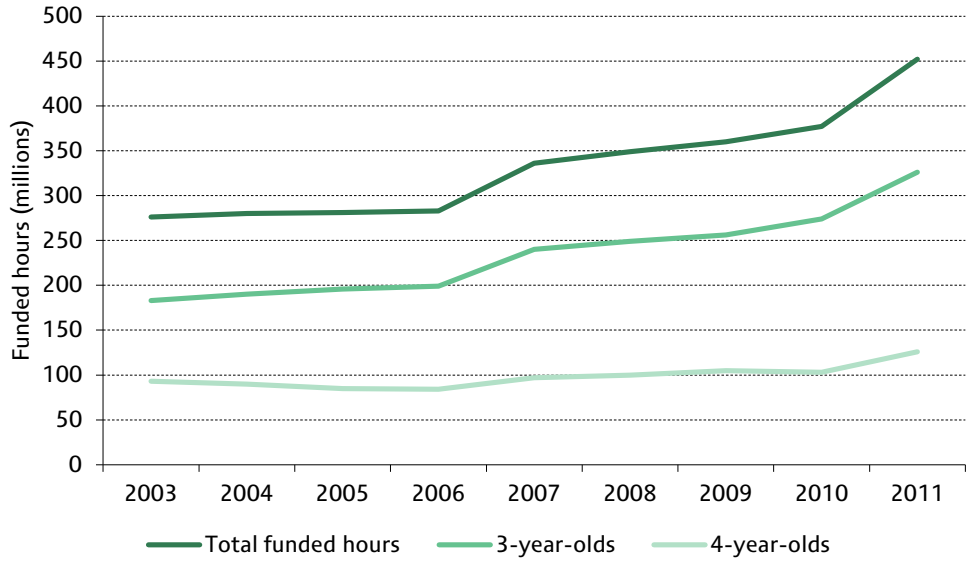


Source: Department for Education, 'Provision for children under five years of age in England: January 2013', Statistical First Release, https://www.gov.uk/government/publications/provision-for-children-under-5-years-of-age-in-england-january-2013.

[17] Source: https://www.gov.uk/apply-free-school-meals.

[18] It is in principle possible for childminders to benefit from this scheme, but this is rare in practice.

Figure 8.6. The number of funded entitlement hours taken up by 3- and 4-year-olds over time



Note: Excludes 4-year-olds in reception classes, as they are not funded as part of the entitlement. Numbers may not sum due to rounding.
Source: National Audit Office, *Delivering the Free Entitlement to Education for Three- and Four-Year-Olds*, Report by the Comptroller and Auditor General, HC 1789, Session 2010–2012, 2012, https://www.nao.org.uk/report/delivering-the-free-entitlement-to-education-for-three-and-four-year-olds/.

£1.9 billion.[19] Figure 8.6 shows how the number of funded entitlement hours taken by 3- and 4-year-olds has increased over time.

Recent estimates suggest that around 92,000 of the 130,000 eligible 2-year-olds are currently accessing a free place; assuming they take up their full entitlement of hours throughout the year, this means that around £267 million (£2,900 per child) per year must be paid out to providers to cover the cost of these places.[20]

The free entitlement for 2-year-olds is due to be extended to cover the 20–40% most disadvantaged children from September 2014. The government recently announced that this group would comprise children from low-income working families (those whose parents receive working tax credit but have gross annual family income of no more than £16,190). Recent estimates suggest that around an extra 285,000 2-year-olds will benefit from this policy. The government has announced that it will provide £755 million to local authorities to cover the cost of the free places for all eligible 2-year-olds in 2014–15.[21]

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[19] The number of 3- and 4-year-olds is based on Department for Education, 'Provision for children under five years of age in England: January 2013', Statistical First Release 23/2013, June 2013, https://www.gov.uk/government/publications/provision-for-children-under-5-years-of-age-in-england-january-2013. The cost of extending the free entitlement to 3- and 4-year-olds is based on National Audit Office, *Delivering the Free Entitlement to Education for Three- and Four-Year-Olds*, Report by the Comptroller and Auditor General, HC 1789, Session 2010–2012, 2012, https://www.nao.org.uk/report/delivering-the-free-entitlement-to-education-for-three-and-four-year-olds/.

[20] Column 627 of House of Commons, *Official Report: Parliamentary Debates (Hansard)*, Oral Answers, 11 November 2013, http://www.publications.parliament.uk/pa/cm201314/cmhansrd/chan74.pdf. The government has separately said that it has set aside £534 million in financial year 2013–14 to cover the cost of these places (see Department for Education, *More Affordable Childcare*, July 2013, https://www.gov.uk/government/publications/more-affordable-childcare).

[21] Department for Education, 'Funding for learning for 2-year-olds', letter from Elizabeth Truss, Parliamentary Under Secretary of State for Education and Childcare, 2013, https://www.gov.uk/government/publications/funding-for-learning-for-2-year-olds-letter-from-elizabeth-truss.

8.3 Extending children's entitlement to ECEC

Various political parties and others – as we summarise in Box 8.2 – have suggested increasing children's entitlement to free, or low-cost, ECEC. Table 8.1 gives our estimates of the cost to central government of funding additional entitlements to ECEC in England. An online appendix provides the details behind our calculations, but we stress two points here:[22]

- The costs are for England only and ignore any Barnett consequences (in other words, they represent the amount of savings that the Department for Education would need to make within its existing budget in order to fund an expanded entitlement).
- We have estimated the direct cost to central government of providing or funding this additional entitlement. But the net cost to central government would be a little lower. First, there is a mechanical effect that arises because making childcare free for parents who would otherwise pay for it reduces the cost of providing tax-free childcare and subsidising childcare through tax credits or universal credit if those parents would have used those programmes. Second, there may be increased tax revenue and reduced spending on benefits if parents work more in response (although, as we discuss in Section 8.4, we think this effect is likely to be small, at best).

The key points to take away from Table 8.1 are:

- Extending the free entitlement to 1- and 2-year-olds would be a lot more expensive than extending it to 3- and 4-year-olds – even though the take-up rate is lower for 1- and 2-year-olds – for two reasons. First, the cost of provision is about £1 per hour (around 20%) higher for children aged 2 and under than for children aged 3 and over; this difference in cost mostly reflects the higher staff-to-child ratios that are required for children aged 2 and under. Second, the number of additional hours that would need to be funded to offer, say, a full-time, full-year childcare place would be a lot lower for 3- and 4-year-olds, because they already receive a substantial number of hours free of charge.
- The cost of extending entitlement to children in all types of families is clearly more expensive than if entitlement were to be restricted in some way. For example, if the government wanted to provide free full-time childcare to all 2-, 3- and 4-year-olds (that is, offer 25 hours per week, 38 weeks a year), we estimate that it would cost an additional £3.5 billion per year. This cost could be approximately halved by targeting children in working families (about 55% of children aged 2–4) or the 40% most deprived children – although, of course, those benefiting from these two approaches would probably differ, and they might have different effects on parental labour supply.
- Another approach to keeping costs down would be to make parents pay a small proportion of the cost of provision. As indicated in Box 8.2, the Resolution Foundation has proposed a scheme in which parents would pay £1 an hour for any additional hours provided via this scheme. According to our estimates, such a scheme would, on average, cut the cost to the government by around 20%.

[22] The appendix is available at http://www.ifs.org.uk/budgets/gb2014/gb2014_ch8_appendix.pdf.

Box 8.2. Proposals to extend entitlement to free (or low-cost) ECEC

Labour

Labour has pledged to increase entitlement to free ECEC for 3- and 4-year-olds from 15 to 25 hours per week where all parents in the family are in work. It would appear that the entitlement would not be means-tested and so would benefit families across the income distribution.

According to a report in the *Independent*,[a] Labour has estimated that its policy would benefit 440,000 children (about a third of all 3- and 4-year-olds), that it would be worth about £1,500 per child per year and hence that the gross cost of providing these places would be £674 million a year (notionally funded via an £800 million bank levy). These figures imply that Labour has assumed an hour of care to cost £3.95. This is in line with the National Audit Office's 2012 estimate of average hourly funding per child by local authorities implementing the local funding formulae in 2010–11.[b] However, if we account for the fact that fees have been rising in real terms over time (the Childcare Cost Survey estimates that fees for 3- and 4-year-olds have been rising by 4.2% a year above the rate of inflation, or 5–7% in nominal terms), then a more realistic estimate of the gross cost of providing these places in 2013–14 prices would be £763 million.

Liberal Democrats

In a policy paper,[c] the Liberal Democrats have proposed a set of reforms to the childcare market, focused around a substantial extension of the free entitlement to 10 hours of free care for children aged 1, 15 hours for those age 2, 20 hours for those aged 3 and 25 hours for those aged 4. These increases over the current provision would be limited to families whose household income is under £100,000 a year (although with transitional protection for those currently enjoying free ECEC), excluding a very small fraction of children in very well-off families.

Scottish National Party

The Scottish National Party has pledged that, in its first Budget after independence, it would commit £100 million to extend 600 hours of childcare a year to nearly half of Scotland's 2-year-olds.[d] With a further £600 million investment by the end of the first parliament, it would ensure that all vulnerable 2-year-olds and all 3- and 4-year-olds are entitled to 1,140 hours of childcare a year (or 30 hours a week for 38 weeks a year). According to the same policy paper, this would be funded from the savings and increased revenues laid out in *Scotland's Future – Your Guide to an Independent Scotland*,[e] including reducing defence and security spending to £2.5 billion per year and ending the married couple's tax allowance. In the longer term, the SNP says it would provide 1,140 hours a year of free childcare to all children from age 1 until starting school.

Resolution Foundation

In its 2012 report,[f] the Resolution Foundation Commission on Living Standards recommended that free places should be extended to 25 hours a week, 47 weeks a year, with the new hours charged at a regulated £1 an hour and provided flexibly. According to the report's authors, such a policy would ensure that the new hours are valued, while improving work incentives by making the equivalent of three days a week of childcare cost just £10 a week.

[a] http://www.independent.co.uk/news/uk/politics/labour-party-conference-ed-balls-pledges-25-hours-free-childcare-for-working-parents-8834313.html.

[b] National Audit Office, *Delivering the Free Entitlement to Education for Three- and Four-Year-Olds*, Report by the Comptroller and Auditor General, HC 1789, Session 2010–2012, 2012, https://www.nao.org.uk/report/delivering-the-free-entitlement-to-education-for-three-and-four-year-olds/.
[c] Liberal Democrats, *A Balanced Working Life: Policies for Low and Middle Income Households*, Policy Paper 108, September 2013, http://www.libdems.org.uk/siteFiles/resources/Autumn%20Conf%202013/108%20-%20A%20Balanced%20Working%20Life.pdf.
[d] Scottish Government, 'Childcare and female labour market participation', November 2013, http://www.scotland.gov.uk/Resource/0043/00439259.pdf.
[e] http://www.snp.org/referendum/documents.
[f] *Gaining from Growth: The Final Report of the Commission on Living Standards*, London, 2012, http://www.livingstandards.org/our-work/final-report/.

Table 8.1. Direct cost to central government of extending the entitlement to ECEC in England in 2015–166, £ million per year

	For all parents	All working parents	Poorest 40%	All parents paying a £1/hour charge
Entitlement for 4-year-olds				
20 hrs/wk, 38 wks/yr	201	117	80	156
25 hrs/wk, 38 wks/yr	401	234	161	313
25 hrs/wk, 48 wks/yr	1,155	673	462	899
Entitlement for 3-year-olds				
20 hrs/wk, 38 wks/yr	565	101	226	440
25 hrs/wk, 38 wks/yr	1,130	201	452	880
25 hrs/wk, 48 wks/yr	1,873	334	749	1,458
Entitlement for 2-year-olds				
15 hrs/wk, 38 wks/yr	912	480	0	748
20 hrs/wk, 38 wks/yr	1,419	746	507	1,164
25 hrs/wk, 38 wks/yr	1,925	1,013	1,013	1,580
25 hrs/wk, 48 wks/yr	2,592	1,363	1,680	2,127
Entitlement for 1-year-olds, low cost per hour				
10 hrs/wk, 38 wks/yr	919	464	368	754
15 hrs/wk, 38 wks/yr	1,379	696	552	1,132
Entitlement for 1-year-olds, high cost per hour				
10 hrs/wk, 38 wks/yr	1,084	547	434	919
15 hrs/wk, 38 wks/yr	1,626	821	650	1,379

Note: See the online appendix (http://www.ifs.org.uk/budgets/gb2014/gb2014_ch8_appendix.pdf) for assumptions and details of workings. We assumed a take-up rate of 98% for 4-year-olds, 94% for 3-year-olds, 70% for 2-year-olds and 60% for 1-year-olds. For calculations involving 4-year-olds, we have assumed that 63% of 4-year-olds attend reception class for 25 hrs/wk, 38 wks/yr and therefore would only benefit from extending the free entitlement to 25 hrs/wk, 48 wks/yr (for 25 hours, 10 weeks a year). Finally, we have assumed that 58% of 4-year-olds, 56% of 3-year-olds, 53% of 2-year-olds and 50% of 1-year-olds are in working families (based on authors' calculations using the Labour Force Survey, April–June 2012). Our low-cost scenario for 1-year-olds assumes that the cost of provision for a 1-year-old is the same as the cost for a 2-year-old (£5.57 per hour). Our high-cost scenario assumes it is £1/hr more expensive.

In producing these costings, we have overlooked any problems that might occur in actually supplying these additional places, either in the maintained or PVI sector. It is not clear that there are enough places in existing providers to accommodate some of the larger extensions of entitlement discussed above, especially in disadvantaged areas and for children below age 3, let alone enough high-quality places. Indeed, concerns have been expressed about whether there are enough high-quality places to cover the planned extension of entitlement for disadvantaged 2-year-olds due in September 2014.[23] Whether new providers are willing to enter the market, or whether existing maintained or PVI providers are keen to expand their services to fulfil this new demand, will depend critically on the price paid by local authorities to providers (itself constrained in part by the amount of funding that central government gives to local authorities).

The motivation behind the extensions that have been proposed is also not always clear, making it difficult to judge whether there may be other, better ways in which to achieve their objectives. For example, if the objective is to increase parental labour supply, then the relative lack of flexibility in how the offer can be taken – often in half-day sessions – may mean it is not the optimum way to achieve this goal. On the other hand, if it is to improve child outcomes, then more evidence is needed on whether a greater number of hours per week or weeks per year reaps additional rewards, and on whether the quality of the ECEC on offer would be sufficiently high to generate these benefits.

We return to these issues in more detail below.

8.4 Why might the government want to subsidise ECEC (and what is the evidence that it will work)?

The policies enacted or proposed in the preceding sections are all designed to reduce the cost of ECEC to parents. In doing so, the government presumably hopes to encourage greater use of ECEC in order to (a) improve the long-term social and educational outcomes of children and (b) achieve higher levels of labour supply amongst parents of young children (principally mothers). These aims have been stated more or less clearly when different policies have been introduced.[24]

For such interventions to achieve their aims, there must be a *causal* link between making childcare cheaper or more plentiful and improving children's outcomes and/or increasing parents' labour supply (i.e. that doing one leads to the other). This is often taken as read in discussions surrounding the provision and subsidisation of childcare, but in fact the international evidence – especially on the link between childcare availability and/or price and parental (usually maternal) labour supply – is not always clear-cut.

[23] See, for example, J. Gibb, H. Jelicic, I. La Valle, S. Gowland, R. Kinsella, P. Jessiman and R. Ormston, *Rolling Out Free Early Education for Disadvantaged Two Year Olds: An Implementation Study for Local Authorities and Providers*, DfE Research Report DFE-RR131, Department for Education, London, 2011, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/181502/DFE-RR131.pdf and S. Mathers, N. Eisenstadt, K. Sylva, E. Soukakou and K. Ereky-Stevens, *Sound Foundations: A Review of the Research Evidence on Quality of Early Childhood Education and Care for Children under Three – Implications for Policy and Practice*, Sutton Trust, London, 2014, http://www.suttontrust.com/our-work/research/download/255.

[24] For example, in its *More Affordable Childcare* proposal, the government states that it 'will increase childcare support to improve work incentives and ensure it is worthwhile for parents to work up to full-time hours'. It also says that it is extending funded early education as it 'supports children's development and also helps parents with childcare costs'. (Department for Education, *More Affordable Childcare*, July 2013, https://www.gov.uk/government/publications/more-affordable-childcare.)

The link between ECEC and children's outcomes

Studies have shown that intensive, high-quality (and usually, therefore, expensive) ECEC interventions targeted at very disadvantaged children can have significant impacts on children's outcomes in later childhood and adulthood.[25] But these estimates are unlikely to be a good guide to the effectiveness of the types of policies described above, most of which are less intensive and are targeted on large numbers of children from a wider range of backgrounds and, in the case of tax credits or tax-free childcare, are not designed to increase the quality of ECEC at all.[26]

There is currently no evidence available on the impact on children's outcomes of the main policies designed to support childcare in the UK described in Section 8.2.[27] Nor is there much international evidence on the effectiveness of policies designed to improve child outcomes through subsidising childcare for working parents via vouchers or tax credits – although the balance of evidence suggests that there is a positive impact of income on child outcomes.[28]

There is, however, an emerging body of international evidence about the effects of large-scale interventions designed to increase the supply (or reduce the cost) of childcare. The evidence on the short-term effects of these interventions, particularly in terms of cognitive outcomes, is mixed – but the limited evidence available on their longer-term effects is broadly positive, emphasising the potential importance of childcare for children's non-cognitive skills.[29] The benefits are, however, fairly small and tend to be concentrated amongst children from disadvantaged families. This should not be surprising: it is entirely plausible that the scale of the benefits of ECEC to children is related to the magnitude of the difference between a child's home (or informal care) environment and the formal care environment; attending ECEC may well stimulate, engage and develop a child from a high-income family, but the child may have benefited just as much from spending the time with parents or informal carers.

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[25] Much of this evidence is based on the Perry Preschool and Abecedarian interventions in the United States. These policies were implemented in the 1960s and 1970s and were targeted on very small numbers of extremely disadvantaged children. The evidence on such interventions is robust: see, for example, J. Heckman, S. Moon, R. Pinto, P. Savelyev and A. Yavitz, 'The rate of return to the HighScope Perry Preschool Program', *Journal of Public Economics*, 2010, 94, 114–28.

[26] It is conceivable that subsidising parents' spending on ECEC will lead to them using higher-quality ECEC, but what little evidence there is on this subject suggests any impact will be small (see D.M. Blau and A.P. Hagy, 'The demand for quality in child care', *Journal of Political Economy*, 1998, 106, 104–46).

[27] Although researchers at IFS, together with colleagues at the Institute for Social and Economic Research, the University of Surrey and the Institute of Education, are currently evaluating the impact of the free hours of care offered to 3- and 4-year-olds in England, and the Effective Provision of Pre-School Education (EPPE) study has provided non-experimental evidence of the benefits of childcare – especially high-quality care – for children more generally; see, for example, K. Sylva, E. Melhuish, P. Sammons, I. Siraj-Blatchford and B. Taggart, *Effective Pre-School, Primary and Secondary Education 3-14 Project (EPPSE 3-14) – Final Report from the Key Stage 3 Phase: Influences on Students' Development from Age 11–14*, Department for Education Research Report 202, 2012, https://www.gov.uk/government/publications/effective-pre-school-primary-and-secondary-education-3-to-14-project-eppse-3-to-14-final-report-from-the-key-stage-3-phase-influences-on-students.

[28] See, for example: D. Almond and J. Currie, 'Human capital development before age five', in D. Card and O. Ashenfelter (eds), *Handbook of Labor Economics*, Volume 4b, Elsevier Ltd, 2011; K. Cooper and K. Stewart, *Does Money Affect Children's Outcomes? A Systematic Review*, Report to the Joseph Rowntree Foundation, 2013, http://www.jrf.org.uk/publications/does-money-affect-childrens-outcomes.

[29] See, for example, Almond and Currie (2011, op. cit.) and T. Havnes and M. Mogstad, 'No child left behind: subsidized child care and children's long-run outcomes', *American Economic Journal: Economic Policy*, 2011, 3, 97–129.

The link between ECEC and parental labour supply

Parents often report childcare costs to be a significant barrier to work,[30] and making it easier for parents to work has been a key motivation underlying government childcare policies over the last 20 years. (A significant proportion of support available has been focused solely on working parents in the form of tax credits and employer vouchers, for example.) This aim has also been used to motivate some of the recent policy changes.

For a variety of reasons, the impact of cheaper or more widely available ECEC on parents' labour supply is much harder to estimate than is its impact on children's outcomes. The most robust evidence tends to come from studies that compare situations in which similar parents face different prices or different availability of ECEC[31] – though they can sometimes be highly specific to a particular country at a particular time with a particular set of institutions. Looking across the available evidence, a decade-old review of mostly US studies concluded that, when childcare is made cheaper, parents do buy slightly more formal childcare, but that the impact on labour supply (mostly of mothers) was negligible.[32] An IFS study written at around the same time agreed.[33] More recent studies have tended to corroborate these conclusions – mostly finding zero or small positive effects,[34] but there are well-publicised exceptions.[35]

Some of the most robust evidence from England shows that out-of-work lone parents receiving benefits and whose youngest child becomes eligible for full-time school at the age of 4 – which is a form of free childcare, albeit highly restrictive and with its own demands – are more likely to leave benefits and enter work than those with similar-aged children not yet in full-time school, but that the impact is extremely small. Similar estimates for lone parents whose youngest child becomes eligible for part-time nursery (at age 3) are negligible.[36] Ongoing IFS work is investigating the impact of the same policy on the labour supply of parents in couple families as well.

No work has been done to estimate the impact of support for childcare provided via employers or the tax credit system, although an IFS study undertaken before the tax credit changes were enacted predicted that there would be a small positive effect on the labour supply of lone mothers and no employment effect on mothers in couples.[37]

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[30] For example, 53% of non-working mothers surveyed as part of the Childcare and Early Years Survey of Parents in 2011 agreed with the statement that 'if I could arrange good quality childcare which was convenient, reliable and affordable, I would prefer to go out to work'.

[31] For example, they might compare parents' labour supply before and after a reform that changes the subsidy they receive for ECEC, or across areas with differing availability of ECEC, or across parents with children of slightly different ages who are entitled to different amounts of free ECEC.

[32] D. Blau and J. Currie, 'Pre-school, day care, and after-school care: who's minding the kids?', in E. Hanushek and F. Welch (eds), *Handbook of the Economics of Education*, Volume 2, Elsevier, 2006.

[33] G. Paull, J. Taylor and A. Duncan, *Mothers' Employment and Childcare Use in Britain*, IFS Report R64, 2002, http://www.ifs.org.uk/publications/9.

[34] See T. Havnes and M. Mogstad, 'Money for nothing? Universal child care and maternal employment', *Journal of Public Economics*, 2011, 95, 1455–65, and the discussion therein.

[35] See, for example, M. Baker, J. Gruber and K. Milligan, 'Universal child care, maternal labor supply, and family well-being', *Journal of Political Economy*, 2008, 116, 709–45.

[36] M. Brewer and C. Crawford, 'Starting school and leaving welfare: the impact of public education on lone parents' welfare receipt', IFS Working Paper W10/19, 2010, http://www.ifs.org.uk/publications/5275.

[37] Paull, Taylor and Duncan, 2002, op. cit.

It is difficult to reconcile the notion of childcare costs as a significant barrier to work with the typically small estimates of the responsiveness of parental labour supply to often quite substantial childcare subsidies. There may be a number of reasons for this:

- Subsidies usually apply only to formal childcare, and as such can lead to a change in the type of childcare used (for example, from informal to formal) rather than an increase in the total number of hours used;[38] this can help to explain why such policies may lead to an improvement in children's outcomes but not a rise in parental labour supply.
- The policy variation used in these studies to assess the impact of changes in the availability or cost of childcare on parental labour supply can be fairly inflexible; for example, when free nursery places were first introduced for 3- and 4-year-olds in England, parents could only use a maximum of 2½ hours of free childcare per day. Such an arrangement would make it difficult to cover even part-time work without having to pay for additional hours of care (and this might be even more difficult if the entitlement were being taken in a nursery class in a maintained school), thus limiting the ability of such policies to increase labour supply.
- Studies from the US tended to find a bigger effect of ECEC on parental labour supply 30 years ago than similar studies looking at similar interventions more recently. It has been suggested that this is because, as maternal employment rates rise (as they are doing in most developed countries over time), those women who remain out of work when they have young children are increasingly those who are further from the labour market and/or have stronger preferences not to work. For example, over three-quarters of mothers with high educational qualifications whose youngest child is of pre-school age are in work; this compares with around 50–60% of mothers of pre-school-age children with low educational qualifications and around 80% of mothers of any education level whose youngest child is aged 10.[39] This suggests that there may be relatively little scope to further increase the labour market participation rates of highly educated mothers using childcare subsidies (although hours of work could still rise), meaning that childcare subsidies are likely to become less and less effective at increasing maternal labour supply over time.
- There may also be issues over the timing of subsidy payments. For example, under the current tax credits and proposed UC system in the UK, parents have to pay out the full cost of their childcare to providers and then wait to be reimbursed by the government. If parents are credit constrained, this may mean that they are unable to benefit fully from the scheme, thus undermining its potential effectiveness.

This evidence suggests that if one of the government's main aims in subsidising ECEC is to increase parental labour supply, then it may be extremely challenging to achieve this aim.

The economic case for encouraging greater use of ECEC

Even if we knew that ECEC did improve children's outcomes or increase parents' labour supply, this would not automatically lead us to conclude that the government should intervene to subsidise ECEC. It is worth working through exactly what it is that might lead

[38] See, for example, Baker, Gruber and Milligan (2008, op. cit.).

[39] Authors' calculations using Labour Force Survey, April–June 2012 for mothers aged 16–64 living in the UK. High education is defined as having achieved at least NVQ level 3 (equivalent to two or more A-level passes) and low education as not having achieved any GCSEs with a grade higher than C or NVQ level 2.

us to think that government intervention is important, because that can then help in deciding what the appropriate intervention is likely to be.

One could imagine a world in which the market for childcare functioned perfectly, with a range of high-quality, flexible and affordable childcare on offer, from which parents could choose to purchase the number of hours that maximised their family's well-being (which in turn is likely to depend on things such as their labour supply choices and their children's development). In that world, all parents would know and understand the benefits of childcare for their children and would choose to purchase the appropriate amount of care. We are, of course, not in such a world and there may be reasons of equity or efficiency for government to intervene.

Efficiency arguments for intervention to make ECEC cheaper or more available rest on there being a market failure such that, left to their own devices, private markets would not deliver an individually or socially optimal amount or use of ECEC.

On the demand side, there are two main reasons why this may be the case. First, parents may underestimate the benefits (or overestimate the costs) of ECEC – perhaps because they do not have the information necessary to make a judgement, or because some of the gains are uncertain, or because they do not value highly enough the long-term benefits that childcare may generate for their children; they may also incorrectly assess the costs and benefits of taking time out of the labour market to look after their children.

Second, even if parents correctly recognise the benefits from ECEC (either to themselves or to their children), some might be unable to finance the up-front cost; this may be a particular issue because many parents have children relatively near the start of their careers, when earnings are low relative to average earnings over the life cycle, and borrowing may be difficult.

On the supply side, providers may not know what constitutes high-quality care, may not be able to secure the resources to offer high-quality care (for example, if there is a shortage of highly qualified staff) or may simply overestimate the costs of offering high-quality care (or underestimate parents' willingness or ability to pay for such care).

Even if providers were able to secure the resources necessary to supply high-quality care and parents recognised the benefits of ECEC for themselves or their children and could pay the up-front costs, it is still possible that a free market could deliver a less-than-socially-optimal use of ECEC, because some of the benefits may accrue to society.

It seems likely that one or more of these factors is affecting the operation of the childcare market in the UK, which would mean that parents are using less-than-individually- or socially-optimal levels of ECEC. In this situation, the government may choose to intervene by subsidising, giving an entitlement to or directly providing childcare (or by improving its quality). It might also want to consider providing more information to parents on the long-run benefits from using childcare.

Equity arguments used to justify intervention usually rest on the premise that access to, use of or quality of ECEC should not depend on parental income or other family background characteristics. This may be driven by a desire to reduce the link between parental background and children's outcomes, or to ensure that parents have equal access to the labour market (regardless of their ability to afford formal childcare or to

rely on informal childcare). Evidence suggests that access, use and quality of ECEC for low-income parents are of concern in England.[40]

Gender is another dimension in which equity considerations have been used to justify government intervention in the childcare market. Evidence suggests that women are more likely than men to stay at home to look after children; even if they do return to paid work, they often work part-time rather than full-time. We know that long periods out of the labour market and part-time work tend to carry a wage penalty; there is also evidence of a so-called 'motherhood penalty', especially for low-skilled women.[41] This suggests that, in the absence of government intervention, parenthood may worsen gender inequalities in the labour market.

Some of the market failures outlined above on the demand side (such as a lack of information about the costs or benefits of ECEC or credit constraints) may be more common amongst disadvantaged families, while some on the supply side (for example, the ability to recruit high-quality staff) may be more common in disadvantaged areas. This means that interventions targeted at poorer families or areas may not only be seen as an effective way of improving the long-term outcomes of the least advantaged children (and potentially increasing social mobility), but may be justified on efficiency as well as equity grounds. To address such equity concerns, the government could intervene on the demand side – to subsidise the price (to a greater extent) for disadvantaged families – or on the supply side – to provide greater incentives to providers to open or improve the quality of their services in disadvantaged areas.

These arguments do, of course, make it more difficult to justify universal policies on the basis of the economic rationales presented here. To justify intervention to support better-off families, one would need to appeal to arguments based on equity between the sexes, or to efficiency arguments based on the idea that higher-earning parents incorrectly assess the costs of time out of the labour market or the benefits of childcare, or perhaps to the idea that there are wider social and economic benefits to having these relatively skilled individuals in work. The long-run social and economic consequences of supporting better-off women to stay in the labour market may be profound, but they are certainly difficult to quantify.

8.5 Discussion

Government spending on early childhood education and care has increased markedly over the last 20 years – and, if anything, seems likely to rise over the coming years, regardless of whoever forms the government after the next general election. We

[40] See: figure 7 from National Audit Office, *Delivering the Free Entitlement to Education for Three- and Four-Year-Olds*, Report by the Comptroller and Auditor General, HC 1789, Session 2010–2012, 2012, https://www.nao.org.uk/report/delivering-the-free-entitlement-to-education-for-three-and-four-year-olds/, on differences in provider quality by area-level deprivation measures; E. Lloyd, S. Speight and R. Smith with C. Coshall, *Towards Universal Early Years Provision: Analysis of Take-Up by Disadvantaged Families from Recent Annual Childcare Surveys*, Department for Education Research Report 66, 2010, https://www.gov.uk/government/publications/towards-universal-early-years-provision-analysis-of-take-up-by-disadvantaged-families-from-recent-annual-childcare-surveys, for analysis of how take-up of the free entitlement to nursery education varies by family background; and S. Dickens, I. Wollny and E. Ireland, *Childcare Sufficiency and Sustainability in Disadvantaged Areas*, Department for Education Research Report 246, 2012, https://www.gov.uk/government/publications/childcare-sufficiency-and-sustainability-in-disadvantaged-areas, showing that providers are less financially secure in disadvantaged areas.

[41] See, for example, D. Anderson, M. Binder and K. Krause, 'The motherhood wage penalty: which mothers pay it and why?', *American Economic Review*, 2002, 92, 354–8.

discussed above some of the specific issues surrounding the proposals that have been made – but there are also some general issues common to the debate around childcare spending that are worth raising.

The objectives of the policies that have been developed in this area can be multiple and are not always explicit: there is no evidence of an overarching strategy. While the aim of many of the existing proposals seems to be to increase parental labour supply,[42] other components arguably have different aims. For example, the main goal of the free entitlement for 3- and 4-year-olds was, at least initially, to ensure that all children were ready for school.[43] Extending free nursery education to disadvantaged 2-year-olds regardless of whether their parents are in paid work, meanwhile, is presumably aimed at reducing socio-economic inequalities in child outcomes.

