Preface

Welcome to the Institute for Fiscal Studies’ 2006 Green Budget, in which we discuss some of the issues facing Gordon Brown as he prepares for his first Budget since Labour’s general election victory last year. The economy is weaker than he expected a year ago and for the fifth year running he has had to downgrade his forecasts for the public finances.

In this year’s Green Budget, as usual we examine the Chancellor’s fiscal policy framework and discuss what tax and spending measures may be necessary to satisfy it. The outlook for the public finances over the next few years depends importantly on how much Mr Brown decides to spend over the period covered by the 2007 Comprehensive Spending Review, which will span the likely date of the next general election. We look at the figures Mr Brown has pencilled in against the backdrop of some of the government’s policy commitments. We also look at the Chancellor’s efforts to increase productivity and remedy problems with his tax credits regime, as well as some of the pressures he is facing in corporate taxation.

We are delighted that for the second year running the Green Budget is published in collaboration with Morgan Stanley. David Miles, Managing Director and Chief UK Economist (as well having a longer association with IFS as a Research Fellow, and as an editor of Fiscal Studies between 1999 and 2004), and his colleagues have contributed chapters on the economic outlook and debt management policy.

In an additional innovation this year, we have a chapter on tax avoidance co-authored by Malcolm Gammie QC and John Whiting of IFS’s Tax Law Review Committee (along with regular Green Budget contributor, Steve Bond). The TLRC looks at the state and operation of tax law in the UK and its members comprise a broad cross-section of informed opinion from industry and commerce, the judiciary, academia, the professions, and political and public life. Malcolm is a barrister in Lord Grabiner’s Chambers at 1 Essex Court and a visiting professor at the London School of Economics; John is tax partner at PriceWaterhouseCoopers.

We are also grateful for financial support from the Economic and Social Research Council’s Centre for the Microeconomic Analysis of Public Policy at IFS. As with all IFS publications, the views are those of the authors of the particular chapters and not of the institute – which has no corporate views – or of the funders of the research.

Director, Institute for Fiscal Studies
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1. Summary

Chapter 2: The fiscal policy framework

- The Chancellor’s tax and spending decisions are constrained by the golden rule (which states that the government should only borrow to invest on average over the economic cycle) and the sustainable investment rule (which states that public sector net debt should not rise above 40% of national income).

- The Treasury expects the current budget balance to swing from a deficit of 0.9% of national income in 2005–06 to a surplus of 0.8% over the next five years. Higher tax revenues are to deliver about three-quarters of this turnaround and a cut in public spending as a share of national income the remaining quarter.

- The Treasury believes that the economy is running 1.4% below potential this year and that half the swing from deficit to surplus will occur automatically as growth rebounds. Most independent economists believe that the economy is closer to full capacity, in which case the structural deficit would be deeper than the Treasury thinks.

- Most of the hoped-for increase in revenues is structural, rather than cyclical. Much is expected next year, thanks to higher tax payments from the financial sector, higher North Sea oil revenues and a year of ‘fiscal drag’ in income tax. Thereafter continued gains from fiscal drag are offset by falling VAT and excise duty revenues.

- The Chancellor has pencilled in growth in current spending of just 1.9% a year after economy-wide inflation over the three years of the 2007 Comprehensive Spending Review. If confirmed, this would reverse the increase over the 2004 Spending Review period and would be the least generous spending review under Labour to date.

- The Treasury has promised to meet the golden rule on average over the economic cycle. In the Pre-Budget Report (PBR), it ‘re-dated’ the economic cycle from the seven years starting in 1999–2000 to the 12 years starting in 1997–98. If the Treasury’s forecasts are correct, then this makes the rule easier to meet in this cycle and the next.

- For the fifth year running, the Treasury has had to downgrade its public finance forecasts between the Budget and the PBR. Based on its past forecasting record, the Chancellor has a more than 40% chance of breaking the golden rule and a 37% chance of breaking the sustainable investment rule in this economic cycle.

- Re-dating the cycle at such a convenient time risks undermining the credibility of the fiscal framework. The golden rule should be made more forward-looking and less reliant on a precisely dated economic cycle. If still required, the task of estimating the output gap could be handed to an independent body.
Chapter 3: The economic outlook

- Economic growth has been relatively robust over the past few years, although it slowed substantially in 2005. The Treasury expects the economy to pick up, with growth of between 2¾% and 3¼% in 2007 and the output gap closing in 2008-09.

- There are downside risks to the Treasury’s forecasts in the medium term, from a slowdown in productivity growth, inadequate saving and a large and persistent current account deficit.

- Investment and developments in the labour and housing markets pose risks to the Treasury’s forecasts in the short term. On balance, these are skewed more to the downside than to the upside.

- We do not expect growth to accelerate significantly over the next two to three years, as the Treasury does. We expect growth close to trend in 2006 and beyond. Growth could be slower still if inflationary pressures force the Bank of England to raise interest rates.

- Our analysis suggests that there is little spare capacity in the economy. We estimate that the last full cycle was relatively short, having begun in 1999 and ended in the second half of 2003. The Treasury identifies longer cycles than we do: it believes that only three have been completed since 1972, whereas we identify five to six.

Chapter 4: Public spending pressures

- The Pre-Budget Report contained projections for total public spending for the whole period to be covered by next year’s Comprehensive Spending Review. If implemented, these would imply public spending falling by 0.7% of national income over the three years to 2010-11. This would be equivalent to £8½ billion in today’s terms.

- Keeping to these spending plans would require tough choices. Under plausible scenarios for health, education and overseas aid, they would leave other spending growing at just 0.8% a year after economy-wide inflation. This compares with an expected 1.9% a year over the remainder of the current spending review and with 3.8% over the years to date covered by Labour’s spending reviews.

- Recent years have seen increases in social security and tax credit expenditure, helping the government towards its targets for reducing child and pensioner poverty. If growth in spending on social security and tax credits were held to 2.2% a year in real terms (the average forecast for the period since Labour came to power), then this would require real cuts across the rest of government spending (i.e. excluding health, education and overseas aid). While this was achieved during Labour’s first two years in office, a repeat would be hard to square with pledges to improve other services such as transport and law and order. Spending restraint in 1997-98 and 1998-99 was assisted by large falls in unemployment and debt interest payments, both of which are unlikely to be repeated.

- Mr Brown could set a spending envelope different from that in the Pre-Budget Report. One option would be to keep spending constant as a share of national income. Given reasonable assumptions about health, education, overseas aid, and social security and tax
credit expenditure, this would allow other spending to grow by 1.3% a year in real terms. This would require an extra £8½ billion in today’s terms after three years, but would still be less generous than Labour’s current or previous spending reviews.

Chapter 5: Public finance forecasts

- The current budget deficit this year is likely to be in line with the Treasury’s December Pre-Budget Report forecast, but in 2006-07 it is likely to be almost 0.3% of national income (£3 billion) bigger than the Treasury expects, according to the Green Budget baseline forecast. We expect weaker revenues.

- We expect the gap between our forecast for the current budget balance and the Treasury’s to widen to 0.5% of national income by 2008-09 and then to narrow to 0.2% of national income by 2010-11. We expect more revenue to be raised over time from ‘fiscal drag’ than the Treasury, mostly through rising income tax bills.

- The Treasury expects government revenues to rise by 1.3% of national income by 2010-11, with two-thirds of the increase occurring next year. We expect an increase of 1.1% of national income, with around half coming next year.

- The Pre-Budget Report forecast suggests that the golden rule will be met over a 12-year economic cycle ending in 2008-09, with the current budget in surplus by a cumulative £12.8 billion. On current policies, we forecast that the rule would be broken very narrowly over this period, with a cumulative deficit of £0.7 billion.

- If the past forecasting performances of the Treasury and the Green Budget are a reliable guide to the future, the Treasury’s forecast implies a 58% probability of meeting the rule and the Green Budget forecast a 50% probability of meeting it.

- Our central forecast is for net debt to reach 39.2% of national income in 2008-09 and 39.6% in 2010-11. On past forecasting performance, this implies at least a 44% chance that net debt will breach the 40% of national income debt ceiling laid down in the sustainable investment rule by the last year of the current cycle.

- In the Pre-Budget Report, the Chancellor announced a £3 billion tax increase and pencilled in a cut in public spending as a share of national income worth £8½ billion a year in today’s terms by the end of the 2007 Comprehensive Spending Review period. We see a reasonable case for a further £2½ billion tax increase. More would be needed if the Chancellor decides to cut spending less aggressively.

Chapter 6: Funding issues and debt management

- Public sector net debt is likely to continue rising as a share of national income over the next few years, but empirical evidence suggests that this is unlikely in itself to trigger higher real interest rates – although we do believe that long-term interest rates are much more likely to rise significantly than to fall or remain at current levels.
• Demand for long-dated assets by defined-benefit pension schemes is set to continue, but
does not guarantee long-term real interest rates will stay low. A cost-effective strategy
would be for the corporate sector to buy back equity, issue more debt and so increase the
supply of bonds available to its pension funds.

• The likelihood that long-term real interest rates will rise suggests that the Debt
Management Office would benefit from locking in low real rates of interest now. Higher
issuance of long-dated index-linked debt could also support cost-effective wider pension
provision.

• The proportion of debt outstanding in index-linked gilts has been broadly constant in
recent years. But the DMO seems prepared to take a more flexible approach going
forward. Aside from this, the government may need to explore new ways to raise funds as
debt reaches the 40% of GDP limit.

Chapter 7: Tax credits: fixed or beyond repair?

• Since April 2003, the child and working tax credits have been extensively criticised,
chiefly for the difficulties some families experience when HM Revenue and Customs
(HMRC) recovers overpayments.

• In the 2005 Pre-Budget Report, the government announced substantial changes to the
administration and operation of tax credits. These should reduce the scale of, and
problems caused by, overpayments, but at the cost of making some families wait longer to
receive money to which they are entitled and increasing families’ compliance costs.

• It is still too early to tell whether the changes go far enough to avoid the need for further
significant reform. But it is hard to see what more the government could do to reduce the
problems caused by tax credit overpayments without abandoning some of the key
principles behind the system.

• One key government aim was to provide greater income security for families leaving
welfare for work. But IT problems have continually delayed the extension of tax credits
to families on out-of-work benefits.

• The government has succeeded in creating a more responsive system of support for low-
income families with children. But this has created the problem of overpayments,
derlining the key trade-off between responsiveness of awards and certainty over their
level.

Chapter 8: Productivity policy

• The government is considering a number of potential changes to the R&D tax credit for
small and medium-sized enterprises (SMEs). None of the options that we discuss is
without potential drawbacks.

• Any change is also likely to increase the uncertainty and/or complexity associated with
claiming relief. Given the long-term nature of R&D investment decisions, this seems to
be an area where policy stability is particularly desirable. Thus implementing no changes may well be the best option.

- The 2005 Pre-Budget Report confirmed the launch of the National Employer Training Programme (NETP) from April 2006, now branded ‘Train to Gain’. The evidence for the NETP’s likely effectiveness in improving productivity is not very strong so far.

- Whether the public funding directed towards the NETP provides value for money in terms of fulfilling its key productivity aims will ultimately depend on its effectiveness in terms of generating both additional take-up of training and positive returns to the qualifications acquired through the policy.

- In the 2005 Pre-Budget Report, the Chancellor and the Deputy Prime Minister asked Kate Barker to lead a review of how the planning system can better deliver economic goals. We discuss some aspects of the relationship between planning and productivity, and present some evidence from the retail sector.

**Chapter 9: Company taxation**

- Corporate tax rates have fallen in many developed countries since the current UK corporation tax rate of 30% was introduced in 1999. This trend may make it difficult for the UK to sustain a 30% tax rate and remain an attractive location for investment. Decisions of the European Court of Justice may also threaten the government’s medium-term projections for corporation tax revenues.

- 2005 saw two separate increases in the taxation of North Sea oil and gas producers. We explain why it is fear of further tax rises, rather than the level of the tax rate itself, that is likely to have a detrimental impact on investment.

- The 2005 Pre-Budget Report announced the final demise of the zero starting rate of corporation tax, introduced in 2002. We review the brief history of this curious initiative, and suggest there are important lessons to be drawn.

**Chapter 10: Tax avoidance**

- The government’s efforts to tackle tax avoidance have become more high-profile in recent years. Measures to ‘protect revenues’ announced since the 2002 Budget alone are estimated to be raising about £4½ billion this year.

- The traditional distinction between illegal tax evasion and legal tax avoidance (or planning) has been complicated by the efforts of the authorities to have some forms of avoidance seen as unacceptable even if they satisfy the letter of the law. In some areas, the government is now threatening to use retrospective legislation to ensure that taxpayers contribute what ministers regard as their ‘fair share’.

- The Tax Avoidance Disclosure regime is the most important recent legislative development in tackling avoidance. It appears to have been successful from the
government’s point of view, judging by the volume of disclosures made and the blocking measures deployed to halt arrangements it sees as unacceptable.

- The authorities are also highlighting to senior executives the risk to their reputation of being found to engage in unacceptable tax avoidance, while leaving it unclear exactly what is unacceptable. This may help to raise revenue in the short run, but is also likely to make the UK a less attractive location for internationally mobile companies and individuals.
2. The fiscal policy framework

Robert Chote, Carl Emmerson and Christine Frayne (IFS)

Summary

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2.1 Introduction

This chapter discusses the policy framework within which the Chancellor takes his tax and spending decisions, and how recent developments and his latest forecasts for the public finances compare with the requirements of that framework. In Chapter 3, we discuss the Treasury’s assumptions regarding the outlook for the economy on which these forecasts are based, highlighting the risks to its central expectations. In Chapter 5, we give our own forecasts for the public finances and ask if they are consistent with the policy framework.

This chapter begins by describing the rules the government has set itself to help persuade people that it will manage the public finances in a fair and responsible way (Section 2.2). It then describes the evolution of the public finances under Labour and the Treasury’s forecasts (Section 2.3), before asking whether these are consistent with the fiscal rules (Section 2.4). Section 2.5 looks at possible reforms to the fiscal framework and Section 2.6 concludes.

2.2 The government’s fiscal rules

In its 1997 general election manifesto, the Labour Party committed itself to two fiscal rules, designed to convince voters and financial market participants that it would:

- share the burden of paying for public spending fairly between present and future taxpayers, with no bias against investment spending if policy had to be tightened;
- keep the public finances on a course expected to be sustainable without the need for significant policy changes.

To achieve these objectives, the new government formally adopted the ‘golden rule’ and ‘sustainable investment rule’ in the 1998 Finance Act. The Act also placed these rules in a broader statutory framework - a ‘Code for Fiscal Stability’ that requires any government to spell out how it intends to run fiscal policy and to publish twice-yearly forecasts illustrating how the setting of policy at any given time is consistent with its approach. But the Code leaves the government to decide whether or not to set itself any operating rules and, if it does, to decide whether those rules have been kept to or not. There is no penalty (other than potential reaction of voters and financial market participants) if they are missed.

The golden rule

The golden rule states that the government will only borrow to fund investment. This implies that tax revenues should equal or exceed the remaining ‘current’ (or non-investment) spending. In other words, the so-called ‘current budget’ should be in balance or in surplus.

The rationale of the golden rule is broadly to ensure that future generations of taxpayers are only asked to repay debt that has financed spending from which they themselves are likely to

The fiscal policy framework

benefit. By constraining current rather than overall spending, the rule is also intended to reduce any undue incentive for policymakers to make disproportionate cuts in infrastructure spending if and when spending plans have to be cut. Cutting capital spending might be more tempting than cutting current spending as it normally takes longer for voters to feel the effects in terms of the quality of public services.\(^3\) As we discuss in Section 2.5, the golden rule will not necessarily achieve the former objective with any precision and it is therefore of no great direct economic significance if the rule is met or missed by a small margin either way. But in the majority of cases, it may nonetheless be a useful rule of thumb if applied appropriately.

Figure 2.1 shows the current budget balance as a share of national income since 1971–72. It shows that the Conservatives posted the biggest deficit in this period at 6.2% of national income in 1993–94, reflecting the impact of the recession of the early 1990s and rapid spending growth in the run-up to the 1992 election. By the time Labour came to power, the deficit had halved, reflecting stronger economic growth and the tough Budgets implemented during Norman Lamont’s and Kenneth Clarke’s Chancellorships. As we discuss in more detail in Section 2.3, the current budget initially moved into surplus under Labour before moving back into the red in 2002–03.

Figure 2.1. Current budget balance and public sector net borrowing

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was only in 2004–05 that it exceeded the average level recorded under the Conservatives since 1979.

When analysing the health of the public finances, it is important to remember that government revenues and spending are influenced directly by the strength of the economy. Economic activity can be thought of as fluctuating around a sustainable level (that typically rises) determined by underlying movements in productivity (output per worker) and the supply of labour. The difference between the sustainable level of economic activity and its actual level is known as the ‘output gap’. When the economy is weak and activity is below the sustainable level consistent with stable inflation, revenue from taxes on incomes, spending, production and transactions will automatically be depressed, while the government is also likely to have to spend more on transfer payments for the low-paid and out-of-work. This will tend to push the current budget into deficit. The opposite is true when the economy is overheating and activity is above its sustainable level – tax revenues will be higher temporarily and spending on transfer payments will be reduced, thus pushing the current budget into surplus.

With taxes and spending both equal to roughly 40% of the economy, if national income were to rise by 1% with no change in the cash value of revenues or spending, they would both fall by about 0.4% of national income when compared with the size of the economy. Treasury estimates suggest that, in addition to this ‘denominator’ effect, over the following two years we would see spending on transfer payments and debt interest payments drop by a combined effect of 0.1% of national income and revenues rise by 0.6% of national income. Adding the two effects together, after a 1% rise in national income relative to its sustainable level, we would see current spending fall by about 0.5% of national income while current receipts rise by about 0.2% of national income over the following two years. The net effect is to increase the current budget surplus by about 0.7% of national income.4

The Bank of England is tasked with using interest rates to pursue an inflation target, which implies that over the medium to long term, it will try to keep activity as close as possible to the sustainable level (although it would probably not describe its actions in this way). Therefore, over time, monetary policy should tend to erode any cyclical surplus or deficit (even if shocks and policy errors mean that it is not eliminated ex post). This implies that fiscal policy should focus predominantly on dealing with any weakness in the structural budget position – namely, any weakness in the government’s finances that cannot be attributed to temporary phenomena, such as the economic cycle. To achieve this, the Treasury has specified that the golden rule does not have to be met every year, but only on average over the ups and downs of the economic cycle.

Allowing borrowing to rise and fall through the cycle acts as an ‘automatic stabiliser’. If the government tried to keep the current budget balanced throughout the cycle, it would have to raise taxes and/or cut spending when a negative output gap leads to a cyclical deficit. Conversely, it would have to cut taxes and/or increase spending when a positive output gap leads to a cyclical surplus. This would place a greater burden on monetary policy to stabilise the economy. It would also require temporary changes in tax rates that might well be more

costly in economic terms than holding tax rates steady and allowing the current budget to fluctuate instead.

It should be noted, however, that the sustainable level of economic activity cannot be observed directly and that the output gap is hard to estimate with any certainty. We discuss the uncertainty surrounding estimates of the output gap in Section 2.4 and Chapter 3.

Figure 2.2. Current budget balance: cyclical and structural

Note: Output gap is actual output less trend output as a percentage of trend output (non-oil basis).

Figure 2.2 shows the Treasury’s 2005 Pre-Budget Report (PBR) estimate of the average output gap in each financial year back to 1971–72 and the corresponding breakdown of the current budget balance into cyclical and structural components. It shows that:

- weak economic activity kept the current budget in deficit during the early and mid-1980s despite the substantial policy tightening announced in the 1981 Budget;
- the boom of the mid- and late 1980s pushed the current budget into surplus even though the underlying structural position remained in deficit;
- cyclical and structural deficits compounded each other in the early to mid-1990s;
changes in economic conditions have modestly amplified both the move into surplus and the subsequent return to deficit since 1997.

The Treasury estimates for itself when economic cycles begin and end - and thus the period over which it assesses whether the golden rule is being adhered to. (The vertical lines in Figure 2.2 show the Treasury’s dating of recent economic cycles.) As we discuss in Section 2.4, the precise dates chosen for the cycle can make a big difference to the government’s chances of meeting the rule. Since Budget 2005, the Treasury has published revised output gap estimates and re-dated the present cycle in a way that, assuming the Treasury’s public finance forecasts are correct, has made the golden rule easier to meet in both this cycle and the next.

As we discuss in Section 2.5, defining a particular period as ‘a cycle’ and seeking to balance the current budget over this period is not the only way to allow the automatic stabilisers to function. This approach is backward-looking in the sense that the amount you can borrow today and in the near term depends on the impact on borrowing of shocks and policy mistakes earlier in the cycle. A more forward-looking approach would set policy today consistent with meeting the rule in the future, whether or not it was consistent with meeting it in the past.

**The sustainable investment rule**

The sustainable investment rule states that the public sector’s debt (net of its financial assets, which mostly comprise foreign exchange reserves) should be kept at a ‘stable and prudent’ level. More precisely: ‘To meet the target with confidence, at the end of every fiscal year of the current economic cycle, public sector net debt must be below 40% of [national income]’. 5

When a government borrows to finance an investment project, it is in effect imposing a tax increase on future generations to cover the cost of servicing the debt. On purely microeconomic grounds, it could be argued that a government today should undertake any investment project for which the net social benefit is expected to exceed the cost, whatever this implies for the debt ratio. But tomorrow’s taxpayers may see less net social benefit in a particular project than today’s taxpayers do - and any estimate of net social benefit is a matter of judgement. So a ceiling on the debt ratio can be seen as a self-imposed limit on the degree to which governments see fit to decide what capital services tomorrow’s taxpayers should benefit from and what they should pay for them.

This could be justified either on fairness grounds or on the more practical basis that if future taxpayers feel they have been overburdened, they may resort to inflation or default to reduce the debt burden - a possibility that can alarm current holders of government debt and prompt self-fulfilling expectations of a financial crisis. Less dramatically, one might expect a government that increases its debt more quickly to have to pay a higher interest rate to borrow (thus placing an additional burden on future taxpayers). But, as Chapter 6 discusses, in recent years many governments have increased their debt to GDP ratios, only to see borrowing costs fall.

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Figure 2.3. Public sector net debt

![Graph showing public sector net debt from 1971-72 to 2004-05.](source)


Figure 2.3 shows that the debt ratio in the UK rose from 26.2% to 43.6% of national income between 1990–91 and 1996–97, reflecting the large budget deficits of the period. The surpluses run by the Labour government in its early years in office and the £22½ billion proceeds of auctioning 3G mobile telephone licences helped reduce public sector net debt to barely 30% of national income by 2001–02. But by 2004–05, it had returned to 34.7% of national income. As with budget deficits, public sector net debt can be decomposed into cyclical and structural ('core') components. Core debt is also shown in Figure 2.3, illustrating that the rapid fall in the debt ratio in the late 1980s was exaggerated by the impact of the economic boom.

### 2.3 The evolution of the public finances since 1997

#### Labour’s first two terms

In 1996–97, the year before Labour took office, the public sector spent 40.6% of national income, while government revenues totalled 37.0% of national income. This left 3.5% of national income (after rounding) to be covered by public sector net borrowing. Only a fifth of this was used to pay for investment, leaving a current budget deficit of 2.8% of national income. The PBR estimates that part of the deficit was explained by weak economic activity, but that there was still a structural current budget deficit of 2.3% of national income. This meant that fiscal policy would have to be tightened over the coming years to meet the golden rule strictly.

In its 1997 manifesto, Labour promised to keep to the tight spending plans it was poised to inherit from the Conservatives for two years (see Chapter 4). Mr Brown more than kept that promise and, despite spending more in the run-up to the 2001 election, public spending ended Labour’s first term 2.9% of national income lower than it started (Figure 2.4). Over this period, public sector net investment fell by 0.1% of national income (rather than rising, as planned), so the remaining 2.7% of national income decline (after rounding) was in current spending.
Over the same four years of Labour’s first term, government revenues rose by 2.4% of national income, thanks to ongoing increases in fuel and tobacco taxes (put in place by the Conservatives and then accelerated and maintained until 2000 by Mr Brown), the abolition of repayable dividend tax credits, and above-average economic growth combined with the Chancellor’s decision not to raise income tax thresholds as quickly as earnings (which meant that a progressively larger proportion of people’s incomes was taxed at higher rates).

With revenues rising by 2.4% of national income and current spending falling by 2.7% of national income, by the time of the 2001 election the current budget had moved into a healthy surplus – which was widely expected to persist (as we discuss in Section 2.4).

Mr Brown had described his determination to reduce borrowing in his early years in office as ‘prudence for a purpose’. The purpose became clear after 1999 – and especially as Labour’s second term unfolded. Public spending reversed its earlier decline, with health, education and

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6 Gordon Brown’s 1998 Budget Speech: ‘I said that this would be a Budget based on prudence for a purpose and that guides us also in our approach to public spending’ (http://www.hm-treasury.gov.uk/budget/budget_1998/bud98_speech.cfm).
tax credits the main beneficiaries of the Chancellor’s largesse. But as spending rose by 3.8% of national income in Labour’s second term, tax revenues weakened unexpectedly when the stock market fell, reducing tax payments by financial sector firms and their employees. The tax-raising Budget of 2002 helped begin to reverse the decline, but government revenues ended Labour’s second term 1.3% of national income lower than they began it (even though the net impact of policy announcements during the second term was to boost government revenues).

The next five years

Labour begins its third term in government expecting to spend 42.4% of national income this year (comprising 40.3% of national income on current spending and 2.1% of national income on public sector net investment). With revenues forecast at 39.4% of national income, this leaves a current budget deficit of 0.9% of national income (£10.6 billion) and public sector net borrowing of 3.0% of national income (£37 billion).

How does the Treasury expect the public finances to evolve over the next five years?

The current budget is predicted to move steadily from the deficit of 0.9% of national income this year to a surplus of 0.8% of national income in 2010–11. Over this period, revenues are expected to rise by 1.3% of national income while current spending is projected to fall by 0.4% of national income. Public sector net investment is forecast to rise fractionally. Net debt is forecast to rise from 36.5% of national income this year to 38.2% in 2010–11.

If events turn out this way, by 2010–11 current spending as a share of national income would be virtually unchanged from the level Labour inherited (although the government would argue that more was being spent on priority public services and help for the deserving poor, and less on ‘the costs of economic and social failure’). Public sector net investment would be 2.3% of national income compared with the 0.8% that Labour inherited. And the amount taken by the government in tax and other revenues would have increased by 3.7% of national income, reflecting the fact that despite the improvement in the health of the public finances under Kenneth Clarke’s Chancellorship, the Conservatives were still not raising enough revenue to cover current expenditure in compliance with a strict interpretation of the golden rule.

How does the Treasury expect the improvement in the public finances over the next five years to come about? It believes that economic activity is running 1.4% below its sustainable level this financial year. So almost half the improvement in the current budget balance will come about automatically as the economy enjoys above-average growth in 2007 and 2008 (see Table 2.1). As we discuss in Chapter 3, other economists (including David Miles and colleagues at Morgan Stanley) doubt whether there is this much spare capacity and therefore whether the economy can be allowed to grow as strongly as the Treasury hopes over the next few years. If this is the case, the Treasury would be underestimating the structural component of this year’s current budget deficit and overestimating the improvement that can be expected without further policy measures.

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7 1997 Labour Party Election Manifesto, Because Britain Deserves Better.
Table 2.1. Current budget balance: cyclical and structural

<table>
<thead>
<tr>
<th>Year</th>
<th>Economic growth</th>
<th>Output gap (% potential output)</th>
<th>Current budget balance (% national income)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005–06</td>
<td>1¾%</td>
<td>−1.4</td>
<td>−0.8</td>
</tr>
<tr>
<td>2006–07</td>
<td>2½%</td>
<td>−1.5</td>
<td>−1.0</td>
</tr>
<tr>
<td>2007–08</td>
<td>3%</td>
<td>−0.7</td>
<td>−0.7</td>
</tr>
<tr>
<td>2008–09</td>
<td>2¼%</td>
<td>−0.1</td>
<td>−0.2</td>
</tr>
<tr>
<td>2009–10</td>
<td>2½%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2010–11</td>
<td>2¼%</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>


The improvement in the overall current budget balance is expected to be relatively evenly paced through the next five years. But the same is not true of the cyclical and structural components viewed separately, as we see in Table 2.1. With the output gap forecast to widen again next year, the cyclical deficit is projected to increase to 1% of national income next year and then to narrow progressively as above-trend growth kicks in. But the improvement in the structural balance is expected to take place entirely next year, shrinking the current budget balance by 0.6% of national income even though the economy continues weakening.

**Spending**

The plans outlined in Mr Brown’s three-year Spending Review in July 2004 (SR 2004) imply an increase in current spending (including depreciation) of just 0.7% of national income between 2004–05 and 2007–08, compared with the increase of 2.3% of national income over the previous three years. The increase is front-loaded, with current spending projected to rise to 40.3% of national income this year and then to 40.5% of national income by 2007–08.

For the first time, the December Pre-Budget Report (PBR 2005) now includes a projection for spending during the whole period covered by the forthcoming 2007 Comprehensive Spending Review (2007 CSR), for which preparations are now getting under way. The Treasury has pencilled in real growth in current spending of 1.9% a year for the three years from 2007–08 to 2010–11. This is lower than the expected growth rate of the economy and would imply a drop in current spending as a share of national income from 40.5% in 2007–08 to 39.9% in 2010–11 – around £7½ billion in 2005–06 terms. (The fall in total managed expenditure, i.e. including public sector net investment, is equivalent to £8½ billion in 2005–06 terms.) This would, in effect, reverse the increase in current spending as a share of national income announced in SR 2004.

As we discuss in Chapter 4, this would be the least generous spending review since Labour came to office, even though it would span the likely date of the next general election. It remains to be seen whether the Chancellor will be this tough when he confirms the budget envelope for the next spending review. In evidence to the Treasury Select Committee

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8 The Treasury had previously pencilled in 1.9% real growth in current spending for 2008–09 and 2009–10 on the grounds that, when combined with the bigger increase firmly planned for 2007–08, this would make the average rate for the last three years of the forecasting period equal to the assumed cautious rate of trend growth of the economy of 2¼% a year. There is no similar justification for pencilling in 1.9% real growth again in 2010–11.
following PBR 2005, he left the door open to a different settlement: ‘There are a lot of
decisions still to be made on the road to the final decisions about the Spending Review and I
would not presume the figures that you are suggesting’. If he does decide to spend more,
other things being equal the public finances will not strengthen by as much over the next five
years as the PBR 2005 forecasts suggest.

If the Treasury is right about the outlook for the output gap, the decline in current spending of
0.4% of national income over the next five years is more than accounted for by the rapid
growth in the size of the economy. As shown in Figure 2.5, structural current spending is
projected to increase by 0.2% of national income. The time profile of the output gap means
that, in structural terms, neither the rise in spending during SR 2004 nor the decline in 2007
CSR will be as large as the headline figures suggest. However, as discussed in Section 2.2,
the cyclical element of spending as a share of national income is due to a greater extent to the
impact of changes to the denominator than to the impact of the economy on actual spending.

Figure 2.5. Current spending: total and structural

![Figure 2.5: Current spending: total and structural](image)

treasury.gov.uk/media/576/54/public_fin.databank_dec_05.xls](http://www.hm-
treasury.gov.uk/media/324/70/end_of_year_352%5B1%5D.pdf](http://www.hm-
treasury.gov.uk/media/324/70/end_of_year_352%5B1%5D.pdf).

**Revenues**

The increase in revenue over the next five years is expected to come predominantly from
taxes on incomes and profits, partially offset by a decline in revenue from taxes on spending.
This is shown in Table 2.2.

Of the total increase in current revenues of 1.3% of national income forecast over the next
five years, 0.2% of national income is cyclical and the remaining 1.1% is structural.

As usual, the forecast incorporates an ongoing structural increase in revenues arising from
‘fiscal drag’. This reflects the Treasury’s conventional forecasting assumption that tax
allowances and thresholds rise in line with retail prices. As earnings typically rise more
quickly, this implies a continuous rise in the share of national income taken in income tax as
more people find larger proportions of their income being taxed at higher rates. (We would
see a similar phenomenon on a smaller scale – relative to national income – for taxes such as

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9 Source: [http://www.publications.parliament.uk/pa/cm200506/cmselect/cmtreasy/uc739-iii/uc73902.htm](http://www.publications.parliament.uk/pa/cm200506/cmselect/cmtreasy/uc739-iii/uc73902.htm).
inheritance tax, capital gains tax and stamp duty, where the tax base tends to grow more quickly than the rise in thresholds assumed for forecasting purposes.)

The Treasury estimates that fiscal drag increases current receipts by 0.2% of national income a year, which implies an increase of at least 0.75% of national income after five years once rounding is taken into account. This accounts for most of the increase in revenue from income tax and National Insurance contributions (NICs) over the forecast horizon. If the cyclical improvement in revenues over the next five years is 0.2% of national income and the impact of fiscal drag at least 0.75% of national income, this leaves an increase of up to 0.35% of national income from other structural factors.