Having multiple instruments to achieve multiple objectives is often sensible, but it can be inefficient in the area of ECEC because of the nature of the mixed market. Parents of 3- or 4-year-old children using nurseries or day-care centres operated by private, voluntary and independent providers may find it relatively easy to combine their entitlement to 15 hours of free ECEC with subsidised spending on additional hours (whether through tax credits or tax relief). But a substantial fraction of 3- and (especially) 4-year-olds are receiving their free entitlement to ECEC in the maintained sector, usually via nursery or reception classes that are part of infant or primary schools. Although receiving ECEC in the maintained sector may well be good for children – as quality tends to be higher here than in the PVI sector[44] – it may not be especially helpful in facilitating parents to work unless the school also offers additional hours of care during and outside of the school day, as well as integrated holiday care.

We also know next to nothing about the effectiveness of the policies that are already in place. There is very little evidence on the impact of entitlement to free nursery education for 3- and 4-year-olds on parental labour supply[45] and none on its effects on child outcomes (although we will be adding to the evidence base in both of these areas over the coming months). We also know nothing about the effectiveness of the demand-side subsidies for working parents that have been on offer for several years (the childcare element of the working tax credit and employer-supported childcare vouchers). This makes it very difficult to assess which policies are (more) effective and hence which, if any, should be expanded. International evidence provides no clear guidance on these

[42] The government's reforms to tax credits and the new tax-free childcare scheme reduce the cost of childcare for working parents only, as would the Labour Party's proposals to extend the number of hours of nursery education provided free to 3- and 4-year-olds.

[43] Although this could arguably have been achieved more efficiently by targeting the offer on children from the most disadvantaged backgrounds, who are typically the least school-ready – see, for example, L. Dearden, L. Sibieta and K. Sylva, 'The socio-economic gradient in early child outcomes: evidence from the Millennium Cohort Study', IFS Working Paper 11/03, 2011, http://www.ifs.org.uk/publications/5519, which shows that children in the top fifth of the socio-economic distribution score around 30 percentile points higher on the Bracken school readiness test at age 3 than children in the bottom fifth of the socio-economic distribution – and whose parents are the most likely to be credit constrained.

[44] See, for example, L. Gambaro, K. Stewart and J. Waldfogel, 'A question of quality: do children from disadvantaged backgrounds receive lower quality early years education and care in England?', Centre for Analysis of Social Exclusion Discussion Paper 171, 2013, http://sticerd.lse.ac.uk/dps/case/cp/CASEpaper171.pdf.

[45] The exception is our own previous work; see M. Brewer and C. Crawford, 'Starting school and leaving welfare: the impact of public education on lone parents' welfare receipt', IFS Working Paper W10/19, 2010, http://www.ifs.org.uk/publications/5275.

issues either: to our knowledge, there are no studies that have compared and contrasted the effectiveness of different types of childcare subsidies.

Strong cross-party support for additional spending on childcare subsidies is perhaps understandable. But the evidence base for this growing consensus is surprisingly weak. The apparent mismatch between the stated aims and convincing evidence of effectiveness is strongest in the case of parental labour supply. The evidence that reducing the price of childcare increases parental labour supply is mixed: most studies find zero or very small positive effects. This suggests that the increase in parental labour supply that might be expected to result from the introduction or extension of some of these policies is likely to be small.

There is also a remarkable lack of clarity about the costs of provision (to providers and parents) of childcare in the UK. Policy discussion about ECEC in the UK is frequently punctuated by claims, usually based on OECD reports and statistics, that childcare in the UK is, by international standards, expensive for parents. However, these discussions often focus on gross costs (i.e. the costs before any public subsidies are taken into account). Because of the different ways in which different countries subsidise childcare, it is difficult to come up with a measure of gross costs that is truly comparable across countries. Other commentators have pointed out that international comparisons of the

Figure 8.7. Proportion of family income spent on net childcare costs for two example families, 2008

Source: OECD family database.

affordability of childcare should therefore be done on the basis of net costs, i.e. costs after accounting for direct subsidies to providers and tax-based subsidies to parents.[46]

However, the net cost to parents of childcare in the UK varies considerably according to the age of the children and the income of the parents.[47] Based on an analysis of specimen families, the OECD calculates that low-earning lone parents with young children pay relatively little for childcare in the UK (4% of their net income) – lower than in all but five other OECD countries (see Figure 8.7).[48] However, couple families with two full-time earners whose combined earnings are 167% of average earnings (and hence would be ineligible for support via tax credits) would spend a much higher amount (27% of their net income) on childcare (also shown in Figure 8.7); such families have access to much cheaper childcare in countries that have broader-based programmes for supporting childcare (such as Sweden and Denmark).

8.6 Conclusion

Government spending on childcare currently enjoys a remarkable degree of cross-party support, particularly in the context of deep cuts across many areas of public spending. Recently enacted reforms (and proposals made by both Labour and the SNP) mean that spending is likely to be higher still in the next parliament.

There are a number of ways in which the government's proposed reforms could be improved. For example, the interaction between the new tax-free childcare scheme and the support that is already provided via tax credits / universal credit will effectively create three different regimes subsidising working families' spending on childcare from 2015. Each of these regimes will have different eligibility rules, different levels of support (with little rationale) and will create some perverse cliff edges. One obvious way to overcome these problems would be to scrap support for childcare through universal credit and operate a single scheme, open to all parents, where the government tops up payments made by parents (like the proposed tax-free childcare scheme), but where the size of the top-up depends on the income of the family, the age of the children and the work status of all the parents. This would be a welcome simplification.

More fundamentally, however, there is a lack of clarity over the objectives and evidence underlying the current public debate on childcare, which requires urgent attention.

First, there has to be much greater clarity over what policy is aiming to achieve and why state intervention is needed to achieve it. A policy aimed at improving the life chances of the most disadvantaged is likely to have little in common with one aimed at supporting the labour supply of large numbers of parents, for example.

Second, there needs to be more clarity and honesty about the evidence base for intervention. There is good evidence that early years provision can help improve child

[46] H. Penn and E. Lloyd, 'The costs of childcare', Childhood Wellbeing Research Centre Working Paper 18, 2013, http://www.cwrc.ac.uk/projects/documents/CostsofchildcareJuly2013.pdf.

[47] For example, the way ECEC is supported in the UK means that the net cost is higher for a 2-year-old than for a 3-year-old, and the nature of the means test in tax credits means that the net cost is lower for low-income families than for high-income families and lower for lone parents than for a couple with equal earnings.

[48] This, and all other figures in this sort of analysis, will reflect the OECD's assumption about take-up of subsidies and free places, as well as how many hours of ECEC need to be purchased to facilitate parental employment.

development. But – despite the obvious prima-facie case – the evidence that subsidised childcare is important in increasing parental labour supply is surprisingly thin.

Third, we know very little about the cost of providing childcare in the UK or about the impact of current policies. There is a particular dearth of evidence on the relative (cost-) effectiveness of demand- and supply-side subsidies.

Given all these uncertainties, the case for extending universal provision of nursery education for pre-school children is in fact not easy to make. There is a danger that the current policy bidding war – welcome as it will be to many parents looking for additional support – will result in ill-targeted and inefficient use of scarce public resource. We have already stumbled a long way in the dark in this policy area. It is time to stop stumbling, shine a light on the policy landscape, and plot an effective route forward.

Annex 8.1. Central government support for ECEC in England since 1990

Year	Free provision (in England)	Employer-supported childcare (throughout the UK)	Support for childcare via tax credits and in-work benefits (throughout the UK)
1990–94		1990: employees are not taxed on the benefits they receive from using a nursery or playscheme provided by their employer.	1994: the childcare disregard in family credit is introduced, helping at most 40,000 low-income working families.
1995–99	1996: the nursery education voucher system is introduced. All parents of 4-year-olds receive a voucher worth £1,100 (per child per year) to pay providers. Private, voluntary and independent providers can charge top-up fees, and maintained providers receive the top-up from their local authority (LA). 1997: the voucher programme is replaced by a statutory requirement for LAs to provide a free place, at a maintained or PVI provider, for 12½ hours a week to all 4-year-olds for 33 weeks a year from September 1998.		1999: working families' tax credit is introduced and covers up to 70% of eligible childcare costs up to a maximum of £100 per week for one child or £150 for two or more children. The credit partially refunds spending on childcare at registered providers. It is available only to families where both adults work 16 or more hours a week, or where one works 16 or more hours and the other is unable to work through ill health.

Year	Free provision (in England)	Employer-supported childcare (throughout the UK)	Support for childcare via tax credits and in-work benefits (throughout the UK)
2000–04	2001: PVI providers are allowed to access government funding for 3-year-olds, which before 1996 had previously been widely available only to the maintained nursery sector. 2004: entitlement to free nursery education is extended to all 3-year-olds.		2001: the maximum amounts per week claimable increase to £135 for one child and £200 for two or more children. 2003: these provisions are replaced by the childcare element of working tax credit (WTC), but otherwise remain unchanged.
2005–09	2008: duration of the entitlement is extended to 38 weeks. 2009: a pilot scheme extends the entitlement to some 2-year-olds.	2005: employers are able to provide childcare vouchers of up to £50 per week free from income tax and NICs for employees to use at any registered provider. 2006: employers can pay up to £55 p.w.	2006: the childcare element of WTC is increased to cover 80% of costs up to a maximum of £175 p.w. for one child and £300 p.w. for two or more children.
2010–13	2010: the number of hours available to 3- and 4-year-olds is extended from 12½ to 15 a week. 2012: parents are allowed to use these 15 hours over two days. Providers can no longer require parents to purchase additional hours of care in order to quality for their free hours. 2013: entitlement to15 hours of free nursery education per week, 38 weeks per year, is extended to 2-year-olds who qualify for free school meals.	2010: for new beneficiaries, the amount that employers can pay tax-free is cut to £28 p.w. for higher-rate taxpayers and £22 for additional-rate taxpayers (to ensure that the benefit is no higher for higher- and additional-rate taxpayers than for basic-rate taxpayers).	2010: the proportion of childcare costs claimable is reduced to 70%.

Source: H. Waldegrave, *Quality Childcare: Improving Early Years Childcare*, Policy Exchange, London, 2013, http://www.policyexchange.org.uk/images/publications/quality%20childcare.pdf; HM Treasury and HMRC, *Tax-Free Childcare: Consultation on Design and Operation*, 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/226460/tax-free_childcare_consultation_on_design_and_operation.pdf.

9. What is driving energy price rises?

Cloda Jenkins (UCL)[1]

Summary

- There is much discussion and debate about increases in energy bills, often without clear explanation of the main drivers of the increases.
- Policy debates tend to centre around two potentially interlinked questions. Are prices higher than they should be because markets are not effectively competitive? Are prices being driven up too far, or at too fast a pace, because of the push for secure low-carbon energy?
- There are many critics of energy companies, the regulator and the government, but analysis of what the problem is remains piecemeal and there is no agreement on the best way forward. This is perhaps not surprising as the industry is complex and information transparency is a problem.
- Given the lack of confidence in the industry and the policymakers, whether well founded or not, the time may have come for the independent Competition and Markets Authority to undertake a wholesale review of the market.
- Any such review needs to consider the sector in the round, including the impact of existing policy, to determine what the problem is and what the scale of any detriment is. Until the problem is better understood, there is inevitable risk in pushing forward with short-term policies that could potentially create their own distortions.
- Reducing social and environmental charges within energy bills risks increasing the cost of meeting government targets for reduced carbon emissions. Carbon prices are lower for households than for businesses and are much lower for gas consumption than for electricity. This is inefficient. There should be more focus on achieving a consistent carbon price as an efficient part of policy to reduce emissions.

9.1 Introduction

Energy prices and energy policy are never far from the headlines, or indeed debates in the House of Commons. The prevalent concern is that prices are rising and consumers, particularly vulnerable ones, are struggling to pay their energy bills. Consumer prices are not set by government or the energy regulator Ofgem, but are determined by energy supply companies in a market that has been competitive since the late 1990s. They are, however, influenced by the core policy objectives to deliver secure energy supplies, to have a low-carbon energy sector and to protect lower-income consumers.

Towards the end of 2013 there was much discussion and activity around the social and environmental charges within energy bills, which are directly linked to government

[1] Dr Jenkins previously worked at Ofgem on the review of energy network regulation (RPI-X@20) and has advised a number of energy companies on price control issues. All views are the author's own.

policy. These charges make up 9% of the average gas and electricity dual fuel bill. Beyond that, the drivers of bill increases are complicated. It is not enough to point the finger at environmental programmes, although these are the elements most directly in the government's control.

Given the objective of secure, low-carbon energy supply, are the prices paid 'efficient'? That is, do prices reflect investment that is delivered at as low a cost as possible and do energy companies earn no more than a reasonable return on that investment? This ultimately boils down to a question of whether monopoly elements of the sector are effectively regulated and whether markets are effectively competitive. Note that Ofgem has estimated that delivering the security of supply and low carbon objectives, in a scenario of rapid economic growth and rapid environmental action, would require up to £200 billion of investment between 2010 and 2020 for the electricity sector.[2] With a scenario of rapid economic growth but slow environmental action the investment would be in the region of £110 billion according to Ofgem's analysis. This will obviously have an effect on prices paid by consumers. There is also a side question of whether the protection of lower-income consumers could be better managed through general tax and benefit policy.

How to respond to increasing bills depends on what is driving the increases and what the perceived problem to be fixed is. Is competition not working effectively? Are there external factors, including the range of policy changes, driving up bills directly and indirectly? Is lack of transparency distorting the competitive market? Is the current approach to regulation of the market ineffective? Reaching an answer to the question of what the problem is, and what can be done, requires an understanding of the complex commercial and physical transactions in the market. It also requires an appreciation of the many policies and reforms that are already in place or currently being developed.

In this chapter, we look at trends in retail prices and demand to understand the concern (Section 9.2). We briefly explain how gas and electricity markets work (Section 9.3) and consider the main drivers of price increases (Section 9.4). We then consider whether there is a policy problem to be fixed and, if there is, what it might be (Section 9.5). We go on to explore options for change and to provide advice on how these should be evaluated before energy policy goes through yet another iterative transformation (Section 9.6). Section 9.7 concludes.

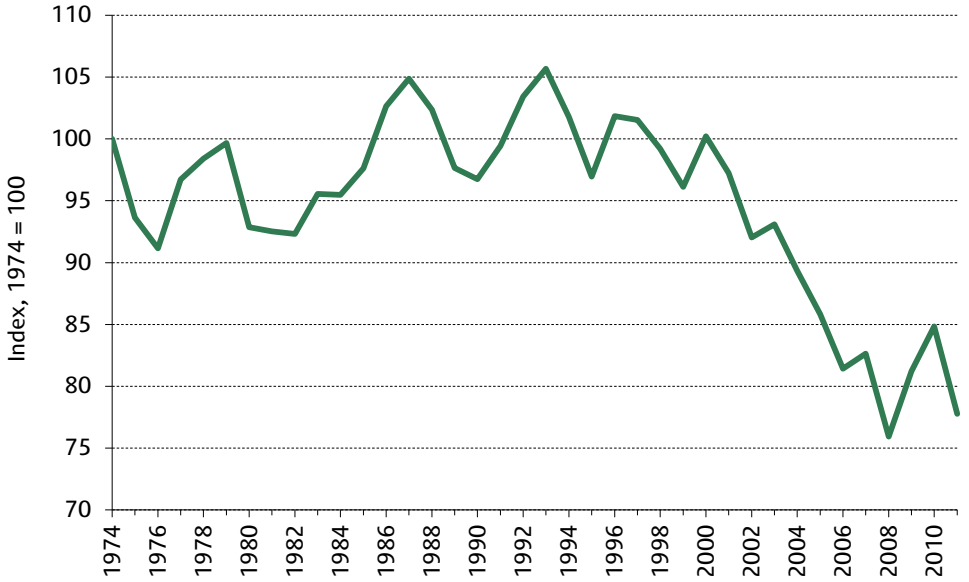
9.2 Bills are rising whilst demand is falling

It is rarely recognised that, despite rising incomes and the fact that we now enjoy much higher levels of average internal temperatures in our homes, energy consumption has actually declined over the past four decades, as illustrated in Figure 9.1. This largely reflects very large increases in energy efficiency.

Driving down consumption further would be one way to reduce bills, and indeed one that would have the additional advantage of reducing carbon in the economy. Increased energy efficiency is an active policy objective of the government and a number of policy initiatives including, for example, the Green Deal and Energy Company Obligations have been or are being introduced. Giving all households smart meters by 2020 will also

[2] Ofgem, *Project Discovery: Options for delivering secure and sustainable energy supplies*, February 2010, https://www.ofgem.gov.uk/ofgem-publications/40354/projectdiscoveryfebcondocfinal.pdf.

Figure 9.1. Average household energy consumption (quantity index)



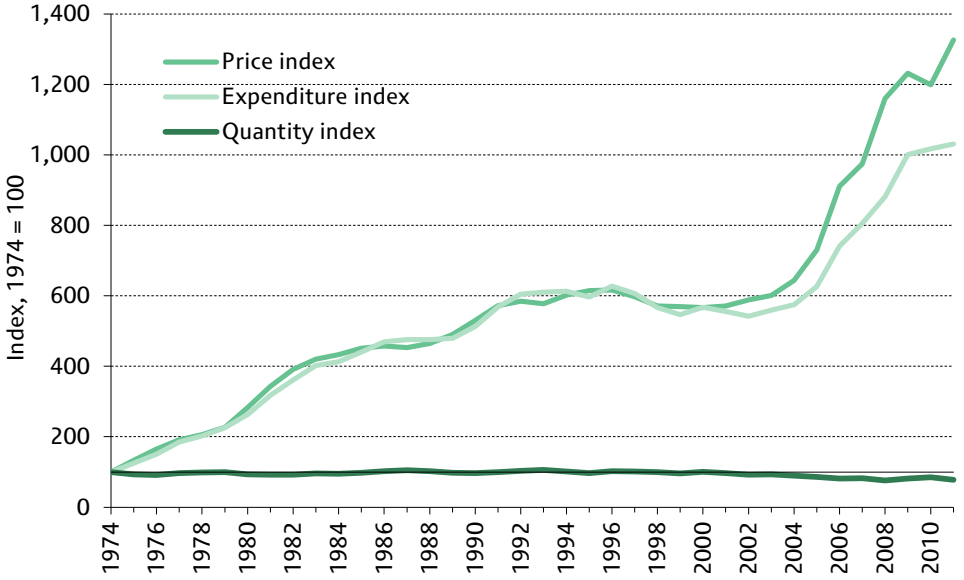
Source: Figure 3.3 of A. Advani, P. Johnson, A. Leicester and G. Stoye, *Household Energy Use in Britain: A Distributional Analysis*, IFS Report R85, 2013, http://www.ifs.org.uk/comms/r85.pdf.

provide consumers with real-time information to help them to make better choices about consumption. But it should also be remembered that a high unit price, in part reflecting the cost of carbon, might be an important driver for further demand reduction.

The long-run increase in expenditure on energy bills therefore comes from rising prices, as shown in Figure 9.2, rather than increases in consumption.

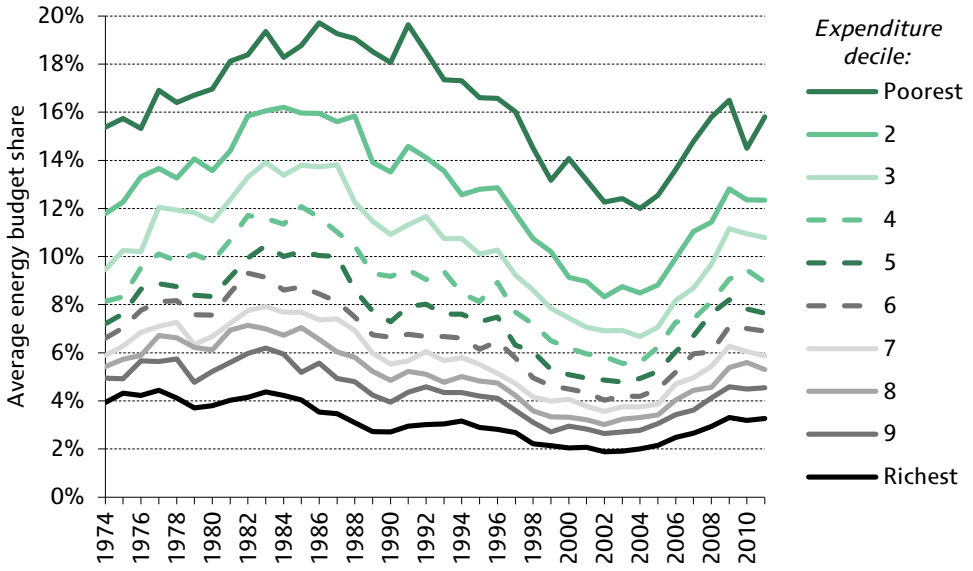
Prices have risen particularly fast in recent years. As is shown in Chapter 6, energy prices rose by 60% between 2008 and 2013, whilst prices as a whole, measured by the CPI, rose by 20%. That chapter also shows that spending on energy takes up a larger proportion of

Figure 9.2. Indices of nominal energy expenditure, price and quantity



Source: Figure 3.3 of A. Advani, P. Johnson, A. Leicester and G. Stoye, *Household Energy Use in Britain: A Distributional Analysis*, IFS Report R85, 2013, http://www.ifs.org.uk/comms/r85.pdf.

Figure 9.3. Energy budget shares by expenditure decile

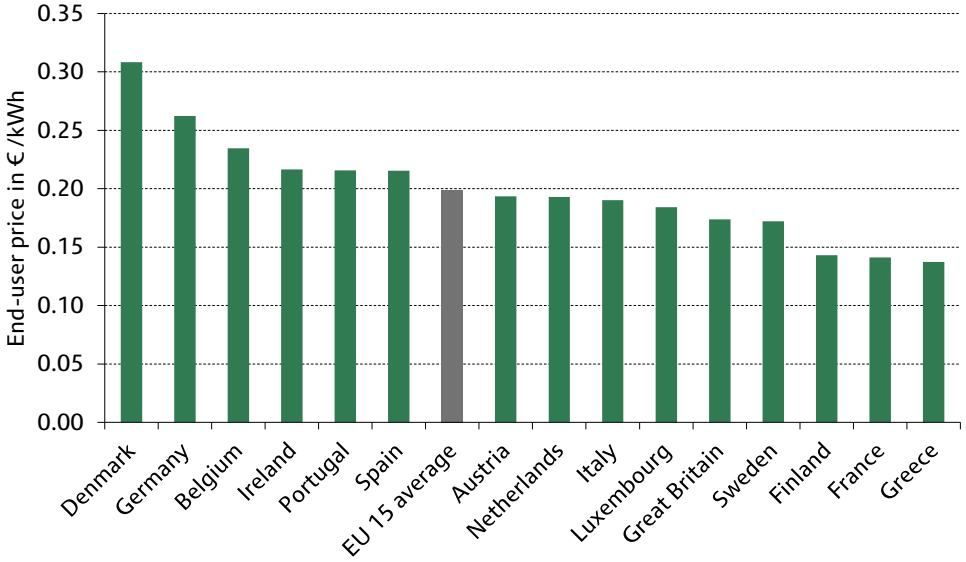


Source: Figure 3.9 of A. Advani, P. Johnson, A. Leicester and G. Stoye, *Household Energy Use in Britain: A Distributional Analysis*, IFS Report R85, 2013, http://www.ifs.org.uk/comms/r85.pdf.

the budgets of lower-income households than of higher-income households. In fact, looking at expenditure deciles – i.e. ranking households not according to their total income but according to their total expenditure – the difference is even more pronounced. Figure 9.3 shows that the poorest 10% by spending spend around five times as much of their budget on energy as do the highest spending 10%. But it can also be seen from this chart that while energy accounts for a higher proportion of total spending than was the case in the early 2000s, it is still some way off its mid-1980s peak.

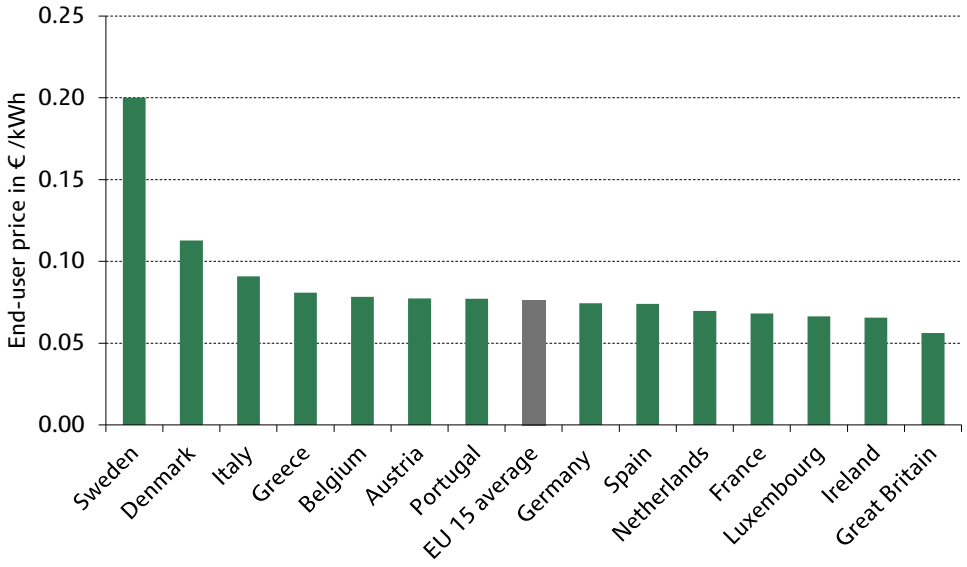
Research by VaasaETT and the Austrian regulator Energie Control Austria over the last four years shows that bills have been increasing all across Europe and recent changes in

Figure 9.4. Average residential electricity prices including taxes, 2012



Source: Figure 2 of *European Residential Energy Price Report 2013*, http://www.vaasaett.com/wp-content/uploads/2013/05/European-Residential-Energy-Price-Report-2013_Final1.pdf.

Figure 9.5. Average residential gas prices including taxes, 2012



Source: Figure 6 of *European Residential Energy Price Report 2013*, http://www.vaasaett.com/wp-content/uploads/2013/05/European-Residential-Energy-Price-Report-2013_Final1.pdf.

Great Britain have been lower than those in other countries. Electricity and gas prices in Great Britain are also lower than average, as shown in Figures 9.4 and 9.5. The proportion of disposable income spent on gas and electricity bills is also lower in Great Britain than the average in the EU, according to VaasaETT and Energie Control Austria.[3]

Given the rate of recent price increases and the fact that energy bills matter so much more for lower-income households, it is perhaps not surprising that they have taken on such a high political profile. But these international comparisons, and indeed comparisons with the situation in the 1980s, suggest that the scale of the concern may need to be considered in perspective.

9.3 Keeping the lights and heating on

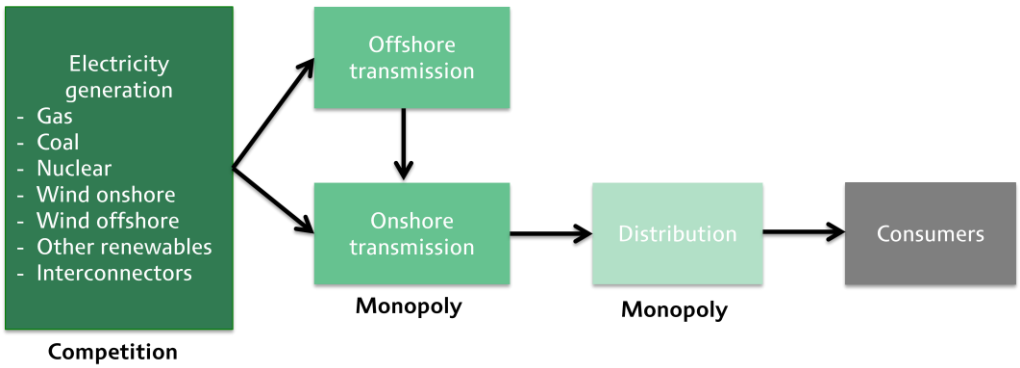
It is important to understand the complex factors that determine energy prices in order to identify what, if any, competition, regulatory or wider policy problem needs to be fixed. In this section, we provide a high-level explanation of the commercial and physical transactions that take place in the electricity and gas industries. We also explain the role of regulation and government policy in the sectors.

The flow of electricity

When a light is switched on or a kettle is put on to boil, a number of different organisations are involved with ensuring that the electricity flows. Generators upstream produce the electricity from a range of different sources. The electricity is transmitted along high-voltage lines and low-voltage local distribution lines to the consumer. The system operator is tasked with ensuring that this all runs smoothly second by second, by

[3] See *European Residential Energy Price Report 2013*, http://www.vaasaett.com/wp-content/uploads/2013/05/European-Residential-Energy-Price-Report-2013_Final1.pdf.

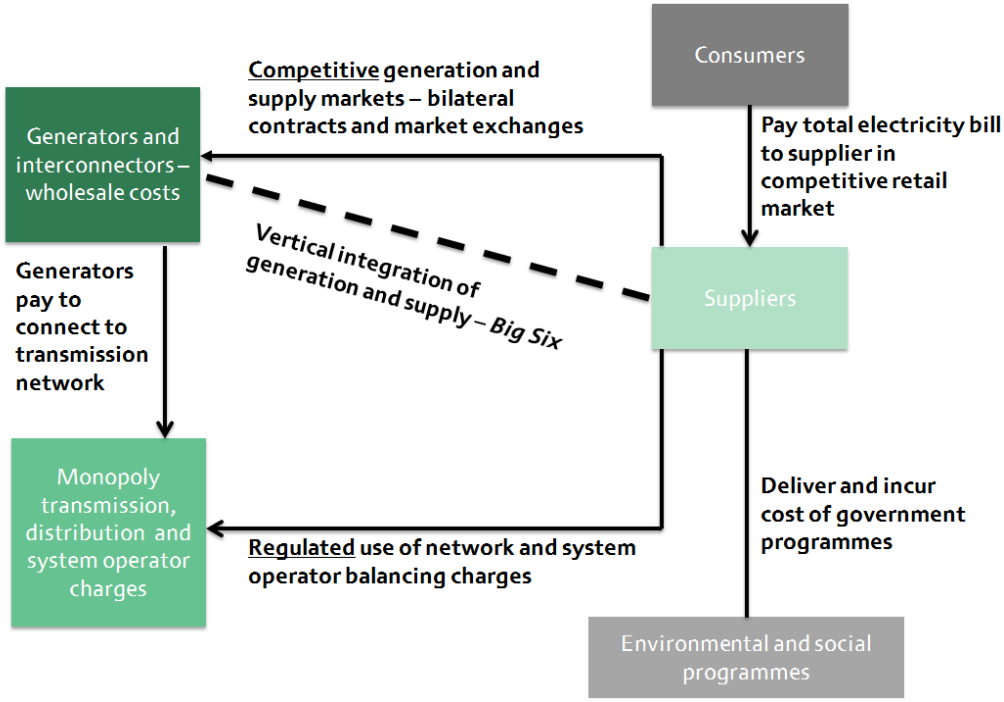
Figure 9.6. The flow of electricity



balancing the supply of electricity with the demand. This physical supply chain is illustrated in Figure 9.6.

Alongside the physical flow of electricity is a series of commercial transactions, as illustrated in Figure 9.7. Supply companies compete to provide services to consumers and set the total price paid. According to Ofgem, the six largest suppliers – 'the Big Six' – serve around 97% of the domestic retail market.[4] The supply companies buy wholesale electricity from competing generators and interconnectors, either directly in bilateral contracts or by trading on open market day-ahead and futures exchanges. The Big Six supply companies are vertically integrated with generation businesses and own, according to Ofgem,[5] around 70% of total generating capacity. A significant proportion of

Figure 9.7. Commercial transactions in the electricity sector



[4] Ofgem, OFT and CMA, *State of the Market Report: Assessment Framework*, December 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/268025/Assessment_Framework_18_Dec_final.pdf.

[5] Ofgem, OFT and CMA, 2013, op. cit.

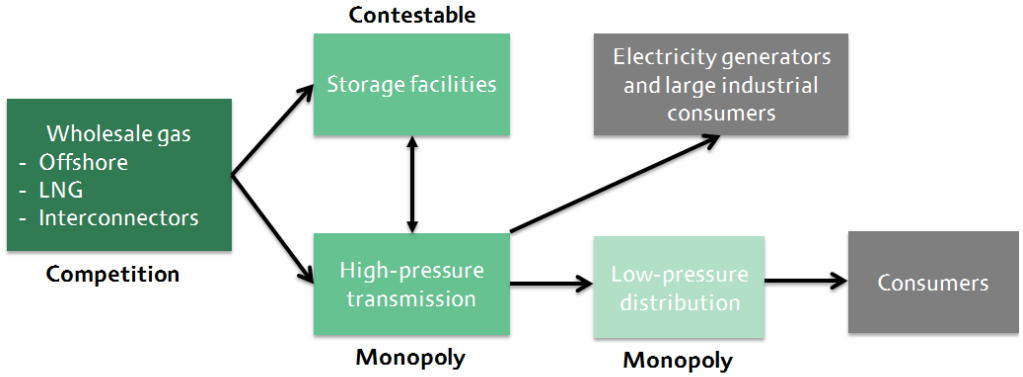
generation is therefore bought through internal transactions, but there is little information available on the scale and prices of these internal exchanges. Supply companies pay regulated monopoly transmission and distribution companies for the use of their networks. They also pay the monopoly system operator a regulated balancing charge if they consume more or less electricity than they were contracted to. In the last decade, supply companies have also been obligated to take on new duties relating to implementation of various government social and environmental programmes. Consumers pay for the costs and incentive payments of these programmes.[6]

The flow of gas

When we turn on or up our gas central heating or light the gas cooker, there are again a number of parties responsible for ensuring that the gas flows, as shown in Figure 9.8. Because storage is possible in gas, the transactions are less time specific than in electricity. The wholesale gas comes from gas fields in the North Sea or Irish Sea or increasingly from liquefied natural gas (LNG). Gas is also purchased from, and sold to, other European countries and transported through interconnectors with Belgium, the Netherlands and Ireland. The gas is transported along the National Transmission System. Gas can be stored within the pipes of the grid or in storage facilities until needed. Some of the high-pressure gas is transported directly to electricity generators and large industrial users and the rest is distributed to consumers along local gas distribution networks. The system operator ensures that the supply entering the system is equal to the demand exiting the system on a day-to-day basis.

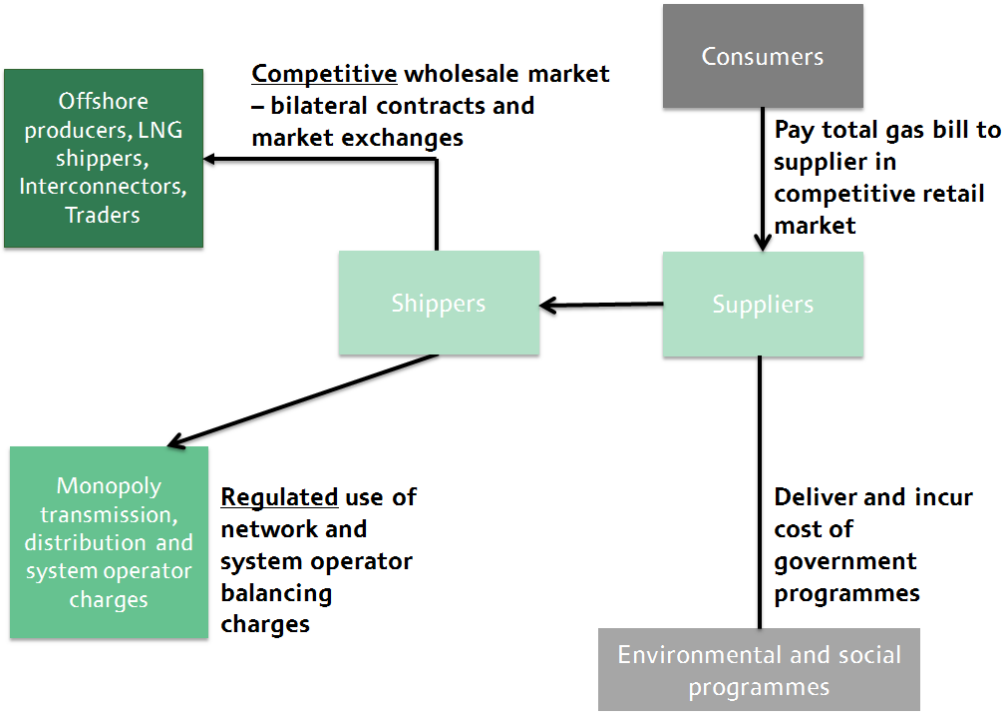
As with electricity, there is a series of commercial transactions associated with the physical flow of gas, illustrated in Figure 9.9. Wholesale gas is sold to shippers through long-term and short-term bilateral contracts and market exchanges. The shippers pay for the gas to be transported along the networks. Shippers sell the gas to supply companies, which pass on the costs of the wholesale gas and regulated network charges to consumers. The supplier, either directly or via the shipper, may also incur a system balancing charge if they are the reason for any imbalance on the system.

Figure 9.8. The flow of gas



[6] Further details on the bill impact of these policies can be found in Department of Energy and Climate Change, *Estimated Impacts of Energy and Climate Change Policies on Energy Prices and Bills*, 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/172923/130326_-_Price_and_Bill_Impacts_Report_Final.pdf and in A. Advani, S. Bassi, A. Bowen, S. Fankhauser, P. Johnson, A. Leicester and G. Stoye, *Energy Use Policies and Carbon Pricing in the UK*, IFS Report R84, http://www.ifs.org.uk/comms/r84.pdf.

Figure 9.9. Commercial transactions in the gas sector



Regulation and government policy

Policy in the energy sector is led by the Department of Energy and Climate Change (DECC) and set out in a series of Energy Acts that have been amended six times since 2008.[7] EU directives have a significant impact on both the environmental and market aspects of policy. Policy objectives have been broadly consistent over the last decade, focused on the need to ensure security of supply, to decarbonise the energy sector and to protect lower-income consumers. Of course, there are tensions between these objectives.

Ofgem, the gas and electricity markets regulator, is responsible for ensuring that the electricity and gas markets work effectively. As an independent national regulatory authority under EU legislation, Ofgem is expected to operate independently from market and political interests. The regulator monitors competition in the wholesale and retail markets and has power to take enforcement action or directly intervene when and where needed. In the monopoly elements of the sector, Ofgem directly regulates the revenue that is earned through price controls.

Ofgem's duties and powers are set out in various Energy Acts and competition legislation. The current principal objective is to protect the interests of existing and future consumers, including taking account of their interests in relation to greenhouse gas emissions and security of supply. With concurrency arrangements, Ofgem and/or the

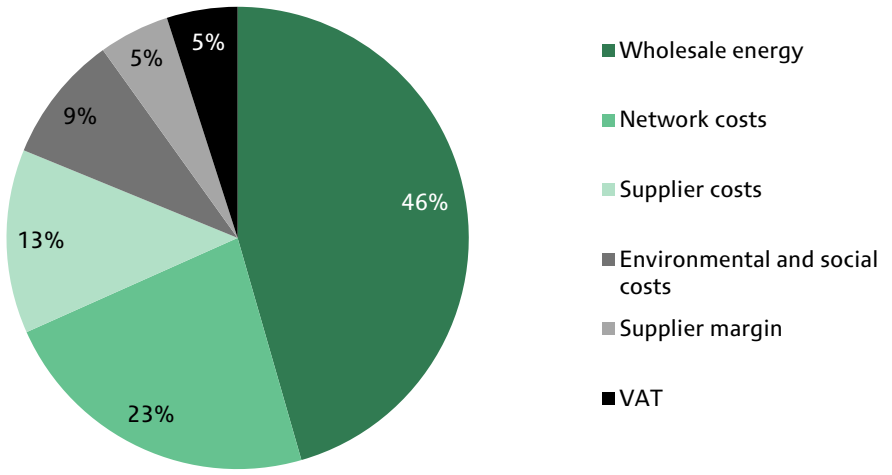
[7] The most relevant legislation is Gas Act 1986, Electricity Act 1989, Gas Act 1995, Competition Act 1998, Utilities Act 2000, Enterprise Act 2002, Sustainable Energy Act 2003, Energy Act 2004, Climate Change and Sustainable Energy Act 2006, Energy Act 2008, Climate Change Act 2008, Planning Act 2008, Energy Act 2010, Energy Act 2011 and, as of 18 December 2013, Energy Act 2013.

competition authority[8] can undertake competition investigations and most recently they have jointly developed a competition assessment framework for the market.[9]

9.4 Untangling the bill to make sense of price increases

The layers of commercial transactions in the energy sector translate into a complicated energy bill, with different components that most consumers and indeed some policymakers have little appreciation of. Ofgem's recent estimates of the components of an average consumer's dual fuel bill are shown in Figure 9.10. The biggest cost is wholesale energy costs, followed by directly regulated network costs. This breakdown does not provide any indication of the wholesale profit earned by suppliers.

Figure 9.10. Components of a dual fuel bill, November 2013



Source: Ofgem, 'Understanding energy bills', https://www.ofgem.gov.uk/information-consumers/domestic-consumers/understanding-energy-bills.

Electricity bills

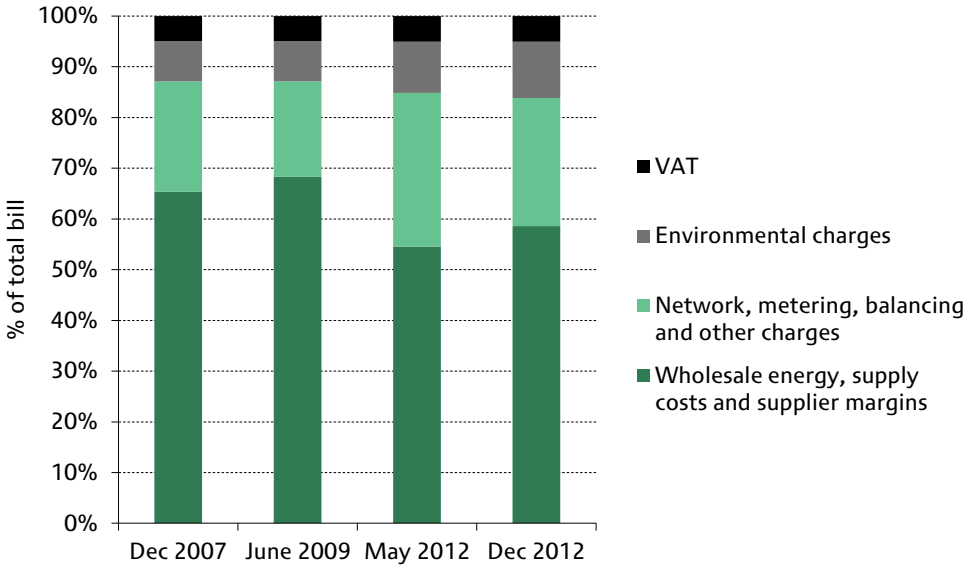
Looking at electricity bills over time, wholesale and supply costs including supplier margins always dominate, as shown in Figure 9.11. There has been some creep upwards in the largely regulated monopoly networks, metering, balancing and other category. There has also been a steady increase in the share attributed to environmental charges.

As illustrated in Figure 9.12, this composition is different from that for other EU countries. In particular, the component associated with environmental charges (energy taxes) in Britain is lower than the EU15 average and our VAT rate on energy is the lowest among the EU15.

[8] The Competition and Markets Authority (CMA) is to replace the Office of Fair Trading (OFT) in this role from April 2014.

[9] Ofgem, OFT and CMA, *State of the Market Report: Assessment Framework*, December 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/268025/Assessment_Framework_18_Dec_final.pdf.

Figure 9.11. Composition of typical electricity bills over time

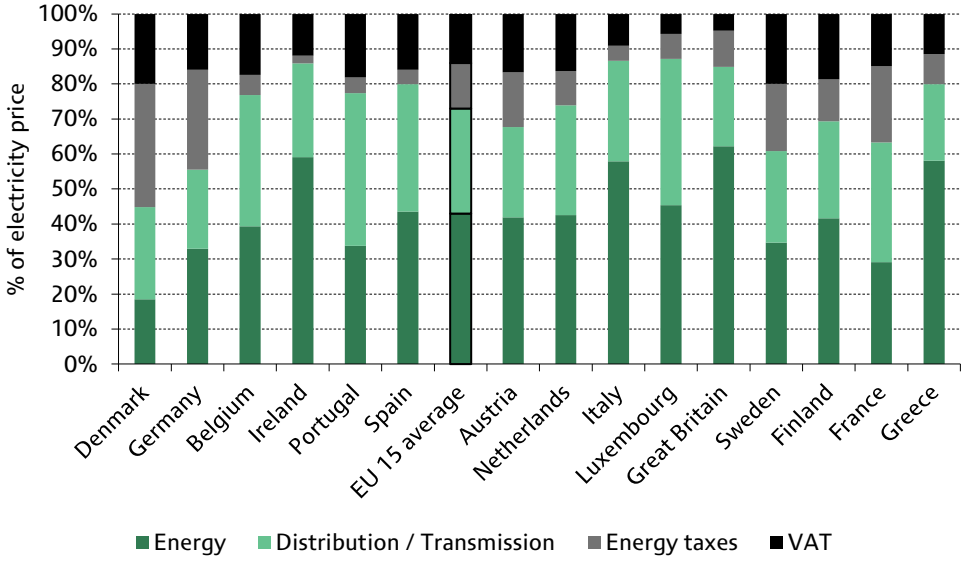


Source: Ofgem, 'Household energy bills explained', January 2008, August 2009, May 2012 and February 2013.

Taking each component of the electricity bill in turn:

- *VAT* is charged at a reduced rate of 5%. Whilst this adds 5% to the cost of electricity consumption, against a baseline of a standard 20% VAT rate this arguably acts as a subsidy to electricity consumers.
- *Environmental and social charges* have increased as the range of government environmental and social schemes has expanded. There are at least six such policies affecting household electricity bills. Some, such as the Renewables Obligation and feed-in tariffs, directly subsidise renewable generation. Others raise bills to support the installation of efficiency measures for some households. The Warm Home Discount rebates bills for some low-income customers but is paid for through higher

Figure 9.12. Residential electricity price breakdown, 2012



Source: Household energy price index (HEPI) by Energie Control Austria and VaasaETT Ltd 2013.

bills in general. The carbon price floor and the EU Emissions Trading System (ETS) increase the price of electricity at the point of generation. DECC estimates that between them these policies added 17% to household electricity prices in 2013.[10] In the Autumn Statement, the Chancellor announced that the Warm Home Discount would instead be tax funded in 2014–15 and 2015–16, whilst the costs of the Energy Companies Obligation (ECO) would be reduced.

- *Wholesale electricity costs* have increased, according to Ofgem,[11] by around 140% in the last 10 years. Increases in wholesale gas prices, determined by developments in global markets, are the primary driver of these increases. Carbon prices, determined through the EU ETS, have also added to generation costs. The investment needed to increase low-carbon generation has increased the cost of electricity generation and will continue to do so. There is a lack of transparency about the efficiency of the wholesale costs paid by the vertically integrated companies in internal transactions and questions have been raised about whether they are higher than they would be if the retail and wholesale markets were effectively competitive.
- The costs of *regulated monopoly network services* have increased in the last decade, and are predicted to continue to increase in the future.[12] Network companies need to increase investment substantially to replace ageing assets and to expand and enhance the infrastructure to facilitate the connection of low-carbon generation and changes in the nature of demand. Under the new price control framework, investment in transmission networks in Great Britain is expected to be around £22 billion between 2013 and 2021.[13] Electricity distribution price controls have not yet been finalised, but the total expenditure for all companies between 2015 and 2023 is estimated to be in the region of £27 billion.[14] In its final decisions on the transmission and gas distribution price controls, Ofgem estimated that the allowed increases in revenue that the network companies could earn would result in an increase of £6 on electricity bills and £6 on gas bills between 2013 and 2021.[15] Estimates for the bill impact of the electricity distribution network charges are not yet available, but it is clear from Ofgem's review of the companies' business plans

[10] Department of Energy and Climate Change, *Estimated Impacts of Energy and Climate Change Policies on Energy Prices and Bills*, 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/172923/130326_-_Price_and_Bill_Impacts_Report_Final.pdf. Note that this calculation is done on a different basis from the Ofgem calculations in Figures 9.10 and 9.11 and includes upstream policies as well as those that impact consumers more directly.

[11] Ofgem, OFT and CMA, *State of the Market Report: Assessment Framework*, December 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/268025/Assessment_Framework_18_Dec_final.pdf.

[12] For a discussion of the history of network price controls under the RPI–X regime, see Ofgem, 'Performance of the energy networks under RPI-X', February 2009, https://www.ofgem.gov.uk/ofgem-publications/51985/performance-energy-networks-under-rpi-x-finalfinal.pdf.

[13] Ofgem, 'Price controls explained', Factsheet 117, 2013, https://www.ofgem.gov.uk/ofgem-publications/64003/pricecontrolexplainedmarch13web.pdf.

[14] Ofgem, 'Ofgem requires electricity network companies to deliver more for less', RIIO-ED1 press release, 22 November 2013, https://www.ofgem.gov.uk/press-releases/ofgem-requires-electricity-network-companies-deliver-more-less.

[15] Ofgem, *RIIO-T1: Final Proposals for National Grid Electricity Transmission and National Grid Gas*, December 2012, https://www.ofgem.gov.uk/ofgem-publications/53599/1riiot1fpoverviewdec12.pdf.

that the aim is to ensure efficient delivery of outputs, with an expectation of this element of the bill remaining flat or declining.[16]

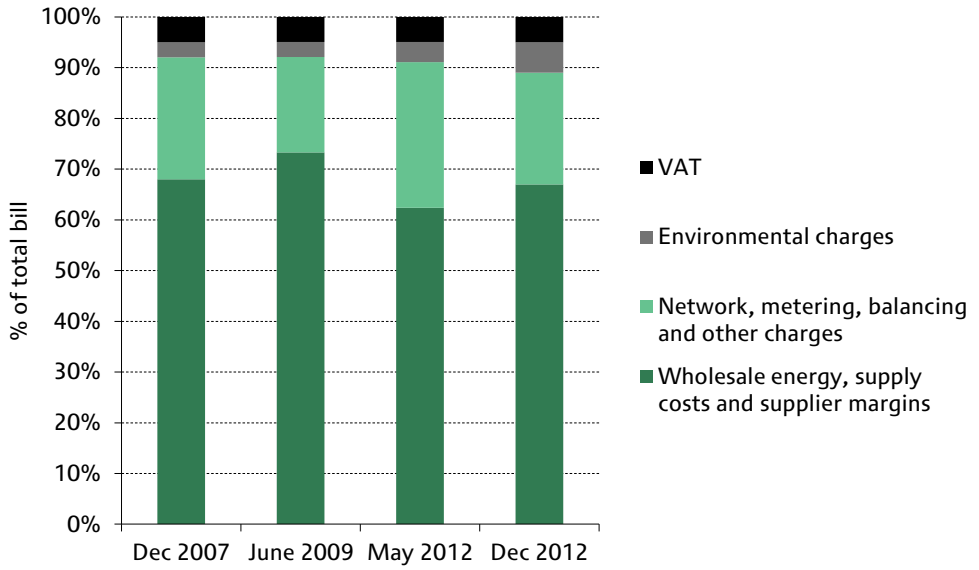
- Regulated *system operator balancing charges* are relatively small in the total mix. There have been increases and fluctuations in electricity balancing costs in recent years and questions about the appropriateness of the regulatory framework.
- Although small, the *supplier cost and supplier margin* component of the bill is often a focus for policymakers. Ofgem has found that margins have increased in recent years. Average supply margins earned from domestic consumers were 4.3% in 2012, compared with 2.8% in 2011 and 3.0% in 2010.[17] Limits on rivalry in the sector may also remove incentives to manage costs that could result in direct supply costs being higher than they would be with effective competition. Supply costs are also increasing because of the costs associated with social tariff schemes and increases in bad debt.

Gas bills

The composition of gas bills is similar to that of electricity, as shown in Figure 9.13. Wholesale and supply costs are the largest component. There is an increasing but still relatively small impact from environmental programmes.

The cost of wholesale gas has increased by 240% over the last 10 years according to Ofgem,[18] with a significant peak in winter 2008–09. The rise is attributed to shortages in global oil and gas markets. Following a long period of decline, regulated network charges

Figure 9.13. Composition of gas bills over time



Source: Ofgem, *Household energy bills explained*, January 2008, August 2009, May 2012 and February 2013.

[16] Ofgem, *Assessment of the RIIO-ED1 Business Plans,* November 2013, https://www.ofgem.gov.uk/ofgem-publications/84945/assessmentoftheriio-ed1businessplans.pdf.

[17] Ofgem, *The Revenues, Costs and Profits of the Large Energy Companies in 2012,* November 2013, https://www.ofgem.gov.uk/ofgem-publications/84640/css2012summarydocument.pdf.

[18] Ofgem, OFT and CMA, *State of the Market Report: Assessment Framework*, December 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/268025/Assessment_Framework_18_Dec_final.pdf.

in the gas sector have increased in recent years because of increases in investment to maintain and extend the gas networks.[19] There has also been some increase and fluctuation in the gas system operator costs but these remain small in the overall bill. Gas is treated in the same way as electricity for VAT purposes. As far as environmental and social measures are concerned, gas consumption is subject to far fewer costs than electricity consumption, essentially just the Warm Home Discount and ECO. Given that the first of these is being tax funded for the next two years and the second substantially cut back, the effect will be to leave gas consumption almost untouched by social and environmental measures. Since the effective carbon price on gas consumption is already much lower than that on electricity – indeed, significantly negative if the 5% VAT rate is counted as an effective subsidy – this policy change will only exacerbate inefficient differences in effective carbon prices. Issues relating to supplier costs and margins are the same as discussed for electricity, because the suppliers compete to serve both gas and electricity consumers in the same retail market.

9.5 What is the problem with energy prices?

The primary driver of energy price increases is wholesale cost rises. Rising network costs and environmental charges are also a significant factor. Given these drivers, the two main policy questions to consider are:

- Are retail and wholesale markets sufficiently competitive to ensure that the bills paid by consumers reflect the efficient cost, including a reasonable return on investment, of providing electricity and gas services?
- Are policy objectives for low-carbon and secure energy supplies worth the cost or have they gone too far?

Our focus here is primarily on the first question, although we touch on the second where there are interlinkages.

Potential problems with the market and the regulatory arrangements are discussed here and options for policy change are outlined in the next section. It is recommended that these potential problems are evaluated in the round before any further policy changes are developed and implemented.

Is the problem competition in the wholesale markets?

Although the price rises are significant, it appears to a large extent that Ofgem and government consider the gas wholesale market to be working reasonably effectively. For example, in its review of liquidity, Ofgem's focus has been on the wholesale electricity market and there has been reference to the wholesale gas market being more liquid.[20]

Ofgem has spent a number of years looking at liquidity in the electricity wholesale market and has expressed concern about the limited amount of their generation that the Big Six

[19] For a discussion of the history of network price controls under the RPI–X regime, see Ofgem, 'Performance of the energy networks under RPI-X', February 2009, https://www.ofgem.gov.uk/ofgem-publications/51985/performance-energy-networks-under-rpi-x-finalfinal.pdf.

[20] See, for example, paragraph 1.18 of Ofgem, *Wholesale Power Market Liquidity: Final Proposals for a 'Secure and Promote' Licence Condition – Draft Impact Assessment*, 2013, https://www.ofgem.gov.uk/ofgem-publications/39303/liquiditydraftia120613.pdf.

make available, both over the short term and the long term, to other independent supply companies.

Ofgem has encouraged the Big Six to improve access to their generation in the markets. The companies voluntarily signed up to make more output available on the on-the-day market and in longer-term contracts. In Summer 2013, the regulator concluded that the Big Six were not making sufficient improvements in this area. It recently decided on more formal intervention, in the form of a licence condition that places specific obligations on the companies to provide access to long-term products and to participate actively in markets.[21] Ofgem also launched a review of wholesale trading arrangements in Summer 2013, suggesting that there may be wider grounds for reviewing the effectiveness of the electricity wholesale market.

The government's concerns in the electricity wholesale market are mainly around ensuring that there is sufficient investment in low-carbon generation. The electricity market reforms, brought into legislation in the Energy Act 2013, are designed to encourage more investment in a range of low-carbon generation technologies including nuclear.

Is the problem retail market competition?

Suppliers ultimately decide the price that consumers pay. If they have an element of market power, this will enable them to charge prices above cost and earn higher margins. Ofgem, the government, opposition parties and a wide range of consumer representative organisations have considered and debated whether competition in energy retail markets is working. The main potential areas of concern appear to be the following:

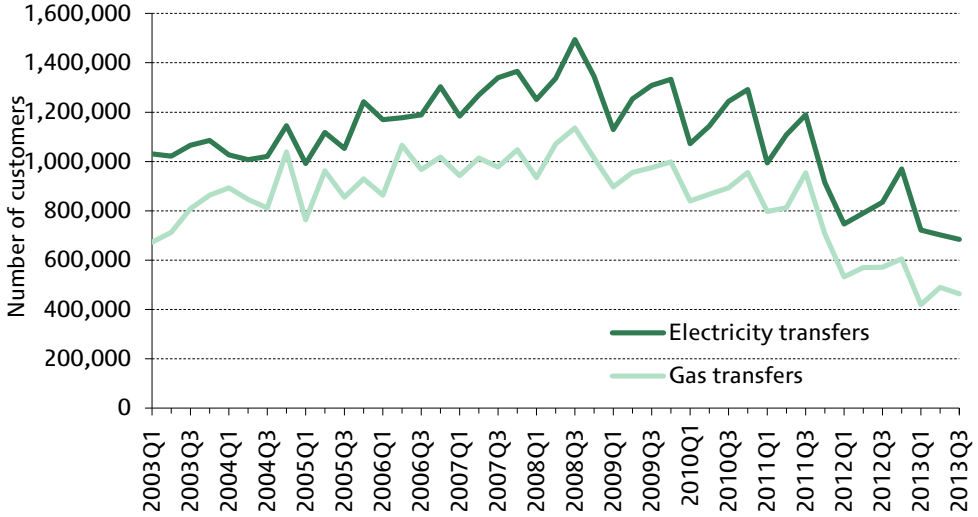
- *Consumer inertia resulting in lack of competitive pressures:* As shown in Figure 9.14, the number of consumers switching between suppliers has declined, and is now at its lowest level since DECC started collecting the data. Ofgem argues, in the 2008–09 Energy Supply Probe and 2010–13 Retail Market Review, that low levels of switching and general consumer inertia enable existing supply companies to charge higher prices to consumers and prevent new entrants from being able to build up a customer base. Ofgem has introduced a number of changes in supply company licences since 2010 to improve consumer engagement and activity in the market, largely around information transparency and reducing the number and complexity of tariffs. It is early days to assess the impact of many of these changes, particularly those that came into force in late 2013, but they are not without their critics.[22]
- *Retail prices are out of line with wholesale costs:* As discussed a number of times by Ofgem,[23] concerns have been raised, particularly around the time of the price spike in wholesale gas costs in 2008, that supply companies are quick to increase prices in response to wholesale cost rises but slow to adjust them downwards when wholesale costs fall. Comparing wholesale costs and retail prices at a point in time does not take account of the facts that retail prices change far less often in a year than wholesale prices, supply companies use a mix of length of wholesale contracts to hedge risk and

[21] Ofgem, 'Wholesale power market liquidity: decision letter', January 2014, https://www.ofgem.gov.uk/ofgem-publications/85716/wholesalepowermarketliquidity-decisionletter.pdf.

[22] See, for example, S. Littlechild, 'Ofgem and the philosopher's stone', Institute of Economic Affairs (IEA) Blog, 20 November 2012, http://www.iea.org.uk/blog/ofgem-and-the-philosophers-stone.

[23] See, for example, Ofgem, *Quarterly Wholesale/Retail Price Report,* February 2009, https://www.ofgem.gov.uk/ofgem-publications/38391/wholesale-retail-price-link-report-february09.pdf.

Figure 9.14. Customer switching rates in gas and electricity



Note: Quarterly electricity and gas transfers in Great Britain.
Source: DECC, 'Quarterly domestic energy switching statistics', December 2013, https://www.gov.uk/government/statistical-data-sets/quarterly-domestic-energy-switching-statistics.

there has been an increase in the uptake of fixed retail tariffs. Ofgem has consistently argued that the evidence it has does not support a view that retail prices are significantly out of line with wholesale costs.[24] But more work may be needed in this area to determine the extent of the perceived gap and whether there is any signal here of anti-competitive pricing by the supply companies.

- *Retail companies are paying too high a price for wholesale electricity:* As part of their competitive strategies, supply companies will procure energy in different ways and hedge differently, resulting in different wholesale prices. This is consistent with effective competition. However, it is possible that, without significant rivalry in the retail market, supply companies will not be efficient in their hedging strategies, thereby incurring and passing on higher wholesale costs to consumers. There is a lack of transparency about different companies' wholesale transactions, perhaps not surprisingly in a market where hedging is a key element of rivalry, and it is therefore difficult to evaluate the extent to which company prices do or do not reflect efficient wholesale costs.

Is the problem vertical integration?

The vertical integration of the Big Six presents an additional complication to the assessment of competition in wholesale and retail markets. There are questions about the prices paid for wholesale electricity in internal transactions. Allegations have been made, including by the Labour Party,[25] that retail companies pay higher wholesale prices, within their own group, to increase margins in the wholesale business. According to Ofgem, the average margin in generation was 20% in 2012, compared with 24% in 2011 and 22% in

[24] See, for example, Ofgem, 'Response to allegations that energy suppliers have paid more for electricity than the market rate', 2 January 2014, https://www.ofgem.gov.uk/press-releases/response-allegations-energy-suppliers-have-paid-more-electricity-market-rate.

[25] Labour Party, *Powering Britain: One Nation Labour's Plans to Reset the Energy Market,* 2013, http://www.yourbritain.org.uk/agenda-2015/policy-review/policy-review/energy-green-paper.

2010.[26] Such returns may be needed to encourage investment but it is difficult, without a full investigation, to ascertain whether these margins are consistent with a competitive reasonable return. As recognised by Ofgem, there is a problem with transparency of information that makes it difficult to understand the internal transactions within the integrated firms and the relationship between wholesale prices and retail more generally.

Vertical integration is less of an issue in gas. Centrica (British Gas) owns a significant amount of gas production (about one-third of the amount used by domestic and small-to-medium enterprise (SME) consumers[27]) but, after numerous competition investigations and ownership separation in the 1990s, this has not recently been raised as a matter of concern by government or Ofgem.[28]

Is the problem the monopoly network companies and system operator?

Monopoly charges make up one-fifth of the bill (see Figure 9.10) and have increased in recent years, as discussed in Section 9.4. Cost increases are driven by a need to replace ageing assets and to update and expand the existing infrastructure to facilitate connection of low-carbon generation and demand-side response in electricity. The revenue earned by the monopoly companies is regulated directly by Ofgem through price controls in the case of network companies and incentive mechanisms in the case of system operator costs. Whether costs and prices are too high in these areas is therefore a matter for regulation.

Ofgem, through its review of energy network regulation (RPI-X@20), identified a number of limitations with the RPI–X approach that was being used and recently introduced an adapted eight-year price control framework. Changes have been made in transmission, distribution and system operation. As the new regime has only recently been introduced, it is too early to evaluate whether and how it could be improved. But in the short term, the processes in place to challenge the levels of cost and returns appear to be robust and the design of the price control is largely consistent with principles for effective incentive regulation.[29] The monopoly aspects of the sector are unlikely to be the focus of any significant policy changes going forward, although questions about the effectiveness of the regulator more generally may have an impact.

Is the problem the effectiveness of the regulator?

The competitive markets, both wholesale and retail, have been under more intensive scrutiny by Ofgem since the 2008 Probe. Ofgem took some time to go from the launch of the Retail Market Review in November 2010 to consultation on a final decision in June

[26] Ofgem, *The Revenues, Costs and Profits of the Large Energy companies in 2012*, 2013, https://www.ofgem.gov.uk/ofgem-publications/84640/css2012summarydocument.pdf.

[27] Ofgem, OFT and CMA, *State of the Market Report: Assessment Framework*, December 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/268025/Assessment_Framework_18_Dec_final.pdf.

[28] Paragraph 2.11 on page 11 of Ofgem, OFT and CMA (2013, op. cit.) notes that 'In the gas sector, vertical integration is less of a feature'.

[29] C Jenkins, 'RIIO economics: examining the economics underlying Ofgem's new regulatory framework', presented to CCRP Winter Workshop, February 2011, http://www.cjeconomics.co.uk/uploads/6/8/2/9/6829918/jenkins_riio_economics_working_paper.pdf.