Table 2.2. Revenue changes projected in PBR 2005 (% of national income)

<table>
<thead>
<tr>
<th></th>
<th>2005–06</th>
<th>2010–11</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income tax &amp; NICs</td>
<td>17.6</td>
<td>18.5</td>
<td>+0.9</td>
</tr>
<tr>
<td>Corporation tax</td>
<td>2.9</td>
<td>3.3</td>
<td>+0.4</td>
</tr>
<tr>
<td>North Sea revenues</td>
<td>0.7</td>
<td>0.8</td>
<td>+0.1</td>
</tr>
<tr>
<td>VAT &amp; excise duties</td>
<td>9.4</td>
<td>8.8</td>
<td>–0.6</td>
</tr>
<tr>
<td>Other taxes &amp; royalties</td>
<td>6.9</td>
<td>7.2</td>
<td>+0.3</td>
</tr>
<tr>
<td><strong>Net taxes &amp; NICs</strong></td>
<td><strong>37.4</strong></td>
<td><strong>38.6</strong></td>
<td><strong>+1.2</strong></td>
</tr>
<tr>
<td>Other receipts etc</td>
<td>2.1</td>
<td>2.1</td>
<td>No change</td>
</tr>
<tr>
<td><strong>Current receipts</strong></td>
<td><strong>39.4</strong></td>
<td><strong>40.7</strong></td>
<td><strong>+1.3</strong></td>
</tr>
</tbody>
</table>


But bear in mind the time profile. As Figure 2.6 illustrates, the structural improvement in current receipts is predominantly forecast to take place next year with little change thereafter, even though fiscal drag should be imparting an ongoing improvement. It appears that the structural improvement next year is largely explained by:

- higher tax payments from the financial sector, as profits rebound despite the weakness of the economy (corporation tax receipts jump from 2.9% of national income this year to 3.2% next year, but are then level at 3.3% thereafter);
- higher North Sea oil revenues resulting from the high oil price and the tax increase announced in PBR 2005 – see Chapter 9 for a discussion (North Sea revenues rise from 0.7% of national income this year to 0.9% next year before peaking at 1.0% in 2007–08 and 2008–09);
- one year’s worth of fiscal drag (helping to increase income tax receipts from 11.1% of national income this year to 11.3% in 2006–07).

Thereafter, there is an ongoing structural increase in revenues from income tax and NICs from fiscal drag (raising income tax revenues from 11.3% of national income in 2006–07 to 11.8% in 2010–11). But this is broadly offset by a structural fall in excise duty and VAT revenues. Over the next five years, excise duty revenues are projected to fall from 3.3% of national income to 2.9% and VAT revenues from 6.1% of national income to 5.9%. The

Treasury assumes that avoidance and evasion lead to a widening in the gap between the amount of VAT that HM Revenue & Customs believes that it should be paid and the amount that it actually collects.\textsuperscript{11}

Figure 2.6. Current receipts: total and structural

\begin{figure}
\centering
\includegraphics[width=\textwidth]{figure2.6.png}
\caption{Current receipts: total and structural}
\end{figure}

The impact of fiscal drag on income tax receipts is shown in the Pre-Budget Report: the Treasury forecasts that gross income tax receipts will increase from 11.5\% of national income in 2008–09 to 11.8\% of national income in 2010–11, despite economic activity remaining at its sustainable level and there being no discretionary income tax increase in the pipeline. The assumption that fiscal drag proceeds uninterrupted over the Treasury’s forecasting horizon is not a new one. But, as the Treasury acknowledges, assuming that the tax burden continues to increase for the foreseeable future would be unrealistic. It therefore assumes that revenues and their composition remain broadly unchanged as shares of national income over the longer term.\textsuperscript{12} This implies ‘a comprehensive form of “real indexation”’,\textsuperscript{13} which presumably means tax allowances and thresholds rising in line with growth in the relevant tax base, i.e. often faster than prices. The Treasury may indeed believe that, over the short to medium term, exploiting fiscal drag is the most sensible way to raise the extra revenues that it requires to meet the golden rule looking forward. But we should be clear that this would be a policy choice and not an economically neutral assumption. There are other ways that the public finances could be strengthened.

### 2.4 Meeting the fiscal rules

So what do the Treasury’s forecasts imply for the government’s chances of meeting its rules? In the next subsection, we discuss whether the Treasury will meet its rules if its forecasts turn

\textsuperscript{11}This is assumed to increase by 0.5\% of potential receipts a year.


out to be correct, noting the importance of the dating of the economic cycle over which the rules are judged. In the following subsection, we note that the Treasury’s past forecasting record suggests that there are significant uncertainties around its projections and that this implies that a probabilistic approach should be taken to judging whether existing policies are consistent with meeting the rules, as we do in the final subsection.

**Re-dating the economic cycle**

The government has promised to meet the golden rule on average over the present economic cycle and to meet the sustainable investment rule in every year of the present cycle. To judge whether it is on course to do so, it is therefore necessary to identify when the cycle starts and ends.

As we discussed in Section 2.2, it is conventional to regard economic activity as fluctuating around a rising trend consistent with stable domestic inflation. If we estimate the sustainable level of economic activity at any time and compare it with the actual level of economic activity, we can calculate a path for the ‘output gap’ – the difference between the two.

The Treasury defines a cycle as an ‘up-phase’ in which the output gap is clearly positive and economic activity is in excess of its sustainable (or ‘potential’) level, followed by a down-phase in which the output gap is negative and activity is below its sustainable level (although it could equally have chosen to define the cycle as a down-phase followed by an up-phase). The cycle begins and ends at points when economic activity is equal to its sustainable level.14

The Treasury estimates when economic activity is at its sustainable level by examining a number of survey and other statistical indicators to judge when ‘factors of production are at normal levels of utilisation’. These indicators include business surveys of capacity utilisation and recruitment difficulties, labour utilisation indicators (such as unemployment, vacancies and hours worked) and indicators of inflationary pressure (such as average earnings, unit labour costs and the consumer price index).

In Budget 2000, the Treasury estimated that economic activity – measured as ‘non-oil Gross Value Added (GVA)’ – had moved above trend in the middle of 1997, then fell slightly below trend towards the end of 1998 before moving back above trend again in the middle of 1999. It concluded that ‘early indications suggest the economy may have completed a full economic cycle – albeit a short and shallow one by historical standards – since 1997–98. Given the closeness to trend and possible measurement errors, this conclusion can only be provisional at this stage’.15 It argued that the present economic cycle therefore began in financial year 1999–2000, a view it maintained up to and including Budget 2005.

In Budget 2005, the Treasury judged that the up-phase of the present cycle had ended in the third quarter of 2001. It also estimated that the sustainable level of economic activity would thereafter grow by 2¾% a year until the end of 2006 – comprising growth in productivity of 2.35% a year, in employment of 0.2% a year and in the population of working age of 0.5% a year.

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year, offset slightly by a 0.1% a year drop in average hours worked. This implied that by the fourth quarter of 2004, actual economic activity was running 0.7% below its sustainable level. (In other words, there was a negative ‘output gap’ of 0.7% of potential output.) The 2005 Budget predicted ‘renewed growth just above trend rates for the rest of the year’, eliminating the output gap and returning activity to trend ‘around the end of 2005’. This implied a seven-year economic cycle running from 1999–2000 to 2005–06 (Figure 2.7).

**Figure 2.7. The output gap in Budget 2005 – a seven-year cycle?**

![Figure 2.7. The output gap in Budget 2005 – a seven-year cycle?](image)

*Note: Actual output less trend output as a percentage of trend output (non-oil basis). Source: HM Treasury (consistent with March 2005 Budget).*

**Figure 2.8. Current budget balance in Budget 2005**

![Figure 2.8. Current budget balance in Budget 2005](image)

*Source: HM Treasury, 2005 Budget, 2005, [http://www.hm-treasury.gov.uk/budget/budget_05/bud_bud05_index.cfm](http://www.hm-treasury.gov.uk/budget/budget_05/bud_bud05_index.cfm).*
Over this period, the Treasury estimated in Budget 2005 that it would meet the golden rule with a small margin to spare. As Figure 2.8 illustrates, the cycle began with three years of current budget surpluses followed by three years of current budget deficits. Over this six-year period, the current budget was on average in surplus by 0.1% of national income. With a deficit of 0.5% of national income (£5.7 billion) projected for 2005–06, this still left the average surplus expected over the seven years of the cycle at (an albeit slightly smaller) 0.1% of national income or a cumulative £4.8 billion in today’s terms.

As financial year 2005–06 got under way, it soon became clear that tax revenues were not as strong as the Treasury hoped and the current budget deficit was not shrinking as rapidly as planned. In June, the Treasury published figures showing that the current budget deficit in the first two months of the financial year was only about 10% smaller than in the same period of 2004–05. If this persisted, the current budget deficit for 2005–06 would come in at around £15 billion rather than the £5.7 billion forecast in Budget 2005. The golden rule would be missed.

Then, a month later, the Treasury published a detailed analysis arguing that the period from mid-1997 to mid-1999 should be regarded as part of the up-phase of the current cycle rather than as a complete mini-cycle in its own right. This would add two additional financial years to the beginning of the cycle and extend it from seven years to nine years.

Figure 2.9. The output gap in PBR 2005 – a twelve year cycle?

Note: Actual output less trend output as a percentage of trend output (non-oil basis).

The Treasury justified this change largely on the grounds that revisions to National Accounts data showed that economic growth in 1999 was stronger than hitherto thought. In Budget 2000, the down-phase of the 1997 to 1999 mini-cycle was estimated to last for two quarters with an average negative output gap of 0.3% of potential output. But, following the revisions, output appears to have fallen below potential only in 1999Q1 and then by less than 0.1% of potential output (Figure 2.9). The Treasury concluded: ‘There is now no evidence of a clear dip below trend in early 1999. So the below trend phase of the previously identified 1997H1 to mid-1999 “cycle” now looks non-existent’. To further justify its decision, the Treasury also pointed out that the output gap for ‘market sector’ GVA had remained positive throughout 1999 (in other words, that the output gap only turned negative because of the squeeze on public spending), and that 1999 was not a trough in the share of national income paid to workers, which is typically the case for the on-trend point at the end of a cyclical down-phase.

At a stroke, adding the two extra years to the cycle put the Treasury back on course to meet the golden rule. The current budget had been in deficit by 0.2% of national income in 1997–98 and in surplus by 1.2% of national income in 1998–99. The net effect was to increase to £22½ billion the size of the current budget deficit the Treasury could run in 2005–06 without breaking the golden rule. But, giving evidence to the Treasury Select Committee on the day the analysis was published, the Chancellor said, ‘We would meet the golden rule irrespective’.17

The fortuitous timing of the Treasury’s decision inevitably fuelled speculation that it had been motivated simply by the desire to make the golden rule easier to meet. In an attempt to allay such suspicions, the Chancellor asked the National Audit Office to audit the decision at the time of the PBR. The NAO supported the decision, but not without qualification. ‘Though there are many uncertainties, there are reasonable grounds to date the end of the previous economic cycle to 1997’, it argued.18 But it added that ‘some reduction in uncertainty in the timing of economic cycles could result from the consistent use of more than one method of estimating the output gap’ and it recommended that in future the Treasury present ‘a formal assessment of the views of external organisations in terms of how they have influenced the Treasury’s judgement of the dating of economic cycles’. (David Miles and colleagues estimate a variety of possible cycle dates using output gap estimates derived from ‘statistical filtering’ in Chapter 3, most of which suggest that a new cycle got under way in 1999 rather than 1997.)

We have argued in the past that if one were to accept the Treasury’s methodology and estimates for the output gap, it would be quite plausible to suggest that the cycle began in 1997 rather than 1999.19 In most recent Budgets and Pre-Budget Reports, casual observation of the output gap chart would suggest that 1997 to 2001 was a single up-phase with a pause in the middle, rather than one-and-a-half cycles. But the case for making this judgement now seems little stronger than at any time in the last five years.

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17 Source: www.publications.parliament.uk/pa/cm200506/cmselect/cmtreasy/399/5071902.htm.
In some respects, the case for dating the end of the previous economic cycle to 1997 is actually weaker following revisions to the National Accounts. These revisions may mean that the dip below trend in 1999 looks less pronounced now than in, say, Budget 2000, but so too does the period of above-trend activity in 1997 and 1998. The estimated average positive output gap during the two financial years added to the economic cycle has actually fallen from 0.3% of potential output in Budget 2000 to 0.2% in PBR 2005. Casual inspection of the output gap graph now suggests, as the National Audit Office concluded, that ‘It is as likely as not that the output gap was close to zero for much of the period between 1997 and 1999’. So it is hardly surprising that announcing the decision to extend the cycle at precisely the point at which it meant that the government was suddenly on course to meet the rule rather than to break it should undermine the credibility of the policy framework and create suspicion – rightly or wrongly – that the Chancellor was simply ‘moving the goalposts’ to avoid the embarrassment of missing his target. As we discuss in Section 2.5, this strengthens the case for reform to boost the credibility of the framework.

In addition to confirming the decision to move the beginning of the cycle to two years earlier, the Chancellor also announced in PBR 2005 that he expected the cycle to end in 2008–09 rather than 2005–06. At the time of the Budget, it looked as though the UK was facing a conventional V-shaped economic slowdown. However, it now it looks as though the downturn was not as severe as it first appeared up until the end of 2003, when output had almost recovered to its sustainable level. Since then, growth has been running below trend and we have moved into the second dip of a double-dip slowdown. The Treasury believes that economic activity is running around 1½% below potential, its weakest cyclical position since 1994 – although less than half as deep as the trough of the recession of the early 1990s. The Treasury expects the output gap to remain at a similar level in 2006–07 and only to close in 2008–09 after two years of above-trend growth.

Figure 2.10. Current budget balance

![Current budget balance chart]

The fiscal policy framework

Table 2.3. Meeting the golden rule: cycle dating matters

<table>
<thead>
<tr>
<th>Cycle Type</th>
<th>Average surplus over current cycle (% GDP)</th>
<th>Cumulative surplus (£ billion, 2005–06 GDP terms)</th>
<th>Current budget balance in first year of next cycle (% GDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget 2005 cycle: 7 years</td>
<td>–0.0%</td>
<td>–£1.9bn</td>
<td>–0.9%</td>
</tr>
<tr>
<td>1999–2000 to 2005–06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-July-2005 cycle: 9 years</td>
<td>+0.1%</td>
<td>+£10.8 bn</td>
<td>–0.9%</td>
</tr>
<tr>
<td>1997–98 to 2005–06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBR 2005 cycle: 12 years</td>
<td>+0.1%</td>
<td>+£12.8 bn</td>
<td>+0.5%</td>
</tr>
<tr>
<td>1997–98 to 2008–09</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


This adds an extra three financial years to the cycle. During this period, the Treasury forecasts that the current budget balance will move from a deficit of 0.3% of national income next year to balance in 2007–08 and to a surplus of 0.5% of national income in 2008–09, as Figure 2.10 shows. If the Treasury’s forecasts are correct, the surplus in 2008–09 will narrowly outweigh the deficit in 2006–07, making the golden rule fractionally easier to meet in this cycle. It also means that the next cycle would begin with a surplus of 0.5% of national income in 2008–09 rather than a deficit of 0.9% of national income in 2005–06 (because the last financial year of one cycle is also counted as the first financial year of the next). The golden rule thus becomes easier to meet in the next cycle as well as in this one.

Taking into account the historical revisions and future forecasts for the public finances published in PBR 2005, as we do in Table 2.3, the Treasury’s projections imply that:

- the Chancellor should expect to miss the golden rule narrowly over the period defined as the cycle in Budget 2005, contrary to his prediction to the Treasury Select Committee in July;
- moving the start-date of the cycle two years earlier means that he would now expect to meet the golden rule with modest comfort in a cycle ending this year;
- moving the end-date of the cycle three years further into the future means that he would now expect to meet the golden rule with slightly greater comfort over the current cycle and that, if his forecasts are correct, the rule would also be easier to meet in the following cycle.

If the Treasury’s forecasts are correct, the sustainable investment rule would be met over the remaining years of the cycle, whether it were to end in 2005–06 or 2008–09 (and indeed if it were to continue until 2010–11). As Figure 2.11 shows, the Treasury expects public sector net debt to rise from 36.5% of national income this year to 38.2% in 2008–09 and thereafter remain at the same level until the end of the forecast horizon – still below the 40% ceiling.
Forecasting uncertainty and the fiscal rules

The previous subsection shows that the Treasury will meet both its fiscal rules over its newly elongated economic cycle, if its forecasts for the public finances turn out to be correct. Unfortunately, the public finances are hard for anyone – even the Treasury, with privileged access to data on government spending and revenues – to predict with a high degree of accuracy. In part, this simply reflects the fact that borrowing is typically a small difference between two relatively big numbers. Small forecast errors for either revenues or spending can translate into proportionately much larger forecast errors for measures of the budget balance.

When designing and talking about the fiscal framework, it is important for the Chancellor not to stake his credibility on predictions or promises that rely on an unrealistic degree of forecasting accuracy. The Chancellor should try to avoid getting himself into the position where typically-sized forecasting errors might require him to make sudden, damagingly large policy changes to meet his rules. He should therefore decide, when taking policy decisions, how important it is to him that the rules be met and, in light of that, how much room for manoeuvre he should allow himself in meeting them, in case the public finances evolve differently from his central expectation. Similarly, outside commentators need to take the vagaries of public finance forecasting into account when discussing whether the rules will be met and recommending what (if anything) should be done if they expect them to be missed.

The Chancellor has repeatedly argued that his forecasts are cautious and that the rules will be kept to without the need to change his tax and spending plans. But, unlike the Bank of England in its pursuit of the inflation target, he shies away from explicit discussion of the confidence that can be attached to his forecasts and the implications that has for his decisions.

Lessons from past experience

The Treasury’s past forecasting errors are a good place to start in assessing the confidence we should have in its current predictions. If we have no reason to believe that forecasting performance in the future will differ from that in the past, we can calculate the probability that
the outcome will differ by a given amount in one direction or the other from the central forecast. We can then determine what policy will deliver a given probability of meeting the rules. The desired probability will depend on the Chancellor’s assessment of the economic and political costs of breaking the rule and of the scope for countervailing policy adjustments to avoid it.

**Figure 2.12. Public sector net borrowing**

![Figure 2.12. Public sector net borrowing](chart.png)


**Table 2.4. Treasury errors in forecasting public sector net borrowing**

<table>
<thead>
<tr>
<th>Time period</th>
<th>Average absolute error (% of national income)</th>
<th>Average absolute error (£ billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>One year ahead</td>
<td>1.0</td>
<td>12</td>
</tr>
<tr>
<td>Two years ahead</td>
<td>1.6</td>
<td>19</td>
</tr>
<tr>
<td>Three years ahead</td>
<td>2.1</td>
<td>26</td>
</tr>
<tr>
<td>Four years ahead</td>
<td>2.7</td>
<td>33</td>
</tr>
</tbody>
</table>


Sources: Table 2.3 of HM Treasury, *End of Year Fiscal Report*, 2005, [http://www.hm-treasury.gov.uk/media/F59/99/pbr05_endofyear_298.pdf](http://www.hm-treasury.gov.uk/media/F59/99/pbr05_endofyear_298.pdf); authors’ calculations.

Figure 2.12 shows the Treasury’s PBR 2005 forecasts for public sector net borrowing. It shows that there has been a sharp swing from surplus to deficit since the start of this century, but that from this year onwards, the deficit is expected to shrink gradually, as an improvement in the current budget balance outweighs a modest planned rise in public sector net investment.

But how confident can we be that this improvement will take place? The Treasury’s average absolute error in forecasting public sector net borrowing one, two, three and four years ahead...
for the period from 1977–78 to 2004–05 is shown in Table 2.4. This shows that even one year ahead, the average absolute error is £12 billion in today’s prices.\(^{20}\)

Errors in forecasting public sector net borrowing can arise either from errors in forecasting the strength and composition of economic growth (and therefore the impact of the automatic stabilisers) or from errors in predicting tax revenues and spending for any given level and composition of national income. Errors in forecasting economic growth have been relatively unimportant in explaining the Treasury’s errors in forecasting the budget balance over a horizon of at least up to four years.\(^{21}\)

**Reflecting uncertainty in published forecasts**

If we assume that the Treasury’s latest forecasts will be as accurate as its past ones and that errors are normally distributed, we can put confidence intervals around the projections.

Figure 2.13 shows the probabilities of different outcomes for public sector net borrowing, based purely on the Treasury’s latest forecasts and its past forecasting performance. We assume that the Treasury’s projection for 2005–06 is correct, but that there is uncertainty thereafter. The presentation is analogous to the Bank of England’s inflation and growth forecasts in its quarterly *Inflation Report*.\(^{22}\) The ‘central’ estimate is the forecast shown in Figure 2.12. Figure 2.13 shows that there is a 20% probability that the outcome will lie within the darkest bands either side of the central forecast, a 40% probability that it will lie between

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**Figure 2.13. Probabilities of public sector net borrowing outcomes**

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\(^{22}\) [http://www.bankofengland.co.uk/publications/inflationreport/index.htm](http://www.bankofengland.co.uk/publications/inflationreport/index.htm).
the next darkest bands, and so on. It shows, for example, that in 2009–10, there is a one-in-three chance that the deficit will have been eliminated.

The estimates of previous Treasury forecasting errors used in this analysis are likely to be underestimates of the true forecasting error. This is because the forecasts for borrowing have not been adjusted for subsequent tax and spending decisions. In practice during periods where (underlying) borrowing was exceeding expectations, Chancellors would have been more likely to engage in a fiscal tightening than a fiscal loosening. For example, the two Budgets of 1993 contained significant tax-raising measures aimed at bringing revenues closer to previous expectations. This suggests that, if anything, the probability bands shown in Figure 2.13 should be wider. It would be very useful if the Treasury published information on previous forecasting errors that have been adjusted for subsequent policy announcements.

The other key assumption implicit in the estimates contained in the fan chart is that the Treasury’s forecasts are as likely to be too optimistic as too pessimistic. Looking at the Treasury’s one-year- and two-year-ahead forecasts back to 1970, the predictions were slightly more likely to be pessimistic than optimistic, but the average error is very small at 0.1% of national income. But in the period since the current government introduced its fiscal rules, the Treasury claims that its forecasts have been deliberately cautious. This is consistent with the fact that forecasts for public sector net borrowing one year ahead have been on average 0.3% of national income too pessimistic. But forecasts two years ahead are as likely to have been over-optimistic as unduly pessimistic.23

The main source of caution in the public finance forecasts is the assumption that the trend growth rate of the economy is a quarter of a percentage point lower than the Treasury’s central view. This means that the level of national income assumed for 2010–11 is 1.4% lower than the Treasury’s true expectation. If the Treasury’s central view of trend growth is correct, this would lead us to expect its borrowing forecasts to become increasingly pessimistic over time relative to the true outcome – reaching an expected difference of around 1% of national income by 2010–11. It would be more transparent if the Treasury dealt with the need for caution explicitly when explaining its policy decisions rather than trying to incorporate deliberate bias in its forecasts. As we have yet to see whether the supposedly cautious growth assumption will produce unduly pessimistic forecasts on average over a long period, we assume for the time being, in calculating the probability distribution of future outcomes, that future Treasury forecasts will be unbiased.

It is also important to note that the direction of forecasting errors tends to be correlated from one year to the next: in other words, an over-optimistic forecast tends to be followed by another over-optimistic one and a pessimistic forecast by another pessimistic one. We can see this in Figure 2.14. In the Budget of March 1999, the Treasury forecast a current budget surplus in 1999–2000 of 0.3% of national income. The eventual out-turn was 2.2% of national income. Hence the Treasury’s year-ahead Budget forecast for the current budget balance was almost 2% of national income too pessimistic in 1999–2000. In subsequent years, it was about ¾% of national income too pessimistic in 2000–01, ¾% too optimistic in 2001–02, 1½% too optimistic in 2002–03, 1% too optimistic in 2003–04 and ¾% too optimistic in 2004–05. If

23 Table 2.2 of HM Treasury, End of Year Fiscal Report, 2005, http://www hm-treasury.gov.uk/media/F5999/pbr05_endofyear_296.pdf.
the December 2005 Pre-Budget Report prediction turns out to be accurate, the equivalent forecast for 2005–06 will have been less than ½% of national income too optimistic. This would be in line with trends in receipts and spending seen so far this financial year.

**Figure 2.14. Treasury current budget balance forecasts**

![Figure 2.14. Treasury current budget balance forecasts](image)

Sources: HM Treasury, various Budgets and Pre-Budget Reports.

As asked to explain the serial over-optimism of the Treasury’s public finance forecasts in recent years, Jon Cunliffe, Second Permanent Secretary at the Treasury responsible for macroeconomic policy and international finance, told the Treasury Select Committee in December that ‘There is a tendency for forecast errors to be correlated with the economic cycle, so when you have a positive output gap there is a tendency for forecast errors to be one way and when you have a negative output gap there is a tendency for forecast errors to be the other way’.24 This is consistent with the switch from undue pessimism to over-optimism in 2001–02. But, as the Treasury now predicts that the output gap will remain negative for the next three years, it also suggests that this pattern may well persist for some time yet. Furthermore, if there is a predictable relationship between errors in the Treasury’s public finance forecasts and its contemporaneous estimates of the output gap, it should be possible to improve the forecasts by taking this into account.

Cyclically correlated forecast errors pose particular problems when the government is trying to achieve an asymmetric borrowing target over a cycle that is defined to begin with an up-phase and end with a down-phase. It will tend to receive pleasant surprises early in the cycle and allocate them believing that this is consistent with meeting the rule, only to receive nasty surprises later in the cycle when there are fewer years left over which to spread the pain of countervailing policy measures.

It is also the case that if a forecast made for one year ahead turns out to be too optimistic or pessimistic, then forecasts made further ahead tend to have errors in the same direction. This is demonstrated by the fact that the forecast lines tend not to cross the actual borrowing line in Figure 2.15, which shows the longer run of Treasury forecasts.

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Figure 2.15. Treasury public sector net borrowing forecasts

![Graph showing actual and HM Treasury forecast percentage of national income over financial years 1976-77 to 2004-05](source)


Table 2.5. Correlations of forecasting errors for public sector net borrowing

<table>
<thead>
<tr>
<th>Years ahead:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0.75</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0.53</td>
<td>0.88</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0.35</td>
<td>0.69</td>
<td>0.90</td>
<td>1.00</td>
</tr>
</tbody>
</table>


Table 2.5 shows the correlations between the errors in successive Treasury forecasts over time horizons of up to four years as far back as the late 1970s. They confirm that even successive forecasts looking four years ahead tend to err in the same direction from one forecast to the next.

We argued in last year’s Green Budget that the Treasury should seriously consider presenting its forecasts in a fan chart or a similar form that incorporates confidence intervals (a view also taken by the National Institute of Economic and Social Research and by staff missions of the International Monetary Fund). This would make it clear that no reasonable safety margin could ever guarantee that a fiscal rule will be met with 100% certainty. The best one can do is decide how large a probability of breaking the rule is tolerable and plan accordingly. Rather than focusing on whether the Chancellor is likely to ‘hit’ or ‘miss’ a rule, it would be more productive to analyse where the Chancellor chooses to aim within the probability distribution and to reach a judgement on whether he is pursuing the target with appropriate caution. So, for example, the Chancellor could publish a forecast based on central rather than cautious assumptions and then show the extent to which he was being cautious by demonstrating that there was a reasonable probability that borrowing would exceed a given amount.
The Treasury has repeatedly rejected this idea. In evidence to the Treasury Select Committee after the 2005 Budget, Mr Cunliffe cited a number of barriers to this approach, for example: the sensitivity of the sample period of past forecasting experience used to estimate future performance, dealing with policy changes and adjusting for the economic cycle.\textsuperscript{25}

These might be genuine difficulties, but we remain of the view that the approach would be a useful addition to the policy framework. Mr Cunliffe told the committee: ‘How you would fit a probabilistic system like this onto fiscal policy decisions in the way we take them, I am not very clear. We accept that there is uncertainty. We use cautious assumptions. We set out clearly what we do and we say, for credibility reasons, “This is the rule and we will meet it”. But it is never credible to claim that “we will meet it” with 100% confidence in an uncertain forecasting environment. Indeed, to do so may well erode credibility. If the Chancellor had taken a less dogmatic or a more probabilistic approach to meeting his golden rule, observers may have been less inclined to jump to the conclusion that he has re-dated the cycle in recent months simply to avoid the embarrassment of missing the rule.

**Meeting the golden rule**

Having assessed the confidence that we should place in the Treasury’s forecasts for borrowing, we now ask what this implies for assessing the chances of meeting the fiscal rules over the economic cycle that the Treasury now expects to last until 2008–09.

Over the first eight years of the cycle, the current budget has averaged a surplus of 0.2% of national income. As we saw in Figure 2.10, in PBR 2005 the Treasury predicted deficits of 0.9% of national income this year and 0.3% in 2006–07, then balance in 2007–08 and a surplus of 0.5% of national income in 2008–09. This would reduce but not eliminate the surplus, leaving the rule to be met by an average of under 0.1% of national income or a cumulative £12.8 billion. This is barely larger than the average error in forecasting the budget balance one year ahead (Table 2.4). The Treasury argues that its true room for manoeuvre is slightly larger because its non-investment spending plans include an as-yet unallocated £1.9 billion contingency reserve for unexpected needs.\textsuperscript{26}

The Chancellor has steadily downgraded his forecasts for the current budget balance in recent years (Figure 2.16), primarily because tax revenues have persistently undershot his forecasts since the stock market decline in 2001, but also because he has chosen to increase spending in areas such as health, education and tax credits. As we have seen, this would by now have exhausted his room for manoeuvre in meeting the rule over his original seven-year cycle.

But how much room for manoeuvre does the Chancellor have within the newly elongated cycle?

To answer this question, we need to translate the expected average surplus over the cycle into a probability that the rule will be met, given the likely forecasting errors over the remainder of the cycle. We can do this by using the data in Table 2.4 and assuming that Treasury forecasts for the current budget are as accurate as those for public sector net borrowing.

\textsuperscript{25} [http://www.publications.parliament.uk/pa/cm200506/cmselect/cmtreasy/uc739-ii/uc73902.htm](http://www.publications.parliament.uk/pa/cm200506/cmselect/cmtreasy/uc739-ii/uc73902.htm).

\textsuperscript{26} The current part of the annually managed expenditure (AME) margin contains £0.5 billion in 2006–07 and £1.4 billion in 2007–08 (tables B.17 and B.20 of the December 2005 Pre-Budget Report).
Figure 2.16. Treasury current budget forecasts over present cycle

![Chart showing Treasury current budget forecasts over present cycle.](image)

Sources: Successive Budgets and Pre-Budget Reports.

Figure 2.17 shows the probabilities of different outcomes for the current budget balance, based purely on the Treasury’s latest PBR forecasts and on its past forecasting performance. It is in the same format as Figure 2.13, which shows the probabilities for public sector net borrowing. We assume that the Treasury’s projection for 2005–06 is correct, but that there is uncertainty thereafter. The ‘central’ estimate is the forecast shown in Figure 2.10. Figure 2.17 shows that there is a 20% probability that the outcome will lie within the darkest bands either side of the central forecast, a 40% probability that it will lie between the next darkest bands, and so on. It suggests, for example, that there is just over a 40% chance that the current budget will still be in deficit in 2009–10 rather than in surplus as the Treasury hopes.

Figure 2.17. Probabilities of current budget balance outcomes

![Chart showing probabilities of current budget balance outcomes.](image)

Figure 2.18 shows the probability of meeting the golden rule implied by different forecasts for the average current budget balance over the cycle made with three years of the cycle still to run. As we are now looking at the cumulative current budget surplus over a number of years, this also takes into account the correlations between errors in borrowing forecasts over time presented in Table 2.5. Because we again assume that the forecast errors are not biased in either direction and that the distribution of errors is symmetrical, a forecast cumulative surplus of exactly zero means a probability of meeting the golden rule of exactly 50%: underachievement is as likely as overachievement. We also exclude the possibility that the Chancellor will choose to implement new measures to increase the cumulative surplus in the event of disappointing out-turns, so the probabilities show the likelihood of meeting the rule without policy changes. The PBR prediction of an average surplus of under 0.1% of national income implies a 58% probability of meeting the rule, given the Treasury’s past forecasting performance over a three-year time horizon (and assuming that the PBR forecast for 2005–06 is correct). While the cumulative current budget surplus is expected by the Treasury to be larger over the period from 1997–98 to 2008–09 than over the period from 1997–98 to 2005–06, the likelihood of the golden rule being missed is in fact larger over the former period due to the fact that there is much greater uncertainty over the longer time period.

**Figure 2.18. Probabilities of meeting the golden rule with three years of the cycle remaining**

![Graph showing probabilities of meeting the golden rule](image)


**Meeting the sustainable investment rule**

In recent Budgets and Pre-Budget Reports, the Treasury has gradually revised up its forecasts for public sector net debt, as shown in Figure 2.19. In Budget 2002, the Treasury was predicting a debt ratio around 31% of national income at the end of the then forecasting period in 2006–07. In the 2005 Pre-Budget Report, it predicted that the debt ratio would stabilise at a little over 38% of national income at the end of the current forecasting period in
The fiscal policy framework

2010–11. If this forecast is accurate, the government will continue to meet the sustainable investment rule, as the ratio will remain below the permitted ceiling of 40% of national income. But the Chancellor’s room for manoeuvre has clearly been eroding in recent years and the target has become more vulnerable if Treasury officials are correct in arguing that their borrowing forecasts tend to be consistently over-optimistic while activity is below trend.

The rise in the Treasury’s debt forecasts reflects unexpectedly large current budget deficits rather than more ambitious plans for public sector net investment. As Figure 2.20 shows, the government has repeatedly failed to increase investment as quickly as it would like.

Figure 2.19. Treasury public sector net debt forecasts

![Figure 2.19. Treasury public sector net debt forecasts](source)

Sources: Various Budgets and Pre-Budget Reports.

Figure 2.20. Treasury public sector net investment forecasts

![Figure 2.20. Treasury public sector net investment forecasts](source)

Sources: Various Budgets and Pre-Budget Reports.