2013.[30] Some may argue that this is a symptom of an ineffective regulator, whilst others may claim that it is a sign of how complex the market is and how difficult it is to identify problems and develop credible and effective solutions. The investigations have been extensive and a number of policy proposals have been implemented which are yet to take effect. It may therefore be too early to judge whether Ofgem has been effective in regulating the energy markets. But it has taken a long time for the proposals to be developed and implemented and there have been many changes to them along the way. In the meantime, there have been ongoing questions about the effectiveness of Ofgem at regulating the markets.[31] For example, most recently, the Labour Party is proposing to get rid of Ofgem and introduce a new regulator.[32] This is something the coalition government also considered shortly after taking office but the step was not taken, following a review of the regulator.[33]

Is the problem wider government intervention?

There has been constant change in energy policy, and the scope of policy has widened, since the New Labour government came to power in 1997. The policies fall largely into two camps: environmental policies designed to encourage energy efficiency and a switch to low-carbon generation and policies aimed at ensuring effective competition in the wholesale and retail markets. The environmental policies drive up energy prices, directly through the environmental charges in the bill but also indirectly, and significantly, through the impact on generation and network investment costs. The competition policies should, assuming they are effective, manage the scale of these cost increases to an efficient level.

Energy policy affects all levels of the supply chain, as illustrated in Table 9.1 for a selection of recent policy measures. There appears to be little discussion of how all the policies work together. Is there duplication and/or have elements of market distortion been missed? Are the continuous changes to proposals and policy damaging investor confidence and therefore offsetting the other policies aimed at increasing investment in the sector?

If policymaking is not joined up, there is a potential risk of intervention in the markets being ineffective or inefficient. The uncertainty about what the next changes will be may increase the costs of investment, and potentially limit the scale of investment. The focus in political debates on energy prices and energy companies may also increase consumer lack of confidence and trust in the market. This could increase awareness of bills and increase switching, but if it leads to customers having a sense that all companies are the same – 'as bad as each other' – it could reinforce inertia and low levels of switching. There is also a question of whether government, and wider political intervention and debate, are hampering the effectiveness of the regulator. With energy in the spotlight,

[30] Initial Proposals were published in March 2011, an Update in June 2011, Proposals in December 2011, Updates in May 2012 and October 2012, Final Proposals in March 2013 and a Consultation and Decision in June 2013.

[31] See, for example, Professor Stephen Littlechild's concerns about the economics behind Ofgem's retail market proposals in 'Ofgem and the philosopher's stone', Institute of Economic Affairs (IEA) Blog, 20 November 2012, http://www.iea.org.uk/blog/ofgem-and-the-philosophers-stone.

[32] Labour Party, *Powering Britain: One Nation Labour's Plans to Reset the Energy Market,* 2013, http://www.yourbritain.org.uk/agenda-2015/policy-review/policy-review/energy-green-paper.

[33] Department of Energy and Climate Change, *Ofgem Review: Final Report*, July 2011, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48134/2151-ofgem-review-final-report.pdf.

Table 9.1. Recent examples of energy policy

Policies to encourage investment in low-carbon generation
20% of electricity from renewables by 2020 (UK legal target)
2050 target of 80% reduction in greenhouse gas emissions
Feed-in tariffs
Contracts for difference
Capacity market
Carbon price support
Renewable Heat Incentive
Renewables Obligation
EU Emissions Trading Scheme
Climate change levy and Climate Change Agreements
Planning reform for nationally significant infrastructure
Policies to encourage networks to connect low-carbon generation
Connect and manage access regime
Transmission charging reform
Price control incentives and investment allowances
Market changes and market reviews
New Electricity Trading Arrangements (2001)
British Electricity Transmission and Trading Arrangements (2005)
Enforcement and anti-competitive cases relating to individual firms
Energy Supply Probe (2008–09)
Retail Market Review (2010–13)
Liquidity review (2010–ongoing)
State of the Market Assessment (current)
Future Trading Arrangements project
Market interventions
Licence condition to publish annual information on supply and generation profits
Licence conditions relating to provision of information, helping vulnerable consumers to switch and sales conduct
Licence conditions to reduce complexity and number of tariffs and improve comparability
Commitment to trade proportion of power-station output in day-ahead market
Secure and promote generator licence condition
Transmission constraint licence condition
Reform of cash-out and balancing arrangements

government and Ofgem may be engaging in reactive policymaking that raises the risk of inefficient decision-making and 'government' or 'regulatory' failure.

Maybe there is no problem

Finally, but importantly, it is worth considering that there may not be a significant competition or regulation problem in this market. Prices may be going up because efficient costs of delivering a valued service are increasing. The cost increases may be reflective of an increase in lumpy investment in infrastructure that requires replacement and updating. At wholesale level, they may also be reflective of scarcity rent. More generally, costs may be increasing because of a choice to encourage low-carbon

generation and energy efficiency. If this policy is considered to be of value for society, then it may need to be recognised more explicitly that it comes at a price.

These are not vote-winning ideas but this is a scenario that requires careful scrutiny. Consumers may have to live with rising prices and, indeed, this may be the trigger needed, alongside the information provided by smart meters, to encourage energy efficiency. The outstanding issue would then become how to assist lower-income households, and that arguably is a broader policy issue.

9.6 Where next for independent regulation and government intervention?

When the gas and electricity industries were privatised, the general idea was that regulation would wither away where competitive markets were feasible, leaving the regulator to only regulate natural monopoly elements. This clearly has not happened, either in terms of creep of government intervention or in terms of the extension of regulatory arrangements affecting apparently competitive markets.

Given this context, and the undeniable fact that energy bills faced by consumers are increasing, where do the regulator and policymakers go next with the energy market? The options are categorised into three policy areas:

- market intervention;
- institutional and industry structure reforms;
- social and environmental charges.

In each category, there is a scale of policy change, from little change (or status quo) to radical. Where on the spectrum Ofgem and government choose to sit must depend on evidence about the scale of the problem. The potential problems are interlinked and it is likely that a holistic approach combining some of these ideas may be needed.

Market intervention options

There are a number of different routes that policymakers could take with respect to competition in the wholesale and retail markets:

- *Leave the market to it:* A decision could be reached that existing interventions in the market are part of the problem and that the best way forward would be for regulators and government to step back and allow the market to determine the efficient price of delivering a low-carbon and secure energy sector. Clearly, the risk with this approach is that, if the market is not competitive, firms with market power are more likely to raise prices to consumers further. A benefit is that a competition authority would be able to monitor the market in its pure form and intervene, using competition law powers, where specific anti-competitive conduct or structural arrangements are identified. This is unlikely to be a policy that any government takes forward in the short term, but it is worth bearing in mind as it is closest to the original objective for the industry at privatisation.
- *Pause and allow current policy proposals to take effect:* This policy approach would be less radical than the first and would prevent any further intervention in the market until the impact of the most recent policy changes had been observed. The policies that have been implemented recently are primarily focused on incentivising changes

in company behaviour. Such incentive schemes, by their nature, take time to work through decision-making and result in different outcomes. Undoing them, or adding to them, before the effects have been observed risks increasing the complexity and inefficiency of the market. Rushing ahead with additional changes is also quite likely to result in regulatory overkill and potential distortions across different policies.

- *Smarten up:* Related to the previous proposal, policymakers could decide to wait and see what impact smart meters, and the associated development of smarter markets, have on consumer and company behaviour. Although the full roll-out will not be completed for some time, there are already numerous trials providing evidence on consumer behaviour changes and further analysis of this information may provide insight on the longer-term dynamics of the market. If other policies, such as limits on the number of retail tariffs, are pushed forward, the full potential of 'going smart' may not be realised. The risk with this approach is that while policymakers 'wait and see', companies may, if they have market power, use the opportunity to increase prices further. The benefit is that any further market interventions are more likely to be sustainable if they reflect the future dynamics of the market.
- *Re-regulate energy retail prices:* The most extreme form of intervention would be to return to a situation where supply prices or supply margins are formally constrained through some form of price control. Once introduced, it would be difficult for any regulator or government to reverse price controls. Such a policy change would arguably only be warranted if the evidence suggested that other market remedies were ineffective and market power was expected to be a long-term issue. The Labour Party proposal for a 20-month price freeze arguably falls into this category. Whilst such a freeze may help consumers, it does come with risks. Supply companies would bear the brunt of any upward shocks to costs that may hinder entry and investment. When announced in advance, there is also a risk that supply companies will increase prices prior to the freeze. Furthermore, a freeze on prices is unlikely to encourage consumers to get more engaged in the market, something that Ofgem considers necessary for effective competition.

Options for institutional and industry structure reform

As discussed in Section 9.5, some of the potential problems in the sector relate to the vertical integration of the Big Six and the effectiveness of the regulator. The market reforms considered above would not deal with these potential problems as they are largely about changing behaviour. We therefore set out potential institutional reforms that could be considered:

- *Leave competition to the competition experts:* As noted elsewhere, the time may have come for the Competition and Markets Authority (CMA), rather than Ofgem, to undertake a wholesale review of competition in the sector.[34] The main merit of this approach is that it would allow an independent body to look at the issues with a fresh pair of eyes. The downside is that such investigations take time.

[34] See, for example, views of the former Chief Executive of the OFT, John Fingleton: 'Only a proper inquiry will deliver a competitive UK energy market', ft.com, 24 October 2013, http://www.ft.com/cms/s/0/c8dc3594-3c9c-11e3-a8c4-00144feab7de.html, and of the first electricity regulator, Stephen Littlechild: 'Defective regulations are pushing up energy prices as competition suffers', Institute of Economic Affairs (IEA) Blog, 29 October 2013, http://www.iea.org.uk/blog/defective-regulations-are-pushing-energy-prices-as-competition-suffers.

- *Abolish or reform Ofgem:* A more extreme institutional change, already proposed by the Labour Party and previously considered by the coalition government soon after it was elected, is to abolish the energy regulator or significantly reform it. Any reform would raise issues about interactions between government policy and the regulator's work, bearing in mind EU requirements for an independent national regulatory authority. Any significant change would involve costs and there would need to be evidence that the benefits outweigh these.
- *'Macroprudential' regulation of the energy sector:* The focus on a secure low-carbon energy sector has brought to light the need for companies, policymakers and other stakeholders to think about how the sector as a whole works together. Coordination along the supply chain involves complicated Industry Codes and processes. Policymaking also tends to be focused on individual measures and specific problems, with little explicit evidence of how everything works together. To ensure that all companies in the sector, and all government policies, work effectively together, there may be a need for DECC and the regulator to focus more explicitly on how industry conduct, government policies and Ofgem's own regulations work together.
- *Vertical separation of the Big Six:* Policymakers could introduce measures to separate the generation and supply businesses of the Big Six. If vertical integration is leading to foreclosure of the market to new entrants, then this may be the most straightforward way to deal with the problem. However, it comes with a cost in terms of loss of integration synergies and also the direct cost of separation. Intermediate solutions, such as ring-fencing and transparency of information, could also be strengthened but their effectiveness may be subject to challenge.

Social and environmental charges

One driver of cost increases across the energy sector has been the government's focus on delivering a low-carbon energy sector. This is one area where government has rather direct levers to pull if it wants to reduce bills. Indeed, in response to concerns about bills, in the 2013 Autumn Statement the Chancellor announced changes to the Warm Home Discount and ECO which, together with a one-off reduction in energy distribution costs should save households about £50 a year on average.[35]

A number of further options may be available if the primary aim is to reduce household bills. That could involve reducing commitments to low carbon, keeping the commitments but taking costs off households, or focusing additional help on those with low incomes. While there is no doubt that the current range of policies is less than optimal, it is important to be clear about the following:

- There are domestic legal commitments to reducing carbon emissions as well as EU-level obligations.
- If this is not paid for through bills, it will need to be paid for in some other way.
- An effective carbon price, raising the cost of energy to consumers, is almost certain to form part of an efficient policy for reducing carbon emissions.

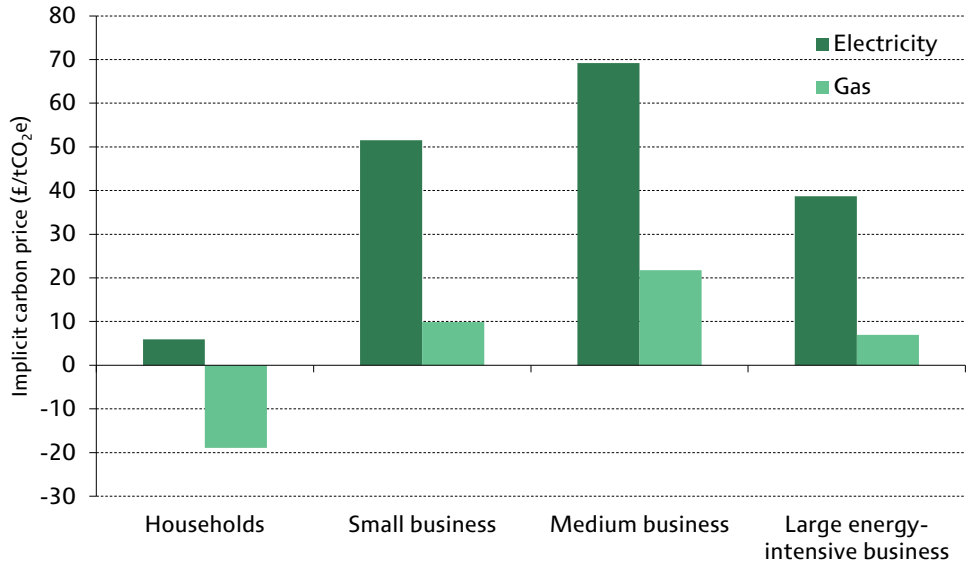
[35] Paragraph 1.257 of HM Treasury, *Autumn Statement 2013*, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/263942/35062_Autumn_Statement_2013.pdf.

In addition, it is crucial to understand that low-carbon policy does not just affect government programmes. It has an impact on infrastructure investments, and policy consistency is crucial if these investments are to take place in an efficient and predictable manner. So policies aimed at reducing bills in the short run would need to be carefully calibrated to avoid increasing policy uncertainty in the medium term.

With respect to additional costs created by low-carbon policies, an important starting point is that it is already the case that households face a substantially lower effective carbon tax than do businesses.[36] This is inefficient. And the effective tax rate on gas is much lower than that on electricity.[37] This is also inefficient, providing less incentive to reduce carbon emissions through direct use of gas. It is, in addition, inequitable in that households dependent on electricity to heat their homes, perhaps because they are off the gas network, face much higher effective taxes than others.

Indeed, if one thinks of the reduced rate of VAT as a subsidy, the carbon price on gas is already significantly negative and that on electricity very low. This is illustrated in Figure 9.15, which does count the VAT treatment as a subsidy. The chart also illustrates the extent to which policy has tended to shelter households at the expense of business users. So while policy changes are possible, and some rationalisation of the gamut of policies that currently affect prices would be welcome, the scope for reductions in bills is likely to be limited, especially if overall policy is aimed at reducing carbon emissions in an efficient manner.

Figure 9.15. Implicit carbon prices, by end-user and metered fuel type, 2013–14



Source: Figure 6.4 of A. Advani, S. Bassi, A. Bowen, S. Fankhauser, P. Johnson, A. Leicester and G. Stoye, *Energy Use Policies and Carbon Pricing in the UK*, IFS Report R84, 2013, http://www.ifs.org.uk/comms/r84.pdf.

[36] A. Advani, S. Bassi, A. Bowen, S. Fankhauser, P. Johnson, A. Leicester and G. Stoye, *Energy Use Policies and Carbon Pricing in the UK*, IFS Report R84, 2013, http://www.ifs.org.uk/comms/r84.pdf.

[37] Advani et al., 2013, op. cit.

9.7 Conclusion

There has been much debate about the need to make further changes in the energy sector. If any government is considering significant changes to policy in this area, it is important that whatever is done is based on robust evidence-based analysis. Policymakers need to be clear about what the problem is and what the scale of any detrimental impact is before running forward with reactionary solutions.

There are a number of potential problems, and all of them arguably require further scrutiny, ideally with more transparent information on the Big Six. Given that part of the problem may be the effectiveness of regulation and government intervention more generally, there is a real issue about who is best placed to carry out an independent review of all the interconnected issues. Even if concerns about the effectiveness of the regulator are not well founded, we may be at a point where negative perceptions are affecting behaviour and the only real way forward is for Ofgem to seek a market reference to the Competition and Markets Authority.

Intervention in markets is costly and must be proportionate. Any policy change should only be taken forward where the impact of the policy change, taking account of both direct benefits and inevitable indirect knock-on effects, is expected to be positive. This is a complex market and any competitive assessment will take time, particularly when the overlay of existing regulatory and government interventions needs to be considered. Short-term reactive policies are unlikely to deal effectively with the problem in the long term and they risk creating distortions of their own. If there is to be a lengthy competition investigation, it may be best to focus attention on protections for those struggling most to pay the bills. Such measures will be needed in any case, as, even with an effectively competitive market, prices will continue to increase for the foreseeable future as long as a low-carbon and secure energy sector is the overriding objective.

The government can reduce bills directly by reducing environmental and social charges. But it is committed to large-scale reductions in carbon emissions and these need to be paid for somehow. Paying through the tax system may be more palatable than charges on bills (or it may not). But, in any case, an optimal policy for reducing emissions is likely to include a consistent (and reasonably significant) carbon tax. At present, the raft of measures that impact gas and electricity prices is far from coherent. The effective tax on gas is much lower than that on electricity. And households actually face a lower effective tax rate than do businesses. In addition, charging a reduced rate of VAT on energy consumption – at a rate lower than in any other EU15 country – effectively acts as a subsidy to energy consumption relative to charging VAT at the standard rate. Government should focus on creating a more coherent set of price signals in the energy market consistent with its stated aims on carbon reduction.

10. Taxation of private pensions

Carl Emmerson (IFS)

Summary

- In 2012, about £70 billion was contributed to funded private pensions, which had a total fund value in 2011 of over £2 trillion. The amount contributed is likely to rise as automatic enrolment goes forward. The way in which pensions are taxed, therefore, is crucially important. Yet this is an area beset by misunderstanding.
- One needs an appropriate benchmark with which to compare the current system. A good starting place would be a system in which contributions to private pensions are free of tax, no tax is levied on any returns, but tax is paid on all pension income when it is received.
- The current UK tax system is overly generous compared with this benchmark system in two ways. First, up to one-quarter of a private pension can be taken entirely free of income tax. Second, roughly three-quarters of pension contributions – those made by employers – escape National Insurance contributions (NICs) entirely. Two factors work in the opposite direction. First, limits apply to the amounts that can be saved in a private pension without penalty. Second, while returns are free of tax at the personal level, these returns are still likely to be affected by both corporation tax and stamp duties.
- HM Revenue and Customs (HMRC) estimates that the net cost of tax relief on pensions provided by income tax and NICs in 2011–12 was £38.3 billion. But this is relative to a benchmark where individuals are not able to benefit from tax-rate smoothing by only paying tax on pension income when it is received and where the system encourages individuals to spend rather than to save. A better estimate suggests the true cost of income tax and NICs relief on pension saving is less than half the official estimate. Taking into account the impact of taxes at the corporate level – corporation tax on normal returns and stamp duty on purchases of shares and property – would reduce this figure further.
- HMRC estimates also suggest that a disproportionate amount of tax relief goes to those on high and very high incomes. But these data are not a good guide to how reliefs are genuinely distributed: the fact that a large slice of up-front relief goes to high-income individuals purely reflects the fact that they make a large proportion of pension contributions and pay a large share of income tax revenues.
- Reducing the annual allowance or the lifetime limits, or restricting income tax relief on pension contributions in any other way, would be expensive to administer and arguably unfair and would inappropriately distort behaviour. Better ways to boost revenues would be to tackle the two elements of the system that look generous relative to a reasonable benchmark – i.e. the tax-free lump sum and the generous NICs treatment of employer pension contributions. As far as NICs are concerned, they could be imposed on employer contributions. But there is a case for, instead, introducing a small and increasing levy on pensions in payment.
- Consideration could also be given to offsetting some of the impact of corporation tax and stamp duties on the returns achieved by pension funds.

10.1 Introduction[1]

In 2002, the last Labour government set out a consultation for a genuinely radical reform of the tax treatment of private pension saving in the UK. The resulting reforms, which came into force from April 2006 (known as 'A Day'), while not perfect, had much to commend them. As Gordon Brown and Ruth Kelly (then Chancellor and Financial Secretary to the Treasury, respectively) stated in their foreword to the initial consultation document, the reforms represented 'a radical simplification of the tax rules for pensions, sweeping away the existing pension tax regimes, and replacing them with a single lifetime limit on the amount of pension saving that can benefit from tax relief'.[2]

Another stated aim of the consultation was that 'these plans for reform are developed in partnership with those who will use the new rules so that they are simple, durable and readily understood'. Pension rules are rarely simple or readily understood (although the reforms did certainly help). Since pensions are a long-run saving decision, durability is important. The A-Day reforms have since proven anything but durable.

In order to increase tax revenues, and to do so in a way that hit the better off, the last Labour government announced a reform to reduce the generosity of private pension saving from April 2011. This particular plan was never implemented. But the coalition government has implemented its own (less complex and distortionary) reductions in the generosity of the way income tax treats private pensions.

Perhaps in part these reforms have been the result of a number of individuals and organisations making proposals to reform the pensions tax system either because of worries that it is currently 'unfair' or overly generous to high earners or as a way of raising additional revenue. While there is clearly a case for reform – and justifiable ways of carrying it out that would raise revenue mainly from those on higher incomes – it is equally clear that many of the proposals that have been put forward rest on an inadequate analysis of the actual structure and effects of the current system and, more specifically, fail to address the question of what a 'neutral' or a 'fair' system would actually look like.

The fact that a large proportion of the cost of tax relief as recorded by HM Revenue and Customs (HMRC) goes to those with the highest current incomes is not a sign of any 'unfairness' in the system any more than is the fact that the same group pay a very high proportion of all income tax. This should not guide reform proposals. What should guide proposals is a principled look at what an appropriate tax treatment of private pensions would be and how the UK's current system compares to that ideal. That is the objective of this chapter. Section 10.2 describes the principles of pensions tax design and how current UK practice operates. Section 10.3 examines reforms to the system of tax relief on

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[1] The author would like to thank Stuart Adam and Gemma Tetlow for advice and useful comments on this chapter. The chapter draws very heavily on the work of the IFS-led Mirrlees Review, in particular chapters 13 and 14. See J. Mirrlees et al., *Tax by Design*, OUP for IFS, Oxford, 2011, http://www.ifs.org.uk/mirrleesReview and section 9.8 of S. Adam, C. Emmerson and B. Roantree, 'Broad shoulders and tight belts: options for taxing the better-off', in C. Emmerson, P. Johnson and H. Miller (eds), *The IFS Green Budget: February 2013*, IFS, London, http://www.ifs.org.uk/publications/6562.

[2] Source: HM Treasury and Inland Revenue, *Simplifying the Taxation of Pensions: Increasing Choice and Flexibility for All*, London, 2002, http://webarchive.nationalarchives.gov.uk/20100104203713/http:/hmrc.gov.uk/consult_new/pensions_consult.pdf. For a response to this consultation, see, for example, C. Emmerson and M. Wakefield, 'Achieving simplicity, security and choice in retirement? An assessment of the government's proposed pension reforms', IFS Briefing Note 36, 2003, http://www.ifs.org.uk/bns/bn36.pdf.

pension saving that would both improve the operation of the system and reduce the overall cost to the government. Section 10.4 concludes.

10.2 Principles and current practice

This section sets out the implications of different options for how pension saving could be treated by the tax system and describes how the current UK pension system operates.

Principles

There are, in general, three obvious points where pension saving (or indeed any other saving) could be subject to personal taxation: first, when income is first received (i.e. before or at the point at which it is paid into a pension); second, as the returns (interest, capital gains or distributable profit) accrue; and third, when funds are withdrawn from the pension. In addition, both corporation tax and stamp duties on purchases of shares and property might affect pension returns and consideration therefore needs to be given as to whether the tax treatment of pensions at the personal level should reflect this.[3]

Perhaps the obvious starting point, however, is to ask why private pension saving should not be taxed at the personal level just like saving in a deposit account, with the money going into the account being made out of after-tax income, with the returns received being subject to income tax and with the funds not being subject to income tax when they are withdrawn. This is known as a TTE (Taxed, Taxed, Exempt) regime.[4]

Personal level: TTE tax treatment

One problem with this form of taxation is that it is not neutral with respect to whether an individual chooses to spend their money today or whether they instead choose to save it in order to spend in the future. This is because the normal return to saving – that is, the real return that just compensates for individuals choosing to delay their spending plus the return that is purely compensating for inflation – is being taxed. In other words, this method of taxation will, relative to a neutral tax system, distort individuals' behaviour towards spending more now and less in the future, and this distortion will be worse the greater the rate of inflation. This argument applies to all forms of saving, so the normal return on funds held in deposit accounts should also not be subject to tax, but is particularly important for pensions simply because the amounts saved in private pensions are far greater.

Personal level: TEE tax treatment

This might suggest that the obvious way for the personal tax system to treat pension contributions is to have pension contributions being made out of after-tax income, to levy no income tax or capital gains tax on returns as they accrue in the pension, and have the funds not being subject to income tax when they are withdrawn. This is known as a TEE

[3] Inheritance tax – for example, how funds held in a private pension, and how pensions-in-payment that provide survivor benefits, are treated at death – can also affect the incentive to save but this outside the scope of this chapter. For a discussion of whether inheritances should be taxed at all and, if so, how the UK system of inheritance tax could be improved, see, for example, chapter 15 of J. Mirrlees et al., *Tax by Design*, OUP for IFS, Oxford, 2011, http://www.ifs.org.uk/mirrleesreview/design/ch15.pdf and R. Boadway, E. Chamberlain and C. Emmerson, 'Taxation of wealth and wealth transfers', in J. Mirrlees et al. (eds), *Dimensions of Tax Design*, OUP for IFS, Oxford, 2010, http://www.ifs.org.uk/mirrleesreview/dimensions/ch8.pdf.

[4] For a more detailed explanation, see, for example, M. Wakefield, 'How much do we tax the return to saving?', IFS Briefing Note 82, 2009, http://www.ifs.org.uk/bns/bn82.pdf.

(Taxed, Exempt, Exempt) regime and is equivalent to how the UK tax system treats saving in Individual Savings Accounts (ISAs) or owner-occupied housing.

This approach would not tax the normal return to saving at the personal level. However, any returns that individuals made on their investments over and above this normal return would also be untaxed at the personal level. Therefore such a system would provide a distortion towards spending less now and more in the future among those individuals who expected to be able to generate a return in excess of the normal return. Given that those who expect to be able to achieve better than normal returns might well be doing so because of either a particular talent or the effort that they are devoting to their investment strategy, ideally such returns ought to be taxed in a similar way to earned income.

Personal level: TtE tax treatment

Given this, perhaps the next most obvious alternative is to have pension contributions being made out of after-tax income, to levy income tax and capital gains tax on any returns made that are over and above the normal rate of return, and then not to tax the funds when they are withdrawn. This would certainly achieve the objective of not taxing the normal return to saving but taxing any returns that accrue over and above this at the personal level. This is known as a TtE (Taxed, partially taxed, Exempt) regime. This form of taxation, despite having many attractions, is not applied to any assets in the UK.

Personal level: EET tax treatment

An alternative way for the tax system to treat pension saving is to give tax relief on contributions to pensions (or, equivalently, for the contributions to be made out of pre-tax income), to levy no income tax or capital gains tax on returns as they accrue in the pension, and for income from pensions to be subject to tax at the personal level. This is known as an EET (Exempt, Exempt, Taxed) regime. The way income tax and capital gains tax systems treat pension saving in the UK is, for most people, closest to this type of tax treatment. This is also the most common tax treatment of private pension saving at the personal level across industrialised countries.[5]

This type of treatment neatly achieves two objectives:

- First, it ensures that, at the personal level, there is no tax on the normal return to saving but any returns in excess of this return are subject to tax. This feature comes from the fact that, if higher returns are generated, a greater amount of tax will be paid on the eventual pension income. In this respect, EET tax treatment works as well as TtE tax treatment.
- Second, it means that individuals who are subject to a higher rate of income tax during part of their working life but subject to the basic rate of income tax during their retirement are able to smooth their income so that they need not end up paying more tax over their lifetime than an otherwise-equivalent individual who receives the same lifetime income in a less variable way. Essentially, an EET regime allows tax-rate smoothing so that changes in the marginal income tax rate can be evened out over the lifetime. Such a system has been advocated by, among others, the 1978 Meade Committee. In this respect, given that it is more common for tax rates to fall

[5] See table 1 of K-Y. Yoo and A. de Serres, 'Tax treatment of private pension savings in OCDE countries', *OECD Economic Studies*, No. 39, 2004/2, http://www.oecd.org/tax/public-finance/35663569.pdf.

rather than rise on retirement, the EET tax treatment is arguably fairer than the TtE tax treatment.[6]

An EET regime is not, however, flawless. Those individuals who expect to face a lower marginal rate of income tax in retirement than they do at the moment will have their incentives to save distorted by the tax system: they will be incentivised to spend less today and to spend more in retirement than they otherwise would do. Specifically, under a pure EET system, this means that, for example, individuals who are higher-rate income tax payers during their working life but who expect to be basic-rate income tax payers in retirement will face a stronger incentive to save in a private pension than individuals who expect to be either basic-rate income tax payers or higher-rate income tax payers throughout their lives.

Corporate level: taxes on corporate profits and stamp duties

Ideally, taxes on corporate profits and transactions taxes would be well designed so that they need not be a consideration for how pensions (or indeed any other saving) should be taxed at the personal level.[7] But faced with a system for taxing corporate profits, share transactions and property purchases that harshly taxes certain investments, there is the issue of whether this should be reflected in the way that the personal tax regime treats returns on funds held in pensions. Specifically, should investments made from funds in private pensions be exempt from any stamp duties and should returns that accrue on investments held in private pensions be given a repayable credit to compensate for the fact that tax will have been paid on normal returns at the corporate level? Doing so could help ensure that a significant proportion of overall UK wealth – that held in private pensions[8] – was being treated by the overall tax system in a way that was neutral between saving and spending.

A bonus for private pension saving

The starting point set out above is for the tax treatment of saving to be neutral between spending today or instead saving and spending in future. But if all saving were taxed in such a way, there would be no incentive from the tax system to save in a private pension as individuals could instead save in a more liquid form for their retirement. If public policy wants individuals to choose to lock away their savings until they retire, and then be compelled to use that pot of savings to secure a retirement income of at least a certain level (usually through the compulsory purchase of an annuity), some incentive needs to be provided.

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[6] Some might expect to face a higher tax rate in retirement than they do in their working life. For these individuals, TtE tax treatment would allow them to tax-rate smooth. One possibility is to give individuals the choice between a TtE and EET tax treatment. See J. Meade, *The Structure and Reform of Direct Taxation: Report of a Committee Chaired by Professor J. E. Meade*, George Allen & Unwin for IFS, London, 1978, http://www.ifs.org.uk/publications/3433.

[7] A well-designed corporation tax would only tax returns in excess of the normal rate of return. The IFS-led Mirrlees Review set out proposals for introducing an Allowance for Corporate Equity into corporation tax, which would achieve this objective (see pages 421–5 in chapter 17 and pages 446–8 in chapter 18 of J. Mirrlees et al., *Tax by Design*, OUP for IFS, Oxford, 2011, http://www.ifs.org.uk/mirrleesReview). Furthermore, transactions taxes – stamp duty on shares and stamp duty land tax on property transactions – would not exist, since both discourage individuals from making mutually beneficial trades at no detriment to the rest of society. It is argued that some trades take place which use real resources and yet do not have any real economic value. But rather than have a broad-based transactions tax, a better policy response would be to target regulation and/or taxes at these specific activities.

[8] Estimated by the ONS at almost half of net household wealth. Figure from the 2008–10 wave of the Wealth and Assets Survey; source: figure 2 on page 3 of Office for National Statistics, *Chapter 2: Total Wealth, 2008/10*, 2012, http://www.ons.gov.uk/ons/dcp171776_271539.pdf.

There are two good public policy reasons to want individuals to save privately to build an adequate retirement income. First, there may be concerns that, otherwise, some individuals might actively choose to save less and then fall back onto means-tested benefits in retirement. Second, there might be a worry that, without an additional incentive to save for retirement, individuals might unintentionally undersave and, when they get to retirement, regret that they had saved too little.

This suggests that generous tax treatment of private pension saving, relative to the benchmark EET system set out above, could be appropriate. This is because for those who expect to be basic-rate income taxpayers throughout their lives (and therefore do not wish to save in a private pension in order to smooth their taxable income), the EET system will be neutral between saving and spending. This provides a potential justification for an additional incentive to save in a private pension.

Any such bonus should be tailored to the problem it is trying to solve. If the issue is that individuals would otherwise actively choose to save too little from society's point of view because of the presence of means-tested benefits, then it would make sense to target the incentive towards those who are likely otherwise to end up on means-tested benefits in retirement. If the issue is a concern that individuals might be saving too little from their own point of view, then it would make sense to target any incentive towards potential undersavers. In both cases, the incentive – relative to EET tax treatment – should be designed in a way that encourages individuals to respond to it (for example, a transparent and simple incentive is likely to be more effective than an opaque and complicated one) and potentially it should only be targeted towards those who are actually likely to respond.

Current UK practice

The UK's income tax and capital gains tax regime for pensions is closest to the EET regime described above. Contributions are made free of income tax, investment returns accumulate free of income tax and capital gains tax, and the pension in payment is subject to income tax. There are three obvious ways in which UK practice deviates from a pure EET treatment: the presence of a tax-free lump sum, limits on the amounts that can be contributed to and held in private pensions, and the treatment of pension saving by the system of National Insurance contributions (NICs). Furthermore, the returns to saving will potentially be affected by both corporation tax and stamp duty on share transactions. We now describe each in turn.

Tax-free lump sum

A quarter of the accumulated pension balance in a defined contribution scheme can be withdrawn as a lump sum free of income tax. (A roughly equivalent rule works for defined benefit schemes too.) The result is that a quarter of contributions are effectively subject to a very generous EEE treatment for income tax purposes. This means that someone who accumulated £1.25 million in a private pension (the maximum on which tax relief will be granted from 2014–15; see below) would be able to receive £312,500 that had escaped income tax altogether: it would be taxed neither when it was earned nor when it was withdrawn from the pension.

Contribution limits

There are two limits that apply to private pension contributions. First, individual contributions (i.e. not including those formally made by an employer) in a single year are not allowed to exceed the greater of 100% of an individual's earnings in that year or

£3,600 if their earnings are below this level. Second, tax relief is given on private pension contributions (both individual and employer) up to an annual limit, known as the annual allowance. This is currently set at £50,000, but is due to fall to £40,000 from 2014–15 (and is significantly lower than the £255,000 annual limit that was in place when the current government took office in 2010–11). Individuals are allowed to make use of any unused allowance from the previous three years, as long as they were a member of a scheme in those years. This means that, for many, the annual allowance will eventually effectively become a £160,000 limit over a rolling four-year window.

Clearly, the annual allowance only affects individuals who are relatively well off. However, the way that pension rights accrue in final salary defined benefit schemes also means that high-sounding annual allowances can affect people who are well off but perhaps not quite as rich as one might imagine: for example, an employee earning £38,000 a year with 30 years' membership of a final salary pension scheme who saw their pay rise to £55,000 in four years' time could be affected by the £40,000 limit due to be introduced in 2014–15. But defined benefit schemes that operate on a final salary basis are increasingly rare. In the private sector, they have almost entirely been replaced by defined contribution schemes; just 8.4% of private sector employees were members of a defined benefit scheme in 2012 and this percentage has been falling rapidly in recent years.[9] Defined benefit schemes are still prevalent in the public sector but, following the recommendations of Lord Hutton's Independent Public Service Pensions Commission review, for future accrual these are to operate on a career average rather than a final salary basis.[10] Career average defined benefit pensions typically accrue more gradually over an individual's lifetime than final salary pensions and therefore this will make it less likely that individuals will be constrained by a given level of annual allowance in future.

There is also a cap on the total amount that can be accumulated in a private pension, known as the lifetime limit. This is currently set at £1.5 million and is set to fall to £1.25 million from 2014–15. To get a feel for how big a £1.25 million pension pot is, note that a single man aged 65 with a pension pot that size could, at current annuity rates, take a tax-free lump sum of £312,500 and receive an RPI-linked annual pension of about £30,000 (or an annual pension fixed in cash terms of about £50,000).[11] For someone in a defined benefit pension arrangement, a £312,500 lump sum and an annual RPI-linked pension of £46,875 – some 50% higher than the maximum defined contribution pension – is deemed to be equivalent to a pension pot of £1.25 million (since defined benefit pension schemes are deemed to have a pot size 20 times the annual pension).

National Insurance contributions

The NICs regime for pensions is quite different from the income tax regime. The treatment of pension contributions formally made by an individual is broadly sensible: there is no NICs relief on contributions, and no NICs are payable on pension income either (so, using the terminology set out above, these are subject to Taxed, Exempt,

[9] Source: Table 2.1 of Office for National Statistics, *Annual Survey of Hours and Earnings Pensions Tables*, 2012 edition, http://www.ons.gov.uk/ons/rel/ashe/annual-survey-of-hours-and-earnings-pension-tables/index.html.

[10] See the commission's *Final Report*, 2011, https://www.gov.uk/government/publications/independent-public-service-pensions-commission-final-report-by-lord-hutton.

[11] Source: http://pluto.moneyadviceservice.org.uk/annuities calculation based on a non-smoking single man born in 1948 living in Ipswich.

Exempt (TEE) treatment[12]). However, *employer* pension contributions are treated extremely generously: they are excluded from earnings for both employer and employee NICs – total NICs relief of 22.7% for those earning below the upper earnings limit[13] – while the pension income they generate is not subject to NICs either. Employer pension contributions are the only major form of employee remuneration that escapes NICs entirely and make up roughly three-quarters of all pension contributions.

Corporation tax and stamp duty

The current UK corporation tax does, in part, tax the normal rate of return. In addition, stamp duty is levied at a rate of 0.5% on all purchases of UK shares, while stamp duty land tax applies to any property purchases. At the moment, the personal tax system does not compensate pensions saving either for the tax paid on the normal return at the corporate level or for the presence of stamp duties. But versions of both forms of compensation have existed in the past. Prior to April 1993, repayable dividend tax credits on UK (not global) shareholdings were paid at a rate equal to the basic rate of income tax (which in 1992–93 was 25%). This was reduced by the then Chancellor Norman Lamont (now Lord Lamont) to 20% in his Spring 1993 Budget, and then abolished completely by Mr Brown in his first Budget in July 1997.[14] In addition, in his March 2001 Budget, Mr Brown introduced 'individual pension accounts', which were exempt from stamp duty on share transactions. However, these accounts never became widely available, with reports suggesting that they were only offered by one provider.[15]

Cost of UK pensions tax relief and who benefits

Official estimates suggest that in 2012 about £70 billion was contributed to funded private pensions, which had a total fund value in 2011 of over £2 trillion.[16] The scale of these contributions and accumulated funds makes it particularly important that they are treated appropriately by the tax system. For this policymakers need to know how much revenue is raised under the current system and – more difficult – how this would

[12] While this means that excess returns in a private pension are not subject to NICs, this is also true of excess returns more widely as NICs only ever apply to earned income.

[13] If an employer pays out £100 in pension contributions, that is the amount that goes into the employee's pension. A salary payment that costs the employer the same amount would leave the employee with only £77.32, 22.7% less: paying a nominal wage of £87.87 would cost the employer £100 because of 13.8% employer NICs on top of the £87.87, while the employee would lose 12% of the £87.87 in employee NICs, leaving only £77.32. (22.7% is employee NICs of 12% plus employer NICs of 13.8% divided by total employer cost of (100% + 13.8%).)

[14] The March 1993 Budget measure is scored by the Treasury as boosting revenues in 1995–96 by an estimated £900 million. The July 1997 Budget measure is scored as increasing revenues in 1999–2000 by £5.4 billion. The latter is often described as a £5 billion pensions 'raid'. However, only £3.5 billion of the £5.4 billion came from pension funds, with the remainder coming from other exempt taxpayers such as charities. In addition, the concurrent cut in the main corporate tax rate from 33% to 31%, and a further cut to 30% in 1999, would have boosted the incomes of pension funds by up to £1 billion, reducing the net cost to pension funds to £2.5 billion or less. For analysis of the impact of the July 1997 Budget, see S. Bond, M. Devereux and A. Klemm, 'Dissecting dividend decisions: some clues about the effects of dividend taxation from recent UK reforms', IFS Working Paper 05/17, 2005, http://www.ifs.org.uk/publications/3422.

[15] See, for example, Money Marketing, 'Will IPA ever go to the ball?', 21 March 2002, http://www.moneymarketing.co.uk/will-ipa-ever-go-to-the-ball/62993.article.

[16] In 2011, the value of assets held in UK funded pensions is estimated by ONS at £2,040.7 billion (135% of GDP), while total contributions to self-administered pensions in 2012 amounted to £49.6 billion. Source: Figures 9.1 and 9.5 of Office for National Statistics, *Pension Trends*, http://www.ons.gov.uk/ons/dcp171766_305526.pdf. In 2011–12, £20.1 billion was contributed to personal pensions, retirement annuity contracts and free-standing additional voluntary contributions. Source: Table PEN1 of http://www.hmrc.gov.uk/statistics/pension-stats.htm. This gives total contributions to these schemes of almost £70 billion, but also omits contributions to the relatively small group of occupational pensions administered by insurance companies.

compare with the revenue that would be raised under a sensible benchmark system. Where the current system involves a net cost compared with the alternative system, policymakers would need to know who was benefiting in order to help ensure that the giveaway was appropriately targeted. This subsection describes the official HMRC estimates of the cost of pensions tax relief and of how it is distributed and explains why, unfortunately, in neither case do they provide a good guide to the true answer.

HMRC's estimates of the cost of tax relief

Calculating correctly what the total cost of tax support for pension saving is and how much different types of individuals benefit is not straightforward. The right way to do it is to calculate, for each individual, the total amount of tax they would pay on their pension saving over their entire lifetime under the current UK tax system. This could then be compared with how much they would pay under an alternative system.

In addition to being computationally difficult, the answer will also be sensitive to what alternative pensions tax regime it is compared with. If we compared the current system with one where pension saving was never taxed (i.e. EEE in the notation above), we would conclude that the current UK system of taxing pensions is raising revenue for the exchequer and that much of the burden is falling on individuals with higher incomes over their lifetime. At the other extreme, we could compare the tax paid under the current system with the tax paid under a system where pension contributions were made out of after-tax income, returns on funds held in a private pension were subject to tax, and pension income was also subject to tax (TTT). This would lead us to the conclusion that the current system for taxing private pensions comes at a considerable exchequer cost and that higher-income individuals are disproportionately benefiting. But both these conclusions would be wrong as the counterfactual system is obviously silly: having no tax at any point on pension saving would clearly be inappropriately generous, while trying to tax contributions to pensions and income from pensions would in practice surely lead to no one choosing to save in a pension.

HMRC produces an official estimate of the annual cost of tax relief given to private pension saving by the income tax and NICs systems. This estimate thus excludes the impact of capital gains tax, corporation tax and stamp duties. The methodology HMRC employs differs from that set out above as it looks at the amount of tax relief given in a particular year and compares this with the amount of tax collected on pension income in the same year. This is comparing the gross cost of giving tax relief to today's working-age population and the revenue raised from taxing the pensions of today's retirees. This method will tend to overstate the cost of tax relief for two reasons. First, real growth in per-capita national income means that today's working-age individuals are very likely, on average, to have higher pension incomes than today's retirees. Second, demographic change means that the current working-age population will, when they reach retirement, be more numerous at each age than the current retiree population.

The final key thing to note is that HMRC chooses to compare the current tax treatment of pension saving in the UK with a system where contributions to pensions were made from taxed income, where returns on funds held in pensions were taxed (although capital gains tax is not included in its calculation anyway) and where income from pensions is not taxed. This is a Taxed, Taxed, Exempt (TTE) regime. As discussed above, this is not a 'neutral' system and would disincentivise pension saving.

With these important caveats in mind, the latest HMRC estimates for 2011–12 are presented in Table 10.1. Because it is looking at how income tax and NICs treatment

Table 10.1. HMRC estimates of the cost of pensions tax relief, 2011–12

	£ billion
Income tax relief on contributions from employees	5.6
Income tax relief on contributions from self-employed	0.9
Income tax relief on contributions from employers	21.7
National Insurance relief on contributions	15.0
Income tax relief on returns	6.8
Gross tax relief	**49.9**
Income tax received on pension income	11.5
Net tax relief	**38.3**

Source: Table PEN6 of http://www.hmrc.gov.uk/statistics/pension-stats.htm.

compares with a TTE system, and because it is using the tax paid by today's pensioners as a proxy for the tax that will be paid on today's pension contributions when that income is drawn, HMRC looks at the 'cost' of up-front relief and nets off the tax received on pension income. It also counts as relief the 'cost' of not subjecting returns on funds held in private pensions to income tax (but not the 'cost' of not subjecting them to capital gains tax). In 2011–12, total up-front income tax and NICs relief on pension contributions is costed at £43.2 billion and income tax relief on returns at £6.8 billion, giving a gross cost of £49.9 billion. Income tax on pension income in that year raised £11.5 billion, giving an estimated net cost of £38.3 billion.

How these figures evolve going forwards will depend on underlying trends in pension contributions, pension returns and pension income. In addition, three reforms will also affect these numbers slightly. First, the likely boost to pension contributions as a result of most employees being automatically enrolled into workplace-based pensions will increase the cost of tax relief. Second, recent reductions to the annual allowance and lifetime allowance will tend to reduce the amount of tax relief. Third, the reduction in the top rate of income tax from 50p to 45p that came into force from April 2013 will reduce the cost of tax relief to pension savers with incomes in excess of £150,000. HMRC has produced projections for the cost of income tax relief (i.e. not including the cost of NICs relief on pension contributions formally made by employers). This is projected to fall from the £23.3 billion in 2011–12 shown in Table 10.1 (i.e. the £38.3 billion total net cost less NICs relief of £15.0 billion) to £22.8 billion in 2012–13 and £22.6 billion in 2013–14.[17]

HMRC's estimates of the distribution of tax relief

HMRC also publishes estimates of the proportion of income tax relief that is given to individuals in different income bands based on their individual pension contributions. Since these data only show individual contributions – and not those made on individuals' behalf by their employers – they only include about one-quarter of the total estimated up-front cost of income tax relief on pension contributions (and they also ignore relief from NICs on employer contributions). Furthermore, this calculation makes no allowance for the amount of tax that will eventually be paid on the pension income. It is therefore unsurprising that individuals with a higher current income are, on average, estimated to receive more up-front tax relief than individuals who have a lower current income.

[17] Source: HMRC, 'Estimated costs of the principal tax expenditure and structural reliefs', http://www.hmrc.gov.uk/statistics/expenditures/table1-5.pdf. This table also states that the cost of *employer* NICs relief on pension contributions is estimated at £10.4 billion in 2012–13, rising to £10.8 billion in 2013–14, but unfortunately does not give an estimate of the cost of *employee* NICs relief.

The HMRC estimates suggest that in 2010–11 income tax relief for those with taxable income below £20,000 was 7%, for those between £20,000 and £45,000, 29%, £45,000 to £75,000, 26%, £75,000 to £100,000, 7%, £100,000 to £150,000, 8%, while those with a taxable income above £150,000 received 22%.[18]

It is often claimed that these numbers demonstrate that a disproportionate amount of pensions tax relief goes to high-income individuals.[19] For example, the 1% of income tax payers fortunate enough to have a taxable income of over £150,000 made 16% of all pension contributions and yet received an estimated 22% of all up-front tax relief.[20] But this is not obviously unfair; and neither is the fact that this group also paid 24% of all income tax revenue,[21] which perhaps helps show why it is not surprising that HMRC's estimates suggest this group receives such an apparently large slice of pensions tax relief.

It is worth reiterating that these calculations overstate the generosity of income tax relief for higher-income individuals for two reasons. First, individuals who have a higher lifetime income will typically have higher pension incomes and these calculations take no account of the income tax that will eventually be paid on that income. Second, some individuals will have high incomes only temporarily and may be making greater pension contributions in order to benefit from tax-rate smoothing. As set out earlier in this section, to the extent that this leads to individuals with the same lifetime incomes paying the same amount of tax over their lifetimes, this would seem fair.

An assessment of the distribution of income tax relief, relative to a benchmark of a pension system where tax relief was given on pension contributions, returns were not taxed, but pension income was taxed, would still show that those with higher lifetime incomes received a disproportionate share of income tax relief relative to the contributions that they made. This would arise because of the tax-free lump sum being more generous to those who pay higher-rate income tax in retirement than the majority who pay basic-rate income tax in retirement (although this would be offset by the extent to which individuals are constrained by the annual allowance and lifetime limit). But the distribution would not be anywhere near as skewed as the HMRC data suggest.

The other large omission is the cost of up-front NICs relief on contributions to private pensions that are made on individuals' behalf by their employers. Since NICs are not paid on pension income, it is more reasonable to classify this as relief, but HMRC does not attempt to do this as it only looks at contributions formally made by individuals. The distribution of this relief could well differ from the distribution of up-front income tax relief that HMRC estimates. For example, it could be that employer pension contributions are more skewed towards those on higher incomes than individual contributions are. Unfortunately, decent data on how employer and employee pension contributions vary across the income distribution are not available.

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[18] See House of Commons, *Daily Hansard – Written Answers*, 20 February 2012, column 643W, http://www.publications.parliament.uk/pa/cm201212/cmhansrd/cm120220/text/120220w0006.htm#12022110000486.

[19] See, for example, Pensions Policy Institute, *Tax Relief for Pension Saving in the UK*, London, 2013, http://www.pensionspolicyinstitute.org.uk/default.asp?p=12&publication=0347&.

[20] Source: Author's calculations using data from HMRC Statistics, table 3.8, http://www.hmrc.gov.uk/statistics/income-by-year/table3-8.xls.

[21] Source: Author's calculations using data from HMRC Statistics, table 2.5, http://www.hmrc.gov.uk/statistics/tax-statistics/table2-5.xls.

Summary

The lack of employer or employee NICs on pension contributions made on individuals' behalf by their employer, and the fact that up to a quarter of a pension pot can be drawn entirely free of income tax, mean that the personal tax system does, overall, treat private pension saving generously. It would be useful for policymakers to have a good estimate of how much this relief costs. Unfortunately, the figures produced by HMRC, which suggest that the net cost of pension relief provided by income tax and NICs in 2011–12 was £38.3 billion, do not provide a good guide to this. This is because they are relative to a benchmark where individuals are not able to benefit from tax-rate smoothing and where the system encourages individuals to spend rather than to save. A better estimate would be the cost of NICs relief – estimated by HMRC at £15.0 billion – plus the cost of the tax-free lump sum, for which HMRC no longer publishes an estimate but which it has previously estimated at £2.5 billion a year.[22] This suggests that the true cost of income tax and NICs relief could be less than half the official HMRC estimate that was set out in Table 10.1. If the impact of taxes at the corporate level – corporation tax on normal returns and stamp duty on purchases of shares and property – were taken into account, then the figure would be reduced further still.

Furthermore, policymakers ought to want to know how this cost of relief is distributed across different individuals. Again, the HMRC data are not a good guide to this. Relative to a benchmark of EET tax treatment, individuals who are higher-rate taxpayers while working but basic-rate taxpayers in retirement are simply tax-rate smoothing and it is far from clear that this is overly generous, or unfair, treatment. Unfortunately, analysis of how pensions tax relief is distributed relative to the EET benchmark is not available, although the tax-free lump sum and the lack of NICs on employer contributions will likely mean that the lifetime rich will, on average, see their pension contributions more generously treated than lower-income individuals will. However, even without these data, there are still changes that could be made to the way in which the UK tax system treats pension saving that could make the system more coherent and, potentially, also raise revenue.

10.3 Options for reform

This section considers some possible options for reforming pensions tax relief, in particular looking to see if there are ways that would improve the structure of relief and also reduce the generosity of the system in order to boost tax revenues.

Reduce the annual or lifetime allowance

The simplest way to raise more money would be to reduce the annual and/or lifetime limits on what can be contributed to a pension tax-free. This would be in keeping with recent reforms, repeating what was done in the June 2010 Budget and the 2012 Autumn Statement. We are not aware of any estimates of the yield from further reductions; the government estimates that the reduction of the annual limit from £50,000 to £40,000 and the reduction of the lifetime limit from £1.5 million to £1.25 million will together raise

[22] See footnote 29.

£1.1 billion in 2017–18[23] and more thereafter, but further reductions of the same size would raise significantly more than that because far more people would be affected.

Tightening limits on what can be saved in tax-privileged forms over a lifetime may not be the worst way to reduce the generosity of the pensions tax system. But the further you go down the route of cutting the lifetime limit, the more you move away from the relatively desirable EET system of taxation. This would increase the risks that people will be incentivised to undersave and that more effort will be put into securing tax advantages by using more complex schemes. Perhaps more importantly, there are better options available, which we discuss below. In particular, rather than preventing people with very large pension pots from saving any more in a registered pension scheme at all, it would be better to let them save in a pension but without the large subsidies they currently receive through the tax-free lump sum and the NICs exemption of employer contributions.

The fact that the lifetime limit is more generous for those in defined benefit (DB) schemes than for those in defined contribution (DC) schemes is hard to justify. Therefore if the government was minded to reduce the lifetime allowance again, it should do so in a way that equalises it for members of defined benefit and defined contribution pensions.[24]

Reducing the annual allowance makes less sense than reducing the lifetime allowance. For a given level of lifetime contributions, it is not clear why we would want to penalise making occasional large contributions rather than frequent smaller contributions. In practical terms, reducing the annual allowance is more problematic, as valuing annual contributions to defined benefit pension schemes is difficult; the lower the annual limit, the more of these difficult valuations must be done. Indeed, there is actually a strong case for abolishing the annual allowance (and the cap on individual contributions of the greater of £3,600 and 100% of annual earnings) and simply allowing individuals to place as much as they like in a private pension as long as the total value of their pension pot does not exceed the lifetime limit. (If the annual allowance is retained, there is a strong case for the three-year carry-forward to apply to all individuals and not just to those who were a member of a scheme in those years. The allowance should also be reviewed to ensure that it is neutral between DC and DB schemes at all ages.)

Restrict income tax relief to the basic rate

The restriction of income tax relief on pension contributions to the basic rate is frequently proposed (including in the Liberal Democrats' 2010 general election manifesto). The government says that in 2011–12 this would have reduced the cost of tax relief on pension contributions by around one-third, implying a yield of about £9.4 billion.[25] However, as the government notes, this ignores the substantial change in behaviour that this reform would be likely to engender. In fact, if people's main response

[23] Source: Table 2.1 of HM Treasury, *Autumn Statement 2012*, http://cdn.hm-treasury.gov.uk/autumn_statement_2012_complete.pdf.

[24] The calculation on page 227 suggested that about 50% more RPI-linked income, on top of a tax-free lump sum, could be received from a tax-relieved DB pension than from a tax-relieved DC pension. This suggests that the factor of 20 applied to convert DB pension income into DB pension wealth should be increased by something like 50% to 30.

[25] Yield from restricting relief from Written Answer by David Gauke MP to a Parliamentary Question, 6 July 2011 – 'If relief on pension contributions were limited to the basic rate of tax, the amount of this relief would fall by approximately one third. This estimate does not take account of behavioural effects, which are likely to be large' (*Hansard*, column 1249W, http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm110706/text/110706w0002.htm).

was to reduce their pension contributions, this would tend to increase the yield in the short run by saving the cost of basic-rate relief as well as higher-rate relief, but in the long run this would be offset by reduced revenue from taxing pension income.

It is often argued that it is 'unfair' that a large proportion of income tax relief goes to those on relatively high incomes. As discussed in Section 10.2, it perhaps looks less unfair when put in the context that, despite this tax relief, they still pay a large proportion of all income tax.

More fundamentally, the idea that income tax relief should be restricted to the basic rate is misguided. The error stems from looking at the tax treatment of pension contributions in isolation from the tax treatment of the pension income they finance. Pension contributions are excluded from taxable income precisely because pension income is taxed when it is received: in effect, the tax due on earnings paid into a pension is deferred until the money (plus any returns earned in the interim) is withdrawn from the fund. It is hard to see how it can be unfair for higher-rate taxpayers to receive 40% relief when basic-rate taxpayers receive 20% relief, yet at the same time *not* be unfair for higher-rate taxpayers to pay 40% tax on their pension income when basic-rate taxpayers pay only 20%.

Proponents of the restriction point out that many of those receiving relief at the higher rate will only pay basic-rate tax in retirement.[26] The arguments here are more complex. The current system certainly provides an additional incentive for higher-rate taxpayers to save in a pension if they expect to be basic-rate payers in retirement. But in effect, such individuals are simply smoothing their taxable income between high-income and low-income periods, undoing the 'unfairness' that an annually-assessed progressive tax schedule creates by taking more tax from people whose incomes are volatile than from people whose incomes are stable. But even if receiving higher-rate relief and then paying basic-rate tax is seen as unfair, that does not diminish the case for accompanying any restriction of tax relief on contributions with a restriction of the tax on pension income. The tax system should treat pension contributions and pension income in a symmetric way.

Restricting the tax relief would also be complicated, for the same reason as reducing the annual allowance would be. It would require the valuation of pension promises made by employers through defined benefit schemes. And this requirement would be much more widespread if it applied to all higher-rate taxpayers rather than just people making exceptionally large pension contributions.

The Labour Party has revived a proposal originally made in the then Labour government's 2009 Budget, but never implemented because it was dropped by the incoming coalition government in favour of a reduction to annual and lifetime allowances designed to raise the same amount of money. The proposal is to restrict tax relief on pension contributions to the basic rate, but only for those with incomes above £130,000 and whose gross incomes plus employer pension contributions are above £150,000. This policy would involve much additional complexity in measuring the value of employer pension contributions for those potentially affected. It would also mean that some with large employer pension contributions would face a substantial increase in their income tax bill if their income rose from just under to just above the £130,000 threshold. To take

[26] Though the snapshot statistics of the income tax rates facing current pension savers and current retirees often used to illustrate the point are somewhat misleading – those currently contributing may not necessarily face the same tax rates in retirement as current retirees, not least because of ongoing fiscal drag.

one example, an individual earning £129,000 plus an employer pension contribution of £40,000 would face an increase in their annual income tax bill of over £10,000 if their current wage were to rise to £130,000 (assuming a top rate of income tax of 50%). While targeting the policy on only those with such high incomes has the merit of limiting a bad policy to a smaller group of people, it has even less of a coherent rationale than a more general limit on tax relief. It is hard to see why it should be unfair for those above £150,000 to get tax relief at their marginal rate, but not for other higher-rate taxpayers to do so. Indeed, these very-highest-income individuals are less likely to be only basic-rate taxpayers in retirement, removing one of the principal arguments for restricting relief.[27]

In summary, then, restricting the rate of income tax relief on pension contributions would be expensive to administer, be unfair and inappropriately distort behaviour. There are far better ways to raise money from well-off people, or to reduce the generosity of pensions taxation, or even to do both at once.

Cap the tax-free lump sum

The argument that is usually made for the tax-free lump sum, which means that up to a quarter of a pension pot can escape income tax altogether, is that it is compensation for the fact that pensions are constructed to be a highly inflexible form of savings, available only after a certain age. If, for reasons of public policy, we want people to lock money away for long periods, we are likely to have to provide them with a good reason for doing so.

That is a strong argument, but it has its limits. At the moment, the size of the lump sum that can be taken tax-free is limited only by the lifetime limit on the size of a pension pot: with a £1.25 million lifetime allowance, this means that £312,500 can be taken tax-free. While there are good reasons that we might actively encourage people to save a certain amount for their retirement, it is less clear that people who already have, say, a £1 million pension fund ought to be subsidised for saving yet more, at the expense of other taxpayers. There is therefore a powerful case for introducing a cash limit on the amount that can be taken as a tax-free lump sum, at a level considerably below £312,500.[28] Unfortunately, no reliable current estimate exists of the revenue that this would raise.[29]

More fundamentally, while the case for providing a 'bonus' for saving in a pension is strong, a tax-free lump sum seems like a singularly ill-designed form for such an inducement to take. Encouraging withdrawal of a tax-free lump sum seems a perverse way of encouraging people to build up a pension, if one of the pension's main purposes is to provide a regular retirement income (and keep people off means-tested benefits). The current system also provides a significantly bigger bonus for higher-rate taxpayers than

[27] See C. Emmerson, 'A response to the Treasury consultation on restricting pensions tax relief', IFS Press Release, 1 March 2010, http://www.ifs.org.uk/publications/4773.

[28] To prevent charges of retrospective taxation, the government could consider exempting pension savings already in place that would exceed the cap. The last Labour government did the equivalent when it introduced the new lifetime cap on pension saving but did not apply the new cap to existing pension funds whose value exceeded it.

[29] The government previously estimated the total cost of the tax-free lump sum at around £2.5 billion (it was formerly in HMRC Statistics table 7.9, as cited in, for example, footnote 20 of M. Lloyd and C. Nicholson, *A Relief for Some: How to Stop Lump Sum Tax Relief Favouring the Wealthy*, Centre Forum Report, 2011, http://www.centreforum.org/assets/pubs/a-relief-for-some.pdf) but no longer produces an estimate. Note that this £2.5 billion figure assumed that no one would change their behaviour in response to the reform and that the tax-free lump sums would otherwise be taxed at 20%. Based on this £2.5 billion figure, Lloyd and Nicholson (ibid.) estimated that restricting the tax-free lump sum to the then higher-rate threshold of £42,475 would raise £0.5 billion per year.

for basic-rate taxpayers. As the Mirrlees Review notes, there are many alternative ways of incentivising pension saving that do not have these features.[30] For example, the government could simply top up pension funds at the point of annuitisation, again subject to a cap: a 5% top-up would be broadly equivalent in value to the tax-free lump sum for a basic-rate taxpayer (20% of 25%).

Levy NICs on employer contributions

Employer pension contributions are the only major form of employee remuneration that escape NICs entirely, and do so at an estimated cost to the government of £15.0 billion in 2011–12 (as shown in Table 10.1). Some might argue that encouraging saving through workplace pensions is a particularly effective way of raising personal saving. But it is not clear that this warrants net saving incentives of the magnitude currently in the tax code, or such a large bias towards contributions coming (formally) from employers rather than employees: a pension contribution that costs an employer £100 to make would cost him nearly £130 if it came instead from an employee earning below the upper earnings limit.[31] This no doubt helps to explain why HMRC records income tax relief on employer contributions as more than three times as great as that on employee contributions (as shown in Table 10.1).

The obvious solution would be to start charging NICs on employer pension contributions, so that they are treated like any other form of remuneration. Employer NICs are already virtually flat rate (other than the earnings threshold) and could readily be charged at a flat rate on any contributions made by the employer. This solution would, however, be harder to implement with respect to charging *employee* NICs on *employer* pension contributions. The non-flat-rate structure of employee NICs would require employer contributions to be allocated to individuals; as mentioned above, that is difficult for defined benefit pension schemes. But, even if only employer NICs were charged, this would be an improvement on the current system and would raise an estimated £10.8 billion in 2013–14.[32]

While charging NICs on employer contributions would be a major improvement on the current system, the Mirrlees Review argued that, in principle, it would be even better to move towards providing NICs relief on all pension contributions and levying NICs on all pension income, so that NICs treated pensions in the same way as income tax does (with the added advantage of moving further towards the integration of income tax and NICs).[33] However, to avoid retrospective double taxation – levying NICs on pension income despite having already levied NICs on employee contributions to that pension, undermining the legitimate expectations of those who have saved up to now – careful transition arrangements would be needed. Such a transition could take decades, opening up the political risk that future governments might not follow through with the plan. And

[30] Pages 340–1 of J. Mirrlees et al., *Tax by Design*, OUP for IFS, Oxford, 2011, http://www.ifs.org.uk/mirrleesreview/design/ch14.pdf.

[31] For an employee to contribute £100 to a pension requires earnings of £113.64 (since 12% employee NICs are taken out of the £113.64), which costs the employer £129.32 (since 13.8% employer NICs are levied on the £113.64).