If the Treasury’s latest forecasts for public sector net debt are correct, the government could make an additional one-off public sector net investment of just under 2% of national income before breaching the sustainable investment rule. But, as we noted earlier, there is no guarantee that the forecasts will be correct, based on past experience.
We can translate the probability distribution for public sector net borrowing in Figure 2.13, and the correlation coefficients in Table 2.5, into a probability distribution for public sector net debt (Figure 2.21). Again, this assumes that the Pre-Budget Report forecast for 2005–06 is the best available and unbiased. The chances of breaching the 40% ceiling are extremely low in 2006–07, but then increase quickly as the forecasting horizon extends (Table 2.6). This is due to the relatively strong historical correlations between errors in successive forecasts, and the fact that any differences in borrowing have a cumulative impact on net debt.

Figure 2.21. Probabilities of public sector net debt outcomes

![Graph showing probabilities of public sector net debt outcomes]

Note: Assumes that any cumulative variation in public sector net borrowing from that forecast by the Treasury directly adds to public sector net debt. The second-order impact of changes in debt interest is ignored.


Table 2.6. Meeting the sustainable investment rule?

<table>
<thead>
<tr>
<th>Financial year</th>
<th>Probability net debt exceeds 40% in year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006–07</td>
<td>1%</td>
</tr>
<tr>
<td>2007–08</td>
<td>24%</td>
</tr>
<tr>
<td>2008–09</td>
<td>37%</td>
</tr>
<tr>
<td>2009–10</td>
<td>41%</td>
</tr>
</tbody>
</table>

Source: As for Figure 2.21.

To reiterate, these probabilities of meeting/missing the fiscal rules are based entirely on the uncertainty that the Treasury might place around its own forecasts if it were to assume that its forecasting performance will be the same in the future as in the past. The probabilities would be different if a different view were taken from the Treasury’s about the evolution of the economy or about the likely size of revenues and spending for any given state of the economy. We discuss the outlook for the economy in Chapter 3 and generate our own forecasts for the public finances in Chapter 5.

To sum up, if we take the Treasury’s PBR forecasts as the best on offer, its chances of meeting the golden rule over the current cycle are a little worse than 60:40. If the Chancellor
wanted to be 90% confident of meeting the rule, at this stage he would need to be forecasting a current budget balance averaging 0.6% of national income. The chance of breaking the sustainable investment rule in 2008–09 is 37%. Looking forwards to the next cycle then, if the Treasury’s forecasts are correct and the fiscal rules continue to be applied in the same way, the sustainable investment rule would be more constraining than the golden rule.

2.5 Reforming the fiscal framework

The past year has not been a good one for the credibility of the fiscal framework. Having been consistently over-optimistic about the outlook of the public finances for the past four years, by last summer the Chancellor was on course to break his golden rule if existing trends in tax revenues and spending continued. Since then, he has extended the period over which he believes performance against the rule should be judged from seven to 12 years, making the rule easier to meet in both this cycle and the next on the basis of his most recent forecasts.

This has raised suspicions in some quarters that the Chancellor has deliberately ‘moved the goalposts’ in order to ensure the rule is met. Even though the public finances remain in pretty good shape by international and historic standards, these suspicions threaten to undermine the value of the framework as a means of persuading voters and financial market participants that the government will manage the public finances in a fair and sustainable way.

An important part of the problem is that the Chancellor has placed a rhetorical weight on strictly meeting his definition of the rules that neither their theoretical nor statistical foundations can reasonably be expected to bear. His absolute conviction that the rules will be met without further policy measures remains hard to square with the past accuracy of his – or anyone else’s – fiscal forecasts.

In this section, we discuss possible reforms to the design and application of the rules.

The golden rule

The rationale of the golden rule is broadly to ensure that future generations of taxpayers are only asked to repay debt that has financed spending from which they themselves are likely to benefit. It is also intended to reduce any incentive for policymakers to make disproportionate cuts in infrastructure spending, if and when total spending plans have to be cut. Cutting capital spending may well be more tempting than cutting current spending, as it normally takes longer for voters to feel the effects in terms of the quality of public services.27

The current/capital distinction

Balancing the current budget as formally defined will not necessarily achieve the goal of intergenerational fairness. The golden rule is based on the distinction between capital and current spending in the National Accounts, which in turn is based on international accounting standards as interpreted by the Office for National Statistics. But capital and current spending do not necessarily coincide with spending that does and does not benefit future taxpayers. For

example, £1 of ‘current’ spending on teacher training might be of greater benefit to future taxpayers than £1 of ‘capital’ spending on, say, an Olympic venue of uncertain long-term use.

But if the Chancellor were to distinguish spending that may and may not be covered by borrowing in a more sophisticated way, observers might well suspect that this definition could be tweaked and spending reclassified if and when a breach of the rule looked likely.

Even if the golden rule did distinguish perfectly between spending that does and does not benefit future taxpayers, it would not necessarily distribute the burden of paying it in a ‘fair’ way. For example, there is no guarantee that the time profile of debt repayments will match the time profile of the benefits flowing from the investment project that the additional debt has funded. Neither would different members of a particular generation necessarily pay in proportion to the benefits they receive. (Indeed, that might well not be thought desirable, as one of the purposes of public spending and taxation is to redistribute resources between individuals on equity grounds.) Equity considerations might also lead us to argue that future generations should pay for some of today’s current spending, as productivity growth should make future generations, on average, better off and therefore give them greater ability to pay.

Symmetry versus asymmetry

It is also not obvious why the golden rule should be asymmetric. If we are seeking intergenerational fairness, we should presumably care as much if today’s taxpayers pay too much for current spending as if they pay too little. In other words, this would imply that we should aim for a current budget balance rather than a current budget surplus.

Under the current formulation, the Chancellor has gambled his credibility on avoiding even a tiny current budget deficit over a multi-year period. To be confident of doing so, he would need to build in a very big margin for error that would most likely mean that the rule ended up being overachieved substantially for no good reason. As it is, his margin for error on the original cycle dating appeared to be eliminated last year and he has only managed to restore it by re-dating the cycle in a way that risked undermining the credibility of the framework.

The rule could be made symmetric and the Chancellor could approach it in much the same way that the Bank of England approaches the inflation target. He would aim for a current budget balance, with everyone aware that the chances of meeting it exactly are negligible. Instead, credibility would rest on his ability to convince voters and investors that policy was being set with the genuine aim of getting as close to the target as possible, and – to that end – on his willingness to explain why the current budget may be deviating from target and what he intends to do about it over a sensible time horizon. Unfortunately, making such a change is likely to be more difficult when the credibility of the framework is already being questioned.

If the Chancellor wants to retain an asymmetric target for the current budget, then it might be sensible for him to explain what he regards as an acceptable probability of breaking the rule, given the inevitable uncertainties around even the most short-term forecast for government borrowing. He could, for example, promise always to set policy so as to give him a 70% chance of meeting the rule, given past forecast uncertainty and the length of time remaining before the expected end of the current economic cycle. But this is clearly more complicated than the current formulation and might appear to be a weaker commitment.
The fiscal policy framework

The cycle

The attraction of demanding that the golden rule only has to be met on average over an economic cycle - not every year - is that it allows the automatic stabilisers to operate. But the choice of exactly which cycle to judge the rule over is arbitrary.

We have argued in our last two Green Budgets that judging adherence to the rule over a fixed, dated cycle is not ideal, and that a more forward-looking interpretation would be preferable. Mervyn King, the Governor of the Bank of England, made very similar arguments last year when responding to the Treasury’s initial re-dating of the cycle in the press conference to launch the Bank of England’s August Inflation Report.28

One disadvantage of picking any fixed period is that the amount the government can borrow towards the end is determined by what it has borrowed earlier on. Policy becomes backward-looking as the Chancellor is constrained to compensate for the policy and forecasting errors of the past rather than setting what is necessarily the most sensible policy looking forward. Or, as in the past year, the Chancellor can give himself more room for manoeuvre by reassessing the past state of the economy. As M r King pointed out, ‘If you change your view of what happened seven or eight years ago, it does not change the underlying fiscal position’.

One alternative - which still relies on estimating an output gap - would be to set a rolling forward-looking target for the cyclically adjusted budget balance at the end of a suitable time horizon. This would allow the automatic stabilisers to operate and would parallel the operation of the inflation target: the Bank does not have to achieve an average inflation rate of 2% over a particular period, but rather sets interest rates to achieve it two or so years ahead.

In a similar vein, M r King argued: ‘If you look forward from today, [from] a particular point in the business cycle - whatever that is - to the corresponding point in the next cycle, will the current budget be in balance or surplus as opposed to being in deficit, which would mean that the fiscal rules were not being met. That’s the sort of judgement that needs to be made’.

But any rule that relies on an assessment of the economy’s place in the business cycle runs into the risk that the Treasury might be suspected of manipulating its estimates of the output gap - or some approximation to it - to make the rule easier to meet. An obvious solution would be to constrain the Treasury to present forecasts based on output gap estimates produced by an independent body or bodies, such as the soon-to-be-independent Office for National Statistics, perhaps advised by an external panel.

But, more fundamentally, does it make sense to base policy on the existence of a clearly defined economic cycle at all? In a stable economic environment in which monetary policy is well run and credible, we would expect deviations in economic activity from its sustainable level to be relatively small. Economic activity might show high-frequency noise around its trend rather than protracted periods with significantly positive or negative output gaps. To quote M r King again:

I am not even sure if the output gap is terribly well defined. To put precise numbers on it is pushing beyond the bounds of the plausible. The Bank and the Treasury have a very different view of how to think about the cycle. We don’t like this sort of fixed dating and we have a different way of thinking about the productive potential of the

economy and how it evolves. I am not even sure it makes sense to think about a cycle as if it is a well-defined phenomenon.

An alternative might be for the Treasury to set a target for the current budget in the medium term and constrain itself to present forecasts of revenues and spending based on some average of independent forecasts for growth and other macroeconomic variables - alternatively, it could use the forecasts used by the Bank of England, which would mean that the same projections would be used for both fiscal and monetary policy. More dramatic still, more of the fiscal policy process could be delegated to an independent body, following the precedent of the Bank of England’s Monetary Policy Committee. For example, an independent body could be asked to provide official tax revenue forecasts, helped by access to information from HM Revenue & Customs. The Treasury has traditionally argued that it is impossible to separate responsibility for public finance forecasts or the economic inputs into them from the responsibility for making policy.29

The sustainable investment rule

A self-imposed ceiling on the ratio of debt to national income has intuitive appeal. It would be unfair on future generations and dangerous in terms of the likely financial market response for public sector debt to be put on an explosive and economically unsustainable upward path that would at some point require a disruptive policy correction. But it is less clear precisely how high the debt ceiling should be set and what liabilities it should encompass.

The height of the debt ceiling

It is hard to argue from theory or experience why a 40% ceiling is any more desirable than, say, 30% or 50%. Attempts have been made to infer an optimal debt ratio from comparisons with the debt/equity ratios prevailing in the private sector and from theoretical and empirical analyses of the relationship between interest rates and economic growth rates. None has given a particularly precise or robust result.30 The 40% ratio appears to have been chosen in effect as a commitment not to allow debt to rise again to the levels inherited from the Conservatives.

As Figure 2.22 shows, even if it reached the 40% ceiling, the UK’s public sector debt would still be low relative to that of most other G7 countries.31 But there are other industrial countries with much stronger net debt positions, including Australia, New Zealand and the Scandinavian countries. Some OECD countries have more financial assets than debt – for example, Norway (which is aiming to smooth the consumption of its oil revenues) and South Korea (which has built up enormous foreign exchange reserves to limit the rise in its exchange rate).


31 General government debt is a slightly narrower definition than the public sector debt measure used in the sustainable investment rule, but it facilitates international comparison.
Figure 2.22. General government debt ratios in OECD countries in 2005

Note: Data for the United States include outlays net of operating surpluses of public enterprises.

So why might the UK wish to aim for a debt ratio higher or lower than 40%?

First, the desired debt ratio will depend on the desired level of public sector net investment over the long term. The amount the government can invest while adhering to a particular debt ceiling will depend on: (a) the current level of debt; (b) the degree to which the golden rule is over- or under-achieved (which in turn partly depends on how much the government has to spend servicing its existing debt); and (c) the growth of the cash value of the economy.

If we assume that the golden rule is met exactly, that whole-economy inflation is 2.5% a year and that the economy grows in real terms by 2.5% a year, then the government could sustain public sector net investment of 2% of national income a year while keeping public sector net debt at 40% of national income.32 (If the debt ratio starts below 40%, the government can invest more temporarily until it gets there, which is its current intention.) If we believe that public sector net investment should be higher than 2% of national income in the long term, this argues for raising the debt ceiling above 40% unless the golden rule is consistently overachieved. Conversely, if we wish to invest less than 2% of national income, the debt ceiling could be lowered.

32 Higher nominal growth in the economy, even if the result of higher inflation, would allow a higher level of real net investment.
Second, you might move the debt ceiling if you believe that the underlying level of current spending is likely to rise (or fall) from its present level at some point in the future and you want to limit economically costly variation in tax rates. This could be done without altering the level of investment by deliberately over- (or under-)achieving the golden rule for a while and temporarily reducing (or increasing) the debt ceiling.

For example, some Scandinavian economies are deliberately pursuing low or negative net debt positions now because they believe that the ageing of their populations will require more public spending on the elderly in future decades. By running tight fiscal policies today, and giving themselves greater scope to borrow more in the future, they can limit future increases in tax rates and the associated disincentives to work and saving.

As we discuss in Chapter 4, the Long-Term Public Finance Report published alongside PBR 2005 suggests that, on existing policies, public spending in the UK is projected to rise from 41.1% of national income last year to 45.3% in 2054–55 - an increase of 4.2% of national income or more than £50 billion in today’s terms.\(^3\) Individuals are likely to wish to smooth their consumption in the face of an expected rise in tax rates to pay for these increases in spending, but some will be more aware of the necessary adjustments and better placed to make them at low cost than others. On these grounds, it may be thought preferable for the state to help make the adjustment by increasing tax rates now (aiming for a lower debt-to-GDP target) to reduce the increase required in the future (when the debt ratio would be allowed to rise again).

**Off-balance-sheet liabilities**

The Treasury judges progress against the sustainable investment rule using its own definition of public sector net debt, which is simply cash borrowing to date less any financial assets. But the opposition Conservative Party, among others, has argued that this understates the government’s future financial obligations and, perhaps more importantly, that it understates the increase in public sector indebtedness since Labour came to power because the sustainable investment rule has created greater incentive for off-balance-sheet financing.\(^4\)

There are three main areas of contention: public sector pensions, the Private Finance Initiative and contingent liabilities.

**Public sector pensions**

The future liabilities of unfunded public sector workers’ pension schemes are not included on the government’s balance sheet. Estimating the value of these liabilities is extremely difficult as it will depend on individuals’ pension tenure, their final salaries, how their pension benefits are indexed and the longevity of public sector workers. Nonetheless, these liabilities appear to be substantial: the Pensions Commission’s Second Report estimates that at the end of 2003, these liabilities were worth £500 billion\(^5\) – this is larger than public sector net debt, which


was £376.9 billion in December 2004. These liabilities are different from actual public sector net debt, since governments are able to reduce the generosity of the future accrual of public sector workers’ pension rights, though this could have implications for other components of the remuneration package required to attract and retain public sector workers of the desired quality and motivation.

**Private Finance Initiative**

Governments of both parties have made increasing use of partnerships with the private sector to help deliver investments the government deems desirable. Private firms undertake some capital spending on behalf of the public sector by means of the Private Finance Initiative (PFI). Under the PFI, the public sector pays private firms a rental price for use of a capital asset that the private sector delivers. Over the next 26 years, the Treasury’s estimates suggest that an average of 0.3% of national income a year will, under contracts signed up to December 2005, be paid to PFI providers. Figure 2.23 shows that, in the unlikely event of no further deals being signed, the payments would decline from just over 0.5% of national income in 2005–06 to under 0.06% of national income in 2030–31.

In 2003, the Treasury stated that around 57% of the investment carried out through the PFI was ‘on balance sheet’. Despite this, none of the capital spending that has been done by private contractors under the auspices of the PFI is included in the Treasury’s estimates of

**Figure 2.23. Estimated future payments under PFI contracts signed up to December 2005**

Note: Figures up to 2017–18 include estimated payments for the LUL (London Underground Ltd) Public Private Partnership contracts. These contracts contain periodic reviews each 7½ years and therefore the service payments are not fixed after 2009–10.


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public sector net debt.\textsuperscript{38} The total capital value of the deals signed up to December 2004 was £42.7 billion or 3.4\% of national income.\textsuperscript{39} Unfortunately, figures are not available on when the capital spending is actually to take place. Had this capital spending all been conventionally financed at the same cost, and delivered by the end of 2004–05, this would have added 3.4\% of national income to public sector net debt in that year. Since some of this capital spending will not yet have been undertaken, this calculation overstates the reduction in public sector net debt that would have occurred through the use of the PFI. However, it is also important to note that further deals will have been signed since December 2004 – indeed, the 2005 Pre-Budget Report (table B.24) states that deals with a capital value of £11.6 billion are currently at the preferred bidder stage – with most of this being projects in the Department of Health (£5.2 billion) and the Ministry of Defence (£4.1 billion).

**Contingent liabilities**

Private Finance Initiative payments are not the only off-balance-sheet liabilities that might be faced by the government. For example, borrowing carried out by Network Rail could be considered similar to conventional government borrowing, even though the Office for National Statistics defines it as a private sector company and therefore off the public sector’s balance sheet. After all, the government in effect determines Network Rail’s income by controlling the prices that train operators have to pay the company to use the track and associated infrastructure, as well as guaranteeing to repay its debt if the company collapses. More likely, if the company got into serious trouble, the government would take greater control and the ONS would reclassify it as part of the public sector for the purposes of the National Accounts, even if Network Rail had not been formally renationalised. This would further reduce the Chancellor’s room for manoeuvre in remaining below the current debt ceiling.

**Conclusion**

Given the suspicions raised by the growth of off-balance-sheet liabilities, it might be thought desirable on grounds of transparency to widen the definition of public sector debt and raise the ceiling in the sustainable investment rule correspondingly. But it is hard to know where to stop in deciding which future payments we might want to bring onto the balance sheet. For example, it might be easier to renegotiate the payments due to a contractor under the PFI than to reduce the future NHS pay-bill, but nobody suggests including the latter as debt as a commitment to future spending. And, unlike a private company, the government also has future revenue guaranteed by its ability to levy taxes. A comprehensive treatment of the public sector balance sheet would presumably take this into account.

In terms of intergenerational fairness, it is also important to remember that while future taxpayers will have to service obligations undertaken by today’s taxpayers, today’s taxpayers are already having to service obligations undertaken by past taxpayers. So while it is true that today’s public sector pension commitments are expected to cost 2.1\% of national income in

\textsuperscript{38} The Office for National Statistics has stated that conceptually the imputed finance lease loan element of PFI deals should be included in public sector net debt and that work on developing an estimate is underway (http://www.statistics.gov.uk/pdfdir/pfi0505.pdf).

2054–55, past public sector pension commitments were already costing 1.5% of national income in 2004–05.\textsuperscript{40} It is the increase in the servicing burden over time that implies the need for a fiscal policy response, not the total burden.

2.6 Conclusion

Gordon Brown created his fiscal rules with the best of intentions. He believed that under previous Labour governments, the ‘promise of long term and sustained improvements in our public services could not be met’ since, as a result of excessive borrowing, ‘short term bursts of spending had to be reined back’.\textsuperscript{41} Mr Brown was determined to persuade voters and financial market participants that he would not allow history to repeat itself.

He staked his credibility on clear promises: to borrow only to invest on average over the current economic cycle (the golden rule) and to keep public sector net debt below 40% of national income in every year of the cycle (the sustainable investment rule). Both are reasonable rules of thumb, but neither has particularly firm analytical or statistical foundations as defined operationally. The direct economic importance of strictly obeying the rules as defined has been overstated.

Four or five years ago, these appeared safe promises to make. The public finances had evolved more favourably than expected over Labour’s first term. The current budget was projected to remain in surplus and net debt well below 40% of national income. As a result, there seemed little danger that the rules would be breached.

But, as the Treasury conceded last year, its forecasts tend to be pessimistic when the economy is performing well and optimistic when there is spare capacity. The economy moved into a ‘down-phase’ in 2001 and the Chancellor has had to downgrade his forecasts for the public finances repeatedly ever since.

As the margin by which the Treasury expects to meet the rules has gradually eroded, issues of precise definition and interpretation have gained undue significance. Under the revised dating of the economic cycle, the golden rule will be easier to meet. If this re-dating had taken place when everyone expected the golden rule to be met regardless, no one would have made a fuss. But because the re-dating took place at a time when it was likely to make the difference between meeting the golden rule and missing it, natural cynicism means that the credibility of the framework has been diminished.

As things stand now, both fiscal rules would be met if the economy and the public finances evolve as the Treasury expects. But, given the uncertainty implied by the Treasury’s past forecasting record, there is still a significant possibility even on its own figures that, unless the Chancellor takes action, one or both could be breached by the end of the current forecasting horizon. The Chancellor will have to decide whether the probability of success

\textsuperscript{40} Source: Table 5.1, page 45, of HM Treasury, Long-Term Fiscal Report, December 2005, http://www.hm-treasury.gov.uk/media/F59/32/pbr05_longterm_513.pdf.

under existing policies is sufficient or whether he wishes to implement further measures to increase it.

There are a number of ways in which the framework could be reformed for the better, although in the current environment, changes risk being interpreted as a cynical attempt to make the rules easier to meet.

It is not clear that a more sophisticated distinction between current and capital spending in the golden rule would outweigh the costs, but there is a strong case for making the rule symmetric and more forward-looking. It would also be helpful for the Treasury to take a probabilistic view of the outlook for the public finances in deciding the appropriate degree of caution to aim for. To the extent that the rules depend on dating of the economic cycle or estimates of the output gap, credibility could be enhanced if the Treasury used the estimates of an independent body.
3. The economic outlook

David Miles, with Melanie Baker and Vladimir Pillonca (Morgan Stanley)

**Summary**

- Economic growth has been relatively robust over the past few years, although it slowed substantially in 2005. The Treasury expects the economy to pick up, with growth of between 2¾% and 3¼% in 2007 and the output gap closing in 2008–09.

- There are downside risks to the Treasury’s forecasts in the medium term, from a slowdown in productivity growth, inadequate saving and a large and persistent current account deficit.

- Investment and developments in the labour and housing markets pose risks to the Treasury's forecasts in the short term. On balance, these are skewed more to the downside than to the upside.

- We do not expect growth to accelerate significantly over the next two to three years, as the Treasury does. We expect growth close to trend in 2006 and beyond. Growth could be slower still if inflationary pressures force the Bank of England to raise interest rates.

- Our analysis suggests that there is little spare capacity in the economy. We estimate that the last full cycle was relatively short, having begun in 1999 and ended in the second half of 2003. The Treasury identifies longer cycles than we do: it believes that only three have been completed since 1972, whereas we identify five to six.

**3.1 Introduction**

The evolution of both government spending and tax revenues, and therefore deficits and the stock of outstanding debt, are sensitive to the path for overall economic activity and its composition. In this chapter, we assess the outlook for the UK economy and consider the chances that the Treasury’s Pre-Budget Report assessment of growth and spending will be accurate. Whether the government meets its fiscal rules and what tax and spending decisions it makes in the coming years in large part depend on what happens in the wider economy.

The growth of productivity is a key determinant of the path of spare capacity and therefore of any assessment of the cyclical position of the economy. More fundamentally, it is a key determinant of the longer-run evolution of per-capita real incomes. We analyse in some detail the recent and likely future path of productivity.

Economic growth has been relatively robust over the past few years, although it slowed substantially in 2005. The Treasury expects the economy to pick up, with growth of between 2¾% and 3¼% by 2007 and the output gap closing in 2008–09. We see several medium- and
shorter-term risks to this outlook. In the medium term, inadequate levels of UK saving, the risks of a slowdown in productivity growth and the unwinding of external imbalances are threats to steady growth. In the shorter term, volatile investment, labour market developments and conditions in the housing market pose the main risks of over- or under-shooting the Treasury growth forecasts.

3.2 Recent developments

Economic growth has been robust in the past few years, driven by domestic demand, particularly from consumption and government spending. Unemployment remains low, at least as measured by official data, and inflation also remains relatively contained (though marginally above the government’s target of 2% in November 2005). Despite slower growth over 2005, the UK’s recent economic performance looks remarkably stable in the light of its experience over the past 40 years.

To some extent, the long-awaited ‘rebalancing’ of the UK economy has begun with a lower contribution to growth in demand in 2005 coming from consumer spending (Figure 3.1). The household saving rate moved up steadily, from an exceptionally low level, in the course of 2005.

Figure 3.1. Tentative evidence of rebalancing away from the consumer

Over the year, the economy weathered a $60 dollar oil price without a fall in overall corporate profitability or in consumer spending. Households increased their rate of saving from 4.1% at the end of 2004 to 5.5% by Q3 2005; household borrowing (measured by total net lending to individuals) averaged £8.9 billion a month in 2005, compared with £10.3 billion a month in 2004 (see Figure 3.2). Aggregate consumer spending rose by around 1.8% in real terms (Q1 to Q3 compared with the same period a year earlier). The rate of return on corporate capital actually increased during the first half of 2005 (Figure 3.3). House prices were roughly flat in real terms, rather than sharply lower as many had feared; but the level of transactions is down 18% on the levels of 2004.
3.3 Medium-term risks

Yet a number of underlying weaknesses in the UK economy remain and these continue to threaten the medium-term outlook. Among them are that: (a) UK saving probably remains insufficient to fund trend economic growth of around 2½%; (b) productivity growth remains disappointing and its low level a risk to both future growth and inflation; and (c) the UK continues to run a sizeable, and growing, current account deficit.

We consider each of these in turn. We then consider what they imply for the near- and medium-term economic outlook.
Savings

The household saving rate in the UK (5.5% in Q3 2005) remains significantly below its longer-run average (7.8% since 1963). The public sector is in deficit – it is dissaving. The corporate sector has been saving – but not at a rate fast enough to keep the national saving rate from being one of the lowest in the developed world (Figure 3.4).

![Figure 3.4. UK gross national saving rate low compared with other economies](image)


What really matters in the long run is whether a country is saving enough to preserve its stock of wealth. Assume that we need to keep the stock of national net wealth constant as a share of national income – something that is probably necessary to sustain growth. Then net wealth needs to grow by the product of the growth rate of the economy and the ratio of net wealth to national income. The total net worth of the UK in 2004 was a little under four times national income. If real UK national income is to grow by 2½% a year, then we probably need net investment to be somewhere in the region of 10% of national income.

The actual level of net investment relative to national income in recent years has been just below 6% (Figure 3.5). However, the net national saving rate is much lower than this; in 2004, it was 4.4% (Figure 3.6). Since we are concerned about national income, the ownership of capital matters. And so it is the net national saving rate that should be compared with a target of around 9–10%. Clearly, the shortfall is significant. Without more saving, it is difficult to see how the UK can sustain ‘trend’ growth of 2½% per annum. One impact of low saving and investment is that the amount of capital available to produce with, relative to the population, grows less rapidly and this reduces the increase in living standards. We explore the link more carefully in the next subsection.

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1 Tangible and intangible assets plus total net financial assets. Tangible assets include the value of houses, commercial property, plant and machinery, stocks and work in progress and civil engineering works. We do not want to include the value of land – a non-reproducible asset. We deduct half the value of residential assets so as to reflect land values.
Figure 3.5. Net investment not high enough to sustain 2½% GDP growth

Figure 3.6. Saving rate looks too low to sustain 2½% GDP growth

Productivity

Productivity growth is a key determinant of increases in living standards. Persistent differences in the rates of overall productivity growth across economies can result in very large divergences in living standards over time. For example, a 1% average annual rate of productivity growth implies that a country will need 70 years to double its level of national income, but it will only take 28 years if productivity growth is 2.5% (assuming that all else – in particular, employment rates – is constant).

Productivity reflects the effectiveness of an economy in extracting output from factors of production: labour and capital. The Treasury assumes that the trend rate of growth of the economy between Q1 2001 and Q4 2006 is 2¼%. Of this, 2.15% arises from labour productivity growth (output per hour worked) and another 0.6% reflects the assumed growth...
rate of the population of working age (the effects of falling average hours worked and a rising trend employment rate offset each other). Productivity is assumed to continue rising at 2½% a year in the future. Whether or not these assumptions are realistic is central to any assessment of the longer-term fiscal outlook and also to the judgement on the cyclical position of the economy.

Productivity developments shape both fiscal and monetary policy. A higher overall rate of productivity growth means that the economy can grow faster over time without this resulting in inflation rising and therefore higher interest rates.

**Labour productivity – the UK’s Achilles heel.** Labour productivity is often measured as the level of an economy’s output divided by the level of employment. An alternative measure of labour productivity is the ratio between the economy’s output and the number of hours worked. In principle, this is a better measure of productivity\(^3\) though it is harder to measure.

**Table 3.1. Real GDP per hour worked (UK=100)**

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Note: Data for 2004 are provisional and subject to revision.
Source: ONS, experimental internationally comparable series.

**Table 3.2. Real GDP per worker (UK=100)**

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<td>100</td>
<td>89</td>
</tr>
</tbody>
</table>

Note: Data for 2004 are provisional and subject to revision.
Source: ONS, experimental internationally comparable series.

Table 3.1 shows that the gap between UK GDP per hour and that in France, Germany and the USA has been declining since 1995, but it remains significant: French workers produce almost 30% more output per hour worked than UK workers; US workers are 14% more productive. In the G5, only Japanese workers are less productive than their UK counterparts. The UK does better in terms of GDP per worker, rather than per hour worked, as shown in

---

\(^2\) Beyond Q4 2006, trend growth is predicted to fall to 2½% a year as growth in the working-age population is expected to be 0.4% a year instead of 0.6% a year. See table A2 of HM Treasury, *Pre-Budget Report 2005*, Cm. 6701, 2005, [http://www.hm-treasury.gov.uk/pre_budget_report/prebud_pbr05/report/prebud_pbr05_repindex.cfm](http://www.hm-treasury.gov.uk/pre_budget_report/prebud_pbr05/report/prebud_pbr05_repindex.cfm) for details.

\(^3\) Output per hour worked tells us something about the ability of an economy’s labour force to produce output from one unit of labour input, but this is only part of the story. It is also important to know how much labour input (e.g. number of hours worked) is being supplied by the workforce.
Table 3.2. On this basis, the UK does marginally better than Germany, but it still lags France and the USA.

**Unproductive and working too much?** French workers have historically been much more productive than UK workers (on a GDP-per-hour-worked basis), but they also work fewer hours on average. Over the last 20 years, hours worked per job have declined by almost 12% in France but only by about 4% in the UK (Figure 3.7). This helps to explain why the wealth gap between France and Britain on a GDP-per-worker basis is considerably smaller than on a GDP-per-hour-worked basis.

**Figure 3.7. Average hours worked – highest in Japan, USA and UK, lowest in Germany**

In the USA, hours worked have declined by only 2.4% (per employee) over the same period. Although there is no conclusive evidence that working more hours is associated with lower productivity levels, many high-labour-productivity countries, such as Finland and Sweden, tend to have shorter average hours worked. The USA, however, is the exception, with both high levels of labour productivity and high number of hours worked.

**Why has UK productivity growth slowed sharply in 2005?** Figure 3.8 shows the annual rate of growth of UK output per worker (‘output per filled job’). This measure of labour productivity growth slowed sharply in 2005. It is important to understand what has caused this sharp decline in labour productivity growth and whether it will continue.

Four factors may be important:

- the mix of public sector / private sector jobs and differences in measured productivity between them;
- trends in capital per worker;
- changes in underlying labour productivity – sometimes called pure technical progress;
- cyclical – and therefore temporary – shifts in the intensity of work.
Figure 3.8. Labour productivity growth has slowed sharply

![Graph showing labour productivity growth](image)

Sources: ONS; Morgan Stanley Research.

The public sector’s share of employment has been rising gently over recent years, from just over 19.2% in 1999 to 20.3% in the first half of 2005 (Figure 3.9). The public sector’s labour share tends to move in small increments over time, and has barely moved in recent quarters. This suggests that little of the recent and rather sharp slowdown in economy-wide labour productivity since the second half of 2004 can be attributed to shifts in the relative shares of public and private sector employment. So we concentrate on the other factors to assess whether slow productivity growth may prove persistent.

Figure 3.9. The public sector’s share of employment has been edging up

![Graph showing public sector employment share](image)

Note: We used the ONS series of public sector full time employment over total employment.
Sources: ONS; Morgan Stanley Research.

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4 We used the ONS series of public sector full-time employment over total employment. In practice, this is at best a proxy of employment in the public sector, which is not observed exactly, partly due to outsourcing.
**Dissecting UK economic growth and its drivers.** We seek to pin down the longer-term determinants of growth in per-capita UK GDP using a simple economic framework (a standard production function approach\(^5\)). We decompose growth in per-capita GDP into three fundamental drivers: (a) changes in the amount of labour in the economy; (b) changes in the amount of capital per worker (capital deepening); and (c) technological progress, i.e. changes in output that do not come about because of more inputs. Our approach is dubbed ‘growth accounting’; it aims to measure the key forces that jointly account for changes in per-capita economic growth. This approach will enable us to assess the longer-term growth potential of the UK economy and to compare it with the Treasury’s own assessment.

We first estimate the relative contributions of changes in labour and capital inputs. This allows us to isolate the contribution of technological innovation or total factor productivity, TFP (which is not directly observable and therefore has to be obtained residually).