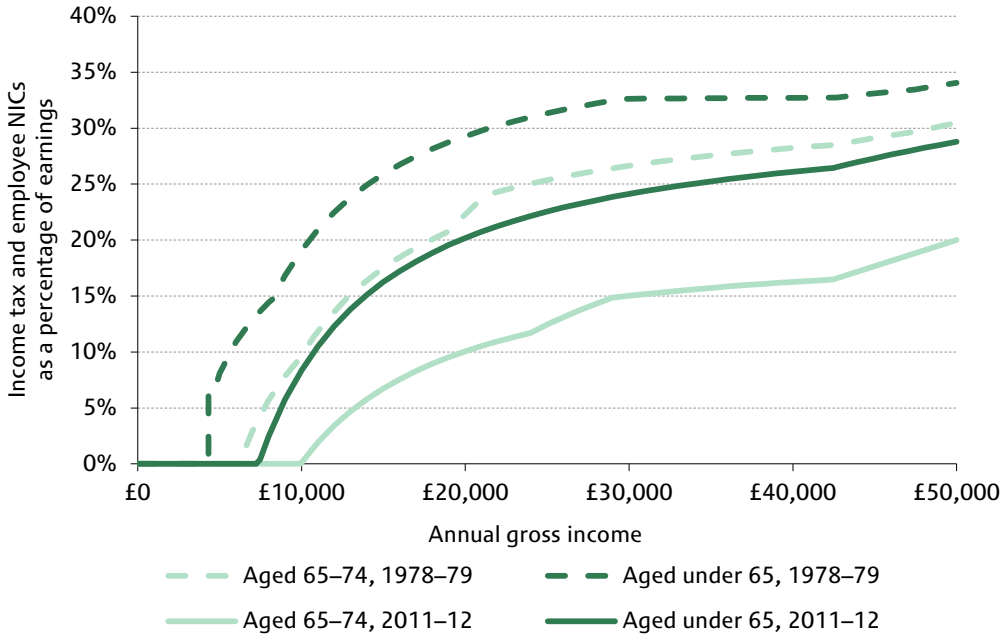
[32] Source: HMRC, 'Estimated costs of the principal tax expenditure and structural reliefs', http://www.hmrc.gov.uk/statistics/expenditures/table1-5.pdf.

[33] Pages 339–40 of J. Mirrlees et al., *Tax by Design*, OUP for IFS, Oxford, 2011, http://www.ifs.org.uk/mirrleesreview/design/ch14.pdf.

the transitional arrangements would mean that, while the reform generated significant revenue in the long run, it would actually cost money up front.

To avoid such a long transition, a government could decide to start charging NICs on pensions in payment at a relatively low rate now and to increase this gradually over time. Each 1 percentage point charged would raise an estimated £350 million.[34] One could argue that such a change could help to spread the government's fiscal consolidation plan more evenly across the generations since the tax and benefit reforms announced to date have, on average, reduced the incomes of pensioners by less than those of working-age individuals.[35] Moreover, the extent to which it would genuinely be double taxation is unclear for two reasons. First, the majority of pension income will reflect contributions to private pensions made on individuals' behalf by their employers and therefore will never have been subject to NICs. Second, the shift from income tax to NICs that has occurred under the last Conservative and Labour governments, and continued under the coalition government, means that less tax on pension income will be paid by today's pensioners than they might have expected when they were saving for retirement. As shown in Figure 10.1, the period between 1978–79 and 2011–12 saw a fall in the combined rates of income tax and employee NICs across the income distribution (compare the dashed lines with the solid lines). They fell by more for those aged 65 to 74 (the light green lines) than they did for those aged under 65 (the dark green ones), because income tax rates have fallen by more than NICs rates and the latter do not apply to those aged 65 and over.

Figure 10.1. Income tax and employee NICs rates by income, 1978–79 and 2011–12



Note: Assumes single man, no children, no income other than earnings for individual aged under 65, one job, contracted into S2P/SERPS.
Source: Figure 2.9 of S. Adam, J. Browne and P. Johnson, 'Pensioners and the tax and benefit system', IFS Briefing Note 130, 2012, http://www.ifs.org.uk/bns/bn130.pdf.

[34] Page 29 of S. Adam, J. Browne and P. Johnson, 'Pensioners and the tax and benefit system', IFS Briefing Note 130, 2012, http://www.ifs.org.uk/bns/bn130.pdf.

[35] See slide 23 of J. Browne, 'Autumn Statement policy measures', IFS Post Autumn Statement Briefing, 6 December 2013, http://www.ifs.org.uk/budgets/as2013/as2013_james.pdf.

Credits for corporation tax; exemption from stamp duty

As set out in Section 10.2, corporation tax does, in part, tax the normal rate of return, while stamp duties apply to purchases of UK shares and property. At the moment, there is no recognition of either in the way the personal tax system treats private pension saving. Ideally, there would not need to be, as corporation tax would be well designed so that it only taxed real excess returns, and stamp duties on mutually beneficial trades with no spillovers to the rest of society would not exist.

However, given that this is not the case, consideration could be given to whether the tax system should compensate those with funds in private pensions for the impact of these other taxes. Doing so could help ensure that a significant proportion of overall UK wealth – that held in private pensions[36] – was being treated by the overall tax system in a way that was neutral between saving and spending. The data we have available make it difficult to produce a costing for such a change; it would most likely be several billion pounds.

10.4 Conclusion

It is often asserted that the UK's pensions tax system is in need of reform because it is 'unfair', because it is overly generous to those on high incomes or as a way of raising additional revenue. While there is clearly a case for reform, it is equally clear that many of the proposals rest on an inadequate analysis of the actual structure and effects of the current system and, more specifically, fail to address the question of what a 'neutral' or a 'fair' system would actually look like.

HMRC suggests that the cost of pensions tax relief in 2011–12 was £38.3 billion. But this is calculated in an odd way against an inappropriate counterfactual. A better estimate suggests that the true cost is less than half this amount. The HMRC calculations are also likely to be a poor guide to how relief is distributed. In particular, allowing those who are subject to a higher rate of income tax during part of their working life but subject to the basic rate of income tax during their retirement to smooth their income is fair in the sense that it would be unfair for them to pay more tax over their lifetime than an otherwise-equivalent individual who has an income that, on average, is at the same level but which is less variable.

The tax treatment of pensions does, most likely, come at a net cost to the exchequer relative to a neutral system. There may be good reasons to use the tax system to encourage people to save a certain amount in a private pension; therefore, the fact that the system has a direct net cost need not suggest that it is overly generous. But it is clear that the incentives that the tax system currently provides are not well targeted either at encouraging individuals to save sufficiently so they are not reliant on means-tested benefits in retirement or at getting those who would otherwise undersave for retirement to save more.

It is often proposed that we should restrict the rate of tax relief on pension contributions. This would undermine the logic of pensions taxation and would be complex, unfair and inefficient. Reducing the annual allowance makes less sense than reducing the lifetime

[36] Estimated by the ONS at almost half of net household wealth. Figure from the 2008–10 wave of the Wealth and Assets Survey; source: figure 2 on page 3 of Office for National Statistics, *Chapter 2: Total Wealth, 2008/10*, 2012, http://www.ons.gov.uk/ons/dcp171776_271539.pdf.

allowance since for a given level of lifetime contributions, it is not clear why we would want to penalise making occasional large contributions rather than frequent smaller contributions. Reducing the lifetime limit is perhaps not the worst way to reduce the generosity of the pensions tax system, but there are better options available.

It is hard to justify the extraordinarily generous NICs treatment of employer pension contributions. Making employer pension contributions subject to employer NICs could raise an estimated £10.8 billion a year. On grounds of intergenerational 'fairness', it might be preferable to charge some NICs on pensions in payment, which would raise an estimated £350 million for every percentage point of tax.

It is also hard to see why people with very large pension pots should be able to draw a lump sum of as much as £312,500 tax-free. The tax-free lump sum could be subject to a much tighter overall limit or the implied subsidy could be used more effectively.

One aspect of pensions taxation is actually less generous than the ideal benchmark system: the real returns on pensions saving are affected by corporation tax and stamp duties. Consideration could be given to offsetting some of this impact.

11. Business rates

Stuart Adam and Helen Miller (IFS)

Summary

- Non-domestic rates – business rates – are levied on the estimated market rental value of most non-residential properties. They raised £26.1 billion in 2012–13, 4.5% of total revenue. Recurrent taxes levied on business property are higher in the UK than elsewhere in the OECD.
- Taxing business property inefficiently discourages the development and use of business property. If possible, it would be better to tax the value of the land excluding the value of any buildings on it, which would have no such effects.
- Business rates are currently based on 2008 rental values. Property valuations are normally updated every five years. As a result, bills do not rise and fall with the economic cycle like most other taxes do, and the proportion of total revenues coming from business rates has risen from 3.9% to 4.5% since before the recession.
- Average bills are limited to rise with the retail price index (RPI), a somewhat discredited measure of inflation. They therefore levy an ever-declining share of property values, which tend to rise more quickly.
- Since 2010, the government has made a number of changes to business rates. The revaluation of properties that was due to take effect in 2015 has been delayed until 2017 to avoid sharp changes in bills. This will probably delay, rather than remove, large changes in bills. Retail premises in northern England and offices in London, among others, look like being losers from this delay. It would be better to move in the opposite direction: frequent, regular revaluations would mean changes in bills were small, gradual and routine. Rateable values should also be indexed between revaluations to keep them more in line with market rents.
- Relief for low-value properties was made 'temporarily' more generous in 2010, and has been extended every year since. In 2014, some retail properties will also become eligible for temporary relief. These temporary reliefs lack a clear justification and add to the increasing complexity and instability of the system.
- Since April 2013, local authorities in England have been able to retain (for a limited period) between a quarter and a half of the rates revenue raised from new developments. The idea is to provide incentives to local authorities to allow business development, while preventing large disparities arising between authorities' resources. The government could go further by allowing local authorities to retain a larger share of revenues or by giving them more power to increase business rates.

11.1 Introduction

Non-domestic rates, or business rates, are a tax levied on the estimated market rental value of non-residential properties, including shops, offices, warehouses and factories (but excluding agricultural land and buildings). Business rates raise a substantial amount of revenue – £26.1 billion in 2012–13. This is very similar to the £26.3 billion raised from

the much more salient council tax and around two-thirds of the £40.4 billion raised from corporation tax. Tax raised from non-domestic properties in the UK is substantially higher than that in other OECD countries. Despite this, there has tended to be little public focus on this tax.

This has changed recently. Since the recession of 2008, businesses have raised concerns over the burden of business rates. This is largely because the tax charge does not vary with profitability or with the economic cycle and because current rateable values are based on market rents that were assessed in 2008. In January, the Prime Minister told the Federation of Small Businesses that business rates were "businesses' – particularly small businesses' – number one complaint". He pointed out that the government has responded with a number of policy changes, notably in the 2013 Autumn Statement, but also added that "I think we do need to look at longer-term reform".[1] Assessing the changes introduced recently and other possible options for reform is the topic of this chapter.

Business rates combine one of the worst taxes – a tax on the value of business property – with one of the best – a tax on land values.[2] There is a strong case against levying a tax on buildings used for business purposes. A basic tenet of the economics of taxation is that intermediate inputs to production – that is, inputs that are themselves the result of an earlier production process, such as buildings – should not be taxed.[3] The principal effect of business rates is that economic activity in the UK is artificially skewed away from property development and property-intensive production activities. Land, in contrast, is not the result of a production process: its supply is essentially fixed and taxing it (excluding the value of any buildings on it) would simply make it less valuable to its owners without discouraging any desirable activity.

Despite this, a pure land value tax (LVT) is often thought too politically difficult to introduce, partly because it would create significant losers (some current landowners) as well as winners. There would also be practical obstacles to its implementation.

Absent a move to an LVT, there are a range of options for reforming the current system of business rates, including removing exemptions, increasing the frequency of revaluations, and uprating the multiplier with reference to something more in line with the growth in property values than in the retail price index (RPI). Policy could go further in allowing local government to keep a higher share of any additional revenues, or give local governments more control over the rates or structures of business rates.

This chapter proceeds as follows. Section 11.2 describes the business rates system. Section 11.3 discusses recent policy changes and some possible alternatives. Section 11.4 discusses additional policy options going forward. Section 11.5 concludes.

All taxes are ultimately paid by households. Business rates are formally levied on the occupiers of non-domestic properties, and their mechanical effect is to reduce the profits of those businesses and thus the values of the businesses to their owners. But part of the burden of the tax might be passed on to the firm's customers (via higher prices), employees (via lower wages) or others. As we discuss in Box 11.1, in reality it seems

[1] See https://www.gov.uk/government/speeches/supporting-small-businesses-david-camerons-qa-at-the-federation-of-small-businesses.

[2] This is a modified quote from William Vickrey; see W. Vickrey, 'Simplification, progression, and a level playing field', in K. Wenzer (ed.), *Land-Value Taxation: The Equitable and Efficient Source of Public Finance*, M. E. Sharpe, Armonk, NY, 1999.

[3] P. Diamond and J. Mirrlees, 'Optimal taxation and public production I: production efficiency', *American Economic Review*, 1971, 61, 8–27.

Box 11.1. The incidence of business rates

In the long run, the effective incidence of business rates – who is ultimately made worse off by them – depends on how sensitive the demand for and supply of business property are to changes in its price. Because demand is much more responsive to price than supply, in the long run we would expect the tax to be mostly passed on to the owners of properties via lower rents. Moreover, the effect of business rates will be felt by initial property owners, as the prices that properties command would fall as soon as the introduction of the tax is announced; people who subsequently purchase a property will pay a price that is already lower (by most of the net present value of the tax) and so, with the tax liability (or the correspondingly lower rent from their tenants) offset by that lower purchase price, they may be little worse off.

In the short run, there are likely to be rigidities in property rents (because, for example, there are contracts in place). As a result, a change in business rates will not be immediately reflected in rents and will therefore be incident on occupiers. In the context of the temporary reliefs discussed in Section 11.3, this implies that the benefits of the reliefs are likely to accrue largely to occupiers. However, if the policy were expected to be permanent, we would expect to see rents adjusting to account for any tax changes.

Empirical evidence supports this theoretical analysis. In a study of how rents changed after reforms to business rates, Bond et al. (1996) concluded that 'much of the burden of business rates is shifted on to property owners in the long run. However, the short-run impact of changes to business rates affects tenants more than landlords'.[a]

[a] See S. Bond, K. Denny, J. Hall and W. McCluskey, 'Who pays business rates?', *Fiscal Studies*, 1996, 17(1), 19–35, http://www.ifs.org.uk/publications/1562.

likely that much of the burden of business rates is passed on from the occupiers of non-domestic properties to the properties' owners (if different), via reductions in the properties' market rental values.

11.2 How business rates work

Business rates are levied on non-residential properties, including shops, offices, warehouses and factories. There are various reliefs (including for small businesses) and exemptions (including for agricultural land and buildings and for short-term empty properties). The tax is levied as a proportion (the 'multiplier') of the officially estimated market rent ('rateable value') of properties.

While revenues are collected at the local level, from 1990 business rates have been set by central government (or, since devolution, by devolved administrations in Scotland and Wales) and revenues pooled at the national (or devolved) level.[4] Section 11.3 discusses the recently introduced business rates retention scheme under which local authorities (LAs) will retain some part of the growth in revenues.

[4] The Local Government Finance Act 1988 moved the power to set business rates policy, and notably the multipliers, from local authorities to the national level. This was moved to the devolved level in 1999. Northern Ireland has a slightly different system, akin to that in place in the rest of the UK before 1990, involving regional rates (33.02% in 2013–14) and locally-varying district rates (ranging from 18.28% to 31.62% in 2013–14): see http://www.dfpni.gov.uk/lps/index/property_rating/rates_poundages_2013.htm). We do not discuss Northern Ireland further in this chapter.

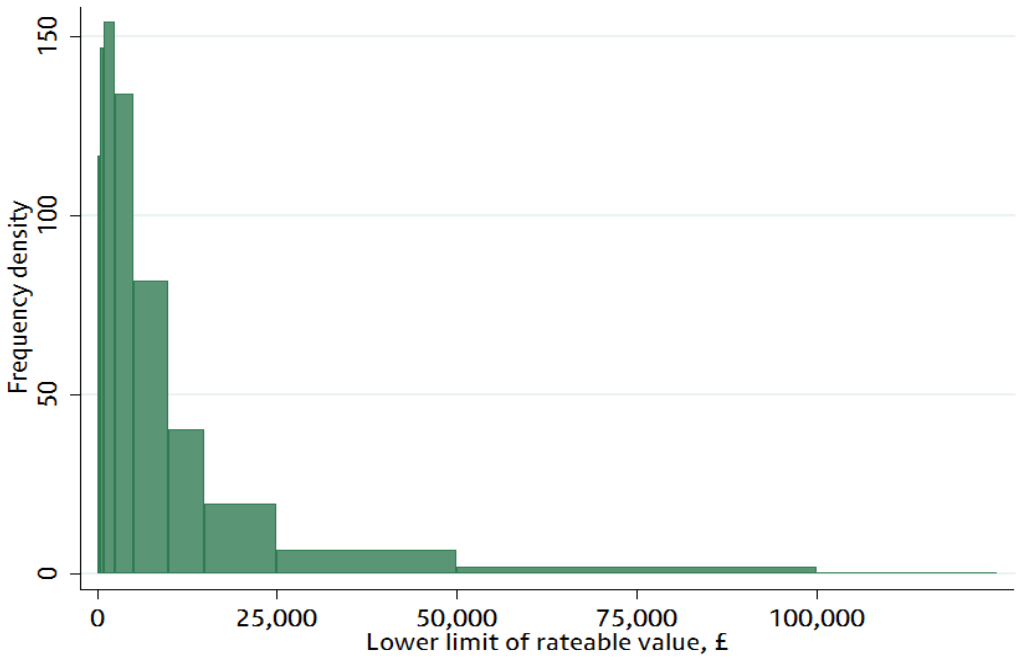
Rateable values

The Valuation Office Agency (VOA) estimates, for each (non-exempt) non-domestic property in England and Wales, an annual market rental value on a particular date, based on the property's location, physical characteristics and other relevant economic conditions. The rateable value broadly represents the annual rent the property could have been let for on the open market on a particular date, on full repairing and insuring terms. Normally, rateable values are reassessed every five years. Following a revaluation, there are transitional arrangements that work to phase in gradually the effect of any significant increases in liabilities that arise for individual properties.

The latest revaluation came into effect in April 2010, based on property values in April 2008. In England and Wales there are currently 1.9 million non-domestic properties with an aggregate rateable value of £61.7 billion, implying that the mean rateable value is £32,923. Figure 11.1 shows the distribution of rateable values for properties in England and Wales. The distribution is highly skewed: only 20% of properties have a rateable value above £25,000 yet they account for 82% of aggregate rateable value and will account for a bigger share of revenue than that because of small business rate relief (discussed in Section 11.3). The top 0.7% of properties have rateable values over £500,000 and account for 35% of aggregate rateable value. The median property has a rateable value in the £5,000 to £10,000 range and will be eligible for some small business rate relief. Table 11.1 shows how the average rateable value varies across property type. On average, offices have the highest rateable values (£38,614). This is driven by a higher density of high-value offices.

There is variation across England and Wales in both the number of properties and total rateable values; these are both highest in London and the South East, as shown in Table

Figure 11.1. Distribution of rateable values



Note: The final bin includes properties with a rateable value greater than or equal to £100,000 and less than £1 million. We have excluded properties with a rateable value of £1 million or greater, of which there are 5,538 with an average rateable value of £2,837,258. Figures refer to England and Wales.
Source: HMRC, table 17.2, http://www.hmrc.gov.uk/statistics/non-domestic.htm.

Table 11.1. Number of properties and rateable values in England and Wales as at 1 April 2013, by property type

Property type	Number of properties	Average rateable value (£)	Total rateable value (£ million)
Offices	355,064	38,614	13,710
Warehouses	218,313	37,802	8,253
Other properties	566,641	36,477	20,670
Shops	496,157	27,281	13,536
Factories	236,896	23,210	5,498
All properties	**1,873,071**	**32,923**	**61,667**

Source: HMRC, table 17.2, http://www.hmrc.gov.uk/statistics/non-domestic.htm.

Table 11.2. Number of properties and rateable values in England and Wales as at 1 April 2013, by region

Property type	Number of properties	Average rateable value (£)	Total rateable value (£ million)
London	306,231	54,028	16,545
South East	285,174	31,738	9,051
North East	54,360	31,279	1,700
East of England	184,197	28,703	5,287
West Midlands	184,507	26,071	4,810
North West	237,118	25,654	6,083
Yorkshire and Humber	190,560	25,283	4,818
South West	176,536	24,731	4,366
East Midlands	147,582	24,716	3,648
Wales	106,661	22,656	2,416

Note: The number of properties and rateable values do not sum to the total for all properties shown in Table 11.1 because 'central rating list' properties, which are not allocated to regions, are excluded here.
Source: HMRC, table 17.3, http://www.hmrc.gov.uk/statistics/non-domestic.htm.

11.2. Average rateable values are substantially higher in London than elsewhere. Indeed, London alone accounts for over a quarter of aggregate rateable values in England and Wales despite having only 15% of its population.[5]

Appeals against valuation decisions can go on for years and are one of the main administrative costs of business rates. This was highlighted in the 2013 Autumn Statement, where the Chancellor felt the need to make a special promise that the backlog of appeals from the 2010 revaluation would be 'almost all' cleared by July 2015.

The multiplier

In 2013–14, the multiplier for high-value properties (i.e. those with a rateable value over £18,000) is 47.1% in England (outside Greater London), such that a property with the mean rateable value of £32,923 will owe £15,507 a year in business rates. The multiplier is higher for properties in the City of London (47.5%) and lower for those in Wales (46.4%). In Scotland, properties with a rateable value over £35,000 face a multiplier of 47.1%. In England and Scotland, there are lower rates for small businesses – those with a

[5] For population figures, see Office for National Statistics, *Mid-2012 Population Estimates: Pivot Table Analysis Tool for the United Kingdom*, http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-319259.

low rateable value. We return to this in Section 11.3. The small business multiplier is available in cases where a firm occupies multiple small properties.

Since 2010, English LAs have had the ability to levy a supplementary business rate at up to 2 pence per pound of rateable value on properties with a rateable value above £50,000 in order to pay for economic development projects. The only authority to do this is the Greater London Authority, which levies the maximum additional rate (bringing the multiplier to 49.1%) on properties with a rateable value over £55,000 as a contribution to funding the Crossrail project.[6,7] This power is now subject to a vote among businesses that would be liable to pay the supplement.

The multiplier is usually increased each April in line with the RPI, such that the bill for every property keeps pace with RPI inflation. [8] In revaluation years, the multiplier is adjusted so that average bills (before any transitional relief) increase at the point of revaluation in line with RPI inflation: bills increase by more (less) than the RPI for properties that have seen above-(below-) average rises in value since the last revaluation.[9] As Figure 11.2 later shows, overall revenues have risen more quickly than RPI inflation only because of a growing tax base: the aggregate rental value of properties added to the tax base (for example, new developments) has been higher than that of properties that have been removed from the tax base (for example, demolished). Since property rental values typically rise faster than RPI inflation, the implication of current policy is for business rates to levy an ever-declining fraction of property values.

Exemptions and reliefs

In addition to applying lower multipliers (in England and Scotland) to properties with rateable values below a certain threshold, England, Scotland and Wales all operate small business rates relief schemes for properties beneath a somewhat lower threshold. We discuss the relief further in Section 11.3. In 2012–13, the cost of small business rates relief in England was £550 million.[10]

The business rates system also offers complete exemption from business rates to various types of properties, notably including agricultural land and buildings, and a range of other reliefs for empty properties, charities and small rural shops.[11]

In England and Wales, unoccupied properties are exempt from business rates for an initial three-month period after they become vacant.[12] In some cases, the empty property

[6] See http://www.london.gov.uk/priorities/business-economy/vision-and-strategy/focus-areas/crossrail-business-rate-supplement.

[7] Separately, the large business multiplier also applies above a different threshold in Greater London – £25,500 rather than £18,000.

[8] Specifically, RPI inflation for the year to the previous September.

[9] Figure 11.2 later shows that revenues are usually sluggish in revaluation years and jump the year afterwards. This is presumably the effect of transitional relief, which means that businesses that see a big increase in their rateable value do not pay the full increase in the revaluation year but do pay more of it the year afterwards.

[10] Source: Table 1 of Department for Communities and Local Government, Statistical Release December 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/264820/Updated_NNDR3_Statistical_Release_2012-13.pdf.

[11] The following property types are also exempted: places of religious worship, open public places (such as parks), property used for the disabled, property of Trinity House (lighthouses, buoys and beacons), sewers, property of the drainage authority, and property in enterprise zones. See Schedule 5 of the Local Government Finance Act 1988 (http://www.legislation.gov.uk/ukpga/1988/41/schedule/5).

[12] Empty property reliefs available in Scotland are broadly similar to those for England described in this paragraph, with some small differences.

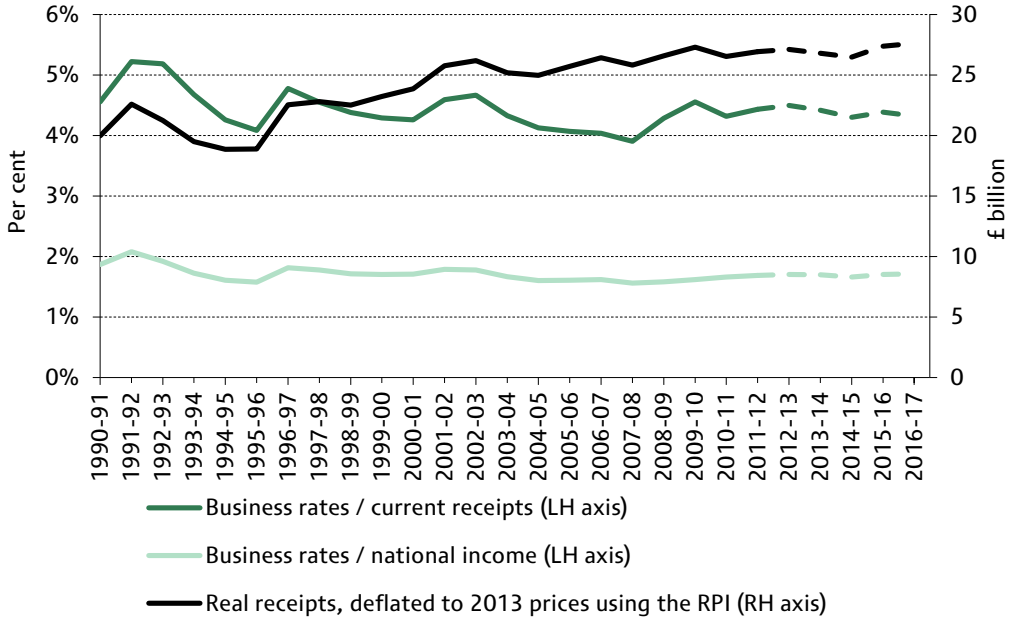
exemption is extended for longer periods. For example, industrial premises, such as warehouses, are exempt for a further three months, and listed buildings and those with a rateable value under £2,600 are exempt until reoccupied.[13] The 2012 Autumn Statement announced that properties built between October 2013 and September 2016 would be exempt from business rates for up to 18 months if empty. As at 31 March 2013, 13% of all non-domestic properties in England were empty, and the cost of empty properties relief was £957 million in 2012–13.[14] Exempting empty properties provides a tax incentive to keep properties vacant.

Land without any structures on it is not subject to business rates. As a result, there is a tax incentive faced by owners of long-term empty properties to demolish them.

Revenues

Business rates receipts for the UK in 2012–13 were £26.1 billion.[15] They represented around 4.5% of total current receipts and around 1.7% of national income: see Figure 11.2.

Figure 11.2. UK business rates receipts



Note: The figures underlying this graph are on a cash basis. They differ slightly from those in the text, which are on an accruals basis.
Source: Business rates receipts: IFS fiscal facts data, http://www.ifs.org.uk/fiscalFacts/fiscalAggregates. Figures after 2012–13 are forecasts. RPI inflation: ONS, extrapolated after 2013 using OBR RPI forecasts (December 2013 Economic and Fiscal Outlook: Economy supplementary tables, table 1.5; Q4 figures used).

[13] Before 2008, vacant industrial property received 100% relief with no time restrictions and vacant commercial property received 50% relief after an initial three months of 100% relief. For financial year 2009–10, both empty industrial and commercial property with a rateable value of less than £15,000 temporarily received 100% relief.

[14] Source: Tables 3 and 2b respectively in Department for Communities and Local Government, Statistical Release December 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/264820/Updated_NNDR3_Statistical_Release_2012-13.pdf.

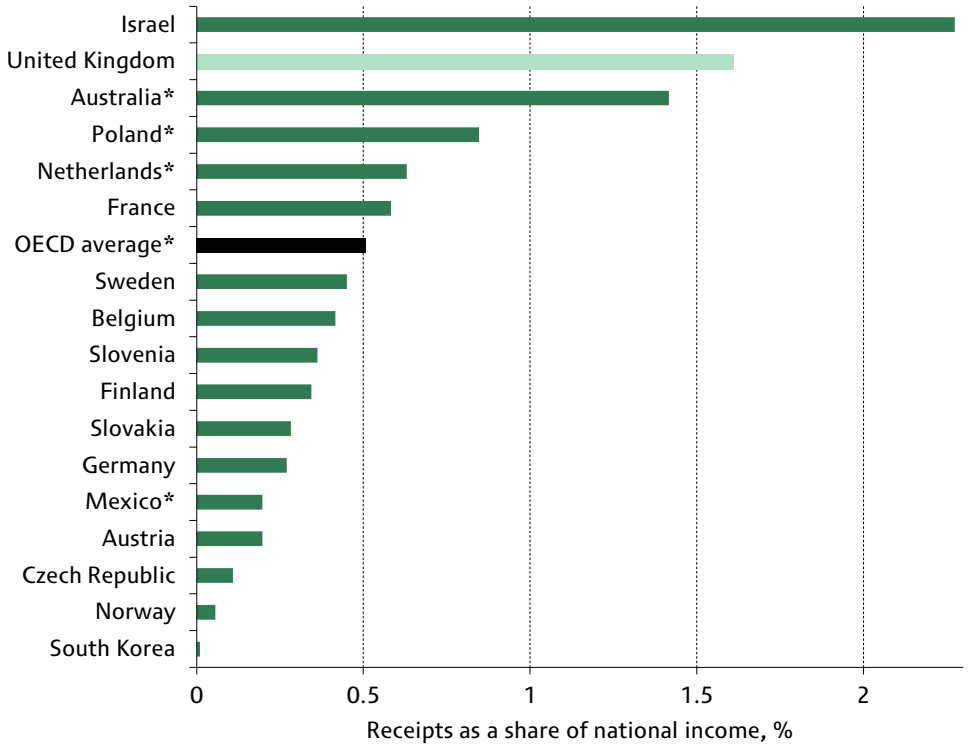
[15] See table 4.5 of Office for Budget Responsibility, *Economic and Fiscal Outlook*, December 2013, http://cdn.budgetresponsibility.independent.gov.uk/Economic-and-fiscal-outlook-December-2013.pdf.

By way of comparison, receipts from corporation tax were £40.4 billion in 2012–13 and those from council tax were £26.3 billion. Receipts from business rates are slightly lower now as a proportion of total tax receipts than at the start of the 1990s, when they accounted for around 5% of receipts.

Since bills increase in line with RPI inflation regardless of economic circumstances, business rates are not a very cyclical source of revenue. For example, in 2007–08 they accounted for 3.9% of total revenue. In the subsequent downturn, national income and most tax bases shrank considerably while business rates were far less affected, so by 2009–10 business rates accounted for 4.6% of revenue. This helps to account for the growing concern expressed by businesses about this tax: while other liabilities such as corporation tax and National Insurance contributions shrank broadly in line with businesses' profits and payroll, firms that continued to occupy the same premises still had to pay (in real terms) as much as before in business rates. Business rates raised around half the revenue of corporation tax in 2007–08 but two-thirds by 2012–13.

Property taxation is fairly high in the UK relative to other OECD countries (see Figure 11.3). Receipts from taxes on non-residential immovable property consistently average just 0.5% of GDP across OECD countries, a third of that in the UK.

Figure 11.3. Receipts from recurrent taxes on non-domestic immovable property as a share of national income, 2011



*Data for 2010.

Source: OECD Revenue Statistics, series 4120: recurrent taxes on immovable property levied on non-households ('others'), http://stats.oecd.org/. Figure for the OECD is an unweighted average. Included countries are those that levy property taxes and for which data are available.