Economic growth cannot rely on ever-increasing labour force participation or capital deepening – labour participation will eventually stop increasing, and the contribution from capital deepening is also bounded. Over long-enough horizons, technical progress (TFP) is believed to be the crucial driver of economic growth.

Our decomposition, shown in Table 3.3, suggests that trend TFP growth has slowed to around 1% in recent quarters. Underlying (or ‘trend’) TFP growth has fallen over the last 10 years – from about 1.6% to just over 1%; over this same period, US productivity growth has moved up to a much higher level than the UK’s.

**Table 3.3. Decomposing GDP per-capita growth – the UK experience**

<table>
<thead>
<tr>
<th>Factors: Year</th>
<th>Capital deepening</th>
<th>Participation rate</th>
<th>Employment rate</th>
<th>Hours worked</th>
<th>TFP growth trend</th>
<th>Cyclical component of TFP growth</th>
<th>GDP growth per capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>1972–2004</td>
<td>0.70</td>
<td>0.18</td>
<td>–0.01</td>
<td>–0.19</td>
<td>1.41</td>
<td>0.04</td>
<td>2.13</td>
</tr>
<tr>
<td>1972–1984</td>
<td>0.70</td>
<td>0.34</td>
<td>–0.42</td>
<td>–0.26</td>
<td>1.36</td>
<td>0.03</td>
<td>1.76</td>
</tr>
<tr>
<td>1985–1995</td>
<td>0.48</td>
<td>–0.02</td>
<td>0.21</td>
<td>–0.08</td>
<td>1.59</td>
<td>0.10</td>
<td>2.29</td>
</tr>
<tr>
<td>1996–2004</td>
<td>0.98</td>
<td>0.19</td>
<td>0.31</td>
<td>–0.25</td>
<td>1.28</td>
<td>0.02</td>
<td>2.52</td>
</tr>
<tr>
<td>2001</td>
<td>1.45</td>
<td>–0.01</td>
<td>0.22</td>
<td>–0.18</td>
<td>1.57</td>
<td>–1.22</td>
<td>1.82</td>
</tr>
<tr>
<td>2002</td>
<td>0.78</td>
<td>0.36</td>
<td>–0.05</td>
<td>–0.57</td>
<td>1.42</td>
<td>–0.32</td>
<td>1.62</td>
</tr>
<tr>
<td>2003</td>
<td>0.38</td>
<td>0.31</td>
<td>0.11</td>
<td>–0.40</td>
<td>1.57</td>
<td>0.13</td>
<td>2.10</td>
</tr>
<tr>
<td>2004</td>
<td>0.20</td>
<td>0.16</td>
<td>0.18</td>
<td>–0.19</td>
<td>1.34</td>
<td>1.07</td>
<td>2.75</td>
</tr>
<tr>
<td>2005 Q3</td>
<td>0.42</td>
<td>0.54</td>
<td>–0.18</td>
<td>0.07</td>
<td>1.08</td>
<td>–0.84</td>
<td>1.09</td>
</tr>
</tbody>
</table>

Note: The trend rate of TFP growth is calculated with a Christiano–Fitzgerald Band Pass Filter, which aims to decompose output into a permanent (‘trend’) component and a cyclical factor.

Source: Morgan Stanley Research.

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Box 3.1. Decomposing GDP growth

We decompose per-capita GDP growth into three fundamental drivers using a standard production function approach. We start by assuming that output (real GDP) is extracted from two factors of production – capital (denoted $K$) and labour (denoted $L$). In addition, we allow for the level of technology to affect output. We assume a simple Cobb-Douglas production function. The symbol $\alpha$ denotes the share of capital’s returns in GDP; $(1-\alpha)$ is the labour share of income. We assume that the labour share of income is 66% and that 34% is the share of capital.\(^a\) Denoting technical progress (TFP) by $A_t$, we have

$$Y_t = A_t K_t^\alpha L_t^{1-\alpha}. \tag{1}$$

We are interested in output per-capita, which is the most useful measure of living standards, so we divide (1) by the level of the population ($pop$):

$$\frac{Y_t}{pop_t} = A_t (\frac{K_t}{pop_t})^\alpha (\frac{L_t}{pop_t})^{1-\alpha}. \tag{2}$$

Taking logs of (2), we can decompose changes in per-capita output as follows:

$$\Delta \log(\frac{Y_t}{pop_t}) = \Delta \log(A_t) + \alpha \Delta \log(\frac{K_t}{pop_t}) + (1-\alpha)\Delta \log(\frac{L_t}{pop_t}). \tag{3}$$

We can decompose the labour component into

$$L_t = pop_t \cdot part \cdot er_t \cdot h_t, \tag{4}$$

where $pop_t$ is population at time $t$, $part$ is the labour participation rate, $er_t$ is the employment rate and $h_t$ is hours worked. Substituting (4) into (3), we get

$$\Delta \log(\frac{Y_t}{pop_t}) = \Delta \log(A_t) + \alpha \Delta \log(\frac{K_t}{pop_t}) + (1-\alpha)[\Delta \log(\frac{part}{pop_t}) + \Delta \log(\frac{er_t}{pop_t}) + \Delta \log(h_t)].$$

So growth in GDP per capita can be decomposed into a weighted average of capital deepening (weighted by the capital share of output) and total labour supplied in the economy (weighted by the labour share of income) plus TFP growth. TFP growth, $\Delta \log(A_t)$, is

$$\Delta \log(A_t) = \Delta \log(\frac{Y_t}{pop_t}) - \alpha \Delta \log(\frac{K_t}{pop_t}) - (1-\alpha)[\Delta \log(\frac{part}{pop_t}) + \Delta \log(\frac{er_t}{pop_t}) + \Delta \log(h_t)].$$

So we obtain estimates of technological progress residually.

The final step is to filter TFP growth using a simple statistical algorithm to separate the underlying (‘trend’) TFP growth from the ‘noise’ and cyclical movement that surround it. For this, we use the Christiano-Fitzgerald (CF) band-pass filter, which is similar in principle to the better-known Hodrick-Prescott (HP) filter (for a practical discussion of these various statistical filters, see chapter 3 of R. Chote, C. Emmerson, D. Miles and Z. Oldfield (eds), The IFS Green Budget: January 2005, http://www.ifs.org.uk/budgets/gb2005/index.php).

The results of this decomposition are shown in Table 3.3.

\(^a\) For simplicity, we assume these shares to remain constant over time; see references in footnote 5 and the references contained therein.
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The declining contribution of capital deepening is a cause of concern. The contribution of capital deepening has been declining steadily in recent years in the UK, to well below its historical average. Capital deepening added only 0.2% to annual GDP growth per capita in 2004 compared with its average historical contribution of 0.7%.

Favourable labour market conditions have boosted economic growth – but is this trend sustainable? Labour market developments, and rising participation in particular, have boosted GDP growth per capita in the UK in recent years, compensating for the lack of acceleration of TFP growth and the declining contribution from capital deepening. Rising employment and participation rates have more than compensated for the downward trend in average hours worked. Overall, labour market developments6 added 0.25 percentage points to GDP growth per capita in the 1996–2004 period. But unemployment is already at historical lows and is unlikely to fall much further. With an ageing population, the percentage of the overall population available for work (our definition of participation) is unlikely to rise for much longer.

To conclude, we think that growth in overall GDP per capita has been enhanced by beneficial developments in the labour market whose effect is likely to be much smaller in the future. In addition, TFP growth has failed to accelerate, despite an unusually stable economy and a host of government measures to boost it. Instead, trend TFP growth appears to have slowed markedly since 2003.

Assuming the effect of rising labour supply gradually converges towards zero (a level consistent with its historical contribution of –0.02%), or at least moderates from recent levels, longer-term sustainable GDP growth per capita could easily fall below 2%. This suggests that there are downside risks to our own purely statistical estimates of potential GDP growth (of around 2.4% on an aggregate, not per-capita, basis).7

The Treasury’s productivity and trend output estimates seem optimistic to us. On the whole, the Treasury estimate of recent and future underlying labour productivity growth of 2.25% seems somewhat optimistic. Because of that, the Treasury’s estimate of potential growth (2.75% until Q4 2006 and a ‘prudent’ 2.5% thereafter) also seems optimistic, rather than conservative. Our analysis based purely on fitting trends to the aggregate data suggests potential GDP growth of around 2.4%; based on the decomposition of growth and the implied estimate of total factor productivity, we would assess near-term trend growth to be even lower.

External imbalances

The third of the underlying sources of weakness in the UK economy is closely related to the previous two: the current account deficit is a reflection of the level of saving in the UK relative to investment. The UK economy continues to run a significant current account deficit (and in terms of percentage of GDP, an even larger trade deficit). These deficits have been on

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6 This is the joint effect of labour participation, employment and hours worked over the 1996–2004 period.
7 That 2.4% trend aggregate growth figure is purely based on past GDP growth, and does not make any attempt to decompose output into contributions from factor inputs and productivity changes.
a gently rising trend since the end of the 1990s (Figure 3.10), following a period when the real value of sterling increased sharply against other currencies.

A continued rise in trade and current account deficits is clearly unsustainable; a continuation of deficits at existing levels is not necessarily unsustainable, though it would imply a continued build-up of net foreign liabilities.

Running continued current account deficits requires continued overseas financing; the balance of payments must balance. By Q3 2005, net UK overseas liabilities as a percentage of GDP were at their highest in 30 years (Figure 3.11). In 2004, more portfolio and direct investment left the UK than entered it (the deficit was ‘funded’ by ‘other investment’, the category including inter-bank loans). Foreign investors may prove rather less willing than they have been for the USA to continually fund such deficits. Should that prove to be the case, a potentially sharp adjustment in the sterling exchange rate index could come. Although there is
little agreement among economists on ‘thresholds’ of sustainability for external imbalances, the risk of a sharp economic adjustment in the UK appears to be rising rather than declining.

### 3.4 Shorter-term risks

**Lessons from past forecasting performance**

The Treasury forecasts that growth will be 2–2½% in 2006 and 2¼–3¼% in 2007 and 2008. Over the past 10 years, the Treasury’s average (absolute) error for forecasting GDP for the current year and year ahead (compared with the centre of its projected range) has been half a percentage point. This compares with a 0.58 standard deviation of annual GDP growth over the same 10-year period.

Figure 3.12 shows the range within which there is a 66% probability that growth will fall. This is based on the assumption that the scale of past forecast errors tells us about the probability of future errors, that those errors are normally distributed, that they are symmetric around the Treasury’s central forecast and that they are of the same size in future years.

**Figure 3.12. Treasury’s projection of real GDP (% change terms)**

Based on these assumptions, there is a one-in-three chance that the level of real GDP in 2008 is either at least 1.25% below, or more than 1.25% above, the midpoint of the Treasury’s forecast range. In other words, there is a roughly two-in-three chance that the level of GDP is within 1.25% of the Treasury’s central forecast (Figure 3.13). A 1.25% shortfall or overshoot in GDP would have a significant effect on government revenue and also probably on the Treasury’s assessment of where the current cycle ends. The Treasury expects the output gap
to close by the end of 2008, but a 1.25% overshoot in GDP compared with the Treasury’s forecasts would likely mean that the cycle ended before end-2008. (See Section 3.5 for an in-depth discussion of the timing of the cycle.)

Figure 3.13. Treasury’s implicit projection of real GDP (log level terms)

We turn now to three particular short-term risks to the Treasury central forecast, in addition to the more general threats to the medium-term outlook highlighted previously. Investment may be stronger than the Treasury expects, while labour market conditions and the state of the housing market may push demand and output growth below the Treasury’s central forecast.

**Investment**

The Treasury acknowledges that business investment represents an upside risk to its forecasts of economic growth: ‘Given strong rates of profitability allied with a low cost of capital and benign financial conditions, companies are likely to be in a good position to step up investment spending relatively quickly in the event of other upside surprises from demand’.8

Corporate profitability and company balance sheets in the UK look unusually healthy. At the same time, most measures of the cost of capital are low. However, investment expenditure looks anaemic, which is a puzzle. In the period since 2000, investment has fallen to low levels relative to output and relative to the gross operating surpluses of companies. The rate of change in investment has also been low in recent years, in both nominal and real terms. Although real business investment growth (gross of depreciation) was fairly robust in 2004 (3.4%), this followed three years of stagnant spending.

Indeed, the corporate rate of return looks very healthy (see Figure 3.3 earlier). We measure this as the ratio of profits (arising from UK activities) to capital, where profits are measured after wages and employers’ social contributions, but before dividends, interest and tax. Both net and gross of depreciation, pre-tax real rates of return on corporate capital, relative to net

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(or gross) capital employed, are close to 40-year highs – although both are somewhat lower than the peak reached at the end of the 1990s. Profits, however, are not unusually high relative to UK national income. Indeed, the profits share of GDP in the UK is somewhat below the long-run average (Figure 3.14).

So the evidence is that: the rate of return on existing capital looks high; profits do not look unsustainably high relative to national income; and, in aggregate, there is no sign of substantial excess capacity. And the cost of capital (measured using the weighted average cost of capital – the WACC) is low. The gap between the average rate of return on capital and the

Figure 3.14. Corporate profits do not look unsustainably high

![Figure 3.14. Corporate profits do not look unsustainably high](source: ONS.)

Figure 3.15. Investment rewards: large gap between return and cost of capital

![Figure 3.15. Investment rewards: large gap between return and cost of capital](source: ONS; Morgan Stanley Research.)
WACC is now probably greater than at any time in the period since the early 1990s (Figure 3.15).9

The clearest signal of the incentive to invest – the rate of return relative to the cost of capital – gives a strongly positive reading. Actual investment and near-term plans look, in the light of this, weaker than might have been expected.

Business investment may therefore outperform our calendar year 2006 forecast (for 2.5% growth in real terms) and the Treasury’s 3–3.5% forecast. In the past, high business investment has not always generated higher returns (indeed, at times, it has been a good predictor of underperformance), but in the current environment of high profitability and low cost of capital, it is more likely to be a positive indicator of future performance.

**Labour market**

There are several labour market risks to both our own and the Treasury’s UK economic forecasts, including the following:

- Unemployment may rise as more people come into the labour force but hiring does not keep pace.
- Earnings growth may rise, leading to rising inflation pressures that trigger an interest rate response from the Bank of England.

**Unemployment** on both the claimant count measure and the wider ‘ILO’ compatible measure rose in 2005. In January 2005, claimant count unemployment was 814,000; by November, it was 902,000 (Figure 3.16). ILO unemployment was 1.42 million in January, but 1.49 million in October.

Although employment increased during 2005, the labour force expanded faster partly on increased immigration and partly on a rise in participation. We expect a further modest rise in unemployment in the coming year or two, as employment growth fails to keep up with growth in the labour force. Since the beginning of 2004, public sector hiring growth has slowed while private sector hiring growth has picked up. However, with further civil service job cuts planned (in the 2004 Spending Review, gross reductions of 84,000 civil service posts were announced, of which over 25,000 had been cut by the time of December’s Pre-Budget Report), and our assessment that 2006 could be another year of sub-trend growth, risks are likely to the upside for unemployment. If productivity growth also begins to improve, firms would have less need of additional hiring in order to meet any rise in demand.

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9 The WACC is a weighted average of the real cost of debt and of equity. The real cost of debt is an estimate of the average real interest rate paid on public non-financial corporation (PNFC) debt (using the euro-sterling non-banks corporate index spread plus the 10-year index-linked government bond yield). The cost of equity is estimated in three different ways, by using: (1) the yield on an index-linked bond plus a 4% assumed equity risk premium; (2) the earnings yield (the inverse of the P/E ratio for the FTSE 350); and (3) the dividend yield for the FTSE 350 plus an additional estimated 0.5% for share buybacks and adding an assumed long-run growth rate of corporate earnings (of 2%). The weights use an estimate of gearing based on PNFC data from the National Accounts.
Earnings growth may pick up. Inflation on the CPI measure has picked up significantly over the past 12 months. So far, wage demands have been relatively contained, but should evidence emerge that wage growth is rising at a faster pace, the Bank of England would seriously consider raising interest rates early in the first half of 2006, even in the face of sub-trend output growth. Unit wage cost growth – important for firm price-setting – has already risen sharply as productivity growth has disappointed (Figure 3.17).

Housing market

Risks remain skewed to the downside for house prices in our view. Several valuation yardsticks suggest a degree of overvaluation and buy-to-let fundamentals have deteriorated markedly over the past year or so. Figure 3.18 shows that the returns on buy-to-let
investments in the form of gross rental yield have deteriorated sharply relative to the costs (in terms of mortgage rates).

While there is a substantial chance that prices may move lower, there is less prospect of prices rising fast in the near term. We believe that the knock-on impact on the wider economy of average house prices in the UK drifting lower would be very limited. However, a more significant fall in house prices – prices falling by 5% or more over the course of 2006 – though less likely, could have more serious knock-on effects on consumption and the wider economy.

Our overall judgement is that risks are likely weighted more to the downside relative to the Treasury’s growth forecasts.

**Figure 3.18. Deteriorating buy-to-let ‘fundamentals’**

![Diagram showing gross rental yield and variable mortgage rate over time, with data from Q4 1992 to Q4 2004.](image)

**Sources:** FPD Savills; Morgan Stanley Research (Building and Construction team); Nationwide.

### 3.5 The cycle, trend growth and spare capacity

**Cycle analysis important for ‘golden rule’ and forecasting growth**

Where we are in the business cycle is important for judging the likelihood of the Treasury meeting its two fiscal rules (see Chapter 2 for more details) and for helping to forecast the likely path of output growth. In order to forecast a path for output growth, it is important to assess whether the economy is currently operating above or below potential output. Our analysis of this issue naturally follows from our assessment of trends in productivity, investment and saving.

**Trend growth**

Judging where we are in the cycle requires an analysis of how far production is away from potential output (i.e. the size of the output gap). In order to judge that, we need an estimate of potential, or trend, output and its rate of growth. According to the 2005 Pre-Budget Report, ‘The Treasury’s neutral estimate of the economy’s trend output growth rate for the 2005 Pre-
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Budget Report is 2¼ percent a year to the end of 2006, slowing to 2½ per cent thereafter due to demographic effects, unchanged from Budget 2005.\(^\text{10}\)

We think that the Treasury is somewhat optimistic on near-term trend output growth and on its longer-term GDP projection. As discussed in the previous section, productivity growth has benefited from favourable developments in the labour market that are likely to be less supportive in the future, and total factor productivity growth has failed to accelerate. The longer-term sustainable growth in per-capita income could easily fall below 2%, compared with the historical average of around 2.1–2.2%. Population growth could add a few tenths to aggregate GDP growth, particularly if immigration flows are sustained for some time, and employment levels continue to rise. Our statistical estimates of aggregate potential GDP (not per capita) output growth are around 2.4%, though we judge that the chances that it is lower than this are greater than the chances that it is significantly higher.

Our statistical estimates suggest that the recent deceleration of output growth has dragged the potential rate of growth of the economy lower. Our projections suggest a potential growth rate of around 2.3% for the next three years and a gradual convergence towards 2.4% by 2009–10, but we judge that there are downside risks to this estimate.

Table 3.4. Estimates of potential output growth

<table>
<thead>
<tr>
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<th></th>
<th></th>
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<tr>
<td>Morgan Stanley central case</td>
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<td>2.30</td>
<td>2.30</td>
<td>2.29</td>
<td>2.37</td>
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<td>2.75</td>
<td>2.69</td>
<td>2.50</td>
<td>2.50</td>
<td>2.50</td>
<td>2.50</td>
</tr>
</tbody>
</table>

Note: The above estimates are based on statistical filters which separate the level of output into a trend ‘underlying’ component and a cyclical component. The cyclical component is zero on average over long-enough periods, and tends to reflect temporary deviations from the underlying trend.

Sources: Morgan Stanley Research; HM Treasury.

The output gap

The Treasury judges that there is currently spare capacity in the economy, of roughly 1.3% of potential output (as of Q3 2005), rising to about 1.5% in the following quarters.\(^\text{11}\) It expects this gap to narrow over 2007 as growth picks up, and it anticipates the gap closing by the end of 2008. According to our estimates, the output gap is currently around the 0.5% mark. And our central projection is that this gap closes by 2007. These differences give an idea of how hard it is to measure and date economic cycles. There is no single way to date the cycle, and different methods will yield different results. Further, data revisions can change the start- and end-dates of past and current cycles.

Timing of the cycle

Despite the uncertainties surrounding its measurement, the dating of the business cycle (or economic cycle) plays a crucial role in establishing whether the government has met its


\(^{11}\) Based on the December 2005 Pre-Budget Report.
‘golden rule’ that it should only borrow to fund investment *over the cycle* (see Chapter 2 for an in-depth discussion).

We define an economic cycle as the result of two economic phases. In the first phase, real GDP is above its potential (or trend) level, whereas in the following phase, GDP falls beneath its potential level. The cycle ends when output returns to its potential level (normal capacity utilisation). In other words, a cycle captures one good and one bad spell of the economy.

To date the cycle, we need to estimate the level of potential output. We do so by using statistical filters. To avoid relying excessively on any single measure, we estimate potential output using three different algorithms: (a) the simple Hodrick-Prescott (HP) filter; (b) the Christiano-Fitzgerald (CF) band-pass filter; and (c) the Baxter-King band-pass filter.

These methods only allow us to infer when output is above its potential level and when it is below it, and by how much. But they will not explicitly tell us when a cycle started or ended. To date the cycle, we need to exercise judgement in order to say what constitutes a run of above- and below-trend output. For example, we have to make decisions about whether three quarters of above-trend growth and four quarters of below-trend growth are enough to constitute a full economic cycle. What if output were only marginally above its potential level; does this still constitute an upswing? Clearly, there is a fair amount of subjectivity involved in determining what constitutes a cycle.

Distinguishing cycles has become more difficult in the last 10 years; as the UK economy has undergone a period of unusual macroeconomic stability, output has fluctuated only slightly.

Figure 3.19. Business cycles have become less marked, making the dating of the cycle harder

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12 Statistical filters separate the level of output into a trend ‘underlying’ component and a cyclical component. The cyclical component is zero on average over long-enough periods, and tends to reflect temporary deviations from the underlying trend. For details on these statistical filters and alternative ways of estimating the output gap, see chapter 3 of R. Chote, C. Emmerson, D. Miles and Z. Oldfield (eds), *The IFS Green Budget: January 2005*, http://www.ifs.org.uk/budgets/gb2005/index.php.
The economic outlook

around its potential level. This is evident from Figure 3.19, which shows that the amplitude of the deviation of output from its potential level has recently become much smaller. In previous cycles, deviations of 2–3% of potential output were the norm, whereas since 1995 they have been below the 1% mark on most measures we estimate. As a result, only the CF band-pass filter traces cycles that are relatively easy to identify.

The greater difficulty in dating cycles, itself a reflection of the success of macroeconomic policy in reducing cyclical fluctuations, is one of the drawbacks to judging sustainability of fiscal policy by reference to the start and end of cycles.

Despite the differences in the methods of calculating potential output we employ, the broad dating of past UK cycles is fairly similar. Our statistical estimates suggest that the last full cycle was relatively short, and ended in the second half of 2003 (having begun in 1999), while the current cycle started in the final quarter of 2003.

In contrast, the Treasury’s estimates of cycles tend to be much longer: only three cycles have been completed since 1972, according to its estimates. Our analysis suggests that there have been five to six full cycles since 1972.

Figure 3.20. The Treasury has shifted the start-date of the current cycle back to 1997 and it now predicts that it will last until the end of 2008

Table 3.5. Dates of UK economic cycles

<table>
<thead>
<tr>
<th>HM Treasury</th>
<th>HP 1600</th>
<th>CF</th>
<th>BK</th>
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</table>

Sources: Morgan Stanley Research; HM Treasury.
As the golden rule means that the government should only borrow to fund investment over the cycle, the assessment of whether or not it has been met is heavily dependent on the dating of the cycle, which clearly is subject to great uncertainty and a substantial degree of subjectivity. (See Chapter 2.)

### 3.6 Morgan Stanley forecasts

#### Central case

We do not expect to see growth accelerate significantly over the next two to three years. We expect somewhat faster export growth and investment spending, but with consumer spending growth remaining below average. We expect growth close to trend in 2006 and beyond.

Some modest increase in consumer spending growth seems likely, however. Although households are likely to continue edging up their saving rate, we expect to see consumer spending growth moving gradually up again as the saving rate moves back to levels that more households feel comfortable with.

#### Table 3.6. Morgan Stanley central case economic projections

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</tr>
</thead>
<tbody>
<tr>
<td>Real GDP (% annual change)</td>
<td>2½</td>
<td>1½</td>
<td>2½</td>
<td>2¼</td>
<td>2½</td>
<td>2½</td>
<td></td>
</tr>
<tr>
<td>Real consumer spending (% annual change)</td>
<td>3½</td>
<td>1½</td>
<td>2</td>
<td>2¼</td>
<td>2</td>
<td>2¼</td>
<td></td>
</tr>
<tr>
<td>Employment (% annual change)</td>
<td>0.9</td>
<td>1.0</td>
<td>0.7</td>
<td>0.7</td>
<td>0.6</td>
<td>0.7</td>
<td>0.6</td>
</tr>
<tr>
<td>CPI inflation (% annual change)</td>
<td>1½</td>
<td>2¼</td>
<td>2</td>
<td>2¼</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Output gap (%)</td>
<td>0.3</td>
<td>–0.3</td>
<td>–0.2</td>
<td>0.1</td>
<td>–0.1</td>
<td>0</td>
<td>0.1</td>
</tr>
<tr>
<td>Saving rate (%)</td>
<td>4½</td>
<td>5½</td>
<td>5½</td>
<td>5¼</td>
<td>6</td>
<td>5½</td>
<td>5½</td>
</tr>
<tr>
<td>Unemployment rate (%)</td>
<td>4½</td>
<td>4½</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5½</td>
<td>5¼</td>
</tr>
<tr>
<td>Productivity growth (% annual change)</td>
<td>1¼</td>
<td>1</td>
<td>1¾</td>
<td>2</td>
<td>1¾</td>
<td>1¾</td>
<td>1¾</td>
</tr>
</tbody>
</table>

E = Morgan Stanley Research estimates.
Sources: ONS; Morgan Stanley Research.

A somewhat stronger contribution from net trade is plausible. Sterling probably remains overvalued. Morgan Stanley’s currency team see sterling drifting lower in 2006. On their forecasts, the sterling exchange rate index would depreciate by around 3% by end-2007. This would help to boost export growth relative to imports so that the contribution of net trade to overall growth becomes positive.

Investment growth improves somewhat on our central forecast. Aggregate fixed investment growth may improve moderately on continued robust government investment growth and a pick-up in real residential investment partly on the back of the government’s drive to increase housing supply. There are likely upside risks to our forecast for business investment growth. However, real interest rates remain at unsustainably low levels in our view. Any significant
back-up in yields would raise the cost of borrowing to firms and is one reason why our central case for business investment is for slightly slower growth in calendar year 2006 than in 2005.

Against that economic backdrop, we would expect inflation to stay close to the 2% target in 2006 and 2007. However, with output growth likely to pick up pace into 2007, the Bank of England may move interest rates up slightly in the second half of 2006.

This forecast for the UK economy differs from that of the Treasury. In particular, we forecast somewhat slower GDP growth than the Treasury in fiscal years 2007–08 and 2008–09. Beyond that point, the Treasury actually projects slightly weaker output growth than we do for use in its budget projections, as it makes a deliberately cautious assumption.

‘Worse case’

Our ‘worse case’, which we view as a plausible downside scenario for output growth, envisages (in part) one of the earlier highlighted risks playing out. We assume that wage settlements begin to rise significantly in 2006. Occurring against an assumed backdrop of marginally higher oil prices and continued productivity disappointments, inflationary pressures rise markedly over the year. The Bank of England is forced to raise rates earlier and by more than in our central case.

Compared with our central case, GDP growth (both actual and trend) is somewhat slower in this scenario as the economy responds to interest rate rises. Consumption spending grows more slowly in the near term. Investment is rather flat.

We consider the public finance implications of this more pessimistic scenario, and of our central forecast, in Chapter 5, where we compare them with forecasts based on the Treasury’s central projection for the economy.

Table 3.7. Morgan Stanley ‘worse case’ economic projections

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<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Real GDP</strong> (% annual change)</td>
<td>2¾</td>
<td>1½</td>
<td>1½</td>
<td>2</td>
<td>2</td>
<td>2½</td>
<td>2½</td>
</tr>
<tr>
<td><strong>Real consumer spending</strong> (% annual change)</td>
<td>3½</td>
<td>1½</td>
<td>¾</td>
<td>1½</td>
<td>1½</td>
<td>2½</td>
<td>2½</td>
</tr>
<tr>
<td><strong>Employment</strong> (% annual change)</td>
<td>0.9</td>
<td>0.9</td>
<td>0.3</td>
<td>0.6</td>
<td>0.6</td>
<td>0.9</td>
<td>0.9</td>
</tr>
<tr>
<td><strong>CPI inflation</strong> (% annual change)</td>
<td>1½</td>
<td>2¼</td>
<td>2¼</td>
<td>2½</td>
<td>2½</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Output gap</strong> (%)</td>
<td>0.4</td>
<td>–0.1</td>
<td>–0.2</td>
<td>–0.2</td>
<td>–0.2</td>
<td>–0.1</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>Saving rate</strong> (%)</td>
<td>4¼</td>
<td>5½</td>
<td>6¼</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>5¼</td>
</tr>
<tr>
<td><strong>Unemployment rate</strong> (%)</td>
<td>4¼</td>
<td>4¼</td>
<td>5¼</td>
<td>5½</td>
<td>5½</td>
<td>5½</td>
<td>5½</td>
</tr>
<tr>
<td><strong>Productivity growth</strong> (% annual change)</td>
<td>1½</td>
<td>¾</td>
<td>1¼</td>
<td>1½</td>
<td>1½</td>
<td>1½</td>
<td>1½</td>
</tr>
</tbody>
</table>

E = Morgan Stanley Research estimates.
Sources: ONS; Morgan Stanley Research.
Conclusion

Despite relatively good overall economic outcomes over the past 10 years, we see several rather worrying signs of economic weakness in the medium to longer term. Productivity performance has deteriorated somewhat and the UK is still saving too little. Nearer-term, we see particular downside risks relative to the Treasury’s forecasts in fiscal years 2007 and 2008.
4. Public spending pressures

Robert Chote, Carl Emmerson and Christine Frayne (IFS)

Summary

• The Pre-Budget Report contained projections for total public spending for the whole period to be covered by next year’s Comprehensive Spending Review. If implemented, these would imply public spending falling by 0.7% of national income over the three years to 2010–11. This would be equivalent to £8½ billion in today’s terms.

• Keeping to these spending plans would require tough choices. Under plausible scenarios for health, education and overseas aid, they would leave other spending growing at just 0.8% a year after economy-wide inflation. This compares with an expected 1.9% a year over the remainder of the current spending review and with 3.8% over the years to date covered by Labour’s spending reviews.

• Recent years have seen increases in social security and tax credit expenditure, helping the government towards its targets for reducing child and pensioner poverty. If growth in spending on social security and tax credits were held to 2.2% a year in real terms (the average forecast for the period since Labour came to power), then this would require real cuts across the rest of government spending (i.e. excluding health, education and overseas aid). While this was achieved during Labour’s first two years in office, a repeat would be hard to square with pledges to improve other services such as transport and law and order. Spending restraint in 1997–98 and 1998–99 was assisted by large falls in unemployment and debt interest payments, both of which are unlikely to be repeated.

• Mr Brown could set a spending envelope different from that in the Pre-Budget Report. One option would be to keep spending constant as a share of national income. Given reasonable assumptions about health, education, overseas aid, and social security and tax credit expenditure, this would allow other spending to grow by 1.3% a year in real terms. This would require an extra £8½ billion in today’s terms after three years, but would still be less generous than Labour’s current or previous spending reviews.

4.1 Introduction

The 2004 Spending Review set out plans for spending by each government department through to 2007–08. The Treasury has announced that the 2007 Comprehensive Spending Review (CSR) will set out departmental spending plans for the three financial years beginning in 2008–09. These plans have a particular significance for at least three reasons. First, they are likely to be a key determinant of the path of public spending in the run-up to, and the period
immediately after, the next general election. Second, a change in Prime Minister is expected before the end of the period covered by the forthcoming CSR, which means that the allocations might be one measure of any change in direction of government policy under a new premiership. Third, as discussed in Chapter 5, the expected growth of overall public spending over this period is also crucial in determining the extent to which new tax-raising measures are required for the Treasury to be able to expect to meet its ‘golden rule’ with the degree of comfort that it considers necessary.

The December 2005 Pre-Budget Report (PBR) contained figures for overall public spending through to 2010–11. This was the first time that government projections included the whole period that will be covered by the 2007 CSR. However, these figures are illustrative only, and the ceiling below which the 2007 CSR will operate has not yet been announced: the Treasury could decide that the ceiling should be set higher, or indeed lower, than the figures that are contained in the PBR. Indeed, in giving evidence to the House of Commons Treasury Select Committee on 8 December 2005, the Chancellor Gordon Brown stated, with reference to the PBR spending figures, that: ‘These have been our working assumptions for a number of years, but these are not necessarily the final figures’.¹

We begin in Section 4.2 by comparing the growth in overall spending implied by the plans set out in the Pre-Budget Report with what has happened since Labour came to power in May 1997.² We then look at the growth in spending in some of the main areas where Labour has manifesto commitments: health, education, overseas aid, and social security and tax credits. In Section 4.3, we present a possible 2007 CSR allocation given the figures for overall spending set out in the PBR and an interpretation of the government’s stated priorities. We contrast this to alternative allocations that would be possible under three different illustrative scenarios, two of which would be more generous than the figures set out in the PBR and one of which would be substantially less generous. Section 4.4 describes the Treasury’s latest projections for longer-term spending pressures resulting from demographic change. Section 4.5 concludes.

4.2 Trends in public spending since 1997

Total managed expenditure

The broadest measure of government spending is known as total managed expenditure (TME), which measures all spending by the public sector. In 1996–97 – the last full financial year before Labour came to power – TME was 40.6% of national income. As shown by the solid line in Figure 4.1 (and the right-hand axis), it fell to 37.0% of national income in 1999–2000. This happened for a number of reasons, including:

- the incoming Labour government choosing to stick to the spending plans set out in Kenneth Clarke’s November 1996 Budget in 1997–98 and 1998–99;

Public spending pressures

• strong economic performance, which was associated with falling unemployment;
• reductions in debt interest payments, arising from falling government debt and falling nominal and real interest rates;
• government departments spending less than their allocations in 1999–2000.

Public spending has since increased, reaching 41.5% of national income in 2004–05.

The bars in Figure 4.1 (and the left-hand axis) show the annual increase in spending after taking account of economy-wide inflation. Relatively large increases in spending were seen in each year from 2000–01 to 2004–05. Spending for the years from 1999–2000 forward has been determined in spending reviews, the first of which was the July 1998 Comprehensive Spending Review and the latest of which was the July 2004 Spending Review (there were also spending reviews in July 2000 and July 2002). Looking forwards, the period covered by the 2004 Spending Review (2005–06, 2006–07 and 2007–08, as shown by the light green bars in Figure 4.1) is expected to see the real increases in spending gradually decline over time.

As mentioned in Section 4.1, the 2005 Pre-Budget Report also published, for the first time, provisional spending figures that covered the whole of the period of the 2007 CSR. The real increases implied by these plans are shown in the hollow bars in Figure 4.1. If implemented, these would be the lowest increases in public spending since 1999–2000. As shown by the dotted line (and the right-hand axis), they would involve public spending as a share of national income declining to 42.1% in 2010–11. While this would be more than the level inherited by Labour when they came to power (40.6% of national income), it would be lower than the average level of spending seen during either John Major’s premiership (42.6% of national income) or Margaret Thatcher’s premiership (44.6% of national income).

Figure 4.1. Total managed expenditure

Note: Growth in real spending is calculated by deflating spending by growth in the GDP deflator; while this might not be the appropriate deflator for the increase in the cost of goods and services purchased by public spending, it could be considered the most appropriate deflator when considering the cost to the taxpayer. Source: HM Treasury, Public Finances Databank, December 2005, http://www.hm-treasury.gov.uk/media/576/54/public_fin_databank_dec_05.xls.
We now examine trends in spending on some of the areas with manifesto commitments: health, education, overseas aid, and social security and tax credits.

**Health spending**

Figure 4.2 shows the level of UK health spending as a percentage of national income (on the right-hand axis) from 1996–97 to 2007–08, which is the last year for which we have firm Treasury spending plans. Also shown in the figure is the increase in health spending each year, after taking account of economy-wide inflation, from 1997–98 to 2007–08. The real increases in health spending during Labour’s first three years in office were lower than real growth in the economy; therefore health spending declined slightly as a share of national income (from 5.5% of national income in 1996–97 to 5.4% of national income in 1999–2000). Since then, the NHS has received the largest sustained increase in spending since its inception in 1949. This has increased spending to 6.9% of national income in 2004–05. Under the increases that were announced as part of the 2002 Spending Review (the NHS was given a five-year allocation in 2002, whereas other government departments received three-year allocations), health spending is set to increase further to 7.9% of national income in 2007–08.

![Figure 4.2. Health spending](chart)

Notes: Figures refer to public sector health spending figures based on the UN Classification of the Functions of Government (COFOG), the international standard, as used in the Public Expenditure Statistical Analysis. Growth in real health spending is calculated by deflating spending by growth in the GDP deflator; while this might not be the appropriate deflator for the increase in the cost of goods and services purchased by health spending, it could be considered the most appropriate deflator when considering the cost to the taxpayer.


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Public spending pressures

2007–08. If delivered, this should bring total healthcare spending (including private spending) in the UK to around the weighted average of health spending across EU countries in 2002.\(^4\)

The large increases in NHS funding have been allocated with the intention of providing higher quantity and quality of care than would otherwise have been possible. Figure 4.3 shows the level of health spending both in real terms and as a share of national income (i.e. the same series as shown in Figure 4.2) with 1996–97 indexed to 100. A measure of NHS outputs is also presented. Measuring the outputs of the health service is particularly difficult; here, we take the measure that has been calculated by the Office for National Statistics for use in the UK’s National Accounts (again with 1996–97 indexed to 100). Throughout the six-year period from 1996–97 to 2002–03, this measure of NHS outputs has been increasing. In addition, it rose faster in each of the last three years, when health spending was growing more quickly, than it did in any of the first three years, when health spending was growing less quickly; over the three-year period from 1996 to 1999, measured outputs grew by an average of 2.7% a year, while over the three-year period from 1999 to 2002, they grew by an average of 3.9% a year. It is also noticeable that growth in measured health outputs has not managed to keep pace with growth in health spending after taking account of economy-wide inflation.

Figure 4.3. Health spending and a measure of health outputs

![Figure 4.3](image)


The increases in health spending as a share of national income that are planned through to 2007–08 should aid further increases in measured NHS outputs. Further increases in health spending beyond 2007–08 would assist the government were it to want to see further increases in NHS output. Indeed, the Wanless Report of 2002, which recommended the large increases in health spending through to 2007–08 that the Treasury decided to sign up to, also recommended that increases greater than the expected growth in the economy would need to

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continue at least until 2017–18, in order to improve health outputs and outcomes and to close the ‘considerable gaps in performance between the UK and other developed countries’.5

Education spending

Figure 4.4 shows the level of UK education spending as a percentage of national income (on the right-hand axis) from 1996–97 to 2007–08, which is the last year for which we have Treasury spending plans. Also shown in the figure is the increase in education spending each year, after taking account of economy-wide inflation, from 1997–98 to 2007–08. As was the case with health spending, the real increases in education spending during Labour’s first three years in office were lower than real growth in the economy; therefore education spending declined slightly as a share of national income (from 4.7% of national income in 1996–97 to 4.4% of national income in 1999–2000). As was also the case with health, the following five years have seen very large average increases in spending, which have led to education spending as a percentage of national income reaching 5.4% in 2004–05. Under the plans set out in the 2004 Spending Review, education spending is now forecast by the Treasury to jump to 5.7% of national income in 2005–06 and then stabilise at around that level.

Figure 4.5 shows the same figures on education spending, both in real terms and as a share of national income, but with 1996–97 indexed to 100 (on the left-hand axis). There are various potential indicators for the quality and quantity of education service provided by the government. One possible indicator for primary and secondary schools is average class sizes. This is also shown in Figure 4.5 (for England), again with 1996–97 indexed to 100 (on the right-hand axis). The figure shows that primary class sizes rose between 1996–97 and 1997–98 and then fell sharply over the following four years before stabilising. In contrast, secondary class sizes rose gradually between 1996–97 and 2000–01 but have since fallen back, and by 2004–05 they were back at the level they were at in 1996–97.

Although class sizes are just one potential proxy for quality in education provision, Figure 4.5 shows that, in particular during the first new Labour parliament, the increases in education funding were associated with falls in average primary class sizes, which were a stated priority as highlighted by the government’s 1997 manifesto pledge to ‘reduce class sizes for five, six and seven year-olds to 30 or under’.

The planned increase in education spending could be used to help reduce school class sizes. Further increases in education spending beyond 2007–08 would also assist the government were it to want to reduce class sizes further. Of course, the government might not want to continue reducing class sizes. However, it has stated objectives for increasing the quantity and quality of education provided – for example, increasing the number of years young people stay in education. In his March 2005, Budget Speech, Gordon Brown stated: ‘Our goal should now be that children not only start education at 3 but also continue in education or training

Figure 4.4. Education spending

Note: Growth in real education spending is calculated by deflating spending by growth in the GDP deflator; while this might not be the appropriate deflator for the increase in the cost of goods and services purchased by education spending, it could be considered the most appropriate deflator when considering the cost to the taxpayer.


Figure 4.5. Education spending and average school class sizes

Sources: Figures for spending as for Figure 4.4. Figures on average primary and secondary class sizes refer to England only and are taken from chart C, section 3.3 of Department for Education and Skills, *Trends in Education and Skills: Schools*, [http://www.dfes.gov.uk/trends/](http://www.dfes.gov.uk/trends/).
until 18. Not 11 years of learning as in the past but 15 years’. In 2004, 79.3% of 17-year-olds were in education or training.\(^6\)

**Official development assistance**

One area where there is a firm government spending commitment for the period beyond 2007–08 is spending on official development assistance (ODA): the 2005 Labour Party manifesto states that ‘Now, for the first time ever the UK has a clear timetable – 2013 – for achieving the UN target of 0.7 per cent of national income devoted to development’.\(^7\) Figure 4.6 shows the level of spending on ODA as a share of national income since 1996–97 through to the end of the existing plans in 2007–08 (right-hand axis). Again, the bars show the real increase in spending for each year from 1997–98 to 2007–08 after taking account of economy-wide inflation (left-hand axis). By 2004–05, spending on ODA was at 0.35% of national income compared with 0.30% of national income in 1996–97. Very large increases in ODA spending, averaging 12.1% a year in real terms, are planned for the next two years. If delivered, this should increase ODA spending to 0.48% of national income. While substantial, it would still be 0.22% of national income, or £2.7 billion in 2005–06 terms, below the government’s target of 0.7% of national income for 2013.

**Figure 4.6. Official development assistance**

Note: Growth in real ODA is calculated by deflating spending by growth in the GDP deflator; while this might not be the appropriate deflator for the increase in the cost of goods and services purchased by ODA, it could be considered the most appropriate deflator when considering the cost to the taxpayer.


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Social security and tax credit expenditure

By far the largest element of government spending is that given to individuals in the form of social security or tax credit payments. In 2005–06, this is predicted by the Treasury to be 27.4% of TME. Therefore the path of social security spending is a particularly important determinant of the path of overall public spending. Figure 4.7 shows the level of social security and tax credit expenditure as a percentage of national income (on the right-hand axis) from 1996–97 to 2007–08, which is the last year for which we have Treasury spending plans. Also shown in the figure is the increase in this component of spending each year, after taking account of economy-wide inflation, from 1997–98 to 2007–08. In 1997–98 and 1998–99, social security spending fell both in real terms and as a share of national income. This was the result of a combination of the government’s decision to implement the spending plans that it had inherited for those two years and of the strong performance of the economy, which was associated with falling unemployment. Since 1998–99, spending on social security and tax credits has increased from 10.9% of national income to 11.6% of national income in 2004–05. Despite this increase, it is still below the 12.0% of national income that was spent in the last full year of the last Conservative administration’s period in office. The increases in spending that have occurred since 1998–99 have, to a large extent, been targeted at both lower-income pensioners and lower-income families with children (for example, through the pension credit and the child tax credit respectively). Figure 4.7 also shows that the Treasury is forecasting

Figure 4.7. Social security and tax credit expenditure

Notes: Figures refer to spending on both social security benefits and tax credits. Growth in real social security and tax credit spending is calculated by deflating spending by growth in the GDP deflator; while this might not be the appropriate deflator for the increase in the cost of goods and services purchased by social security and tax credit spending, it could be considered the most appropriate deflator when considering the cost to the taxpayer.

real increases averaging just 1.0% a year over the next two years. This would lead to spending on social security and tax credits falling to 11.3% of national income.

Figure 4.8 shows the same figures on spending on social security and tax credits as a share of national income, but with 1996–97 indexed to 100 (on the left-hand axis). Also shown in Figure 4.8 are measures of child and pensioner poverty, again with 1996–97 indexed to 100 (on the right-hand axis). The measure used is the percentage of the relevant group who are in households with incomes below 60% of the income of the median household in that year (with income being measured after housing costs). The figure shows that there were slight falls in both child and pensioner poverty over the two-year period between 1996–97 and 1998–99, with much larger falls in both measures of poverty over the following five years between 1998–99 and 2003–04. This latter period corresponds to the period in which social security and tax credit expenditure was increasing as a share of national income. The increases in expenditure on social security and tax credits in 2004–05 might well lead to further falls in both pensioner and child poverty. Further increases in at least some elements of the social security and tax credit budget as a share of national income are likely to be required if the government is to continue reducing both pensioner and child poverty. Child poverty is the subject of a long-standing government commitment, repeated in the 2005 Labour Party manifesto, to ‘end child poverty in a generation’, while the Chancellor has stated the government’s ambition ‘to end pensioner poverty in our country’.

**Figure 4.8. Social security spending, and child and pensioner poverty**

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If the government does want to continue reducing both child and pensioner poverty over the period covered by the 2007 CSR, then this might be more likely to require overall increases in the social security and tax credit budget than it did in the period since 1997. As shown in Figure 4.9, this is because the period between 1997 and 2004 saw almost continuous falls in the number of people who are registered unemployed, with particularly large falls over the

**Figure 4.9. Further falls in unemployment not expected**

![Figure 4.9](image_url)


**Figure 4.10. Growth in pensioner population expected to accelerate**

![Figure 4.10](image_url)

first four years of this period. (The line and the right-hand axis show the level of claimant-count unemployment, while the bars and the left-hand axis show the quarter-on-quarter change.) Over the period to 2007–08, the Treasury’s projections for expenditure on social security and tax credits (which were presented in Figure 4.7) assume that unemployment will rise slightly from 870,000 currently to 970,000 in 2007–08.

Another increasing pressure on the social security budget is that the baby boomers born just after the Second World War are now starting to reach the state pension age. Figure 4.10 shows the number of people aged above the state pension age from 1996 to 2009 (right-hand axis) and the percentage increase in the pensioner population for each year from 1997 to 2009 (left-hand axis). This shows that between 1996 and 2004, the UK pensioner population increased from 10.6 million to 11.1 million – an average increase of 0.5% a year. Over the next five years, it is forecast by the Government Actuary’s Department to increase by an average of 1.6% a year, reaching 12.0 million in 2009. Indeed, DWP’s latest forecast (which assumes that the pension credit guarantee is indexed to average earnings) is that spending on social security benefits to pensioners will increase by an average 2.7% a year over the period from 2005–06 to 2010–11, after economy-wide inflation, which is faster than the expected growth in national income over this period.10

4.3 Scenarios for the 2007 CSR

This section looks at potential allocations for the 2007 CSR, given the trends in public spending since Labour took office in May 1997 and the government’s stated objectives. We do this first under the assumption that the Treasury chooses to keep departments to the spending plans implied by the December 2005 Pre-Budget Report. We then contrast this allocation to alternatives that would be possible under three different illustrative scenarios, two of which would be more generous than the figures set out in the PBR and one of which would be substantially less generous.

‘2005 Pre-Budget Report scenario’

The December 2005 Pre-Budget Report contains figures for TME that imply it growing by an average of 1.8% a year in real terms over 2008–09, 2009–10 and 2010–11,11 as shown in the top panel of Table 4.1. If implemented, this growth would be lower than the 3.2% a year average increase in spending that the Treasury is forecasting for the 11-year period between 1996–97 and 2007–08, i.e. the period from when Labour came into power to the last year for which ‘firm and fixed’ spending plans have been announced. It would also be lower than the 3.0% a year real growth in TME that is forecast for the next two years, but it would be more

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11 This growth is calculated using the figures in table B.9 on page 220 of HM Treasury, Pre-Budget Report 2005, Cm. 6701, 2005, http://www.hm-treasury.gov.uk/pre_budget_report/prebud_pbr05/report/prebud_pbr05_repindex.cfm. Paragraph B29 of the PBR implies that, due to rounding, in fact TME will grow slightly faster than this.
Public spending pressures

Table 4.1. Possible 2007 CSR allocation under 2005 PBR spending plans

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PBR projections</td>
<td>Total managed expenditure</td>
<td>1.8</td>
<td>3.2</td>
<td>–0.2</td>
<td>4.3</td>
</tr>
<tr>
<td></td>
<td>Memo: GDP growth</td>
<td>2.4</td>
<td>2.8</td>
<td>3.2</td>
<td>2.6</td>
</tr>
<tr>
<td>Possible allocations (1)</td>
<td>Health spending</td>
<td>4.4</td>
<td>6.1</td>
<td>2.1</td>
<td>7.0</td>
</tr>
<tr>
<td></td>
<td>TME minus (1)</td>
<td>1.2</td>
<td>2.7</td>
<td>–0.6</td>
<td>3.8</td>
</tr>
<tr>
<td>Possible allocations (2)</td>
<td>Education spending</td>
<td>2.4</td>
<td>4.6</td>
<td>0.5</td>
<td>6.3</td>
</tr>
<tr>
<td></td>
<td>(3) ODA</td>
<td>10.5</td>
<td>7.2</td>
<td>–1.1</td>
<td>8.4</td>
</tr>
<tr>
<td></td>
<td>TME minus (1), (2), (3)</td>
<td>0.8</td>
<td>2.3</td>
<td>–0.7</td>
<td>3.3</td>
</tr>
<tr>
<td>Possible allocations (4)</td>
<td>Social security and tax credit spending</td>
<td>2.2</td>
<td>2.2</td>
<td>–1.6</td>
<td>3.6</td>
</tr>
<tr>
<td></td>
<td>TME minus (1), (2), (3), (4)</td>
<td>–0.1</td>
<td>2.4</td>
<td>–0.2</td>
<td>3.1</td>
</tr>
</tbody>
</table>

Note: Growth in real spending is calculated by deflating each component of spending by growth in the GDP deflator; while this might not be the appropriate deflator for the increase in the cost of goods and services purchased, it could be considered the most appropriate deflator when considering the cost to the taxpayer.


Figure 4.11. Composition of total managed expenditure in 2004–05

Note: The largest components of ‘other’ spending are public order and safety (£28.7 billion), defence (£28.2 billion) and public sector debt interest (£24.5 billion).

Sources: See Figures 4.1, 4.2, 4.4, 4.6 and 4.7 for sources for spending in 2004–05.
generous than the average cut of 0.2% a year that was implemented during Labour’s first two years in office. It would also be lower than the expected growth in the economy over this period.

The bottom panel of Table 4.1 sets out a possible allocation of the PBR spending totals between health, education, ODA, social security and tax credits, and other spending. Figure 4.11 shows that the four areas of public spending considered in this section made up nearly 60% of public spending in 2004–05. Of course, the Treasury could choose to implement a larger or smaller overall spending envelope, which is something that we turn to in the next subsection (see Table 4.2).

**Health spending**

Partly as a result of the Treasury choosing to implement the recommendations of the Wanless Report, health spending is set to grow by an average of 7.0% a year over the seven-year period between 1998–99 and 2005–06. The Wanless Report also sets out three different scenarios for NHS spending over the period from 2008–09 to 2012–13. These three different scenarios, from the least to the most optimistic (in terms of the cost to the taxpayer of progressing towards a ‘world-class health service’), are referred to as ‘slow uptake’, ‘solid progress’ and ‘fully engaged’. The Wanless Report states (page 35) that ‘fully engaged’ would require the following:

levels of public engagement in relation to their health are high: life expectancy increases go beyond current forecasts, health status improves dramatically and people are confident in the health system and demand high quality care. The health service is responsive with high rates of technology uptake, particularly in relation to disease prevention. Use of resources is more efficient.

The Wanless Report estimated that under this ‘fully engaged’ scenario, NHS spending would need to grow by an average 4.4% a year over the five-year period from 2007–08 to 2012–13. Were the ‘solid progress’ scenario to be met, then increases of 4.7% a year were estimated to be required, whereas under the ‘slow uptake’ scenario, the corresponding figure was for increases of 5.6% a year. In Table 4.1, we assume that the government believes that the ‘fully engaged’ scenario has been met and that it chooses to allocate real increases of 4.4% a year to the NHS. Of course, given that the Wanless Report was published in 2002, it is quite possible that a lower or higher increase in spending would be required to progress towards the standard of healthcare that was deemed ‘world-class’ by that report. Indeed, the Treasury is currently undertaking a re-evaluation of the Wanless calculations and it could conclude that larger or smaller allocations would be appropriate.

Allocating health a real increase of 4.4% a year in real terms (as shown in row 1 of Table 4.1) would, if the PBR figures for TME are retained, leave real increases of 1.2% a year across all non-health areas of government spending.

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**Public spending pressures**

*Education spending*

For education spending, we assume that the government chooses to increase spending in line with growth in the economy (line 2 of Table 4.1). The 1997 New Labour manifesto contained a high-profile pledge to increase spending on education as a share of national income, while Gordon Brown has, since then, reiterated ambitions to further improve education outcomes going forward. Given this, and the fact that education spending has risen as a share of national income since Labour came to power, it would be surprising for the government to now choose to reduce it as a share of national income. Of course, it could allocate more than 2.4% a year (after economy-wide inflation), although it is worth noting that, as shown in Table 4.1, over the two-year period from 2005–06 to 2007–08, education has only been awarded an average real increase of 2.6% a year.

*Official development assistance*

With ODA, we assume that the government wants to implement constant real increases in spending in order to reach 0.7% of national income in 2012–13. This would imply real increases of 10.5% a year in real terms over the period covered by the 2007 CSR (line 3 of Table 4.1). While this would be a substantial increase (it implies a £3.0 billion cash increase in annual spending over the three-year period), it is actually slightly lower than the 12.1% a year that is planned on average over the two years from 2005–06 to 2007–08.

*Other spending (1)*

Under the scenario where the overall spending envelope is set to the plans laid out in the Pre-Budget Report, and that health spending is increased by 4.4% a year, education spending by 2.4% a year and ODA by 10.5% a year, then spending on other items would be constrained to grow by an average of just 0.8% a year in real terms. This would be significantly below the average annual increase of 3.8% a year seen over the seven-year period from 1998–99 to 2005–06. It would also be significantly below the 1.9% a year that is planned over the two years 2005–06 to 2007–08. It would, however, still be more generous than the first two years in which Labour was in office, when spending on these components was cut by an average of 0.7% a year in real terms.

*Social security and tax credit spending*

As discussed in Section 4.2, a large proportion of public spending is on social security and tax credit transfers. As a result, the generosity of any given spending envelope on public services will depend in large part on growth in this component of the budget. In Table 4.1, we assume that spending on social security and tax credits grows by 2.2% a year in real terms (line 4). This is slightly lower than expected growth in the economy over this period, but is equal to the growth in social security spending that has been seen over the 11-year period between 1996–97 and 2007–08. Of course, this period contains some large increases in the generosity of payments to low-income families with children and lower-income pensioners. However, as described in Section 4.2, this period also saw large falls in unemployment and lower growth in the pensioner population than are expected going forward. Moreover, the government might wish to continue to increase the generosity of some elements of the social security and tax credit system in order to deliver further significant reductions in relative child and pensioner poverty.
**Other spending (2)**

Under the scenario where the overall spending envelope is set to the plans laid out in the Pre-Budget Report, and that health spending is increased by 4.4% a year, education spending by 2.4% a year, ODA by 10.5% a year, and social security and tax credit spending by 2.2% a year, then spending on other items would need to be cut by 0.1% a year over the three years covered by the 2007 CSR. While this could be achieved – indeed, Labour implemented a slightly larger average annual real cut during its first two years in office – it might not prove consistent with aspirations for public services that we have not considered in this chapter, such as law and order and transport. In the case of transport spending, the Department for Transport’s update to the 10-year transport plan suggests that expenditure will need to remain constant as a share of national income over the period from 2007–08 to 2014–15. The reduction in the growth of the EU rebate that the Prime Minister has agreed to since the Pre-Budget Report was published will also add to pressures on spending over the period from 2008. Moreover, the low spending growth over the two years from 1996–97 to 1998–99 would have been assisted by falls in debt interest payments due to a combination of falling debt levels and reductions in interest rates. In contrast, both we and the Treasury expect debt levels to rise slightly over the next few years (see Chapter 5), while Morgan Stanley’s analysis suggests that, if anything, real interest rates are likely to increase (see Chapter 6).

**Illustrative alternative scenarios**

All of the discussion in the previous subsection assumes that the Treasury decides to keep to the spending projections that were set out in the 2005 Pre-Budget Report. As made clear by the Chancellor in his evidence to the House of Commons Treasury Select Committee, the Treasury could take a different view. Therefore this subsection sets out three alternative scenarios for growth in TME over the 2007 CSR period and describes the potential implications under the assumption that education, health, ODA, social security and tax credit expenditure all grow at the rates assumed in Table 4.1.

The first alternative scenario is that the Treasury decides to keep public spending constant as a share of national income (see panel B of Table 4.2). This is the assumption that was made in the January 2005 IFS Green Budget. Under the allocations for health, education and ODA that were set out in Table 4.1, this would leave other areas of public spending with a 1.7% a year real increase over the three-year period from 2007–08 to 2010–11, compared with 0.8% a year under the scenario where the PBR allocations were kept to. Were spending on social security and tax credits to grow by 2.2% a year (again as set out in Table 4.1), then this would allow spending on other items of public spending to grow by an average of 1.3% a year. This compares with an average annual real cut of 0.1% if the PBR spending totals were kept to. However, even this would be less generous than the plans for the two-year period from 2005–06 to 2007–08, where this component of spending is expected to grow by 2.6% a year in real

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Public spending pressures

terms, let alone than the seven-year period between 1998–99 and 2005–06, when it grew by an average of 4.1% a year in real terms (see Table 4.1).

The second alternative scenario is where spending on health, education and ODA are as set out in Table 4.1 and that all other spending is kept constant as a share of national income (i.e. increased by 2.4% a year after economy-wide inflation; see panel C of Table 4.2). This would require TME to grow by 2.8% a year in real terms over the three-year period from 2007–08 to 2010–11, which is significantly higher than the 1.8% a year real growth implied by the Treasury’s PBR figures. It would, however, allow increases in ‘non-health, non-education and non-ODA spending’ that were more generous than those allocated over the next two years (i.e. the 2.4% in Table 4.2 is greater than the 1.9% a year growth shown for these components of spending over the two-year period from 2005–06 to 2007–08 in Table 4.1).

Table 4.2. Possible 2007 CSR allocation under illustrative alternative scenarios

<table>
<thead>
<tr>
<th>Scenario Description</th>
<th>Real spending growth over 3 years from 2007–08 to 2010–11</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) ‘Baseline’ scenario: TME as Pre-Budget Report projection</td>
<td></td>
</tr>
<tr>
<td>Total managed expenditure</td>
<td>1.8</td>
</tr>
<tr>
<td>TME excluding health, education and ODA</td>
<td>0.8</td>
</tr>
<tr>
<td>TME excluding health, education, ODA, social security and tax credits</td>
<td>−0.1</td>
</tr>
<tr>
<td>(B) Alternative scenario 1: TME to remain constant as % of GDP</td>
<td></td>
</tr>
<tr>
<td>Total managed expenditure</td>
<td>2.4</td>
</tr>
<tr>
<td>TME excluding health, education and ODA</td>
<td>1.7</td>
</tr>
<tr>
<td>TME excluding health, education, ODA, social security and tax credits</td>
<td>1.3</td>
</tr>
<tr>
<td>(C) Alternative scenario 2: non-health, education &amp; ODA spending to remain constant as % of GDP</td>
<td></td>
</tr>
<tr>
<td>Total managed expenditure</td>
<td>2.8</td>
</tr>
<tr>
<td>TME excluding health, education and ODA</td>
<td>2.4</td>
</tr>
<tr>
<td>TME excluding health, education, ODA, social security and tax credits</td>
<td>2.4</td>
</tr>
<tr>
<td>(D) Alternative scenario 3: TME to remain constant in real terms</td>
<td></td>
</tr>
<tr>
<td>Total managed expenditure</td>
<td>0.0</td>
</tr>
<tr>
<td>TME excluding health, education and ODA</td>
<td>−2.0</td>
</tr>
<tr>
<td>TME excluding health, education, ODA, social security and tax credits</td>
<td>−4.9</td>
</tr>
</tbody>
</table>

Note: Growth in real spending is calculated by deflating each component of spending by growth in the GDP deflator; while this might not be the appropriate deflator for the increase in the cost of goods and services purchased, it could be considered the most appropriate deflator when considering the cost to the taxpayer.
A third alternative scenario is where TME is frozen in real terms – so that none of the benefits of economic growth are given to public spending (see panel D of Table 4.2). Under this scenario, it would only be possible to allocate health, education and ODA the amounts set out in Table 4.1 if spending on other items were cut by an average of 2.0% a year. In addition, if spending on social security and tax credits grew by 2.2% a year over this period, then other spending would need to be cut by 4.9% a year in real terms.

Each of the three alternative scenarios set out above has growth in TME over the period covered by the 2007 CSR different from that pencilled into the Pre-Budget Report. It would require higher taxation, higher borrowing or some combination of the two, relative to the path for the public finances shown in the PBR, to finance either of the first two alternative scenarios, as they involve higher total public spending. The third alternative scenario would facilitate lower taxation, lower borrowing or some combination of the two, relative to the figures contained in the PBR, as it would involve lower total public spending.

Table 4.3. Annual cost of different illustrative alternative scenarios

<table>
<thead>
<tr>
<th>Average annual growth</th>
<th>Additional funding required (2005–06 terms)</th>
<th>Spending cut/increase over 2007 CSR (2005–06 terms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Baseline scenario: TME as PBR projection</td>
<td>1.8</td>
<td>no change</td>
</tr>
<tr>
<td>(B) Alternative scenario 1: TME constant as % of national income</td>
<td>2.4</td>
<td>+£8½bn</td>
</tr>
<tr>
<td>(C) Alternative scenario 2: Non-health, education &amp; ODA spending to remain constant as % of national income</td>
<td>2.8</td>
<td>+£15bn</td>
</tr>
<tr>
<td>(D) Alternative scenario 3: TME to remain constant in real terms</td>
<td>0.0</td>
<td>–£27bn</td>
</tr>
</tbody>
</table>

Note: Growth in real spending is calculated by deflating each component of spending by growth in the GDP deflator; while this might not be the appropriate deflator for the increase in the cost of goods and services purchased, it could be considered the most appropriate deflator when considering the cost to the taxpayer.

The spending figures set out in the Pre-Budget Report (scenario A in Tables 4.2 and 4.3) imply that TME as a percentage of national income would fall from 42.8% of national income in 2007–08 to 42.1% of national income in 2010–11. Under the first alternative scenario (scenario B in Tables 4.2 and 4.3), it would remain at 42.8% of national income. This implies that in 2010–11, spending would be 0.7% of national income higher than that set out in the PBR. In current terms (using 2005–06 national income), this is equivalent to £8½ billion, as shown in Table 4.3. In other words, to implement this scenario would require the Treasury to raise an additional £8½ billion in 2010–11 in today’s terms, either from increased borrowing or increased taxation. Given the lack of room to manoeuvre relative to the fiscal rules, new tax-raising measures would seem more likely than sole reliance on increased borrowing.

Under the second alternative scenario (scenario C in Tables 4.2 and 4.3), TME would increase as a share of national income from 42.8% in 2007–08 to 43.3% in 2010–11. This would leave it 1.2% of national income higher than set out in the PBR. In current terms (using 2005–06
national income), this is equivalent to £15 billion, as shown in Table 4.3. Given the constraint placed by the two fiscal rules, this would be expected to necessitate additional tax-raising measures. Under the third alternative scenario (scenario D in Tables 4.2 and 4.3), TME would fall as a share of national income, from 42.8% in 2007–08 to 39.9% in 2010–11. This would leave it 2.2% of national income lower than set out in the PBR. In current terms (using 2005–06 national income), this is equivalent to £27 billion, as shown in Table 4.3. This saving could be used both to increase caution in the public finances by reducing expected borrowing and to deliver significant tax-cutting measures.

In Table 4.3, we also show each scenario as a ‘cut’ or ‘increase’ in public spending, using a baseline in which spending is held constant as a share of national income. Whether this is an appropriate way to define a ‘cut’ is debatable, but this was the method used by the Labour Party when characterising the Conservative spending proposals during the 2005 election campaign.

### 4.4 Longer-term pressures on spending

Alongside each year’s Pre-Budget Report, the Treasury publishes illustrative projections of public spending over time horizons of up to 50 years, well beyond the period of the forthcoming Comprehensive Spending Review. These projections help capture long-term pressures on the public purse, notably demographic factors that are likely to increase the demand for spending on the young (child-related benefits and education spending) and the old (pensions, healthcare and long-term care). An important caveat is that these forecasts are inevitably subject to very wide margins of error and will also be very sensitive to the various assumptions that have to be made.

The projections assume that ‘current policies’ continue, which is, of course, unlikely. For example, the projections assume the means-tested support available to pensioners through the pension credit guarantee will rise in line with average earnings. But the Treasury points out that ‘decisions related to the indexing of the Pension Credit will be made on a Budget and Spending Review timetable in the context of resources and priorities’ and that the assumption of earnings indexation over the long term ‘should not be taken as the Government’s policy’. This is despite the fact that the Prime Minister, in his foreword to the 1998 Pensions Green Paper, stated, with reference to the minimum income guarantee (the predecessor of the pension credit guarantee), that ‘Over the longer term our aim is that it should rise in line with earnings so that all pensioners can share in the rising prosperity of the nation’. The Treasury has suggested that this represents an upper bound on possible generosity: ‘These projections are based on the scenario that the parameters of the pension credit are uprated in such a way as to lead to an upper estimate of the possible cost of the Pension Credit in the long term’.