11.3 Assessing recent policy changes

In this section, we describe the main policy changes in England (and, where applicable, Wales and Scotland) since 2010:

- Revaluation of rateable values due to take place in 2015 has been delayed until 2017.
- Multipliers in England and Wales will be increased by 2% in 2014, rather than the 3.2% implied by the usual uprating.
- The (supposedly) temporary doubling of small businesses rate relief, initially introduced by Labour for the period from October 2010 to September 2011, has been extended by the new government on four occasions. It is now set to run until April 2015 and will now remain available for up to one year if a taxpayer acquires an additional property that would currently trigger the loss of the relief.
- For the period 2014–16, retail properties with a rateable value of up to £50,000 will be eligible for a discount of up to £1,000. There will also be a 50% relief available for 18 months for businesses that move into long-term empty retail properties between 1 April 2014 and 31 March 2016.
- From 2013–14, LAs will retain between a quarter and a half of rates revenue raised from new developments, for the period up to 2020.

Delayed revaluation

Between 1990 and 2010, revaluation of business property took place on a five-yearly cycle. The latest revaluation took effect in April 2010, based on April 2008 rental values. In 2012, the government announced that the rates revaluation scheduled for 2015 will be delayed until 2017.[16] The 2017 revaluation will be based on values as in April 2015. This is the first time since the current system was introduced in 1990 that the regular revaluation has been delayed. The stated rationale for the delay was to avoid sharp changes in bills.

If we are to have a tax on property values, it is preferable to base it on current values, or at least on the most up-to-date values possible. Revaluing rents at five-yearly intervals always implies that there may be larger changes to rental values than if revaluations happened more frequently. Delaying revaluation avoids sharp changes in bills in the short term only at the expense of even sharper changes two years later. Delay will only reduce the overall size of adjustments if changes in relative property values between April 2013 and April 2015 are such as to move back towards relative values in April 2008. We see no reason to believe that should be the case. On the contrary, we would ordinarily expect relative values to move ever further from the April 2008 position, so that the adjustment required to bills becomes bigger and bigger.

Thus, the longer revaluations are delayed, the harder they become. That has been the experience with council tax in England and Scotland, where successive delays mean that the tax is now based on 23-year-old property values yet no major political party proposes

[16] See https://www.gov.uk/government/speeches/business-rates--3 for the announcement. The delay was included in the Growth and Infrastructure Act 2013, section 29 with respect to England, http://www.legislation.gov.uk/ukpga/2013/27/contents/enacted. The Welsh and Scottish governments subsequently also chose to delay revaluation; see http://wales.gov.uk/newsroom/businessandeconomy/2013/130305br/?lang=en and http://www.scotland.gov.uk/News/Releases/2012/11/local-government-settlement-27112012 respectively.

a revaluation. It was also a major factor behind the demise of domestic rates in the 1980s and of Schedule A income tax (on imputed rental income from owner-occupied housing) in the 1960s, both of which became so out-of-date as to be unsustainable, yet both of which were deemed too politically difficult to revalue.

Delaying revaluation also adds uncertainty to a system in which, to date, everyone has known when to expect revaluations.

The way to avoid sharp changes in bills is to do revaluations *more* frequently. If revaluations happened every year, say, then adjustments in bills to reflect changes in relative property values would be small, gradual and routine. More frequent revaluations would also mean that the distribution of the tax across properties was more responsive to the economic cycle.

The decision over how frequently to revalue is effectively a trade-off between the benefit of having a tax base that is more aligned with actual value and the administrative cost of revaluing.

Who wins / loses from delaying revaluation?

The effect of revaluation is largely to redistribute the burden of business rates across properties: properties with a rental value that has increased faster (more slowly) than average will see an increase (decrease) in their bill relative to the RPI. This results from the revaluation of the multiplier (see Section 11.2).

The VOA has estimated the approximate impact of a revaluation based on predicted rental values as at 31 January 2012 (it does not provide projections of the April 2013 rents that would have been used for a 2015 revaluation). The main results are summarised in Table 11.3. A negative number indicates that tax payments would fall on revaluation, such that properties in that category will lose out from delaying revaluation. The largest losers from the delayed revaluation are offices in London, which would see a 14% fall in their average bill if revaluation based on 2012 values were to take place. Offices in the West Midlands and both offices and retail premises in northern England also lose. These changes are partly the result of offices having seen large increases in rateable values in the 2010 revaluation (based on 2008 values). The largest winners from delaying revaluation are offices in the East Midlands and retail premises in the East Midlands and London.

Below-inflation uprating of multipliers

Autumn Statement 2013 announced that multipliers in 2014–15 will be uprated by 2%, rather than the 3.2% that the usual uprating in line with RPI would have implied.[17] This reduces all business rate bills by about 1.2%. For a business with the mean rateable value of £32,923, the saving is £198.[18] The cut is estimated to cost the exchequer around £270 million per year.

In the short run, much of the cost of this move is likely to represent a tax break for the businesses occupying properties. To the extent that the lower rate is capitalised into rents in the longer term, the policy will be a giveaway to property owners. The move does marginally reduce the disincentive to develop property, but its small size and the relative

[17] See Paragraph 1.159 of HM Treasury, *Autumn Statement 2013*, https://www.gov.uk/government/publications/autumn-statement-2013-documents.

[18] Authors' calculations assuming the multiplier is increased from 0.471 to 0.480 rather than to 0.486.

Table 11.3. Estimated impact of revised rental value (as at 31 January 2012) on tax paid, by statistical region and property sector

	Retail	Office	Industrial	Other
All England	1%	–8%	0%	5%
North East	–3%	–1%	2%	–
North West	–3%	–4%	0%	–
Yorkshire & Humber	–1%	–2%	0%	–
East Midlands	6%	11%	3%	–
West Midlands	1%	–6%	–2%	–
East	–1%	–3%	–2%	–
London	7%	–14%	1%	–
South East	0%	4%	0%	–
South West	–2%	–1%	3%	–

Note: Cells show the estimated change in tax payments that would have occurred if rateable values and multipliers had been updated based on 2012 values. Negative (positive) numbers indicate that tax payments would fall (rise). The breakdown of 'other' across regions has not been released.
Source: Reproduction of part of table 2 from 'Valuation Office Agency's high level estimates of non-domestic rental and rating assessment movements for England', http://www.voa.gov.uk/corporate/_downloads/pdf/VOARevalPublication.pdf.

unresponsiveness of property development mean that it is likely to have little effect on behaviour.

'Temporary' extensions of small business rate relief

Table 11.4 describes the system of small business rates relief in place in 2013–14, including the elements of the English and Welsh systems that have been made temporarily more generous since 2010. Broadly, properties with a rateable value below a certain threshold are given relief on their business rates bill. The level of relief is largest for the lowest-rated properties, and is tapered as rental values increase. Although 'small business relief' is the terminology used, the relief is in fact provided for businesses occupying properties with a low rateable value. Firm size is not normally measured by the rental value of properties occupied.

Somewhat more than 2.7% of properties in England and Wales have a rateable value below the £6,000 threshold for eligibility for the maximum level of small business rate relief, while somewhere between 7.5% and 11.4% of properties are below the £12,000 threshold for eligibility for at least some relief.[19]

Prior to 1 October 2010, businesses in England with a rateable value below £6,000 were provided with relief at a rate of 50% (tapered to 0% at £12,000). In the March 2010 Budget, small business rate relief was temporarily doubled, such that relief was provided at 100% for rateable values below £6,000 (tapered to 0% at £12,000). The initial relief was due to be in place from October 2010 until the end of September 2011. The relief was extended for an additional year (to the end of September 2012) in Budget 2011 and for

[19] We do not know the precise distribution of rateable values. As of 1 April 2013, 2.7% of properties have a rateable value of less than £5,000, and more than that will therefore be eligible for full relief since the relevant threshold is £6,000. 7.5% of properties have a rateable value of less than £10,000 and 11.4% have a rateable value of less than £15,000, so the number eligible for at least some relief (for which the threshold is £12,000) will be somewhere between these two.

an additional six months (to the end of March 2013) in Autumn Statement 2011. Autumn Statement 2012 extended the relief to the end of March 2014 and, most recently, Autumn Statement 2013 extended it to the end of March 2015.[20] At this point, it would actually be a surprise if neither the Budget nor Autumn Statement of 2014 announced its extension until the other side of the expected date of the next general election.

Announcing temporary reliefs and then repeatedly extending them on an ad hoc basis is no way to make policy. It creates uncertainty as to how long the reliefs will last and eventually it becomes difficult to rescind what was originally a short-term policy. The structure of the tax system is permanently changed, probably inadvertently.

Table 11.4. Business rates for small properties

	Small business multipliers, 2013–14		Small business reliefs	
	Maximum eligibility threshold for small business multiplier	Small business multiplier	Maximum eligibility threshold for some relief	Level of relief (% of small business multiplier)
City of London	£25,500	46.6	£12,000	***2010–11 to 2014–15*** 100% relief for rateable values <£6,000. Relief tapered on sliding scale to 0% at £12,000.
Rest of Greater London	£25,500	46.2	£12,000	
Rest of England	£18,000	46.2	£12,000	***Otherwise*** 50% relief for rateable values <£6,000. Relief tapered on sliding scale to 0% at £12,000.
Wales	—[a]	46.4	***2010–11 to 2014–15*** £12,000	***2010–11 to 2014–15*** 100% relief for rateable values <£6,000. Relief tapered on sliding scale to 0% at £12,000.
			Otherwise £7,800	***Otherwise*** 50% relief for rateable values up to £2,400; 25% between £2,401 and £7,800.
Scotland	£35,000	46.2	£18,000	100% relief for rateable values up to £10,000; 50% between £10,001 and £12,000; 25% between £12,001 and £18,000.[b]

[a] The multiplier does not differ for low-value properties in Wales.

[b] If the combined rateable value of all owned properties does not exceed £25,000, a taxpayer is eligible for 25% relief on each individual property with a rateable value not exceeding £18,000.

Source: For England and Wales: http://www.2010.voa.gov.uk/rli/static/HelpPages/English/faqs/faq146-what_are_the_current_multipliers.html. For the City of London: http://wwwstage.cityoflondon.gov.uk/business/business-rates/Pages/how-your-bill-is-calculated.aspx. For Scotland: http://www.scotland.gov.uk/Topics/Government/local-government/17999/11199/brief-guide.

[20] Autumn Statement 2013 also announced that, from April 2014, small business rates relief rules will be relaxed such that the relief remains available for up to one year if a taxpayer acquires an additional property that would currently trigger the loss of the relief.

If the extra relief is intended to be permanent, then the government should say so and end the uncertainty. If it is really intended to be only temporary, then the government should set out why it is temporary and under what conditions it will be continued or ended, and then stick to that policy.

This policy provides some help to businesses with low-value properties. But if it is believed to be temporary then the giveaway will do little to change behaviour.

Relief for the retail sector

Autumn Statement 2013 announced that, in 2014–15 and 2015–16, retail and food and drink premises with a rateable value below £50,000 will be eligible to receive a discount of up to £1,000 on their business rates bill.[21] The government has not yet announced the definition of retail properties or how this discount will be applied.[22] However, it has estimated that 300,000 properties will be eligible, and that the cost of the policy will be £350 million in 2014–15 and £425 million in 2015–16, implying that the average giveaway to affected properties will be around £1,170 and £1,420 respectively in those two years.[23] In the category 'shops' used in Table 11.1, which will presumably overlap heavily with 'retail', 92% (455,000) have a rateable value of less than £50,000, the threshold for eligibility. For this group, the average rateable value is £10,350.

Treating retail premises differently from other premises has obvious disadvantages. Drawing such a distinction certainly adds to the complexity of the business rates system. As noted above, the government has not yet specified how it will define 'retail' firms and, in reality, there is no clear dividing line between retail and non-retail firms. Trying to define and police a boundary that affects tax liabilities will doubtless be difficult and lead to disputes and appeals from firms judged not to be retailers as well as accusations of unfairness. As noted in Section 11.2, appeals are already one of the main administrative costs of business rates. If the classification of properties into 'retail' and 'non-retail' now also affects tax bills, more firms will have reason to dispute their classification. Treating retail properties differently might also lead to firms' changing their behaviour to fall on the right side of the boundary, and to more retailers entering the market and fewer leaving while the opposite happens among non-retailers. Other things equal, such distortions to behaviour would be undesirable.

One argument for applying lower business rates to retail premises might be that bricks-and-mortar retailers face more competition from online rivals (which do not require as much valuable business property) than other firms.[24] If that is true, then, other things being equal, demand for property will be more responsive to business rates in the retail sector than in other sectors. There is a case for levying lower business rates on sectors

[21] In addition, between 1 April 2014 and 31 March 2016, businesses that move into retail premises that have been empty for at least a year will be eligible for 50% 'reoccupation' relief for 18 months, up to EU state aid limits. See paragraph 1.162 of HM Treasury, *Autumn Statement 2013*, op. cit.

[22] An open letter from the Secretary of State for Communities and Local Government suggests that retail properties will include pubs and cafes, but exclude banks and betting offices: see https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/263800/SofS_AS_Letter3.pdf.

[23] See page 11 of HM Government, 'Autumn Statement 2013: policy costings', December 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/263434/autumn_statement_2013_policy_costings.pdf.

[24] In support of the policy the government cited that 'high streets are experiencing challenges as they adapt to changing customer preferences'. See paragraph 1.162 of HM Treasury, *Autumn Statement 2013*, op. cit.

whose use of property is more responsive to tax, since the associated economic inefficiency is higher in this case. We do not know whether the demand for property is more responsive overall in the retail sector than in other sectors: retail is not the only sector facing online competition and there are other factors that might also affect the responsiveness of different sectors.

A second argument for favouring retail arises if the use of premises for retail purposes brings benefits to wider society that other types of business do not. For example, such benefits might arise if there are agglomeration benefits from having many shops open on a high street (because it attracts more customers but individual businesses will not account for this) which do not arise to the same extent for other types of business. Note that any wider social value must be on top of what is reflected in people's market behaviour, since retail firms' simply being more valuable to customers will be reflected in their profitability and prevalence in the market without the need for special tax breaks. It is not clear whether such concerns are important in practice and, if they are, whether a tax reduction linked specifically to property value is the appropriate tool to address them (rather than, say, a reduced rate of corporation tax or National Insurance contributions, or a non-tax policy).

Overall, any advantages must be weighed against the disadvantages of discriminating between retail and other businesses. In addition, if the arguments in favour of the policy are considered compelling, it is not clear why they should be compelling for only two years (the announced length of the policy). Neither the value of retail-focused high streets nor the threat to high streets from the internet looks like a temporary two-year issue. Recent experience with small business relief makes one suspect that this relief might also be extended when it is due to expire. As with small business relief, the government should set out clearly what the rationale is, why it should be temporary and, as far as possible, under what circumstances it should be extended or removed.

Tax breaks for retailers that are believed to be temporary are unlikely to make much difference to the viability of different sorts of business, or to lead to significant changes in behaviour. The main effect of the policy is therefore just a giveaway to retail firms (likely to be felt in higher profits for shareholders since rents, wages and prices are less likely to change in response to a temporary giveaway). Money used to provide windfall giveaways could always be used to increase economic efficiency by making permanent cuts (of the same present value) to distortionary taxes. Whether the government instead wants to redirect taxpayers' money to the owners of retail businesses is ultimately a political value judgement, but it has done little to explain why this group should be particularly deserving of largesse.

Moves towards localisation

Business rates retention

The Local Government Finance Act (2012) stipulates that, from April 2013, English LAs are able to keep between 25% and 50% of the growth in receipts from business rates on new properties until 2020. Broadly speaking, LAs with a large business rates base get to keep a smaller fraction of the revenue from new developments. In 2020 the system will be 'reset'. It is expected that at this point the increases in business rates revenue will be redistributed across LAs and a new, 10-year, cycle will start. Box 11.2 provides further details on how the policy works.

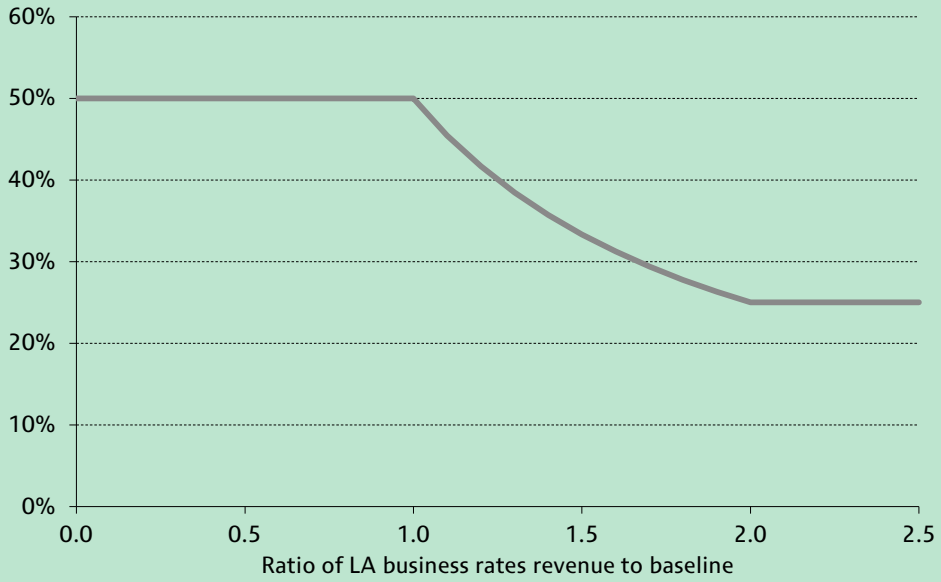
Box 11.2. Business rates retention scheme[a]

From 2013–14, LAs are able to keep between 25% and 50% of any growth in business rates revenues that comes from new developments.

Broadly speaking, LAs with a large business rates base get to keep a smaller fraction of the revenue from new developments. Specifically, the share they get to keep depends on how much business rates revenue was generated in the LA (before any new development) relative to a baseline. The baseline is what the LA's business rates revenue would have been if it were the same fraction of its block grant from central government as national business rates revenue was as a fraction of aggregate block grants.[b] If an LA's business rates revenue was lower than this baseline, then the LA keeps 50% of the revenue from new developments. If revenue was higher than the baseline, then the percentage is gradually reduced, down to a minimum of 25% for LAs whose business rates revenue was more than double the baseline.

This schedule is shown in Figure 11.4. For LAs between the 25% floor and the 50% ceiling, the effect of the gradual reduction is that LAs achieving the same percentage increase in their business rates base get to keep the same absolute amount of revenue as a result.

Figure 11.4. Share of revenue from new developments retained locally



Source: Authors' calculations.

If an LA experiences a small fall in rates revenue (because, for example, there is a fall in the number of rateable properties), then it correspondingly takes a share of between 25% and 50% of that revenue loss. However, for larger falls in rates revenue, a 'safety net' prevents LAs from losing too much. If the fall in the business rates generated in an LA is more than 7.5% of its baseline, then central government makes up the difference.

This system will run until 2020. At that point, the system will be 'reset' and baseline funding levels adjusted to account for any changes in circumstances. Details of that reset have not been determined.

[a] For further details, see Department for Communities and Local Government: *Business Rates Retention: Policy Statement*, November 2012, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/14939/Business_rates_retention_policy_statement.pdf and Department for Communities and Local Government, *Business Rates Retention: A Step-by-Step Guide*, July 2012, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/5947/2182691.pdf.
[b] Block grant is the general-purpose funding provided to LAs by central government. Broadly speaking, it is calculated as an LA's spending needs (as assessed by central government) less what is covered by grants allocated for specific purposes (principally schools) and what would be covered by a nationally-uniform 'standard' (not necessarily average) rate of council tax. It is also referred to in this context as 'start-up funding'.

Providing incentives to local authorities

The aim of the business rates retention scheme is to provide local authorities with a stronger incentive to promote business development.

Business rates mean that firms that develop valuable business property do not keep all of the commercial rewards from doing so. This weakens firms' incentives to develop business property. This weakening of firms' incentives, however, is partly offset by a strengthening of the government's incentive to encourage development, because of the extra business rates revenue such development generates.

Before April 2013, all revenues from business rates in England (except those raised from the supplements in Greater London and the City of London) were paid into a central pool. This provided central government, but not LAs, with an incentive to encourage development.

Business rates retention means that part of that incentive now applies at the local government level. Local authorities are key decision-makers over, for example, granting planning permission, so it makes sense for them to take some account of the business rates revenue at stake. But there is a difference between central government and local government having that incentive. The incentive for central government is to encourage development that would not otherwise happen at all; LAs have that incentive too, but they also have an incentive to encourage development in that LA instead of others. There is a potential downside to that, in that competition between LAs to attract new development could potentially lead to policies that are *too* business-friendly relative to what would happen if LAs cooperated or central government took decisions in the national interest. But there is also an upside if LAs are reluctant to allow new developments that could be beneficial to the country as a whole but have a detrimental impact on local households: business rate retention could help to counteract that so-called 'NIMBY' tendency.

The Department for Communities and Local Government has estimated the impact of the business rates retention scheme on national income. The main channel of effect is through a reduction in planning restrictiveness leading to an increase in the supply of business premises and a reduction in costs for business. Its central estimate is that the scheme will boost national income by £10.1 billion over the period 2013–14 to 2019–20, i.e. an average of £1.4 billion per year. However, there is significant uncertainty around this, with the published estimates ranging from £240 million per year to £2.8 billion per year.[25]

[25] See Department for Communities and Local Government, *Business Rates Retention Scheme: The Economic Benefits of Local Business Rates Retention*, May 2012, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/11472/2146726.pdf.

Redistributing resources between local authorities

Britain's current system of local government finance is predicated on a view that LAs blessed with lots of high-value business properties should not have greater funds than otherwise-similar LAs that are not so lucky. Broadly speaking, grants from central (or devolved) government are set such that, if each LA spends the amount that central government judges it needs, they will all need to set the same council tax rate to pay for that spending regardless of how much business rates are generated in the area.[26]

One might reasonably argue that, where growth in local business rates revenue reflects LAs' efforts rather than mere good luck, it is fair as well as efficient for that extra revenue to be retained locally. In practice, however, it is impossible to distinguish reliably between the consequences of effort and luck. It might over time come to be seen as increasingly unfair if areas that had experienced high growth in their business rates base – perhaps decades earlier – could spend more on local services at a lower cost to the local taxpayer than other areas. This is typical of the trade-offs that governments face in balancing a desire for decentralisation and incentives with a desire for this form of 'fairness' between LAs.

One reasonable response is for LAs to keep (some of) the revenues from any growth in the local business rates base, but only for a certain period. That combines a short-term reward for encouraging development with an assurance that long-run disparities between LAs' funding positions will not arise. The way that the government has chosen to do this, however, is peculiar. Letting LAs keep a fraction of the revenue from new developments until funding allocations are 'reset' in 2020 (and every 10 years thereafter) means that they have a relatively strong incentive to encourage development at the start of a cycle but much weaker incentives as the reset point approaches.[27] Indeed, by 2019 LAs will have a clear incentive to delay new property developments for a year, so that they get to keep the resulting revenues for 10 years rather than just 1. In light of the perverse incentives created, it will be interesting to see whether the policy is revised as 2020 approaches. It would make far more sense for LAs to keep a fraction of the revenue from new developments for a given number of years (5 or 10, say) rather than until a given calendar date.

A second response to fairness considerations is to focus on getting the baseline right: that is, the level relative to which additional development is measured. The grant system is designed to ensure that LAs do not benefit simply from having a large business rates base, only from their efforts to expand it. But if (without any unusual effort) all LAs would normally see the same percentage increase in the number of business properties each year, then letting LAs keep the resulting revenues would mean bigger funding increases for those LAs with bigger business rates bases. The ideal would be to let LAs keep (a fraction of) revenues from additional development *relative to what would happen without any particular action on their part*. Assessing that baseline is, of course, much more difficult than looking at total new development, and it would probably not be sensible for

[26] Accordingly, although the business rates retention scheme is formally set up so that each LA gets to keep half of all its business rates revenue, a system of 'tariffs' and 'top-ups' has been designed specifically to ensure that councils' overall level of funding at the start of the new regime (i.e. before any new property development) is unrelated to the business rates revenue generated there.

[27] A similar problem arises in Scotland, where the business rates incentivisation scheme allows LAs to keep 50% of revenue from additional developments until the next revaluation.

central government to make an ad hoc assessment of the baseline for each individual LA each year.[28]

The government's policy reflects concern for fairness between LAs in another way. It is designed such that (subject to a 25% floor and a 50% ceiling on the fraction of additional revenues that can be kept) LAs achieving the same percentage increase in business rates get to keep the same absolute amount of revenue as a result. That may reflect the government's perception of fairness. But it is not the simplest, and probably not the most efficient, policy: LAs that get to keep a higher percentage of business rates growth have a stronger incentive to encourage development. If LAs achieving the same absolute increase in business rates kept the same absolute amount of additional revenue – in other words, all kept the same percentage of any increase in business rates – then all development would be incentivised equally. That rather simpler approach is how Scotland's business rates incentivisation scheme, which in many other respects is similar to business rates retention, works.

In summary, business rates retention increases the incentives of LAs to promote business development, but these incentives are dampened by the mechanisms put in place to ensure that large disparities in available resources do not arise between LAs. To some extent this trade-off is inevitable, though the peculiar incentives surrounding the 2020 reset date show that it could be managed better. The effectiveness of the scheme will depend in part on how responsive LAs are to the new incentives. If the government wanted to promote a more substantial change in the incentives faced by, and therefore in the behaviour of, LAs, it would probably require a larger shift in view over the appropriate degree of resource equalisation.

Discretion over business rate reductions

Under the 2011 Localism Act, LAs in England and Wales have, since April 2012, had almost complete discretion to offer business rates discounts of any size for any property or properties in the area, at their own expense.[29] In principle, this is a sweeping power and a major step towards localisation: the government's impact assessment for the policy noted that, in principle, LAs could decide to abolish business rates entirely.[30] However, reports suggest that in 2012–13 only 18 out of 326 LAs in England offered any such

[28] One possibility would be to let LAs keep any growth in business rates revenue relative to the national average growth rate (and correspondingly lose any shortfall, perhaps subject to some limit). A strong attraction of this approach is that it would allow both central and local government to be fully incentivised to encourage development (if that were considered desirable): individual LAs could keep 100% of the revenue generated by an additional development, yet that battle for revenues would be a zero-sum game between LAs (since additional developments raise the national average, causing other LAs to lose out) with central government keeping 100% of the nationwide increase in business rates. The downside is that it would increase uncertainty in LAs' budgets since they would not know their funding position until they knew not only how much new development there was in their area, but how much there was across the country. It might also still be considered unfair if growth in the business rates base (without any unusual effort) would be predictably higher in some regions than others, for example; if that were the case, then assessing changes relative to the long-run average growth rate in that area might be appropriate, or perhaps letting LAs keep any growth in business rates revenue relative to the regional (rather than national) average growth rate. Any options along these lines might prove politically difficult, however, as they would involve some LAs losing in cash terms (though the government could cap such losses if it wished).

[29] The only limitations are that the discounts should be 'reasonable … having regard to the interests of council tax payers' and that they do not breach any wider restrictions such as EU state aid rules. Previously, discretionary discounts could be offered only in very restricted circumstances.

[30] Paragraph 19 of https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6023/1829804.pdf. It then goes on to emphasise that this scenario is highly unlikely.

discounts, with a tiny collective value of £2.5 million.[31] This suggests that there was negligible appetite among LAs to pay for reductions in business rates – although this first year of the policy was before the introduction of business rates retention, so there would now be more incentive than there was then for LAs to offer discounts to encourage property development in the area.

11.4 Additional policy options

In Autumn Statement 2013, the government announced plans to consider possible reforms to the *administration* of business rates.[32] Given the distortions created by business rates, reform of the overall policy (rather than simply how it is administered) would be preferable. In 2012 the Scottish Government did commit to conducting a 'thorough and comprehensive review of the whole business rates system'. However, the action plan that followed the initial consultation consisted of some small administrative changes and no plans for more substantial reforms.[33]

As highlighted in the introduction and discussed below, a land value tax is superior to business rates on the grounds of economic efficiency. As such, conditional on confirming the feasibility of measuring land values, we advocate replacing the current system of business rates with an LVT.

Short of a wholesale move to an LVT, there are a range of options for reform of the current system of business rates. In addition to those discussed in the previous section, possible policy moves include:

- changes to small business relief;
- scaling back or removing exemptions and reliefs;
- changing how the multiplier is uprated between revaluations;
- changing the relative roles of central and local government: the government could go further in allowing local government to keep more of any additional revenues, or give local government more say over rates or structures.

This section discusses these options. It also discusses the Labour Party's proposal to freeze business rates in 2015–16 and 2016–17 and pay for this by increasing the main rate of corporation tax.

Land value taxation

An LVT is an annual levy on the value of land owned (excluding the value of any buildings on it). Land is not a produced input: its supply is essentially fixed and cannot be affected by the introduction of a tax. With the same amount of land available, people would not be willing to pay any more for it than before, so (the present value of) an LVT would be reflected one-for-one in a lower price of land. The owner of the land on the day an LVT is announced would see a reduction in the value of their asset, but thereafter the tax has no

[31] See 'Business rate discount schemes are shunned', *Local Government Chronicle*, 18 April 2013, http://www.lgcplus.com/topics/business-rates/business-rate-discount-schemes-are-shunned/5057427.article.

[32] It said it will 'publish a discussion paper in spring 2014 setting out the advantages and disadvantages of different options for longer-term reforms to business rates administration which maintain the aggregate tax yield' (paragraph 2.108 of HM Treasury, *Autumn Statement 2013*, op. cit.).

[33] 'Supporting Business: Promoting Growth – Scottish Government response', 4 September 2013, http://www.scotland.gov.uk/Publications/2013/09/2234/0.

effect. Taxing land values therefore does not discourage the purchase, development or use of land. In addition, an LVT would capture some of the benefits that accrue to landowners from external developments (rather than their own efforts) that work to raise the price of land.[34]

In the UK, as in most countries, there is a system of planning regulations that dictate the use of land. As such, the supply of land *for business use* is not completely fixed. A tax on land value may therefore reduce, at the margin, the incentive to apply for permission to change the designation of land. However, since there are large gains available for the development of land, this is unlikely to be a major issue. In addition, the government could relax planning regulations in response to concerns that an LVT might discourage valuable development.

There would be winners and losers from a revenue-neutral shift from to an LVT. Owners of highly developed properties would gain, while owners of undeveloped land would lose. However, in so far as the value of property is largely determined by the value of the land on which it stands, the offsetting gains and losses to owners would be close. And if the reform were introduced on a revenue-neutral basis, there would at least be no windfall gains or losses on average.

The key practical challenge involved in implementing an LVT is the need to value individual land holdings separately from any buildings erected on them. In most areas and sectors, the number of transactions in land (separate from any buildings thereon) is low and, in the absence of a sizeable market, it is difficult to determine the market price. Any inaccuracies in land valuation would not affect the efficiency of an LVT, but they would create inequities between taxpayers and might lead to more appeals – already an administrative problem for business rates. However, there are methods available to value land, including imputing the value by observing sales of comparable properties in different locations. And there are other countries – including Australia and Denmark – with experience of operating LVTs. We cannot say conclusively that the administrative hurdles to replacing business rates with an LVT could be overcome at reasonable cost. But this is such a powerful idea, and one that has been so comprehensively ignored by governments, that the case for a thorough official effort to design a workable system seems to us to be overwhelming. In particular, significant adjustment costs would be merited if the inefficient and iniquitous system of business rates could be swept away entirely and replaced by an LVT.

Short of replacing business rates altogether, however, there is a range of ways in which they could be reformed.