Table 4.4 shows that the Treasury expects upward pressure on public spending over the next 50 years, and to a greater degree than it did a year ago. This in part reflects the fact that the ageing of the population is now expected to be more pronounced.
Table 4.4. HM Treasury’s long-term public spending projections (percentage of national income)

<table>
<thead>
<tr>
<th></th>
<th>December 2004</th>
<th>December 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>5.1</td>
<td>5.2</td>
</tr>
<tr>
<td>State pensions</td>
<td>5.0</td>
<td>5.6</td>
</tr>
<tr>
<td>Health</td>
<td>6.9</td>
<td>9.5</td>
</tr>
<tr>
<td>Long-term care</td>
<td>1.0</td>
<td>1.5</td>
</tr>
<tr>
<td>Public service pensions</td>
<td>1.5</td>
<td>2.2</td>
</tr>
<tr>
<td>Total age-related</td>
<td>19.5</td>
<td>24.0</td>
</tr>
<tr>
<td>Other</td>
<td>21.1</td>
<td>19.1</td>
</tr>
<tr>
<td>Total</td>
<td>40.6</td>
<td>43.1</td>
</tr>
</tbody>
</table>


### 4.5 Conclusion

The Pre-Budget Report pencilled in figures for total public spending that encompass, for the first time, the whole of the period set to be covered by the 2007 Comprehensive Spending Review. If implemented, these would imply public spending falling by 0.7% of national income over the three-year period. By 2010–11, this would be equivalent to £8½ billion in today’s terms.

Should the Treasury choose to keep to these spending plans, some tough choices would need to be made in the 2007 CSR. Under plausible scenarios for spending on health, education and overseas aid, it would leave other spending growing at just 0.8% a year in real terms over the three-year period from 2007–08 to 2010–11. This compares with expected growth in this spending of 1.9% a year over the two-year period from 2005–06 to 2007–08 and 3.8% a year over the seven-year period from 1998–99 to 2005–06.

Recent years have seen increases in social security and tax credit expenditure as a share of national income, which have enabled the government to make significant progress in its objectives of reducing, and eliminating, child and pensioner poverty. If spending growth on social security and tax credits were held to an average of 2.2% a year in real terms (which is the average annual increase forecast to 2007–08 since Labour came to power), then this would require the 2007 CSR to identify real cuts across other areas of government spending. While this was achieved during Labour’s first two years in office, it is not clear that it could be repeated, given stated objectives to improve other services such as transport and law and order, and the fact that spending restraint in those first two years was assisted by large falls in unemployment and debt interest payments, both of which are unlikely to be repeated. Further, the first two years of the Labour government were followed by substantial increases over the period to date.

The Chancellor has confirmed that the 2007 CSR envelope could differ from the spending figures set out in the Pre-Budget Report. One option would be to keep public spending constant as a share of national income. Given reasonable assumptions about health, education,
overseas aid, and social security and tax credit expenditure, this would allow other spending
to grow by 1.3% a year in real terms. However, even this would be less generous than the
spending plans for the two-year period from 2005–06 to 2007–08, where this component of
spending is expected to grow by 2.6% a year in real terms, let alone than the seven-year
period between 1998–99 and 2005–06, when it grew by an average of 4.1% a year in real
terms. This scenario would also require an additional £8½ billion of financing in today’s
terms, which would most likely have to come from new tax-raising measures.

Keeping all non-health, education and overseas aid spending constant as a share of national
income would allow a much easier settlement for the 2007 CSR. However, this would
necessitate much greater funding, of £15 billion in today’s terms. Alternatively, the
Chancellor could choose to set a lower spending envelope: for example, freezing total public
spending in real terms would require deep cuts if elements such as health, education and
social security expenditure were to be as projected in this chapter, but would allow both
borrowing to be reduced and significant new tax-cutting measures to be implemented.
5. Public finance forecasts

Robert Chote, Carl Emmerson and Christine Frayne (IFS)

Summary

- The current budget deficit this year is likely to be in line with the Treasury’s December Pre-Budget Report forecast, but in 2006–07 it is likely to be almost 0.3% of national income (£3 billion) bigger than the Treasury expects, according to the Green Budget baseline forecast. We expect weaker revenues.

- We expect the gap between our forecast for the current budget balance and the Treasury's to widen to 0.5% of national income by 2008–09 and then to narrow to 0.2% of national income by 2010–11. We expect more revenue to be raised over time from 'fiscal drag' than the Treasury, mostly through rising income tax bills.

- The Treasury expects government revenues to rise by 1.3% of national income by 2010–11, with two-thirds of the increase occurring next year. We expect an increase of 1.1% of national income, with around half coming next year.

- The Pre-Budget Report forecast suggests that the golden rule will be met over a 12-year economic cycle ending in 2008–09, with the current budget in surplus by a cumulative £12.8 billion. On current policies, we forecast that the rule would be broken very narrowly over this period, with a cumulative deficit of £0.7 billion.

- If the past forecasting performances of the Treasury and the Green Budget are a reliable guide to the future, the Treasury’s forecast implies a 58% probability of meeting the rule and the Green Budget forecast a 50% probability of meeting it.

- Our central forecast is for net debt to reach 39.2% of national income in 2008–09 and 39.6% in 2010–11. On past forecasting performance, this implies at least a 44% chance that net debt will breach the 40% of national income debt ceiling laid down in the sustainable investment rule by the last year of the current cycle.

- In the Pre-Budget Report, the Chancellor announced a £3 billion tax increase and pencilled in a cut in public spending as a share of national income worth £8½ billion a year in today’s terms by the end of the 2007 Comprehensive Spending Review period. We see a reasonable case for a further £2½ billion tax increase. More would be needed if the Chancellor decides to cut spending less aggressively.

5.1 Introduction

This chapter presents the IFS public finance forecasts and assesses whether the path of the public finances is consistent with the fiscal rules being met. Section 5.2 presents the 2006 Green Budget baseline forecasts for 2005–06 and 2006–07. Section 5.3 focuses on the medium term, looking at forecasts for the years until 2010–11, and discusses the uncertainties.
in these forecasts. Section 5.4 presents the forecasts based on Morgan Stanley’s alternative macroeconomic assumptions, as outlined in Chapter 3. Section 5.5 concludes by considering whether the fiscal rules would be met under our forecasts and what this implies for tax and spending decisions in the next and future Budgets.

5.2 Short-term projections

In 2004–05, receipts came in lower and current spending (including depreciation) higher than forecast either by the Treasury in the December 2004 Pre-Budget Report (PBR) or by us in the January 2005 Green Budget. As a result, we underpredicted the £19.9 billion current budget deficit by £4.0 billion, while the Treasury underpredicted it by £7.4 billion (see Table 5.1). However, the Treasury believes that its over-optimism was more than explained by the unexpected weakness of the economy and that the structural deficit was actually smaller than anticipated.

Public sector net investment last year is estimated to have been £0.4 billion stronger than we predicted and £2.8 billion weaker than the Treasury predicted at £18.9 billion. Adding this to the current budget, the Treasury and we both underpredicted last year’s £38.8 billion public sector net borrowing by about £4½ billion. More details are given in Appendix A.

Table 5.1. Comparison of forecasts for last year

<table>
<thead>
<tr>
<th>£ billion</th>
<th>HM Treasury PBR forecast, December 2004</th>
<th>IFS Green Budget forecast, January 2005</th>
<th>Estimate, PBR, December 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current receipts</td>
<td>451.0</td>
<td>449.6</td>
<td>448.4</td>
</tr>
<tr>
<td>Current expenditure*</td>
<td>463.5</td>
<td>465.5</td>
<td>468.3</td>
</tr>
<tr>
<td>Net investment</td>
<td>21.7</td>
<td>18.5</td>
<td>18.9</td>
</tr>
<tr>
<td>Public sector net borrowing</td>
<td>34.2</td>
<td>34.4</td>
<td>38.8</td>
</tr>
<tr>
<td>Surplus on current budget</td>
<td>–12.5</td>
<td>–15.9</td>
<td>–19.9</td>
</tr>
</tbody>
</table>

* Includes depreciation.


Borrowing in 2005–06

The Treasury cut its 2005–06 forecast for current receipts and increased its forecast for current spending (including depreciation) between the March 2005 Budget and the December 2005 Pre-Budget Report, as shown in Table 5.2. As a result, it now expects a current budget deficit of £10.6 billion this year rather than the £5.7 billion predicted in the Budget. It has only fractionally increased its forecast of public sector net investment, implying a similar increase in the forecast for public sector net borrowing to that for the current budget deficit. The Treasury now expects public sector net borrowing of £37.0 billion this year, up from £31.9 billion in the Budget.
Table 5.2. Comparison of forecasts for government borrowing, 2005–06

<table>
<thead>
<tr>
<th>£ billion</th>
<th>Budget, Mar. 05</th>
<th>PBR, Dec. 05</th>
<th>Green Budget, Jan. 06</th>
<th>Differences in Green Budget forecast relative to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current receipts</td>
<td>486.7</td>
<td>483.0</td>
<td>483.1</td>
<td>–3.6</td>
</tr>
<tr>
<td>Current expenditure&lt;sup&gt;a&lt;/sup&gt;</td>
<td>492.4</td>
<td>493.6</td>
<td>493.6</td>
<td>1.2</td>
</tr>
<tr>
<td>Net investment</td>
<td>26.2</td>
<td>26.3</td>
<td>26.3</td>
<td>0.1</td>
</tr>
<tr>
<td>Total managed expenditure</td>
<td>518.6</td>
<td>519.9</td>
<td>519.9</td>
<td>1.3</td>
</tr>
<tr>
<td>Public sector net borrowing</td>
<td>31.9</td>
<td>37.0</td>
<td>36.8</td>
<td>4.9</td>
</tr>
<tr>
<td>Surplus on current budget</td>
<td>–5.7</td>
<td>–10.6</td>
<td>–10.5</td>
<td>–4.8</td>
</tr>
</tbody>
</table>

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


For the IFS Green Budget 2006, we have very similar predictions to the Treasury’s December 2005 PBR for both the current budget deficit and public sector net borrowing. We foresee marginally higher revenues than the Treasury and the same level of spending.

**Receipts and spending in 2005–06**

Although our forecast for current receipts in aggregate this year is only marginally higher than the Treasury’s, there are some larger differences in composition, as Table 5.3 shows. We expect higher revenues than the Treasury from income tax and corporation tax receipts, but less from fuel duties. Appendix A provides more analysis on the tax-by-tax forecasts.

The Green Budget forecasts for both current spending (including depreciation) and net investment for 2005–06 are in line with the PBR forecasts. So far this year, central government current spending is running slightly below the level consistent with the PBR forecasts, but weak spending growth in the late months of 2004–05 means that some acceleration in the annual rate of increase looks plausible. Net investment spending is also running below the level consistent with the PBR forecast, but the difference is lower than in previous years. As in previous years, we expect an increase in investment spending in the final months of this financial year. There is a risk that there could be an underspend on public sector net investment as in previous years; while this would reduce borrowing and therefore future debt, this would not be permanent if the investment were carried out by departments in subsequent years under the End-Year Flexibility arrangements. There would also be no significant impact on whether or not the Chancellor met his golden rule.<sup>1</sup>

<sup>1</sup>There would be a very small impact from reduced debt interest payments.
### Public finance forecasts

<table>
<thead>
<tr>
<th>£ billion</th>
<th>2005–06</th>
<th></th>
<th>2006–07</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Income tax (net of tax credits)</td>
<td>131.3</td>
<td>131.6</td>
<td>140.3</td>
<td>140.5</td>
</tr>
<tr>
<td>National Insurance contributions</td>
<td>84.2</td>
<td>84.2</td>
<td>88.8</td>
<td>89.0</td>
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<tr>
<td>Value added tax (VAT)</td>
<td>74.4</td>
<td>74.4</td>
<td>77.3</td>
<td>77.6</td>
</tr>
<tr>
<td>Corporation tax (net of tax credits)</td>
<td>41.3</td>
<td>41.5</td>
<td>49.5</td>
<td>46.5</td>
</tr>
<tr>
<td>Petroleum revenue tax</td>
<td>2.2</td>
<td>2.2</td>
<td>2.1</td>
<td>2.2</td>
</tr>
<tr>
<td>Fuel duties</td>
<td>23.9</td>
<td>23.3</td>
<td>24.4</td>
<td>24.0</td>
</tr>
<tr>
<td>Capital gains tax</td>
<td>2.8</td>
<td>2.8</td>
<td>3.6</td>
<td>3.1</td>
</tr>
<tr>
<td>Inheritance tax</td>
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<td>3.3</td>
<td>3.6</td>
<td>3.5</td>
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<tr>
<td>Stamp duties</td>
<td>10.2</td>
<td>10.2</td>
<td>11.4</td>
<td>11.0</td>
</tr>
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<td>Tobacco duties</td>
<td>8.2</td>
<td>8.3</td>
<td>8.2</td>
<td>8.6</td>
</tr>
<tr>
<td>Spirits duties</td>
<td>2.4</td>
<td>2.4</td>
<td>2.5</td>
<td>2.7</td>
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<tr>
<td>Wine duties</td>
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<td>2.3</td>
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<td>2.4</td>
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<tr>
<td>Beer and cider duties</td>
<td>3.4</td>
<td>3.4</td>
<td>3.4</td>
<td>3.5</td>
</tr>
<tr>
<td>Betting and gaming duties</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
<td>1.5</td>
</tr>
<tr>
<td>Air passenger duty</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Insurance premium tax</td>
<td>2.5</td>
<td>2.5</td>
<td>2.6</td>
<td>2.6</td>
</tr>
<tr>
<td>Landfill tax</td>
<td>0.8</td>
<td>0.8</td>
<td>0.9</td>
<td>0.8</td>
</tr>
<tr>
<td>Climate change levy</td>
<td>0.8</td>
<td>0.8</td>
<td>0.7</td>
<td>0.8</td>
</tr>
<tr>
<td>Aggregates levy</td>
<td>0.3</td>
<td>0.3</td>
<td>0.4</td>
<td>0.3</td>
</tr>
<tr>
<td>Customs duties and levies</td>
<td>2.2</td>
<td>2.2</td>
<td>2.2</td>
<td>2.3</td>
</tr>
<tr>
<td><strong>Total HM Revenue and Customs</strong></td>
<td>398.8</td>
<td>399.0</td>
<td>426.9</td>
<td>423.9</td>
</tr>
<tr>
<td>Vehicle excise duties</td>
<td>4.9</td>
<td>4.9</td>
<td>5.2</td>
<td>5.1</td>
</tr>
<tr>
<td>Business rates</td>
<td>20.3</td>
<td>20.3</td>
<td>21.4</td>
<td>21.4</td>
</tr>
<tr>
<td>Council tax&lt;sup&gt;a&lt;/sup&gt;</td>
<td>21.1</td>
<td>21.1</td>
<td>22.6</td>
<td>22.6</td>
</tr>
<tr>
<td>Other taxes and royalties&lt;sup&gt;b&lt;/sup&gt;</td>
<td>12.9</td>
<td>12.9</td>
<td>14.2</td>
<td>14.2</td>
</tr>
<tr>
<td><strong>Net taxes and NI contributions</strong>&lt;sup&gt;c&lt;/sup&gt;</td>
<td>458.0</td>
<td>458.2</td>
<td>490.3</td>
<td>487.2</td>
</tr>
<tr>
<td>Accruals adjustments on taxes</td>
<td>1.4</td>
<td>1.4</td>
<td>0.8</td>
<td>0.8</td>
</tr>
<tr>
<td>Less Own resources contribution to EU budget</td>
<td>−3.9</td>
<td>−3.9</td>
<td>−4.0</td>
<td>−4.0</td>
</tr>
<tr>
<td>Less PC corporation tax payments</td>
<td>−0.1</td>
<td>−0.1</td>
<td>−0.1</td>
<td>−0.1</td>
</tr>
<tr>
<td>Tax credits adjustment&lt;sup&gt;d&lt;/sup&gt;</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
</tr>
<tr>
<td>Interest and dividends</td>
<td>5.1</td>
<td>5.0</td>
<td>5.1</td>
<td>5.1</td>
</tr>
<tr>
<td>Other receipts&lt;sup&gt;e&lt;/sup&gt;</td>
<td>21.9</td>
<td>21.9</td>
<td>23.8</td>
<td>23.8</td>
</tr>
<tr>
<td><strong>Current receipts</strong></td>
<td>483.0</td>
<td>483.1</td>
<td>516.6</td>
<td>513.4</td>
</tr>
</tbody>
</table>

<sup>a</sup>HM Treasury figures are based on stylised assumptions rather than government forecasts, as council tax increases are determined annually by local authorities, not by the government.

<sup>b</sup>Includes VAT refunds and money paid into the National Lottery Distribution Fund.

<sup>c</sup>Includes VAT and the traditional ‘own resources’ contributions to the EU budget.

<sup>d</sup>Tax credits that are scored as negative tax in the calculation of ‘Net taxes and NI contributions’ but expenditure in the National Accounts.

<sup>e</sup>Includes gross operating surplus and rent; net of oil royalties and business rates payments by local authorities.

Borrowing in 2006–07

The Treasury was more pessimistic about the current budget and public sector net borrowing next year in the December 2005 PBR than in the March 2005 Budget, downgrading its forecasts by £5.2 billion and £4.5 billion respectively. This can be seen in Table 5.4. In this Green Budget, we are £3.2 billion more pessimistic again in each case, reflecting our belief that the Treasury is still overestimating the likely strength of current receipts. We expect a current budget deficit of £7.4 billion and public sector net borrowing of £36.7 billion for 2006–07.

Table 5.4. Comparison of forecasts for government borrowing, 2006–07

<table>
<thead>
<tr>
<th>£ billion</th>
<th>Budget, Mar. 05</th>
<th>PBR, Dec. 05</th>
<th>Green Budget, Jan. 06</th>
<th>Differences in Green Budget forecast relative to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current receipts</td>
<td>520</td>
<td>516.6</td>
<td>513.4</td>
<td>-6.6</td>
</tr>
<tr>
<td>Current expenditure^a</td>
<td>519.8</td>
<td>520.8</td>
<td>520.8</td>
<td>1.0</td>
</tr>
<tr>
<td>Net investment</td>
<td>29.4</td>
<td>29.3</td>
<td>29.3</td>
<td>-0.1</td>
</tr>
<tr>
<td>Total managed expenditure</td>
<td>549.2</td>
<td>550.1</td>
<td>550.1</td>
<td>0.9</td>
</tr>
<tr>
<td>Public sector net borrowing</td>
<td>29</td>
<td>33.5</td>
<td>36.7</td>
<td>7.7</td>
</tr>
<tr>
<td>Surplus on current budget</td>
<td>1</td>
<td>-4.2</td>
<td>-7.4</td>
<td>-8.4</td>
</tr>
</tbody>
</table>

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


Spending and receipts in 2006–07

The Green Budget forecasts for current and net investment spending in 2006–07 are in line with the PBR forecasts (despite fractionally lower debt interest costs, reflecting our belief that borrowing may be marginally lower than the Treasury expects this year).

The Treasury and we both expect strong growth in revenues between 2005–06 and 2006–07, although the 6.3% increase we expect is slightly lower than the 7.0% forecast in the PBR. Table 5.3 sets out the detailed tax-by-tax forecasts. We foresee slightly higher receipts than the Treasury from income tax, National Insurance contributions, VAT, petroleum revenue tax, tobacco duties, alcohol duties, betting and gaming duties, the climate change levy, and customs duties and levies. We expect slightly less than the Treasury from fuel duties, capital gains tax, inheritance tax, stamp duties, landfill tax, the aggregates levy and vehicle excise duties.

The most significant difference between the Green Budget and PBR revenue forecasts is for corporation tax. The PBR forecasts revenues of £49.5 billion from corporation tax, while we expect £3.0 billion less (even if the economy behaves as the Treasury expects). Differences between the medium-term forecasts for corporation tax receipts are discussed in more detail in Section 5.3.
5.3 Medium-term prospects

We predict a very similar current budget balance to the Treasury this year, with a gap opening between its forecast and ours next year and continuing to widen until 2008–09 (when the Treasury expects a surplus of 0.5% of national income or £7 billion, while we believe that it will be roughly zero). Thereafter the gap narrows and by 2010–11 we are only 0.2% of national income or £3 billion more pessimistic than the Treasury (Tables 5.5 and 5.6). With little difference between our forecast and the Treasury’s for public sector net investment, the pattern for public sector net borrowing is very similar to that for the current budget.

There is little difference between the Green Budget and PBR forecasts for spending. This is because for the period from 2008–09, we assume the same growth as implied by the figures in the PBR. Therefore we have slightly higher current spending (including depreciation) from 2007–08 as our forecast for higher levels of borrowing in previous years increases subsequent debt interest payments. As discussed in Chapter 4, the Chancellor could choose to allocate a more, or less, generous spending envelope over the period to be covered by the 2007 Comprehensive Spending Review. This is a point that we return to in our budget judgement in Section 5.5.

Revenues are the more important reason for our relative pessimism. The Treasury expects receipts to increase by 1.3% of national income by 2010–11, with about two-thirds of the increase coming next year. We expect revenues to rise by 1.1% of national income over the same period, and more evenly, with around half the increase being seen next year.

Table 5.5. Medium-term public finance forecasts under ‘cautious’ assumptions

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Green Budget forecasts</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current budget</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current receipts</td>
<td>483.1</td>
<td>513.4</td>
<td>544.1</td>
<td>575.7</td>
<td>607.3</td>
<td>639.2</td>
</tr>
<tr>
<td>Current expenditure*</td>
<td>493.6</td>
<td>520.8</td>
<td>549.7</td>
<td>575.2</td>
<td>602.2</td>
<td>629.2</td>
</tr>
<tr>
<td>Surplus on current budget</td>
<td>−10.5</td>
<td>−7.4</td>
<td>−5.6</td>
<td>0.5</td>
<td>5.2</td>
<td>10.0</td>
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<td>Capital budget</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net investment</td>
<td>26.3</td>
<td>29.3</td>
<td>31.1</td>
<td>32.0</td>
<td>34.0</td>
<td>35.0</td>
</tr>
<tr>
<td>Public sector net borrowing</td>
<td>36.8</td>
<td>36.7</td>
<td>36.7</td>
<td>31.5</td>
<td>28.8</td>
<td>25.0</td>
</tr>
<tr>
<td><strong>HM Treasury forecasts</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current budget</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current receipts</td>
<td>483.0</td>
<td>516.6</td>
<td>550</td>
<td>581</td>
<td>612</td>
<td>642</td>
</tr>
<tr>
<td>Current expenditure*</td>
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<td>520.8</td>
<td>549.5</td>
<td>575</td>
<td>602</td>
<td>629</td>
</tr>
<tr>
<td>Surplus on current budget</td>
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<td>−4.2</td>
<td>0</td>
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<td>11</td>
<td>13</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net investment</td>
<td>26.3</td>
<td>29.3</td>
<td>31.1</td>
<td>32</td>
<td>34</td>
<td>35</td>
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<td>Public sector net borrowing</td>
<td>37.0</td>
<td>33.5</td>
<td>31</td>
<td>26</td>
<td>23</td>
<td>22</td>
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</tbody>
</table>

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

Sources: Authors’ calculations; Treasury forecasts from HM Treasury, Pre-Budget Report 2005, Cm. 6701, December 2005, [http://www.hm-treasury.gov.uk/pre_budget_report/prebud_pbr05/report/prebud_pbr05_repindex.cfm](http://www.hm-treasury.gov.uk/pre_budget_report/prebud_pbr05/report/prebud_pbr05_repindex.cfm) (this table is similar to table B9 on page 220).
Table 5.6. Medium-term public finance forecasts under ‘cautious’ assumptions

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td><strong>Green Budget forecasts</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Current budget</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current receipts</td>
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<td>0.6</td>
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<td>2.2</td>
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<td>2.2</td>
</tr>
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<td>Public sector net borrowing</td>
<td>3.0</td>
<td>2.9</td>
<td>2.7</td>
<td>2.2</td>
<td>1.9</td>
<td>1.6</td>
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<tr>
<td>Public sector net debt</td>
<td>36.5</td>
<td>37.6</td>
<td>38.6</td>
<td>39.2</td>
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<td>39.6</td>
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<tr>
<td>Current receipts</td>
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<td>40.2</td>
<td>40.5</td>
<td>40.6</td>
<td>40.7</td>
<td>40.7</td>
</tr>
<tr>
<td>Current expenditurea</td>
<td>40.3</td>
<td>40.6</td>
<td>40.5</td>
<td>40.1</td>
<td>40.0</td>
<td>39.9</td>
</tr>
<tr>
<td>Surplus on current budget</td>
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<td>−0.3</td>
<td>0.0</td>
<td>0.5</td>
<td>0.7</td>
<td>0.8</td>
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<tr>
<td><strong>Capital budget</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Net investment</td>
<td>2.1</td>
<td>2.3</td>
<td>2.3</td>
<td>2.3</td>
<td>2.3</td>
<td>2.3</td>
</tr>
<tr>
<td>Public sector net borrowing</td>
<td>3.0</td>
<td>2.6</td>
<td>2.3</td>
<td>1.8</td>
<td>1.6</td>
<td>1.4</td>
</tr>
<tr>
<td>Public sector net debt</td>
<td>36.5</td>
<td>37.4</td>
<td>37.9</td>
<td>38.2</td>
<td>38.2</td>
<td>38.2</td>
</tr>
</tbody>
</table>

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

Sources: Authors’ calculations; Treasury forecasts from HM Treasury, Pre-Budget Report 2005, Cm. 6701, December 2005; [http://www.hm-treasury.gov.uk/pre_budget_report/prebud_pbr05/report/prebud_pbr05_repindex.cfm](http://www.hm-treasury.gov.uk/pre_budget_report/prebud_pbr05/report/prebud_pbr05_repindex.cfm) (this table is similar to table B10 on page 220).

The higher borrowing that we expect would push up public sector net debt. While the PBR forecasts show net debt increasing from 36.5% of national income this year to 38.2% by 2010–11, the Green Budget forecasts show it increasing to 39.6% of national income over the same period.

As discussed in Chapter 2, the sustainable investment rule states that net debt will be kept below 40% of national income in each year of the current economic cycle. We expect the Treasury to have headroom of just 0.8% of national income in 2008–09 (currently expected by the Treasury to be the last year of this cycle) and 0.4% by 2010–11 if the rule were to be applied in the same way thereafter. This is discussed in more detail later in this section.

Breakdown of medium-term revenue projections

The largest difference between the medium-term revenue forecasts in the Green Budget and in the PBR is in corporation tax (including petroleum revenue tax). Starting from a base of 3.6% in 2005–06, we expect revenue to rise to 3.7% of national income in 2010–11 while the PBR expects it to reach 4.1% (Table 5.8). Part of the increase in both cases is due to the increase in North Sea revenues from 2006–07 included in this year’s PBR (0.2% of national income or £2.3 billion in the first year). This, however, is largely offset by a fall in revenues after 2008–09 as the profits expected from the North Sea decline.
Box 5.1. Company earnings and corporation tax revenues

By Graham Secker (Morgan Stanley)

Strong global economic growth and highly profitable oil companies should ensure that UK stockmarket earnings and corporate tax receipts grow by 20% or more in 2005. While this has partially vindicated the Treasury’s 2004 Pre-Budget Report forecast of 26% growth in corporate tax receipts (excluding North Sea oil revenues), we believe that the Treasury is still being too optimistic in its projections for future corporate profitability.

In Table 5.7, we compare the Treasury’s predictions for corporate tax receipts in the 2004 PBR with those in the 2005 PBR and note that the Treasury has actually revised up the growth in receipts it expects in each year to the end of its forecasting horizon. For example, in 2006–07 the Treasury has increased the growth in corporate tax receipts it expects from 16% to 20%.

Table 5.7. Treasury forecasts for corporation tax revenues and Morgan Stanley forecasts for UK stockmarket growth

<table>
<thead>
<tr>
<th></th>
<th>03–04</th>
<th>04–05</th>
<th>05–06</th>
<th>06–07</th>
<th>07–08</th>
<th>08–09</th>
<th>09–10</th>
<th>10–11</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HMT forecast: non-North-Sea corporate tax receipts</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>November 2004 PBR (£bn)</td>
<td>28.6</td>
<td>32.9</td>
<td>41.3</td>
<td>47.8</td>
<td>51.7</td>
<td>54.2</td>
<td>56.9</td>
<td></td>
</tr>
<tr>
<td>Annual growth (%)</td>
<td>15</td>
<td>26</td>
<td>16</td>
<td>8</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>December 2005 PBR (£bn)</td>
<td>34.1</td>
<td>41.8</td>
<td>50.1</td>
<td>54.6</td>
<td>57.6</td>
<td>60.5</td>
<td>63.5</td>
<td></td>
</tr>
<tr>
<td>Annual growth (%)</td>
<td>23</td>
<td>20</td>
<td>9</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HMT forecast: total corporate tax receipts</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>November 2004 PBR (£bn)</td>
<td>32.9</td>
<td>38.2</td>
<td>47.2</td>
<td>53.9</td>
<td>58.1</td>
<td>60.9</td>
<td>62.3</td>
<td></td>
</tr>
<tr>
<td>Annual growth (%)</td>
<td>16</td>
<td>24</td>
<td>14</td>
<td>8</td>
<td>5</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>December 2005 PBR (£bn)</td>
<td>39.3</td>
<td>50.9</td>
<td>61.8</td>
<td>68.6</td>
<td>72.3</td>
<td>74.2</td>
<td>76.0</td>
<td></td>
</tr>
<tr>
<td>Annual growth (%)</td>
<td>30</td>
<td>21</td>
<td>11</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Morgan Stanley forecast:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UK stockmarket growth (%)</td>
<td>20</td>
<td>4</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources: ONS; MSCI; Morgan Stanley Research.

As we highlighted in last year’s Green Budget, there has been a close relationship between the level of corporate tax receipts and the earnings of companies quoted on the UK stock market. Figure 5.1 plots the Treasury’s projections for future corporate tax receipts against Morgan Stanley’s expectations for growth in stockmarket profits. It clearly illustrates the Treasury’s relative optimism. According to IBES consensus data, the average forecast by equity analysts for the profit growth of companies quoted on the UK market is around 8% in 2006 and 7% in 2008. Morgan Stanley is slightly more pessimistic, expecting earnings to rise by 4% in 2006 and 6% the year after. In contrast, the Treasury forecasts growth in corporate tax receipts of 20% and 9% over the next two years.

Box 5.1 continued
Although the Treasury’s expectations for growth in tax receipts slow significantly toward the end of its forecast range, a 9% compound growth rate over the next five years compares with long-run average earnings growth by the UK stockmarket of just 6% (since 1960). By 2010–11, the Treasury forecasts corporate tax receipts of £64 billion (rising to £76 billion if we include North Sea revenues). But if revenues grow in line with Morgan Stanley’s estimates for earnings growth, corporate tax receipts would grow to no more than £54 billion (£62 billion including North Sea revenues) – a shortfall of 16% in 2010–11 or £10 billion (£14 billion including North Sea revenues).

Table 5.8. Medium-term revenue forecasts under ‘cautious’ assumptions

<table>
<thead>
<tr>
<th>% of national income</th>
<th>2005–06</th>
<th>2010–11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income tax (net of tax credits)</td>
<td>10.7</td>
<td>10.7</td>
</tr>
<tr>
<td>National Insurance contributions</td>
<td>6.9</td>
<td>6.9</td>
</tr>
<tr>
<td>Corporation tax(^{a})</td>
<td>3.6</td>
<td>3.6</td>
</tr>
<tr>
<td>Tax credits</td>
<td>–0.4</td>
<td>–0.4</td>
</tr>
<tr>
<td>VAT</td>
<td>6.1</td>
<td>6.1</td>
</tr>
<tr>
<td>Excise duties</td>
<td>3.3</td>
<td>3.2</td>
</tr>
<tr>
<td>Other</td>
<td>8.4</td>
<td>8.9</td>
</tr>
<tr>
<td><strong>Current receipts</strong></td>
<td><strong>39.4</strong></td>
<td><strong>39.4</strong></td>
</tr>
</tbody>
</table>

\(^{a}\) Includes petroleum revenue tax.

Sources: Authors’ calculations; Treasury forecasts from HM Treasury, Pre-Budget Report 2005, Cm. 6701, December 2005, http://www.hm-treasury.gov.uk/pre_budget_report/prebud_pbr05/report/prebud_pbr05_repindex.cfm (this table is similar to table B15 on page 229).
The Green Budget forecasts assume that the yield from corporation tax returns to its long-term average in the medium term, adjusting for changes in the structure of the corporation tax system. Achieving this level of receipts by 2008–09 (when the economy is expected by the Treasury to have returned to trend) requires strong growth in revenues of 7.1% per year on average. The PBR forecasts require increases of 11.3% per year over the same period. The Green Budget forecasts assume that non-North-Sea corporation tax receipts remain constant as a share of national income thereafter. Box 5.1 discusses the PBR forecasts for corporation tax further.

Forecasts for the other taxes are more similar. We expect 0.1% of national income more from income tax in 2010–11 than the Treasury, thanks to a bigger estimate of the impact of fiscal drag – the increase in the yields of tax due to the nominal values of the thresholds increasing less quickly than taxable income. We also expect higher revenues from excise duties and from the remaining categories that are not broken down in the table and which cannot be compared in detail to the Pre-Budget Report as the Treasury has declined to provide sufficient detail.

Uncertainties around the baseline Green Budget forecast

As we noted in Chapter 2, when forecasting the public finances it is important to acknowledge that there is a substantial degree of uncertainty and that this increases the further into the future the forecasts are made for. Probabilistic fan charts for the Green Budget current budget and net debt forecasts are shown in Figures 5.2 and 5.3 respectively. These assume that the Green Budget forecasts are likely to be as accurate as the Treasury’s have been in the past, as evidence suggests has previously been the case. If the Green Budget forecasts are more error-prone than the Treasury’s, then the fan chart will be wider and the uncertainty greater, while the opposite would be the case if the Green Budget forecasts were less error-prone.

The black line in each figure shows the Green Budget’s central estimate for the current budget or for public sector net debt. On either side, the dark 20% lines denote the range of outcomes within which there is a 20% probability that actual outcome will fall. As uncertainty is greater the further into the future a forecast relates to, there is a ‘fanning-out’ effect. Our central current budget forecast for 2009–10 is for a surplus of 0.3% of national income, which implies on past performance that there is a 20% probability that it will lie between –0.5% and 1.2%. The 40%, 60% and 80% lines bound the values within which there is a 40%, 60% or 80% probability that the out-turn will eventually lie. There is therefore a 10% probability that the out-turn will be higher than the top 80% line, for example.

According to the Treasury, the next economic cycle is due to start in 2008–09 (the last year of one cycle is also counted as the first year of the next). We forecast a 0.0% of national income surplus on the current budget in that year, implying a 50% probability that there will be a deficit in the first year of the next cycle. In 2009–10, our forecast of a surplus of 0.3% of national income implies a still sizeable 46% probability of a deficit in that year.

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Figure 5.2. Probabilities of current budget balance outcomes (Green Budget baseline)


Figure 5.3. Probabilities of public sector net debt outcomes (Green Budget baseline)


Figure 5.4 shows the probability that the golden rule will be missed for a cycle ending in three years’ time for different levels of the expected average surplus over the years 1997–98 to 2008–09. It assumes that a given forecast will be, on average, right and presents the cumulative uncertainty over the three years from now until the end of the cycle. For example, if the forecast average surplus were exactly 0.0% of national income, there would be a 50% chance of the actual surplus being higher and a 50% chance of it being lower – in which case the golden rule would have been missed. As discussed in Chapter 2, assuming that this year’s
forecast is correct, there is a 58% probability that the golden rule will be met on the Pre-Budget Report forecasts. The Green Budget forecasts are for the golden rule to be narrowly missed. However, because the margin with which it is expected to be missed is very small, there is still a 50% chance that the golden rule will be met.

Figure 5.4. Probabilities of meeting the golden rule under the Green Budget and Pre-Budget Report forecasts

The sustainable investment rule requires public sector net debt to be kept below 40% of national income in each year of this cycle. Our central forecasts show this being adhered to, but past forecasting performance suggests that the probability of breaching the ceiling will rise from 2% in 2006–07, to 31% in 2007–08 and 44% in 2008–09. The Pre-Budget Report forecasts imply a probability rising from 1% to 24% and then 37% in the same years.

5.4 Alternative macroeconomic assumptions

The Green Budget baseline forecasts are based on the same macroeconomic assumptions underlying the Treasury’s forecast for the public finances in the Pre-Budget Report. These assume below-trend growth this year and next, with a negative and widening output gap, followed by stronger growth closing the cycle in 2008–09. Beyond 2008–09, the Treasury assumes that the economy grows at its trend rate (which it assumes for cautious forecasting purposes to be ¼ of a percentage point below its genuine expectation of trend growth). This keeps the assumed output gap at zero. The Green Budget baseline forecasts are based on these macroeconomic assumptions to aid direct comparability with the PBR public finance forecasts.

Table 5.9 presents alternative public finance forecasts under the two sets of Morgan Stanley macroeconomic assumptions presented in more detail in Chapter 3.
Table 5.9. HM Treasury and Green Budget public finance forecast under alternative macroeconomic scenarios

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Treasury Pre-Budget Report forecasts</strong> (PBR ‘cautious’ macro assumptions)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP growth</td>
<td>1¾</td>
<td>2¼</td>
<td>3</td>
<td>2¼</td>
<td>2¼</td>
<td>2¼</td>
</tr>
<tr>
<td>Output gap (% of potential GDP)</td>
<td>−1.4</td>
<td>−1.5</td>
<td>−0.7</td>
<td>−0.1</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Public finance forecasts (% of GDP)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current budget surplus</td>
<td>−0.9</td>
<td>−0.3</td>
<td>0.0</td>
<td>0.5</td>
<td>0.7</td>
<td>0.8</td>
</tr>
<tr>
<td>Cyclically adjusted current budget surplus</td>
<td>−0.1</td>
<td>0.7</td>
<td>0.7</td>
<td>0.7</td>
<td>0.7</td>
<td>0.8</td>
</tr>
<tr>
<td>Net borrowing</td>
<td>3.0</td>
<td>2.6</td>
<td>2.3</td>
<td>1.8</td>
<td>1.6</td>
<td>1.4</td>
</tr>
<tr>
<td>Net debt</td>
<td>36.5</td>
<td>37.4</td>
<td>37.9</td>
<td>38.2</td>
<td>38.2</td>
<td>38.2</td>
</tr>
<tr>
<td><strong>Green Budget baseline</strong> (PBR ‘cautious’ macro assumptions)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>GDP growth</td>
<td>1¾</td>
<td>2¼</td>
<td>3</td>
<td>2¼</td>
<td>2¼</td>
<td>2¼</td>
</tr>
<tr>
<td>Output gap (% of potential GDP)</td>
<td>−1.4</td>
<td>−1.5</td>
<td>−0.7</td>
<td>−0.1</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Public finance forecasts (% of GDP)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current budget surplus</td>
<td>−0.9</td>
<td>−0.6</td>
<td>−0.4</td>
<td>0.0</td>
<td>0.3</td>
<td>0.6</td>
</tr>
<tr>
<td>Cyclically adjusted current budget surplus</td>
<td>−0.1</td>
<td>0.5</td>
<td>0.2</td>
<td>0.2</td>
<td>0.4</td>
<td>0.6</td>
</tr>
<tr>
<td>Net borrowing</td>
<td>3.0</td>
<td>2.9</td>
<td>2.7</td>
<td>2.2</td>
<td>1.9</td>
<td>1.6</td>
</tr>
<tr>
<td>Net debt</td>
<td>36.5</td>
<td>37.6</td>
<td>38.6</td>
<td>39.2</td>
<td>39.5</td>
<td>39.6</td>
</tr>
<tr>
<td><strong>Alternative Green Budget scenario I</strong> (Morgan Stanley central forecast)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP growth</td>
<td>1¾</td>
<td>2¼</td>
<td>2¼</td>
<td>2¼</td>
<td>2½</td>
<td>2½</td>
</tr>
<tr>
<td>Output gap (% of potential GDP)</td>
<td>−0.2</td>
<td>−0.2</td>
<td>0.0</td>
<td>−0.1</td>
<td>0.0</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>Public finance forecasts (% of GDP)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Current budget surplus</td>
<td>−0.8</td>
<td>−0.6</td>
<td>−0.5</td>
<td>−0.1</td>
<td>0.2</td>
<td>0.5</td>
</tr>
<tr>
<td>Cyclically adjusted current budget surplus</td>
<td>−0.7</td>
<td>−0.4</td>
<td>−0.4</td>
<td>−0.1</td>
<td>0.2</td>
<td>0.4</td>
</tr>
<tr>
<td>Net borrowing</td>
<td>2.9</td>
<td>2.9</td>
<td>2.8</td>
<td>2.4</td>
<td>2.1</td>
<td>1.8</td>
</tr>
<tr>
<td>Net debt</td>
<td>36.4</td>
<td>37.6</td>
<td>38.6</td>
<td>39.4</td>
<td>39.8</td>
<td>40.1</td>
</tr>
<tr>
<td><strong>Alternative Green Budget scenario II</strong> (Morgan Stanley ‘worse case’ forecast)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>GDP growth</td>
<td>1¼</td>
<td>1½</td>
<td>2</td>
<td>2</td>
<td>2½</td>
<td>2½</td>
</tr>
<tr>
<td>Output gap (% of potential GDP)</td>
<td>−0.1</td>
<td>−0.2</td>
<td>−0.2</td>
<td>−0.2</td>
<td>−0.1</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>Public finance forecasts (% of GDP)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current budget surplus</td>
<td>−0.8</td>
<td>−0.6</td>
<td>−0.5</td>
<td>−0.4</td>
<td>−0.0</td>
<td>0.3</td>
</tr>
<tr>
<td>Cyclically adjusted current budget surplus</td>
<td>−0.8</td>
<td>−0.5</td>
<td>−0.4</td>
<td>−0.2</td>
<td>0.0</td>
<td>0.3</td>
</tr>
<tr>
<td>Net borrowing</td>
<td>2.9</td>
<td>2.8</td>
<td>2.9</td>
<td>2.6</td>
<td>2.4</td>
<td>2.0</td>
</tr>
<tr>
<td>Net debt</td>
<td>36.4</td>
<td>37.6</td>
<td>38.6</td>
<td>39.7</td>
<td>40.3</td>
<td>40.8</td>
</tr>
</tbody>
</table>

The Morgan Stanley central case assumes that the economic cycle closed in 2003–04 as output moved above potential. Growth is forecast to be in line with the Treasury’s prediction this year, slightly higher than the Treasury for 2006–07, lower in 2007–08 and 2008–09, and then higher in the medium term as Morgan Stanley uses a central rather than a ‘cautious’ rate of GDP growth for the medium term. Overall, this scenario implies less real output growth between 2005–06 and 2010–11 than the Treasury’s Pre-Budget Report.

The Morgan Stanley ‘worse case’ macro scenario also assumes that the economy is near the beginning of a new economic cycle, with the previous one having closed in 2003–04. It assumes a similar rate of GDP growth to the Treasury for 2005–06, followed by 3 years of lower growth, before a levelling-off in 2009–10 when economic growth returns to trend. This scenario implies less real output growth between 2005–06 and 2010–11 than either the Pre-Budget Report or the Morgan Stanley central case.

As discussed earlier, the Green Budget forecast shows a worse outcome for the current budget and higher borrowing than the Pre-Budget Report for the years from 2006–07. This, in turn, leads to higher debt in every year.

Under the Morgan Stanley central case, the current budget position is weaker and borrowing higher than the baseline case from 2007–08 onwards. Similar forecasts for the macroeconomy for 2005–06 and 2006–07 lead to similar outcomes for the public finances, while the lower growth for 2007–08 and 2008–09 leads to weaker public finance outcomes. The two following years display stronger economic growth, but the boost to the public finances this provides is not sufficient to offset the need for higher spending to service the debt accumulated previously and the less favourable composition of growth in terms of tax revenues. Debt is expected to breach the 40% of national income level in 2010–11.

Under the Morgan Stanley ‘worse case’ scenario, lower growth leads to higher borrowing. The lower growth in national income masks some of the weakness in the current budget at the end of the forecasting period, as the figures shown in Table 5.9 are given as a percentage of this lower national income. The higher borrowing leads to an expected breach of the 40% limit for net debt one year earlier, in 2009–10.

Figure 5.5. Current budget balance forecasts

Sources: Authors’ calculations; Treasury forecasts from HM Treasury, Pre-Budget Report 2005, Cm. 6701.
Figures 5.5, 5.6 and 5.7 show the evolution of the current budget balance, the cyclically adjusted current budget balance and net debt under the Pre-Budget Report forecasts and the Green Budget forecasts for various macroeconomic scenarios. All the scenarios show a gradual improvement in the current budget over time, but the PBR forecast has more of the improvement happening early on and the final position of the current budget is higher.

As is shown in Figure 5.6, both the PBR and the baseline Green Budget forecasts (based on the PBR macroeconomic scenarios) show the cyclically adjusted current balance being close
Public finance forecasts

to zero for this year and further improvement in 2006–07. In contrast, the forecasts based on the two Morgan Stanley macroeconomic scenarios show a significant cyclically adjusted deficit on the current budget this year. This is because they both assume a smaller absolute output gap, so the public finances are not assumed to be underperforming by as much due to the cyclical position. For a given forecast or out-turn of the public finances, a less negative output gap suggests a weaker structural position. Although under both Morgan Stanley scenarios the cyclically adjusted position is expected to improve over time, the cyclically adjusted position remains weaker than in the PBR and baseline Green Budget scenarios in every year.

Figure 5.7 shows the trajectory of public sector net debt under all four forecasts. The 40% of national income level is breached under both the Morgan Stanley macroeconomic scenarios, but this only occurs at the end of the forecast period. Under both Morgan Stanley scenarios, the first full economic cycle since Gordon Brown became Chancellor ended in 2003–04, so the breach would occur well into the next cycle. As we do not yet know how compliance with the sustainable investment rule will be assessed going forward, it is not clear whether this would constitute a breach of the rule or not in the next cycle.

Over the current economic cycle, the golden rule has been more constraining than the sustainable investment rule. But, in the future, under all the scenarios presented, the sustainable investment rule is likely to be the more binding - all three Green Budget scenarios show a mounting cyclically adjusted surplus on the current budget by 2010–11 but public sector net debt near or above 40% of national income.

5.5 The fiscal rules and the budget judgement

The current cycle

Since the December 2005 Pre-Budget Report, the Treasury has assumed that the current economic cycle will run from 1997–98 to 2008–09. For the golden rule to be met over this cycle, there must a cumulative (and therefore average) surplus on the current budget over the 12 years that constitute this economic cycle. Over the cycle to date (1997–98 to 2004–05), there has been an average surplus on the current budget of 0.2% of national income. In today’s terms, that corresponds to a cumulative surplus of £21.4 billion - the room for manoeuvre that the government has for the remaining years of this cycle. According to the PBR, the remaining 4 years in this cycle will yield an average deficit of 0.2% of national income, reducing the average surplus over the whole cycle to 0.1% of national income. This implies a cumulative surplus in today’s terms of £12.8 billion.

As we discussed in Section 5.3, we expect larger current budget deficits than the Pre-Budget Report from next year onwards. This makes the golden rule more difficult to meet.

Table 5.10 shows the annual surplus on the current budget under the Green Budget forecasts going forward and the average and cumulative surpluses over the years from 1997–98. The larger deficits in 2006–07 and 2007–08 eliminate the Chancellor’s room for manoeuvre so that by 2007–08 there is a very small average deficit on the current budget. By 2008–09, the expected end of the cycle, the Green Budget forecast is for an average surplus of –0.0% of
national income (rounded to one decimal place), corresponding to a cumulative deficit of £0.7 billion in today’s GDP terms.

Our central forecast is thus for the Chancellor to break the golden rule over the current cycle by a very narrow margin. Given our past forecasting performance, it would be more meaningful to say that we think the chances of meeting the rule are marginally less than 50:50. As we argued in Chapter 2, we see no direct economic significance in meeting or missing the rule by a margin as small as £0.7 billion, especially over a period as long as 12 years. It follows that this roughly equal chance of meeting or breaching the golden rule does not in and of itself justify fresh tax increases or spending cuts.

Table 5.10. The golden rule under the Green Budget baseline forecast

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</thead>
<tbody>
<tr>
<td>Surplus on current budget</td>
<td>−0.9</td>
<td>−0.6</td>
<td>−0.4</td>
<td>0.0</td>
<td>0.3</td>
<td>0.6</td>
</tr>
<tr>
<td>Average surplus since 1997–98</td>
<td>0.1</td>
<td>0.0</td>
<td>−0.0</td>
<td>−0.0</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Cumulative surplus (£bn)</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>−£0.7</td>
<td>—</td>
</tr>
</tbody>
</table>

Note: Figures rounded to one decimal place.

Of course, the Chancellor has staked his reputation on strict adherence to the rule – and his credibility has been undermined by the suspicion that he has re-dated the cycle to make his life easier. He must therefore decide whether the slightly less than 50% chance of meeting the rule under our forecasts – or the 58% chance of meeting the rule under his own – is sufficient, or whether further tightening is desirable to increase his probability of success.

Looking forward

We have argued in past Green Budgets that the need for changes in taxes or public spending plans should be assessed in a forward-looking way, rather than by focusing too heavily on performance over an arbitrarily dated economic cycle. The Treasury’s fortuitously timed re-dating of the cycle over the past year only confirms us in this view.

One might argue that there is now a stronger case for endeavouring to meet the golden rule over this newly elongated cycle in order to help restore the credibility of the framework. But one might also take the view that having shifted the start and end points of the cycle once, the Treasury might well do so again. Why take steps now to hit a target that might well move again?

As we noted in the previous subsection, our central forecast is for the golden rule to be breached narrowly over the present cycle. But we expect the current budget to begin the next cycle in balance, with fiscal drag generating mounting surpluses thereafter. This implies that the golden rule is more likely than not to be met in the following cycle, however long it is.

The Chancellor has always sought to have the current budget in healthy surplus by the end of the forecasting horizon. Given the uncertainty surrounding estimates of the output gap, this can be taken as an alternative benchmark for the caution the Chancellor sees as desirable in planning the public finances. In the March 2005 Budget, the Chancellor signalled that he was content with a current budget surplus of 0.8% of national income at the end of the then forecasting horizon in 2009–10. We estimate that the current budget surplus will be 0.6% of
Public finance forecasts

national income at the end of the new forecasting horizon in 2010–11, implying that an increase in taxes or a reduction in current spending equivalent to £2½ billion in today’s prices would restore the same degree of caution on this interpretation. This would also lift the probability of meeting the golden rule over the current cycle above 50% and provide slightly more headroom in meeting the sustainable investment rule, which may be important if Morgan Stanley and others are right in assuming that there is less scope for above-trend growth (and the associated boost to tax revenues) over coming years than the Treasury thinks.

All this, of course, assumes that the Chancellor sets the envelope for public spending in the 2007 Comprehensive Spending Review at the relatively restrictive levels assumed in the Pre-Budget Report. As we noted in Chapter 4, this may be hard to square with the government’s aspirations in areas such as health, education, overseas aid and poverty reduction, while there may also be additional pressures on spending due to the reduction in the EU rebate that the Prime Minister has agreed to since the Pre-Budget Report was published. If, for example, the Chancellor were to ‘lock in’ the increase in spending he has delivered and planned to date - keeping spending constant as a share of national income beyond 2007–08 - fresh tax increases worth £8½ billion would be needed to offset the impact on the path of borrowing and debt and on performance relative to the fiscal rules.

To summarise: In the last two Green Budgets, we have argued that the Treasury should publish less optimistic forecasts for tax revenues, and that some combination of fresh tax increases and tougher public spending plans worth about £11–13 billion would be needed to deliver the improvement in the public finances that the Chancellor was looking for. The Pre-Budget Report went a considerable way in this direction, if we assume that the Chancellor is willing to adopt and deliver the figures he has pencilled in for the period of the next spending review. These would cut public spending as a share of national income by the equivalent of £8½ billion in today’s terms, on top of the £3 billion tax increase announced in the PBR. In the wake of a further downgrade of the Treasury’s public finance forecasts in the PBR, we still see a reasonable case for some further modest increase in taxation of around £2½ billion to restore the caution the Chancellor was looking for in the last Budget and to increase his chances of meeting his fiscal rules. If the Chancellor wants to spend more than his forecasts currently assume, the tax increase required would be correspondingly larger - £8½ billion larger if he wished to keep public spending constant as a share of national income beyond 2007–08.
6. Funding issues and debt management

David Miles, with Niki Anderson (Morgan Stanley)

Summary

• Public sector net debt is likely to continue rising as a share of national income over the next few years, but empirical evidence suggests that this is unlikely in itself to trigger higher real interest rates – although we do believe that long-term interest rates are much more likely to rise significantly than to fall or remain at current levels.

• Demand for long-dated assets by defined-benefit pension schemes is set to continue, but does not guarantee long-term real interest rates will stay low. A cost-effective strategy would be for the corporate sector to buy back equity, issue more debt and so increase the supply of bonds available to its pension funds.

• The likelihood that long-term real interest rates will rise suggests that the Debt Management Office would benefit from locking in low real rates of interest now. Higher issuance of long-dated index-linked debt could also support cost-effective wider pension provision.

• The proportion of debt outstanding in index-linked gilts has been broadly constant in recent years. But the DMO seems prepared to take a more flexible approach going forward.

6.1 Introduction

This chapter begins by assessing how the scale of gilt issuance anticipated over the next few years could affect the cost of UK government debt. We analyse the ways in which the supply of bonds of different types will interact with demand to determine bond yields. The nature of the demand for different types of bonds, and the way in which the cost of servicing that debt moves with economic developments, should determine the optimal way in which the government finances its borrowing. Developments in the structure of pension provision may have a significant effect here and we consider the implications of that for debt management.

6.2 How does gilt issuance affect yields?

Over the past six years, gross issuance in the gilt market has risen more than fivefold - from £10 billion in the funding year 2000-01 to an estimated £52.3 billion in 2005-06. Issuance net of redemptions has increased even further, from a net redemption of £8.6 billion to an estimated net issuance of £37.7 billion. Tables 6.1 to 6.4 summarise how we expect net borrowing, debt relative to national income (GDP) and gilt issuance to evolve over the next five years.
### Table 6.1. Public sector net borrowing

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</thead>
<tbody>
<tr>
<td>PBR</td>
<td>38.8</td>
<td>37.0</td>
<td>34.0</td>
<td>31.0</td>
<td>26.0</td>
<td>23.0</td>
<td>22.0</td>
</tr>
<tr>
<td>Base case</td>
<td>38.8</td>
<td>36.8</td>
<td>36.7</td>
<td>36.7</td>
<td>31.5</td>
<td>28.8</td>
<td>25.0</td>
</tr>
<tr>
<td>MS central case</td>
<td>38.8</td>
<td>36.0</td>
<td>37.0</td>
<td>37.2</td>
<td>33.6</td>
<td>31.3</td>
<td>27.8</td>
</tr>
<tr>
<td>MS worse case</td>
<td>38.8</td>
<td>35.8</td>
<td>36.4</td>
<td>38.5</td>
<td>37.0</td>
<td>34.7</td>
<td>30.6</td>
</tr>
</tbody>
</table>

Sources: IFS; Morgan Stanley Research; HM Treasury.

### Table 6.2. Public sector net debt

<table>
<thead>
<tr>
<th></th>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>PBR</td>
<td>34.7</td>
<td>36.5</td>
<td>37.4</td>
<td>37.9</td>
<td>38.2</td>
<td>38.2</td>
<td>38.2</td>
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<tr>
<td>Base case</td>
<td>34.7</td>
<td>36.5</td>
<td>37.6</td>
<td>38.6</td>
<td>39.2</td>
<td>39.5</td>
<td>39.6</td>
</tr>
<tr>
<td>MS central case</td>
<td>34.7</td>
<td>36.4</td>
<td>37.6</td>
<td>38.6</td>
<td>39.4</td>
<td>39.8</td>
<td>40.1</td>
</tr>
<tr>
<td>MS worse case</td>
<td>34.7</td>
<td>36.4</td>
<td>37.6</td>
<td>38.6</td>
<td>39.7</td>
<td>40.3</td>
<td>40.8</td>
</tr>
</tbody>
</table>

Sources: IFS; Morgan Stanley Research; HM Treasury.

### Table 6.3. Gilt issuance: the DMO’s Pre-Budget Report projections

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Central government net cash requirement</td>
<td>43.0</td>
<td>40.0</td>
<td>37.0</td>
<td>31.0</td>
<td>33.0</td>
<td>29.0</td>
</tr>
<tr>
<td>Redemptions</td>
<td>15.0</td>
<td>30.0</td>
<td>29.0</td>
<td>18.0</td>
<td>16.0</td>
<td>20.0</td>
</tr>
<tr>
<td>Financing requirement</td>
<td>55.0</td>
<td>70.0</td>
<td>66.0</td>
<td>49.0</td>
<td>49.0</td>
<td>49.0</td>
</tr>
<tr>
<td>Illustrative gross gilt sales</td>
<td>52.0</td>
<td>68.0</td>
<td>64.0</td>
<td>47.0</td>
<td>47.0</td>
<td>47.0</td>
</tr>
</tbody>
</table>

Notes: 2005–06 estimate of gross gilt sales is from the PBR; other projections assume national savings and investments run at £2 billion a year and that other factors (for example, changes in the public sector net cash position and changes in the stock of Treasury bills) have zero net impact. Sources: Debt Management Office; Morgan Stanley Research.

### Table 6.4. Outlook for gross gilt issuance

<table>
<thead>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DMO/PBR illustrative gilt sales</td>
<td>52.0</td>
<td>68.0</td>
<td>64.0</td>
<td>47.0</td>
<td>47.0</td>
<td>47.0</td>
</tr>
<tr>
<td>Base case</td>
<td>52.0</td>
<td>71.0</td>
<td>70.0</td>
<td>53.0</td>
<td>53.0</td>
<td>50.0</td>
</tr>
<tr>
<td>MS central case</td>
<td>51.0</td>
<td>71.0</td>
<td>70.0</td>
<td>55.0</td>
<td>56.0</td>
<td>56.0</td>
</tr>
<tr>
<td>MS worse case</td>
<td>51.0</td>
<td>70.0</td>
<td>72.0</td>
<td>58.0</td>
<td>59.0</td>
<td>56.0</td>
</tr>
</tbody>
</table>

Notes: The alternative projections in Table 6.4 to the PBR/DMO illustrations are not really forecasts of what gilt sales would be, since they are based on an assumption of unchanged spending plans and tax rates. If the alternative scenarios turned out to be accurate projections for the UK economy and for the subsequent path of the public finances, the government might well change policy so that borrowing does not increase as much. This is more likely in the medium term than in the short term. In particular, the £56 billion for 2010–11 under the 'worse case' scenario for the economy might not occur since the Chancellor would very likely have cut spending and/or increased taxes if things turned out this way. Sources: IFS; Morgan Stanley Research; Debt Management Office.
Over the next five years, gross gilt issuance is likely to be running at very much higher levels than, on average, over the past five years. Net issuance is likely to rise by rather less, and it is net issuance that is probably more relevant in determining how the balance between demand and supply will affect interest rates on government debt. Our central forecast is for the net debt to GDP ratio to rise to be close to 40% by 2009. If that were to happen, the net debt to GDP ratio would have risen by close to 10% of GDP in the period between 2000 and 2010.

During the period between 2000 and the end of 2005, when net issuance increased strongly and the net debt to GDP ratio increased by about 6.5 percentage points, yields on medium- to long-dated gilts fell, in both real and nominal terms. Over that period, yields on medium- to long-dated bonds, both conventional and real (index-linked) were highest in 2001–02, when the amount of gross issuance was only £13.6 billion and when overall net issuance was negative (Table 6.5). With issuance nearly four times higher in 2005–06, yields are now lower than they have been in the last six years. Indeed, real yields on inflation-proof bonds are now at their lowest levels since the inception of the index-linked gilt market in 1981.

Table 6.5. Gilt issuance and yields

<table>
<thead>
<tr>
<th>Gross (net) issuance, £ billion</th>
<th>15-year nominal yield</th>
<th>15-year real yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000–01 10 (−9)</td>
<td>4.66%</td>
<td>2.06%</td>
</tr>
<tr>
<td>2001–02 14 (−4)</td>
<td>4.86%</td>
<td>2.37%</td>
</tr>
<tr>
<td>2002–03 26 (9)</td>
<td>4.71%</td>
<td>2.21%</td>
</tr>
<tr>
<td>2003–04 50 (29)</td>
<td>4.70%</td>
<td>2.04%</td>
</tr>
<tr>
<td>2004–05 50 (35)</td>
<td>4.74%</td>
<td>1.85%</td>
</tr>
<tr>
<td>2005–06 52 (38)</td>
<td>4.30%</td>
<td>1.53%</td>
</tr>
</tbody>
</table>

Note: 15-year real and nominal yields are funding-year averages of Bank of England estimated spot yields. Sources: Bank of England; Debt Management Office.

So as the government has needed to raise more cash through the gilt market, and as the stock of outstanding debt relative to national income has moved up substantially, it has been able to borrow at a lower real cost. This appears to be at odds with the conventional historical view that increases in supply mean higher yields and lower bond prices. Given that conventional market view, it has been surprising that in a period such as the past five years, when the government has consistently borrowed more each year than it had forecast, there has been little adverse reaction in the bond market - on the whole, bond prices have kept on rising and yields have kept on falling.

The global context

Part of the explanation as to why greater net issuance in the UK has not been accompanied by a rise in yields may lie in the fact that overseas holdings of gilts have increased over the past five years, from £53 billion in 2000Q2 to £106 billion in 2005Q3. In the context of the global bond market, issuance in the UK is still relatively small. But it has been growing in recent years - since 2003, net issuance in the UK has risen by 31%. This compares with a rise in net

\[\text{1 Since the funding year 2001–02, the Pre-Budget Report has consistently revised upwards required gilt sales relative to April budget projections.}\]
issuance by the four largest economies of the euro area (EMU4) of 13% and a fall in net issuance of US government bonds of 8% (see Table 6.6). This could explain why more cash has been allocated to gilts by overseas investors, particularly those managing a global portfolio, which could have helped provide the support for gilt prices that we have seen over the last few years.

Table 6.6. Net government bond issuance in the UK, USA and EMU4

<table>
<thead>
<tr>
<th></th>
<th>UK (£ bn / $ bn)</th>
<th>USA ($ bn)</th>
<th>EMU4 (€ bn / $ bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>29 (49)</td>
<td>286</td>
<td>133 (151)</td>
</tr>
<tr>
<td>2004</td>
<td>35 (65)</td>
<td>336</td>
<td>180 (224)</td>
</tr>
<tr>
<td>2005</td>
<td>38 (68)</td>
<td>263</td>
<td>150 (187)</td>
</tr>
<tr>
<td>2006*</td>
<td>42 (72)</td>
<td>264</td>
<td>151 (178)</td>
</tr>
</tbody>
</table>

* Morgan Stanley estimates for 2006. Funding year for the UK runs from April to March, so that the 2006 figure is a forecast for funding from April 2006 to March 2007. Funding year for the USA runs from October to September, so that 2006 figure is a forecast for funding from October 2005 to September 2006.

Note: Figures in parentheses for the UK and EMU convert net issuance figures into $ terms using the average exchange rate over the relevant funding year and the end-2005 exchange rate for 2006 forecasts.

Sources: Morgan Stanley; Bloomberg.

But this explanation ignores the fact that the fall in real rates on government debt has been a global phenomenon, as has been the rise in debt to GDP ratios. Figure 6.1 shows that only one of the G7 industrialised countries – Canada – has not seen its debt to GDP ratio rise over the period since 2000. But real rates of interest on government debt have fallen globally (see Figure 6.2). In fact, over the period shown, as the debt to GDP ratios of countries such as the USA and France have risen more than that in the UK, the real yields on index-linked bonds in those countries have fallen further.

In absolute terms, however, real yields on index-linked gilts are considerably lower than their international counterparts, having been at relatively low levels for a longer period of time. To
Figure 6.2. International real yields on inflation-proof bonds

![Chart showing real yields on inflation-proof bonds](chart)

Source: Bloomberg.

Figure 6.3. Long-term real interest rates on UK conventional debt

![Chart showing long-term real interest rates](chart)

Note: Nominal 2.5% consol rate less long-term inflation expectations.
Source: Morgan Stanley Research.

see just how dramatic the fall in UK real yields has been in a longer context, consider Figure 6.3. This shows our estimates of the real interest rate (yield) on long-dated UK government bonds at various times in the past 300 years. Based on our estimates, it appears that the level of real interest rates on long-dated UK government bonds is now close to 300-year lows.

**Real interest rates and the stock of debt**

Explanations for the fall in global real interest rates, and for the particularly low rates seen in the UK in particular, will be examined in the next section, where we consider their sustainability. This issue of sustainability is distinct from the question of whether greater bond issuance will in itself push rates higher. In fact, while the statistical evidence from the history of UK long-term government bond yields is for a degree of mean reversion – implying that real yields will tend to rise from today’s levels – the evidence for a significant and
sustained link between the scale of government borrowing and the level of real interest rates is much weaker.

Figure 6.4 shows the estimated levels of real interest rates on long-term government bonds issued by the UK government since 1700. It also shows an estimate of the level of debt outstanding relative to GDP. The correlation between the two series is actually negative. A simple time-series regression of the level of long rates on the debt to GDP ratio (and inflation and growth in GDP) suggests there is no tendency for real rates to be higher when the stock of government debt relative to GDP is higher. (For details, see Box 6.1.)

Box 6.1. Real interest rates and the stock of debt

We used data from 1700 on the stock of UK government debt and real long-term interest rates on that debt to assess whether there has been a relationship between them. The real interest rate series was constructed by adjusting the nominal long-term government bond yield by expected inflation. The debt data were kindly made available by Professor Andrew Scott of the London Business School.

Figure 6.4 shows that there have been several periods since 1700 when real interest rates and the government debt to GDP ratio have moved in opposite directions. Periods when the debt stock is high relative to GDP do not obviously correspond to periods of above-average real interest rates. The simple partial correlation between the market value of government debt, relative to GDP, and the real long-term interest rate is negative for the 1700–2004 period, and remains negative, though is somewhat smaller, in more recent years (the correlation is about –32% for the 1980–2004 period, compared with –50% for the whole sample). The stock of debt as a share of GDP is a highly persistent (or sluggish) process, meaning it has a very weak tendency to revert to its longer-term mean; real interest rates show more of a tendency to revert to mean.

Simple regression analysis suggests that when we control for other factors, such as past GDP growth ($\Delta gdp$), past inflation ($infl$) and previous movements in the ratio between debt and GDP ($\Delta (Debt/gdp)$), the negative relationship between real interest rates ($rr$) and the stock of debt as a share of GDP is preserved, although the magnitude of this negative effect is small. The simple OLS regression we estimated, based on data for the 1700–2004 period, is as follows:

$$r_t = 4.846 - 0.057\Delta gdp_{t-1} - 0.0199(Debt / gdp)_{t-3} + 0.0256\Delta(Debt / gdp)_{t-4} + 0.0194infl_{t-2}$$

(26) (–1.43) (–8.81) (3.6) (1.4)

The equation suggests that real long-term interest rates have tended to be lower when the total market value of government debt as a share of GDP is higher, whereas increases in the debt ratio have been associated with small increases in real interest rates. Past inflation and GDP growth are not found to be statistically significant influences on real interest rates over the whole 1700–2004 sample, though past inflation becomes a significant variable when we estimate this equation with more recent data.