Changing tax rates for properties with different rateable values

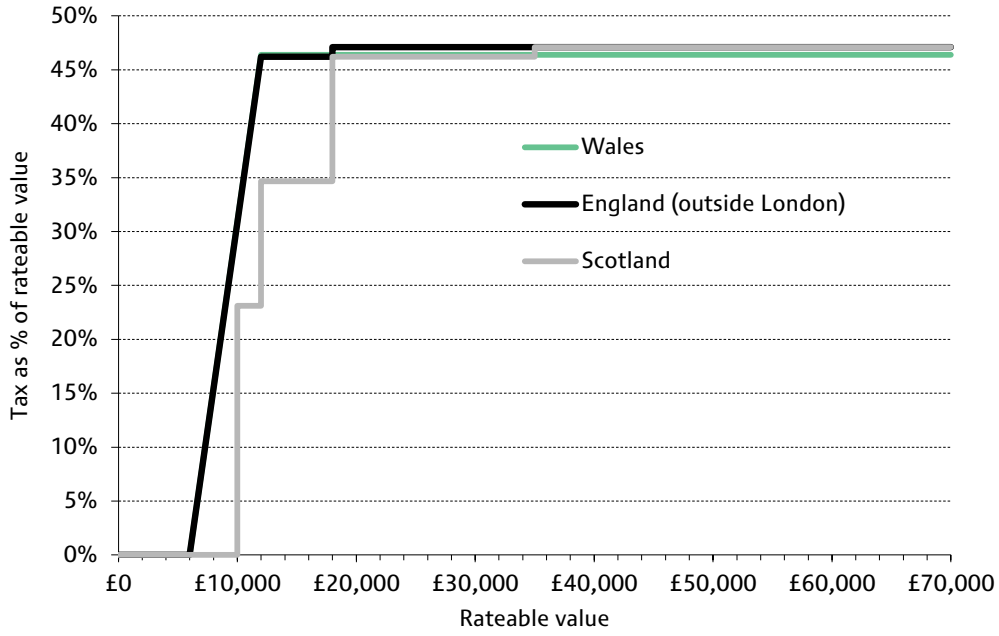
At the moment, lower rates of tax are charged on properties with lower rateable values. This is done through a combination of different multipliers for small and large properties and an explicit small business rates relief scheme. One option for reform would be to change the relationship between rateable value and tax rate.

The details of the current relationship vary across Britain. Figure 11.5 illustrates the overall schedules in Scotland, Wales and England (excluding, for simplicity, the City of

[34] For an extended discussion of the issues raised here, see 'The taxation of land and property', chapter 16 of 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*, OUP for IFS, 2011, http://www.ifs.org.uk/mirrleesReview/design.

London and the rest of Greater London, which have slightly different schedules again) in 2013–14, including the temporary increase in small business rates relief in England and Wales. It shows that Scotland gives more generous relief for low-value premises, even allowing for the temporary additional reliefs in England and Wales. The figure also highlights that the structure of relief is different in Scotland, with a series of steps up in liability when certain thresholds are crossed. Such steps are undesirable: they mean that, for example, a property with a rateable value of £18,001 attracts a tax bill £2,080 higher than a property with a rateable value of £18,000.[35] That is clearly an absurd structure for any tax. It is particularly ironic in this case since Scotland, unlike England and Wales, is removing precisely such an anomaly elsewhere in the property tax system, with its proposed land and buildings transactions tax (which has no such jumps) due to replace stamp duty land tax (which does) from April 2015.[36] Whatever else is done, such jumps should be removed from business rate schedules.

Figure 11.5. Business rates schedules, 2013–14



Source: Authors' calculations.

But more fundamentally, the rationale for applying lower rates to lower-value properties at all is not clear. Certainly there is not a strong distributional argument. Redistributing from firms that occupy large buildings to firms that do not is not necessarily 'progressive' in the way that redistributing from rich people to poor people is. Businesses are not people; ultimately the burden of all taxes is felt by households, and the burden of 'business taxes' must be passed on to some combination of the firms' shareholders (via lower profits), customers (via higher prices), employees (via lower wages) and so on. As discussed in Box 11.1, theory and evidence suggest that the burden of business rates is mostly passed on to the owners of the premises (via reductions in property values) – although in so far as extra business rate reliefs are believed to be temporary, they are more likely to benefit the owners of the firms occupying the premises, as rents (and

[35] 34.65% of £18,000 is £6,237, while 46.2% of £18,001 is £8,316 – a difference of £2,079.

[36] Wales is also due to have 'jumps' in its business rate schedule once the temporary extra relief expires in April 2015.

wages and prices) are less likely to adjust for that short period. It is not obvious that businesses owning or occupying more valuable premises have shareholders (or, for that matter, employees or customers) who are individually better off than firms with smaller premises. The people whose pension funds invest in Tesco might not be richer than the owner-manager of a corner shop.

Lower business rates for properties with low rateable values is a distortion towards production patterns involving more low-value properties and fewer high-value properties than commercial considerations would dictate in a free market. Parallel to our earlier discussion of preferential treatment for retail properties, one could make an argument that, relative to what a free market might produce, there is an additional benefit to wider society from having lots of small business properties rather than fewer large properties. This could be to promote competition in the local market, or because people simply value the existence of (say) a variety of high-street shops even though they would rather shop in a big supermarket (note again that if people actually preferred to buy things from smaller businesses, the firms should be commercially viable even without preferential tax treatment). Whether such concerns are important in practice, and, if they are, whether a tax reduction linked specifically to low-value premises is the appropriate tool to address them, is not clear. The new employment allowance in employers' National Insurance contributions targets support at firms with low wage bills, while the small profits rate of corporation tax targets support at firms with low profits. Exactly what kind of 'small business' is it that we want to favour with this array of policies? Indeed, are tax breaks the most appropriate instrument to pursue such objectives at all, as opposed to, for example, competition policy or the planning system?

If the government believes that there is a strong rationale for preferential taxation of low-value properties, it should state clearly and precisely what that rationale is, and the exact design of the rate schedule should reflect that purpose. Otherwise, it would be simpler and more efficient to move to a single rate for all properties.

Scaling back exemptions and reliefs

Other than reduced rates for low-value properties, the principal reliefs from business rates are:

- agricultural land and buildings (cost unknown);
- charities (cost £1.3 billion in England 2012–13);
- partial relief for empty properties (cost £1.0 billion in England in 2012–13).[37]

It is hard to see any case for exempting agricultural property from business rates. It distorts land use towards agricultural rather than other purposes. The exemption seems to exist for purely political rather than economic reasons and should be ended. But the revenue cost of the exemption is unknown, and the relatively low value of agricultural land means that the tax at stake might not be large.

There may well be a rationale for the government to provide tax breaks for charities. As well as business rates relief, charities currently benefit from various reliefs from income tax, corporation tax, capital gains tax, inheritance tax, VAT and stamp duty land tax

[37] For costings, see table 2b of Department for Communities and Local Government, *Statistical Release December 2013*, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/264820/Updated_NNDR3_Statistical_Release_2012-13.pdf.

(though not National Insurance contributions). One might reasonably ask whether there are better and worse ways for government to support the charitable sector, and whether the use of all these instruments is appropriate, but we do not enter that discussion here.

At the moment, most empty business properties in England are exempt for three months and charged full business rates thereafter.[38] The three-month exemption reduces the incentive to bring properties back into use, while on the other hand charging business rates thereafter encourages the demolition of empty properties. The problem ultimately arises because land without buildings on it is untaxed. That inevitably creates a boundary where business rates start to be charged, leaving governments with an unpalatable choice between creating an incentive to demolish empty properties (if empty properties are taxed) or a disincentive to use properties (if empty properties are exempt). It would be best to tax land value irrespective of what, if anything, is built on it (see earlier discussion of land value taxation).

Changing how rateable values and multipliers evolve

We argued in Section 11.3 that regular revaluations should be conducted as frequently as administrative cost allows. In addition, if revaluations are conducted less than once a year, rateable values should be uprated in between valuations to keep them as close as possible to properties' true market rental values – for example, in line with a local rental price index for properties of a certain type.

Having a tax base that more closely reflected economic reality would help to make business rates more transparent – for example, countering the widespread misapprehension that revaluations are associated with a general increase in business rate bills not seen in other years.

Such a change would mean that multipliers no longer needed to be uprated each year in order to keep pace with inflation. If rateable values increased each year in line with true market rents, then a fixed multiplier would mean that business rate bills also increased in line with that tax base, like most other taxes do.

Current policy is that business rate bills should increase not in line with market rents, but in line with RPI inflation, which is typically lower. Having rateable values that increased in line with true market rents would mean adjusting – usually reducing – the multiplier each year if average bills are to continue to track the RPI. This would make more explicit that the implication of current policy is for business rates to levy an ever-declining fraction of property values.

Whether or not the determination of rateable values is changed in the way described, there remains the separate question of whether average bills should track the RPI at all. The RPI is a poor measure of household inflation; it has recently been declassified as a National Statistic because of concerns that the underlying formula overstates household inflation rates (Box 6.2 in Chapter 6 discusses this). If the intention is for business rates to keep pace with inflation, there are better measures of inflation that could be used.

More fundamentally, it is not clear why business rate bills should keep pace with any measure of consumer prices. For most taxes, the government sets a rate schedule which (hopefully) does not change each year, and then bills and revenues rise or fall each year

[38] Industrial premises are exempt for six months, while listed buildings and those with a rateable value below £2,600 are exempt as long as they are empty.

in line with the tax base. Business rates could be reformed along those lines. If rateable values were adjusted annually as described above, it would happen automatically with a fixed multiplier; alternatively, under the current approach of fixed rateable values in between revaluations, the multiplier would need to be uprated in line with growth in market rents. One attraction of this is that bills would then respond (at least partially) to conditions in the rental market. For example, the falls in rents following the 2008 financial crisis would have been reflected in lower bills under this type of system.

Alternatively, the government could choose to increase bills in line with a different measure, such as national income. The government can decide whether it wants business rates to remain the same magnitude (or grow, or shrink) relative to any of these comparators.

But, in any case, it is doubtful that keeping pace with RPI inflation is a sensible policy.

Further localisation

As discussed in Section 11.3, local authorities in England now retain a share of the growth in revenues from new developments, for a limited period, under the business rates retention scheme (and similarly under the business rates incentivisation scheme in Scotland). One option for greater localisation would be to increase the share that LAs can keep, or the period for which they can keep it. The pros and cons of this were discussed above.

The other main option for localisation would be to give LAs more control over the tax rate. As discussed in Section 11.3, LAs in England and Wales already have almost unlimited powers to reduce tax rates, by however much and for whichever properties they wish, although (at least in the first year of the policy) this power was little used. However, they have little power to increase tax rates. LAs can levy a supplementary business rate, but only of up to 2%, only on rateable values above £50,000, only to pay for specified economic development projects that would not otherwise take place, and only subject to a ballot of firms that would be liable to pay it. Perhaps because of these restrictions, the rate levied in Greater London to help pay for Crossrail is the only time so far that this power has been used.

Further localising rate-setting powers would increase LAs' fundraising autonomy. At present, local services are largely financed by central government. At present, council tax is the only significant tax that LAs can use to raise more money; it finances around one-sixth of total local spending (councils additionally raise around one-tenth of spending from service charges).[39] This leaves UK taxation unusually centralised, with less than 5% of tax revenues raised locally. Giving LAs the power to set business rates would be a significant change.

One concern with the localisation of business-rate-setting powers, however, is that LAs may seek to increase rates as a way of raising revenue that looks relatively painless in electoral terms. There is a danger of weak accountability: the true incidence of business rates is particularly opaque, and the individuals who ultimately bear the burden of the tax may not be aware of it or even live in the LAs concerned, leading to a lack of democratic checks on business rate increases. This concern was part of the reason for the centralisation of business rates in 1990. The ballot required to levy supplementary rates

[39] See chart 2.1b in *Local Government Financial Statistics England* 22, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7476/2158981.pdf.

is a reasonable way to deal with this concern, and easing some of the other restrictions on this scheme might be a good way forward if further localisation is desired.

Labour Party policy

At its 2013 party conference, the Labour Party announced that, if it won the next general election, it would freeze the business rate multipliers in 2015–16 and 2016–17 for properties with a rateable value of less than £50,000. Labour estimated that this would cost £250 million in 2015–16 and £550 million per year from 2016–17 onwards.

The measure will be paid for by reversing the planned cut in the main rate of corporation tax from 21% to 20% that is due to take effect in April 2015. This has an estimated saving of £400 million in 2015–16, rising to £865 million in 2017–18.[40]

Almost 90% of properties have a rateable value of less than £50,000 and would therefore see reduced business rate bills. With the Office for Budget Responsibility's latest forecasts of RPI inflation for the relevant two years at 2.8% and 3.3% respectively, business rate bills for those properties would be 5.8% lower from 2016–17 onwards. Since the main rate of corporation tax applies only to profits above £1.5 million, firms occupying premises with rateable values below £50,000 would unambiguously see their overall tax payments fall if their profits were below £1.5 million – or if they were set up as unincorporated businesses (self-employed individuals or partnerships), which are not subject to corporation tax at all. Conversely, companies making sufficiently large profits would see the increase in their corporation tax bill outweigh any reduction in their business rate bill. Initially, these changes in business rates and corporation tax bills are likely to be reflected in firms' profits. In the longer term, however – once rents, prices and wages have time to adjust – increasing the main rate of corporation tax is likely to result (at least) partly in lower wages for employees, whereas a reduction in business rates is likely to result primarily in higher rental income for property owners.

The merits of cutting business rates and raising corporation tax rates are debatable. Business rates are the more clearly an ill-designed tax: taxing an intermediate input to production (i.e. business property) violates one of the most fundamental principles of the economics of taxation, in a way that taxing corporate profits does not. Yet business rates might nevertheless be the less damaging tax, since properties' aggregate rateable value is less responsive to taxation than corporate profits are (not least because corporate profits can move overseas whereas properties generally cannot). This is not to say that business rates should not be reduced. But if the Labour Party (or any other party) wishes to reduce business rates, there may be better places to find the revenue than increasing corporation tax.

Increasing just the main rate of corporation tax would also complicate the tax system. The scheduled reduction of the main rate of corporation tax to 20% in April 2015 will bring it into line with the small profits rate and eliminate the distinction entirely. In fact, a single 20% rate would be replacing not two separate rates but three: the small profits rate applies to profits below £300,000, the main rate applies to profits above £1,500,000 and a system of relief (in effect, a third marginal rate) operates between these two thresholds. As with business rates, the rationale for having a small profits rate of corporation tax was

[40] This estimate is based on the post-behavioural-change costing of reducing the main rate of corporation tax from 21% to 20%. See HM Government, 'Budget 2013: policy costings', March 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/221895/budget2013_policy_costings.pdf.

never clear in the first place, and moving to a single rate is a welcome simplification. Labour's policy now is that it wishes to have – apparently permanently – a rate of 20% on profits below £300,000, a rate of 21.25% on profits between £300,000 and £1,500,000, and a rate of 21% on profits in excess of £1,500,000. Having three separate rates that are so similar to each other simply looks farcical. The simplification of moving to a single rate of corporation tax (whether that is at 20% or some other rate) is a real achievement of the coalition government's tax policy, and it is one that should not be reversed.

11.5 Conclusion

Tax policy should be kept as simple as possible and avoid taxing some types of firms or activities differently from others unless there are strong arguments to the contrary, in which case departures should be carefully designed. Tax policy should also be kept stable. Business rates policy currently fares badly on both of these scores.

The obvious starting point for business rates would be to levy the same tax rate on all property. In some cases, policy deviates from this with no obvious justification: agricultural relief is one example and should be abolished. There may be a stronger argument for providing permanently lower rates for retail properties or properties with a low rateable value (though not the temporary policies currently in place). But the hurdle for justifying such preferential treatment should be high; it is debatable whether there is a compelling case for these tax breaks, and if the government believes there is then it should explain its justification more clearly.

Where differential treatments are introduced, it is important that they be well designed. It cannot be sensible that, in Scotland, properties with rateable values £1 higher can attract an annual business rates bill more than £2,000 higher. And it cannot be sensible that local authorities encouraging new developments now get to keep part of the revenue for seven years whereas those doing so in 2019 may hardly benefit at all and actually be better off seeking to delay development until after 2020.

Until recently, business rates, for all their imperfections, had been one of the most stable parts of the tax system, having barely been changed at all since 1990. Recent years, however, have seen a swelling stream of new announcements and supposedly temporary policies. Revaluation has been delayed and uprating has differed from RPI inflation, both for the first time since 1990. A 'temporary' increase in business rates relief, initially announced in 2010 as a one-year policy, has already been extended four times, leaving its currently scheduled expiry date of March 2015 in doubt, to say the least. More 'temporary' reliefs have been introduced for small retail premises and empty new-build properties.

Businesses make investment decisions factoring in their expected future tax liability. If the government continually alters the tax regime, it increases uncertainty, making an assessment of the after-tax returns to an investment more difficult, and ultimately deterring businesses from investing. Repeatedly extending 'temporary' reliefs on an ad hoc basis can also make it difficult to rescind what was originally intended to be a short-term policy and can end up inadvertently changing the structure of the tax system. In any case, it has not always been clear why the temporary policies, if desirable at all, should be desirable only for a particular period. For example, why should retail properties be treated more favourably than most other business properties in 2014–15 and 2015–16 but not thereafter?

Stability is not always the decisive factor; governments should not eschew clear improvements to the system purely for the sake of minimising change. It is doubtful that all of the changes introduced recently merit the upheaval. But there are certainly worthwhile reforms available.

The ideal, subject to confirming practical feasibility, would be to replace business rates entirely with a system of land value taxation based on what each site would be worth in the absence of any buildings on it. Such a tax would remove altogether the disincentive to develop and use property that business rates creates.

Short of such a radical revamp, business rates should be reformed so that rateable values reflect as closely as possible the up-to-date market rental values of properties. There are two elements that could be used to achieve this. First, regular revaluations could be undertaken more often, though the benefits of more frequent revaluations must be weighed against the additional administrative cost. Second, if revaluations are conducted less than once a year then rateable values should be uprated in between valuations to keep them as close as possible to properties' true market rental values – for example, in line with a local rental price index for properties of a certain type. Keeping rateable values more in line with actual rental values year-to-year by these two means would make tax bills more transparent, fairer as relative property prices change, and less prone to sharp changes at revaluation than the current system. It would be possible to do all this while still restricting average bills to keep pace with RPI inflation if so desired (though better measures of inflation are available). An alternative would be to keep the tax rate (the multiplier) fixed as the tax base (rateable values) changes. That would make business rates more responsive to the economic cycle, addressing some of the recent concerns raised by businesses that saw the rental values of their properties fall in the recent recession without a commensurate fall in their business rates bills.

One of the most substantial changes in recent years has been towards greater localisation. There is a case for providing LAs with an incentive to promote business development by allowing them to retain part of the business rates revenues raised from new developments, as the business rates retention scheme in England and the business rates incentivisation scheme in Scotland do. The business rates retention scheme is, however, rather complicated. Its design has been influenced by a strong desire to equalise resources across LAs: incentives have been dampened in order to redistribute the proceeds from new developments across England. One facet of this dampening that is particularly ill-designed is the length of time for which LAs are able to retain revenues: rather than keeping extra revenues until a fixed cut-off date (which means that the incentives to encourage development weaken as the reset point approaches), it would make more sense for LAs to keep the revenue for a given number of years (5 or 10, say).

A second aspect of localisation has been to give LAs almost unlimited powers to offer discretionary business rates discounts (at their own expense) as they see fit. LAs initially made little use of this potentially sweeping power, but they have more incentive to use it now that business rates retention gives them some reward from encouraging new developments.

The case for taking localisation even further by giving LAs the power to increase business rates as well as reducing them is less compelling than the current reforms, because there might be a lack of democratic checks on LAs that are tempted to increase business rates at the ultimate expense of people who may not be clearly identifiable as local voters. The

ballot of potentially liable firms now required for LAs to levy a supplementary business rate might be a useful model going forwards.

Taking the coalition government's package of business rate changes as a whole, the measures mostly lack a clear (and clearly explained) justification, make the system more complicated and have added instability. Most of the recent changes to business rates are reductions, which will no doubt be welcomed by hard-pressed businesses. But that does not mean they are necessarily the best use of taxpayers' money, even within the business rates system. Better reforms are available.

Appendix A. Headline tax and benefit rates and thresholds

			2013–14	2014–15[a]
Income tax				
Personal allowance:	born after 5/4/48		£9,440 p.a.	£10,000 p.a.
	born between 6/4/38 and 5/4/48		£10,500 p.a.	£10,500 p.a.
	born before 6/4/38		£10,660 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			£7,915 p.a.	£8,165 p.a.
Basic rate			20%	20%
Higher rate			40%	40%
Additional rate			45%	45%
Tax rates on interest income			10%, 20%, 40%, 45%	10%, 20%, 40%, 45%
Tax rates on dividend income			10%, 32.5%, 37.5%[b]	10%, 32.5%, 37.5%[b]
Starting-rate limit			£2,790 p.a.	£2,880 p.a.
Basic-rate limit			£32,010 p.a.	£31,865 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)			£109 p.w.	£111 p.w.
Upper earnings limit (UEL)			£797 p.w.	£805 p.w.
Upper accrual point (UAP)			£770 p.w.	£770 p.w.
Primary earnings threshold (employee)			£149 p.w.	£153 p.w.
Secondary earnings threshold (employer)			£148 p.w.	£153 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 UAP	10.6%	10.6%
(salary-related schemes)		– UAP to UEL	12%	12%
		– above UEL	2%	2%
	employer	– below UAP	10.4%	10.4%
		– above UAP	13.8%	13.8%
Corporation tax				
Rates: small profits rate			20%	20%
standard rate			23%	21%
Bank levy				
Rates: equity and long-term liabilities			0.065%/0.078%[c]	0.078%
Short-term liabilities			0.130%/0.156%[c]	0.156%
Capital gains tax				
Annual exemption limit:	individuals		£10,900 p.a.	£11,000 p.a.
	trusts		£5,450 p.a.	£5,500 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			£79,000 p.a.	£81,000 p.a.
Standard rate			20%	20%
Reduced rate			5%	5%

Continues

Continued

	2013–14	2014–15[a]
Excise duties		
Beer (pint at 3.9% abv)	42p	44p[d]
Wine (75cl bottle at 12% abv)	200p	210p[d]
Spirits (70cl bottle at 40% abv)	790p	828p[d]
20 cigarettes:[e] specific duty	352p	371p[d]
ad valorem (16.5% of retail price)	133p	137p[d]
Ultra-low-sulphur petrol (litre)	58p	58p
Ultra-low-sulphur diesel (litre)	58p	58p
Air passenger duty		
Band A (up to 2,000 miles): economy	£13	£13
club/first class	£26	£26
Band B (2,001–4,000 miles): economy	£67	£69
club/first class	£134	£138
Band C (4,001–6,000 miles): economy	£83	£85
club/first class	£166	£170
Band D (6,001 or more miles): economy	£94	£97
club/first class	£188	£194
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%	1%
£250,000–£500,000	3%	3%
£500,000–£1,000,000	4%	4%
£1,000,000–£2,000,000[f]	5%	5%
above £2,000,000[f]	7%	7%
Stocks and shares: rate	0.5%	0.5%
Vehicle excise duty		
Graduated system (for new cars from 1 March 2001)	£0–£490 p.a.	£0–£505 p.a.[d]
Graduated system (first-year rate from April 2010)	£0–£1,065 p.a.	£0–£1,095 p.a.[d]
Standard rate (for cars registered before March 2001)	£225 p.a.	£230 p.a.[d]
Small-car rate (engines up to 1,549cc)	£140 p.a.	£145 p.a.[d]
Heavy goods vehicles (varies according to vehicle type and weight)	£165–£1,850 p.a.	£165–£1,850 p.a.
Landfill tax		
Standard rate	£72 per tonne	£80 per tonne
Lower rate (inactive waste only)	£2.50 per tonne	£2.50 per tonne
Climate change levy		
Electricity	0.524p/kWh	0.541p/kWh
Natural gas	0.182p/kWh	0.188p/kWh
Coal	1.429p/kg	1.476p/kg
Liquefied petroleum gas	1.172p/kg	1.210p/kg
Business rates		
Rate applicable for low-value properties[g] in: England	46.2%	47.1%
Scotland	46.2%	47.1%
Wales	46.4%	47.3%

Continues

Continued

	2013–14	2014–15[a]
Council tax		
Average band D rate in England and Wales	£1,440 p.a.	Councils to set
Income support / Income-based jobseeker's allowance		
Single (aged 25 or over)	£71.70 p.w.	£72.40 p.w.
Couple (both aged 18 or over)	£112.55 p.w.	£113.70 p.w.
Basic state pension		
Single	£110.15 p.w.	£113.10 p.w.
Couple	£176.15 p.w.	£180.90 p.w.
Winter fuel payment: for those aged 60–79	£200 p.a.	£200 p.a.
for those aged 80 or over	£300 p.a.	£300 p.a.
Pension credit		
Guarantee credit for those over female state pension age:		
single	£145.40 p.w.	£148.35 p.w.
couple	£222.05 p.w.	£226.50 p.w.
Savings credit for those aged 65 or over:		
threshold – single	£115.30 p.w.	£120.35 p.w.
threshold – couple	£183.90 p.w.	£192.00 p.w.
maximum – single	£18.06 p.w.	£16.80 p.w.
maximum – couple	£22.89 p.w.	£20.70 p.w.
withdrawal rate	40%	40%
Child benefit		
First child	£20.30 p.w.	£20.50 p.w.
Other children	£13.40 p.w.	£13.55 p.w.
Threshold[h]	£50,000 p.a.	£50,000 p.a.
Withdrawal rate	1% per £100	1% per £100
Child tax credit		
Family element	£545 p.a.	£545 p.a.
Child element	£2,720 p.a.	£2,750 p.a.
Disabled child element	£3,015 p.a.	£3,100 p.a.
Working tax credit		
Basic element	£1,920 p.a.	£1,940 p.a.
Couples and lone-parent element	£1,970 p.a.	£1,990 p.a.
30-hour element	£790 p.a.	£800 p.a.
Disabled worker element	£2,855 p.a.	£2,935 p.a.
Childcare element:		
maximum eligible cost for one child	£175 p.w.	£175 p.w.
maximum eligible cost for two or more children	£300 p.w.	£300 p.w.
proportion of eligible costs covered	70%	70%
Features common to child and working tax credits		
Threshold	£6,420 p.a.	£6,420 p.a.
Threshold if entitled to child tax credit only	£15,910 p.a.	£16,010 p.a.
Withdrawal rate	41%	41%
Maternity benefits		
Sure Start maternity grant	£500	£500
Statutory maternity pay: weeks 1–6	90% of earnings	90% of earnings
weeks 7–33	£136.78 p.w., or 90% of earnings if lower	£138.18 p.w., or 90% of earnings if lower
Maternity allowance	£136.78 p.w.	£138.18 p.w.

[a] 2014–15 figures take pre-announced values where available and estimated results of standard indexation otherwise.

[b] Offsetting tax credits available, which reduce marginal effective tax rates to 0%, 25% and 30.6%.

[c] Higher rate in place from January 2014.

[d] Assumes RPI inflation of 2.8% in the third quarter of 2014 as per the Office for Budget Responsibility, *Economic and Fiscal Outlook*, December 2013.

[e] Assumes the December 2013 average pre-tax price of king-size cigarettes.

[f] Higher-rate bands apply only to residential properties.

[g] Applies to all businesses in Wales, and where rateable values are less than £25,500 in Greater London, £18,000 in the rest of England and £35,000 in Scotland. A supplement is payable on higher-value properties in England and Scotland (rising from 0.9% in 2013–14 to 1.1% in 2014–15), and an additional 0.4% is payable on all properties in the City of London.
[h] The high-income child benefit charge applies to all families containing at least one individual with a taxable income in excess of £50,000.
Source:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/264123/Benefit_and_Pension_rates_2014-15.pdf;
http://www.hmrc.gov.uk/rates/index.htm;
http://www.hmrc.gov.uk/taxon/index.htm;
http://www.hmrc.gov.uk/budget2013/tiin-4004.pdf;
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/175492/V149_rates_of_vehicle_tax.pdf;
http://www.legislation.gov.uk/uksi/2014/2/pdfs/uksiem_20140002_en.pdf;
http://www.voa.gov.uk/corporate/Publications/businessRatesAnIntro.html;
http://www.2010.voa.gov.uk/rli/static/HelpPages/English/faqs/faq146-what_are_the_current_multipliers.html;
http://www.scotland.gov.uk/Topics/Government/local-government/17999/11199;
http://www.cipfastats.net/uploads/ctax_13142811201358742.pdf;
https://www.gov.uk/sure-start-maternity-grant;
https://www.gov.uk/winter-fuel-payment/what-youll-get;
http://www.hmrc.gov.uk/budget2012/tiin-0620.pdf;
http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-320853.

For descriptions of the tax and benefit systems, see J. Browne and B. Roantree, 'A survey of the UK tax system', IFS Briefing Note 9, 2012 (http://www.ifs.org.uk/bns/bn09.pdf) and J. Browne and A. Hood, 'A survey of the UK benefit system', IFS Briefing Note 13, 2012 (http://www.ifs.org.uk/bns/bn13.pdf) respectively.

For a summary of the main tax measures introduced in each Budget, Pre-Budget Report and Autumn Statement 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 HM Revenue & Customs, *Tax Expenditures and Ready Reckoners*, http://www.hmrc.gov.uk/statistics/expenditures.htm.

Appendix B. Abbreviations

AER	average effective rate
APF	Asset Purchase Facility
AS	Autumn Statement
ASHE	Annual Survey of Hours and Earnings
BBC	British Broadcasting Corporation
BPEA	Brookings Papers on Economic Activity
BRIC	Brazil, Russia, India and China
CCRP	Centre for Competition and Regulatory Policy
CLG	Communities and Local Government (Department for)
CMA	Competition and Markets Authority
CPI	consumer price index
CPIH	consumer price index housing
CSAE	Centre for the Study of African Economies
CTS	council tax support
DB	defined benefit
DC	defined contribution
DCLG	Department for Communities and Local Government
DECC	Department of Energy and Climate Change
DEL	departmental expenditure limit
DfE	Department for Education
DWP	Department for Work and Pensions
EC	European Commission
ECB	European Central Bank
ECEC	early childhood education and care
ECO	Energy Companies Obligation
EEE	Exempt, Exempt, Exempt
EET	Exempt, Exempt, Taxed
EFO	Economic and Fiscal Outlook
EMTR	effective marginal tax rate
EPPE	Effective Provision of School Education
ETS	Emissions Trading System
EU	European Union
FLS	Funding for Lending Scheme
FRS	Family Resources Survey
GDP	gross domestic product
HBAI	Households Below Average Income
HEPI	household energy price index
HMRC	Her Majesty's Revenue and Customs
HPI	house price index
HPSI	Knight Frank/ Markit's house price sentiment index
HTB	Help to Buy
IEA	Institute of Economic Affairs
IFS	Institute for Fiscal Studies

ILO	International Labour Organisation
IMF	International Monetary Fund
IPA	Individual Pensions Account
JSA	jobseeker's allowance
LA	local authority
LCF	Living Costs and Food Survey
LEL	lower earnings limit
LFS	Labour Force Survey
LNG	liquefied natural gas
LPC	Low Pay Commission
LTV	loan-to-value
LVT	land value tax
MP	Member of Parliament
MPC	Monetary Policy Committee
NAIRU	non-accelerating inflation rate of unemployment
NBER	National Bureau of Economic Research
NBS	National Bureau of Statistics
NES	New Earnings Survey
NHS	National Health Service
NI	Northern Ireland
NIESR	National Institute of Economic and Social Research
NMW	National Minimum Wage
NVQ	National Vocational Qualification
NY	New York
OBR	Office for Budget Responsibility
ODA	Official Development Assistance
OE	Oxford Economics
OCDE	Organisation de cooperation et de développement économiques
OECD	Organisation for Economic Cooperation and Development
OFT	Office of Fair Trading
ONS	Office for National Statistics
OUP	Oxford University Press
PESA	Public Expenditure Statistical Analyses
PFI	Private Finance Initiative
PMI	purchasing managers' index
PSNB	public sector net borrowing
PTR	participation tax rates
PVI	private, voluntary and independent
RICS	Royal Institute of Chartered Surveyors
RPI	retail price index
RPIJ	retail price index Jevons
RPIX	RPI all items excluding mortgage interest payments
RTB	Right to Buy
SA	seasonally adjusted
SDLT	stamp duty land tax
SERPS	State Earnings-Related Pension Scheme

SME	small and medium-sized enterprise
SNP	Scottish National Party
SPA	state pension age
TAXBEN	IFS tax and benefit model
TEE	Tax, Exempt, Exempt
TFP	total factor productivity
TtE	Taxed, partially taxed, Exempt
TTE	Taxed, Taxed, Exempt
TTT	Taxed, Taxed, Taxed
UAP	upper accrual point
UC	universal credit
UEL	upper earnings limit
UK	United Kingdom
US	United States
VAT	value added tax
VOA	Valuation Office Agency
WTC	working tax credit