Viewed in that light, the recent experience in the UK, and indeed in many other developed economies, of rising debt to GDP ratios and low and falling real interest rates is not so puzzling. (Indeed, more puzzling may be the view that had, until recently, been the conventional wisdom: that higher government borrowing meant higher real interest rates on debt – a view for which the historical evidence is far from compelling.) Obviously, it does not follow from this that if debt to GDP ratios rise further, real interest rates will stay at low levels. But it does suggest that rising levels of government debt may not be the trigger for a reversion to higher real interest rates.

6.3 The sustainability of low interest rates

So we have been through an unusual period in world history – with real yields on government debt having fallen to exceptionally low levels. Whether this proves sustainable, and whether the real cost to the UK government of issuing debt stays at today’s very low levels, is an important issue for debt management. If today’s low levels of real interest rates on government debt are here to stay, then it is not so clear that locking in borrowing costs by issuing long-dated bonds is necessarily the best strategy from the point of achieving the lowest cost of funding government borrowing. But if in 3 or 5 or even 10 years’ time the real cost of the government issuing debt is likely to be significantly higher than today, then a strategy of issuing long-dated bonds now is the best way to minimise the cost of funding the national debt.

This issue of the sustainability of low real interest rates is one we now explore in some detail, drawing upon several recent, detailed studies from Morgan Stanley. There are several arguments as to why low long-term real interest rates might persist. Since the issue of the sustainability of low long-term real interest rates is central to questions of optimal debt

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Funding issues and debt management

management, we briefly consider those arguments and assess their plausibility. We focus on three arguments for permanently low real rates: (a) a global savings glut; (b) a rise in risk aversion and a fall in expected growth; and (c) pension fund rebalancing.

Global savings glut?
The hypothesis that an increase in desired savings for the world as a whole has driven down real interest rates is worth taking seriously. The mechanics of the argument are illustrated in Figure 6.5. We assume that total savings are higher the greater is the return on savings, but that the demand for savings to invest falls as the cost of savings (the real rate) increases. Real interest rates are on the vertical axis; saving and investment are measured on the horizontal axis. The diagram shows that, if there were to be an increase in the scale of desired global savings (a move in the schedule from \( S_0 - S_0 \) to \( S_1 - S_1 \)), with an unchanged global demand for investible funds, we would expect to see:

- a decline in the real rate of interest;
- an increase in the level of savings (and investment, which must equal savings when we focus on the world as a whole).

Of course, the model illustrated is hugely simplified; it draws no distinction between a rate of return on some global debt instrument (‘the’ real interest rate) and a return on corporate capital funded by equity. It also abstracts from risk differences between different financial instruments and equates the required rate of return on corporate capital (or the cost of capital) with a real interest rate. Despite this, it still makes sense to ask if there is any evidence of a shift in savings large enough to generate the sort of movements in real rates we have seen, driven by a mechanism of the kind illustrated in Figure 6.5.

Figure 6.5. Simple supply and demand of savings model

![Figure 6.5. Simple supply and demand of savings model](Source: Morgan Stanley Research.)
**Global savings have edged up ...**

Figure 6.6 shows IMF estimates of gross savings for the world as a whole, and for various areas and countries, in the period since 1980. There has been a fall in saving rates in many areas over the past few years – most notably in the USA, but also in the UK. For advanced economies as a whole, saving rates have gently declined since the end of the 1990s. But for the world as a whole, the estimated total level of gross savings has edged up in the last few years, from around 21% of global national income in 2001-02 to just over 22% of global national income by 2005. The scale of the change is clearly small, but could it nonetheless be large enough to drive down real rates by a significant amount?

**Figure 6.6. Gross national savings (% of GDP)**

Note: Figures for 2005 are IMF forecasts.

... but not nearly enough

It is implausible that such a small increase in the flow of gross saving can, other things equal, generate a fall in the level of real interest rates that is as substantial as is implied by the decrease in the level of yields on long-dated inflation-proof bonds. For example, the fall in the level of yields on long-dated inflation-proof bonds since 2001-02 in the USA and France has been from a level of around 3.5% to under 2%. The fall in the yield on long-dated UK inflation-proof debt over this period has been substantial: from around 2.3% to under 1%.

To generate a fall in the global real rate of interest of over 1 percentage point would probably require a much more substantial rise in the saving rate than that suggested by the IMF data. The back-of-the-envelope calculation described in Box 6.2 shows why.

**Rise in risk aversion / lower GDP growth?**

The level of real interest rates is likely to depend on the anticipated level of growth of real GDP. And the real return on a safe asset - an inflation-proof government bond issued by a government with only a small chance of default - is likely to be lower the more averse to
Box 6.2. Real interest rates and the saving rate

A production function – linking the level of output to inputs of capital and labour – suggests that there should be a link between the stock of capital and the amount of labour used in production and the rate of return on capital. If we assume the (common) Cobb-Douglas production function, which has the appealing feature that it predicts that the share of capital and of labour in total output is constant, the real rate becomes

\[ r = \beta \left( \frac{Y}{K} \right) - \delta \]

where \( r \) is the real rate of return, \( K \) is aggregate capital employed, \( Y \) is aggregate output, \( \delta \) is the depreciation rate on capital and \( \beta \) is the share of profits in GDP.

Let us take some ballpark figures for the key numbers:

- \( \beta = 0.30 \);
- \( \frac{K}{Y} = 3 \);
- \( \delta = 5\% \).

This would generate

\[ r = 0.30 \times \frac{1}{3} - 5\% = 5\%. \]

What would it take to reduce the rate of return by one full percentage point? To drive the rate of return down from 5\% to 4\%, we need the ratio of capital to income (or GDP) to increase from 3.0 to 3.33. This is an increase in the capital stock of about 11\%, which is worth close to 33\% of annual GDP at a plausible capital to output ratio of around 3. To achieve that rate of increase in capital over five years (the period over which real interest rates have fallen by about 1 percentage point) would require the saving rate to be higher by close to 7\% of GDP each year. This is clearly far in excess of the actual increase in the global gross saving rate since 2001–02, which is about 1\% of global national income.

taking risk investors are. So a combination of rising risk aversion and greater pessimism about the growth of future real incomes could mean that real interest rates on government bonds fall and, if persistent, mean that they stay low. Might these factors explain low real yields on government bonds? An analysis based on a framework developed by Robert Barro makes us sceptical.³

Using the Barro framework for valuing safe bonds and equities, we estimate that if lower expected real growth in GDP were to be the main factor behind the fall in real yields on longer-dated government bonds, then future growth in living standards would be expected to be about one-half the levels of recent decades (about 1.25\% versus an historic average nearer 2.5\%). And if the main factor behind lower real yields were to be more risk aversion, then we estimate that the current level of risk aversion would need to be substantially higher than survey evidence based on very large samples of US and German households suggests is

likely. Nor is the hypothesis that perceptions of higher risk about real economic performance in the future are the main factor behind lower bond yields very plausible. Given that the last hundred years include two world wars and the great depression of the 1930s, the notion that the next decades are likely to be more risky than the past century is not particularly compelling.

We conclude that a theoretically based asset pricing model depending on fundamental features of the economy - the scale of volatility of real growth, the degree of risk aversion of investors, the average rate of technical progress - cannot easily account for today’s very low real interest rates on long-dated bonds.

### Pension fund rebalancing?

Probably the most convincing explanation for the exceptionally low level of real yields on longer-dated UK government bonds is that past, current and anticipated rebalancing of portfolios of UK pension funds and life insurance companies towards more fixed income assets may have driven yields down. The rationale is that these institutional investors provide a large source of demand for gilts as they aim to match their liabilities in response to regulatory innovations and in an effort to improve their risk management profiles.

<table>
<thead>
<tr>
<th>Funding year</th>
<th>10-year nominal forward rate 10 years ahead</th>
<th>10-year real forward rate 10 years ahead</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000–01</td>
<td>3.86%</td>
<td>1.60%</td>
</tr>
<tr>
<td>2001–02</td>
<td>4.63%</td>
<td>2.00%</td>
</tr>
<tr>
<td>2002–03</td>
<td>4.63%</td>
<td>2.10%</td>
</tr>
<tr>
<td>2003–04</td>
<td>4.75%</td>
<td>2.18%</td>
</tr>
<tr>
<td>2004–05</td>
<td>4.50%</td>
<td>1.59%</td>
</tr>
<tr>
<td>2005–06</td>
<td>4.26%</td>
<td>1.30%</td>
</tr>
</tbody>
</table>


This source of demand has been present in the gilt market for a number of years, as regulatory and accounting changes in the UK have tended to stay ahead of international policy. But it does appear to have had a marked impact on the gilt curve more recently. Table 6.7 shows the average 10-year real and nominal forward rates 10 years ahead over the past six years. Given that these are forward rates, they should be largely unaffected by developments at the short end of the yield curve. A fall in these rates points instead to a preference on the behalf of investors for longer-dated assets.

The sample period can be broadly split into two. From 2000–01 to 2003–04, both real and nominal forward rates rose. The low rates seen in 2000–01 were most likely related to the Minimum Funding Requirement (MFR) for corporate pension schemes. Introduced in 1996, this regulatory requirement had given pension funds a strong incentive to pay a premium for long-dated gilts. But in 2001, the government announced its decision to reassess the MFR, thereby relieving pressure on long-dated gilt prices and allowing both real and nominal forward rates to rise. Since 2003–04, however, we have seen further regulatory initiatives, including changes to accounting standards (FRS17) and plans to replace the MFR with a
scheme-based regime. This has coincided with falling long-dated forward rates, particularly in the index-linked gilt market. It is unclear, however, quite how strong institutional demand for long-dated government bonds will be in the future. Two important factors will be the evolution of pensions regulation and the pace with which defined-benefit (DB) schemes close.

**Ongoing demand for long bonds is likely …**

In October 2005, the Pensions Regulator published a consultation document entitled *How the Pensions Regulator Will Regulate the Funding of Defined Benefits*. This set out how the Pensions Regulator intends to regulate private sector defined-benefit pension schemes, effective from April 2006. The new guidelines replace the much-criticised MFR with a more individual scheme-based approach aimed at ensuring that defined-benefit funds are able to meet their future liabilities.

The basic outline of the approach is that individual schemes will be charged with assessing their own funding shortfall (as measured by FRS17) and putting in place a recovery plan in order to eliminate it. Every scheme will undergo a regular funding valuation to take place at least every three years.

The new regulations do not include specific guidance as to which assets pension funds should be invested in. It is, however, likely that DB pension funds will increase their holdings of long-dated government bonds. Long bonds are a better match for debt-like liabilities (whose value under accounting standard FRS17 depends on corporate bond yields) than most other asset classes. While they are not effective in hedging longevity risk, they can protect against duration (that is, interest rate) risk and, in the case of index-linked gilts, against inflation risk. By holding a substantial proportion of assets in long bonds, pension funds can minimise the risk that, because of interest rate movements, deficits reappear or widen in the future. This may be achieved either by switching out of equities or by using new cash injected by companies predominantly into bonds.

The Pensions Regulator made it clear that it would require pension schemes to have a recovery plan in place that would eliminate deficits as soon as possible, subject to not putting undue strain on the strength of the underlying company. Ten years is suggested as a maximum length of time over which the recovery plan should be implemented. It is clear, however, that where the Pensions Regulator believes the deficit can reasonably be plugged within a much shorter time, it will require companies to do so.

A related development is the establishment in 2005 of a Pension Protection Fund (PPF), a statutory fund set up to compensate members of defined-benefit schemes in the event of insolvency of the sponsoring company. For the year 2006–07, levies to finance the PPF will not be related to the asset allocation of individual pension schemes. But, with a consultation exercise planned in 2006, there remains the possibility that – in the following year or two – pension funds may find that levies become linked to portfolio allocations and that funds with low bond holdings face higher levies. Again, this may well provide a bid to the long end of the gilt market over the next year or two, keeping yields low.

... *but the impact could be muted*

While the direction of many of these forces is clear, the scale of the effects is harder to judge. Whether they are powerful enough to keep yields on longer-dated gilts at exceptionally low...
levels is not clear. Indeed, a number of factors act against such an outcome. First, it is important to recognise that the majority of private sector defined-benefit schemes are already closed to new members; and over the next few years, many may also stop existing members from accruing additional rights. Based on detailed modelling of how demographic change and closure of existing DB schemes affect UK pension funds, we recently concluded that strong demand for sterling fixed income assets can be expected for several years, but the scale of that demand is likely to fall off rather sharply about 10 years ahead. Figure 6.7 shows an estimate of net new demand from corporate pension funds on the assumption that they aim to hold a much larger percentage of their assets in bonds.

Specifically, we assume that corporate pension funds move from the position today where, on average, about 60% of the portfolios are in equities and about 25% in debt, to a situation of two-thirds of assets in bonds. We assume that this portfolio switch occurs gradually over an 8-year period. We also allow for the overall stock of assets to evolve as schemes mature. Based on those assumptions, we estimate that demand from UK corporate pension schemes for bonds will be significantly greater than net new supply of gilts for a period stretching ahead for more than five years. But the fall in demand after about 2011 is very sharp.

This is important if there are investors and issuers with the foresight and time horizons to take account of the potential for demand for sterling fixed income assets to fall sharply in the future. In that case, the impact on bond prices and yields of likely very strong demand for the next few years will be muted.

But there may be few investors with the scope to take advantage of likely big swings in demand over such a long horizon. If that is so, government and corporate issuers should take advantage of strong demand for long-duration fixed income assets by issuing very long-maturity debt at prices that could come to seem very favourable in the medium term. One possible impact of the de-gearing (or de-risking) of pension fund portfolios might therefore be

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that issuance of long-term corporate debt rises sharply. Indeed, we argue that the simple logic of Modigliani-Miller tells us that this is a natural response and one that shareholders should welcome. The idea here is that what really matters is the overall level of net debt obligations of a firm; if a company issues more debt that sits directly on its balance sheet, but simultaneously buys more debt to hold as a matching asset against its pension liabilities, it has not increased its net debt and its overall gearing has not changed. Indeed, this could create a gain because of the tax deductibility of the interest on the debt it has issued. In other words, a shift in corporate pension fund portfolios away from heavy reliance on equity holdings and towards corporate bonds, allied with a strategy of companies buying back their own shares and issuing corporate bonds, could leave overall corporate sector debt gearing effectively unchanged while allowing pension fund rebalancing towards assets matched against liabilities and in a tax-efficient way.

If that happens, then the bond and share price impact of even very major rebalancing in corporate pension schemes could be small. The extra demand for bonds to rebalance DB pension funds would be naturally matched by additional supply of corporate bonds issued to finance companies buying back the equities sold by other pension funds. If that happened, the whole notion of a shortage of supply in bonds would look strange - demand would create its own supply. If this process becomes important, then it would undermine the argument that an imbalance between demand and supply for bonds can keep bond yields at what are remarkably low levels.

We conclude that a combination of Modigliani-Miller-style reasoning and the potential for long-horizon behaviour by some investors and issuers should make us sceptical that the pension fund rebalancing story has as its inevitable conclusion that bond yields should be unusually low now and will stay low.

**Conclusion**

We have assessed some of the arguments for very low real interest rates and not found them entirely compelling. It would be too strong to say that this proves there is a bubble in the bond market and that bond prices will fall (and yields rise) at some time in the near future. We reach the more cautious conclusion that the risks are substantially biased one way - which is towards real rates being significantly higher, and perhaps in the relatively near term. How that observation should affect debt management is the key policy issue we turn to next. A natural starting point for that analysis is to think about the principles of optimal debt management.

**6.4 How should the government fund its borrowing?**

**Managing uncertainty**

There is an extensive academic literature on the principles behind optimal debt management. It is largely driven by the assumption that smoothing the average rate of tax is desirable. With that aim, governments should seek types of debt where the cost of servicing the debt (the interest rate) is negatively correlated with shocks that increase the amount of debt. So an optimal form of debt would be one whose interest rate (and market value) was lower when an adverse shock made government deficits higher. That might mean that ideal debt instruments
for governments to issue were bonds with values that were positively correlated with GDP growth – a bad outcome for GDP, which would typically mean higher government deficits and more debt, would reduce the cost of servicing the existing stock of debt.

In practice, it appears that this sort of contingent debt is rarely used. Recent evidence from Albert Marcet and Andrew Scott suggests that governments do not (and probably cannot) issue this sort of contingent debt. There are several reasons why such contingent debt is not traded - partly because of practical issues to do with verification and data revisions and partly because of perverse incentives coming from linking the cost of government debt to outcomes that the government has some ability to control, e.g. the fiscal deficit or tax revenues.

So we have a narrower range of debt instruments: conventional/indexed; short/medium/long; and domestic/foreign currency.

The question as to how deficits should be funded optimally in a world with a limited range of debt instruments has been extensively studied; Barro (1995) remains a key reference. He concentrates on two key guiding principles. The first is that it is preferable on risk and uncertainty grounds to fix the cost of servicing the national debt in real terms, i.e. to fix a real rate of interest on borrowing. Second, since the government typically wants to borrow over the long term, it is preferable to issue longer-dated debt (again, where the cost is defined in real terms). The idea is that this removes fluctuations in financing costs arising from changes in the short-term real interest rate.

Together, these criteria point towards a strategy of concentrating issuance in long-dated index-linked debt. In the event that this is not possible, Barro also suggests issuing short-dated nominal debt, e.g. in the form of Treasury bills. This form of issuance has the advantage that it essentially satisfies Barro’s first criterion – over a short period of time, there is relatively little uncertainty over the inflation component of the short-term nominal interest rate. However, it clearly does not satisfy the second criterion – the financing costs associated with rolling over a Treasury bill portfolio will fluctuate frequently in line with changes in short-term interest rates.

**Pension provision**

Arguably, deficit funding strategy may also be optimised with reference to alternative criteria, e.g. to better meet the demands of the pension system. This could be justified on the grounds that the government has a responsibility to ensure that efficient pension provision is widely available. While this objective is less easily quantifiable than Barro’s risk and volatility criteria, it is not obvious why it should not form part of an overall funding strategy, particularly if it does not increase the costs of funding. Other things equal, it seems reasonable that the government should exploit any opportunity it has, by the way in which it chooses to manage the composition of its own debt portfolio, to facilitate effective saving towards retirement. In principle, there could be a conflict between objectives of debt management based on the level and volatility of funding costs and that of enabling private sector pension

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provision. In practice, the low real yields on those assets most in demand for private pension provision and the fact that they are long-maturity, real bonds (which the Barro analysis suggests is the kind of debt that should make up a high proportion of national debt) suggest that there is unlikely to be a conflict.

In the case of funded defined-benefit pensions, it is fairly straightforward to see how funding strategy can be used in support of pension provision. By issuing more long-dated, particularly index-linked, debt, the Debt Management Office (DMO) may be able to help companies match their pension liabilities at lower cost. But the recently published report by the Pensions Commission,\(^7\) led by Lord Turner, suggests that debt management might also play an important role in helping pension provision through funded defined-contribution schemes.

In the report, the scale of the future demand for annuities was identified as a major challenge for pension provision. Annuities are financial instruments, usually provided by insurance companies, that promise a certain regular income until death. The providers are exposed to longevity risk in a similar way to those with defined-benefit pension liabilities. The demand for annuities is set to grow rapidly as more and more defined-benefit schemes are replaced by defined-contribution schemes. This implies that the annuity market will need to grow rapidly.

The Commission discusses two potential ways in which government debt issuance strategy might facilitate growth of the annuity market. In both cases, the idea is to create more financial assets that annuity providers can use to hedge at least some of the risks associated with annuities.

The most obvious hedge would come in the form of government-issued longevity bonds. The Pensions Commission argues, however, that this should not necessarily be encouraged as the government is already extensively exposed to longevity risk via the state pension system and public sector employee pensions. An alternative, though less effective, hedge for annuities comes in the form of long-dated index-linked bonds – this would provide insurance against inflation risk but not longevity risk. In this case, the Pensions Commission report argues simply that any artificial constraints on the issue of long-dated bonds, and of index-linked bonds in particular, should be avoided. In practical terms, this would mean the DMO continuing to take a flexible approach to its issuance strategy. This is the issue to which we turn in the next section.

### 6.5 The DMO’s current strategy

In last year’s Green Budget, we discussed a number of measures that we thought the DMO should consider as part of its funding strategy.\(^8\) At that time, we suggested that the DMO seemed somewhat ambivalent about a strategy of issuing debt in such a way as to take advantage of cost minimisation opportunities. In this section, we review the DMO’s funding approach, which we believe has become more flexible.

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The DMO’s approach to debt management is discussed in its annual publication, *DMO Annual Review*. In the latest review, for 2004–05, the DMO’s decisions about the structure of the debt portfolio are described as reflecting ‘the debt instruments that are available to the Government, their expected cost and risk characteristics, and the preferences of both the Government and investors’. But how does the DMO actually weight these different factors in arriving at its funding decisions?

The big unknown here is the preferences of the government and how these affect the DMO’s funding decisions in practice. As the DMO noted in the 2003–04 *Annual Review*,

Work is currently being done to clarify further the implications for the structure of the debt portfolio of the Government’s attitude to risk. Our current practices are therefore based on past observations on the structure of the debt portfolio and issuance strategies, which we use as broad guidelines. The previous share of the debt portfolio with nominal versus real exposures demonstrates a preference for having approximately a quarter of the overall debt portfolio in the form of real exposure. We also maintain a well-diversified issuance strategy for nominal gilts such that our ‘default’ issuance strategy is broadly an even split between the three conventional maturity bands, on a cash weighted basis.

The implicit preference regarding the split between conventional and index-linked debt can be clearly seen in the data (Figure 6.8). In broad terms, there is also evidence of the DMO following the ‘default’ issuance strategy for allocating conventional gilt issuance across maturity bands (Figure 6.9). There is some deviation, however – as the DMO notes in the 2003–04 *Annual Review*, ‘issuance in nominal gilts may deviate from our “default” strategy, when there is evidence that the shape of the nominal yield curve implies the existence of a “preferred habitat” premium’. Against this background, it is interesting to review the extent to which such considerations may have played a role in determining the composition of the government’s debt portfolio in recent years.

**Figure 6.8. Portfolio split between conventional and index-linked debt**

<table>
<thead>
<tr>
<th></th>
<th>Conventional</th>
<th>Index-linked</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>75%</td>
<td>25%</td>
</tr>
<tr>
<td>2001</td>
<td>75%</td>
<td>25%</td>
</tr>
<tr>
<td>2002</td>
<td>75%</td>
<td>25%</td>
</tr>
<tr>
<td>2003</td>
<td>75%</td>
<td>25%</td>
</tr>
<tr>
<td>2004</td>
<td>75%</td>
<td>25%</td>
</tr>
<tr>
<td>2005</td>
<td>75%</td>
<td>25%</td>
</tr>
</tbody>
</table>

Note: Measures based on nominal (uplifted) par amounts outstanding at end March.
Source: Debt Management Office.

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Evidence of ‘opportunistic’ behaviour

Deviations by the DMO from its ‘default’ strategy can be rationalised in terms of the stated policy objective ‘to minimise over the long term, the costs of meeting the Government’s financing needs, taking into account risk’.\(^{11}\) Given the current range of debt instruments issued by the government, there are two primary ways in which the DMO could take advantage of market conditions to minimise its cost of funding:

- concentrate issuance in those maturity sectors of the gilt market that apparently attract a ‘preferred habitat’ premium;
- issue index-linked rather than conventional debt when the inflation premium is high.

Figure 6.10. Average nominal spot yield curves

Note: Nominal yields are funding-year averages of Bank of England estimated spot yields.

Table 6.8. Implied inflation premium to sell conventional debt

<table>
<thead>
<tr>
<th>Funding year</th>
<th>10-year implied inflation rate 10 years ahead</th>
<th>Implied inflation premium</th>
<th>Proportion of funding index-linked</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000–01</td>
<td>2.26%</td>
<td>-24 bp</td>
<td>35%</td>
</tr>
<tr>
<td>2001–02</td>
<td>2.63%</td>
<td>13 bp</td>
<td>26%</td>
</tr>
<tr>
<td>2002–03</td>
<td>2.53%</td>
<td>3 bp</td>
<td>17%</td>
</tr>
<tr>
<td>2003–04</td>
<td>2.57%</td>
<td>7 bp</td>
<td>13%</td>
</tr>
<tr>
<td>2004–05</td>
<td>2.91%</td>
<td>11 bp</td>
<td>16%</td>
</tr>
<tr>
<td>2005–06</td>
<td>2.96%</td>
<td>16 bp</td>
<td>21%</td>
</tr>
<tr>
<td>End 2005</td>
<td>3.01%</td>
<td>21 bp</td>
<td>-</td>
</tr>
</tbody>
</table>

Notes: Implied inflation rates taken from index-linked gilt market and so refer to RPI inflation. Implied inflation calculated as difference between implied rate and inflation target assumed to be 2.5% up to funding year 2003–04 and then 2.8% to reflect the change in the Bank of England’s inflation target.

Sources: Bank of England; Morgan Stanley.

Figure 6.10 shows the average nominal yield curve for each of the last six funding years, while Table 6.8 provides a crude measure of the inflation premium, calculated as the forward 10-year inflation rate in 10 years’ time minus the inflation target. This forward 10-year inflation rate is based on the difference in yields between conventional (nominal) debt and inflation-proof (indexed) debt. Assuming that the inflation target accurately captures market expectations of future inflation, the inflation premium measures the additional return that the government has to offer investors to induce them to buy conventional bonds rather than inflation-protected index-linked gilts. The higher the premium, the more the cost saving should be from issuing index-linked rather than conventional gilts.

Comparing the yield curve and inflation premium estimates with the pattern of issuance over the last six years may be used as a guide to judging how opportunistic (or flexible) the DMO has been in recent times.

In 2000–01, for example, as we discussed previously, long-dated nominal interest rates were particularly low, probably as a result of regulatory incentives for institutional investors to hold long-maturity bonds. At that time, we saw 100% issuance of conventional debt at the long end. During the period from 2002–03 to 2004–05, long rates were much higher, and the proportion of long-dated issuance fell as low as 26% in 2003–04. In 2005–06, as long-term interest rates have returned to the low levels seen in 2000–01, we have seen the proportion of long-dated issuance rise to 43%. So it would appear that the DMO has been willing to deviate from its default strategy when it is clearly cost effective to do so.

But in terms of the conventional/index-linked split in overall issuance, there is less evidence to suggest that the DMO has been opportunistic or demonstrated particular flexibility. As we saw previously, index-linked debt outstanding appears to have been kept very close to 25% of the overall amount of debt outstanding. Looking at the rough measure presented in Table 6.8, there has been little correlation between the cost incentive for issuing index-linked debt (as measured by a relatively high inflation premium) and issuance. Interestingly, however,

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12 There were only three outright conventional gilt auctions in the funding year 2000–01, all of which were in the 4.25% coupon gilt maturing 2032. In addition, there were three switch auctions into the 2032 gilt from the 8% coupon gilt maturity 2015. There were also a number of reverse auctions, as a result of which the government redeemed some debt early, primarily in the short-dated sector.
issuance of index-linked gilts has been higher in the current funding year than in the previous three years, and part of this reflects the unexpected increase of £0.8 billion announced in the Pre-Budget Report. Moreover, this increase has coincided with a relatively high implied inflation premium.

In conclusion, it appears that the DMO is fairly opportunistic (or flexible) in its funding. However, this approach appears to relate primarily to issuance within the conventional gilt market - in particular, lower longer-term nominal yields have coincided with the DMO skewing conventional issuance towards longer-dated debt. The split between conventional and index-linked issuance has remained much more stable, despite changes in the relative costs of issuing the two types of debt. That said, there are tentative signs that the DMO is willing to take a more flexible approach in this case too.

Prospects for future issuance

Whether or not this pattern of issuance is likely to change in the future is unclear. As discussed previously, the proposals contained within the Pensions Commission report could create greater demand for long-dated index-linked gilts in the future both as a savings vehicle for low-risk pension customers and as a hedge for annuity providers. This suggests to us a clear motivation for the DMO to change the way in which it currently approaches the decision as to how much long-dated debt to issue and, more importantly, how to determine the size of index-linked issuance relative to the overall portfolio.

The experience of this fiscal year already suggests that a strategy aimed at issuing more long-dated debt in response to investor demand can prove to be rewarding. Back in May, the DMO issued an ultra-long conventional gilt (maturing in 2055), which was reasonably well bid at a bid-cover ratio of 1.6 and an average yield of 4.21%. This compared with a yield of 4.27% on the longest-dated gilt prior to the auction (the 4.75% coupon issue maturing in 2038). Perhaps more significantly, in September the DMO successfully launched the longest-dated index-linked bond in the world, again maturing in 2055. Issued by syndication, this was priced at 1.11%, compared with 1.29% on the 2% coupon issue maturing in 2035.

Even if there were no cost advantage to issuing more long-dated index-linked debt, it would serve the secondary objective of supporting cost-effective pension provision in the UK. More generally, there is no reason in our view why the DMO should not explore a more opportunistic approach. There is here an issue of transparency. Through its meetings with market participants (the minutes of which are published) and its statements in the Debt Management Review, the DMO does make its funding decisions in a relatively open way. As explained by the DMO in its 2003–04 Annual Review, its approach assumes that the government has an indefinite borrowing horizon and hence ‘it has a preference for debt strategies that offer long-term benefits over ones that provide short-term opportunist gains but which may raise its long-term financing costs’.

Under the current system, issuance plans are announced once a year, with only small amendments arising as the state of the public finances is revealed (e.g. at the time of the Pre-

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13 It is not entirely clear that the Pensions Commission proposals, if implemented, would generate significantly higher demand for index-linked bonds. That would depend on a number of factors, including the portfolio choices by people in defined-contribution schemes and what happens to overall saving.
Budget Report). This means that the approximate amount to be issued in the form of conventional and index-linked debt is known throughout the year, as is the proposed maturity split in the case of conventional debt. At the beginning of the fiscal year, the DMO also releases the dates on which it intends to hold auctions of conventional and index-linked debt. The presumed intention is to reduce uncertainty within the dealer community and, in doing so, ensure that bids received are sufficient to cover the proposed auction size and are at a fair price. More direct issuance to investors, such as by syndication, is the exception.

This rigidity probably has its greatest impact in terms of the issuance split between conventional and index-linked debt. We think that the DMO should consider a more flexible approach both in terms of how it announces this split at the time of the Budget report in April and in terms of how it chooses to distribute the debt. This could enable it to take more timely advantage of structural shifts in the inflation premium, as well as responding more effectively to regulatory and government policy initiatives that may have the effect of raising demand for, particularly long-dated, index-linked debt. If the DMO clearly set out how it would behave in different states of the world, then a more opportunistic strategy could still be transparent. Concerns as to how the dealer community may respond to a strategy focused at a particular source of investor demand could further be allayed in our view by taking fuller advantage of alternative, direct methods of distribution, such as the syndication that we saw successfully implemented in September 2005.

6.6 Buying back company pension liabilities

David Willetts, the Shadow Education Secretary and former Shadow Work & Pensions Secretary, recently proposed that companies might be given the option of, effectively, selling to the government that part of their obligations to pay pensions to past and current employees that reflected the contracted-out rebate. The scale of private sector pension liabilities that exist as a result of contracting out is hard to gauge accurately, but it is clearly very large; Willetts makes a rough estimate of £150 billion. In principle the idea is simple, though in practice there are difficulties. Here is how he describes the proposal:

Companies and their pension schemes could be given the option of paying the government to take over the responsibility for the contracted out guaranteed minimum pension which they have built up over the years. It would not be compulsory: it would be an option. It would potentially involve a much larger but finite sum as it would involve shifting a stock of pension promises to the government rather than a future flow. It could potentially lead to a massive reduction in the future pension liabilities that companies face. They would pay much smaller pensions in the future because they would have paid the government to take them back … So the Government gets revenues in the short term, and a greater liability to pay pensions in the long term. The boost in revenues would have to be used, like for example the sale of the third generation of mobile phone licences, for debt repayment or some other form of asset building … If companies are able to pay the government to take back the obligation to

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14 The contracted-out rebate is the extra funds available to a pension scheme to be invested on behalf of scheme members in exchange for their receiving a lower state pension because they have opted out of the second state pension (formerly called SERPS). Those extra funds arise because the National Insurance contribution paid to the government is lower for contracted-out employees.
There would be an economic gain if the cost to the public sector of having the obligation to pay higher state second pensions in future were smaller than the cost to companies of holding the same obligations. That might be true if companies were less able to manage the risks of holding those obligations – longevity risks and risks of assets underperforming. Whether the public sector does in fact have a comparative advantage in taking on those risks (or taking on more of those risks) is not, however, obvious. It would therefore be hard to set a price for taking on the liabilities at which one could be confident that the taxpayer and the company would end up sharing any economic gain appropriately.

The issue of whether the government should buy some of these pension obligations from companies is similar to the question of whether the government should issue longevity bonds, i.e. bonds whose value to the holder is higher the greater is life expectancy. In last year’s Green Budget, we considered that question and concluded that because of the very great exposure the government already has to unanticipated rises in life expectancy, it was far from clear that it should be a major issuer of longevity bonds. The Pensions Commission second report reached much the same conclusion.

Indeed, in some ways, the attractiveness of the government buying obligations to pay pensions off UK companies is even less than the advantages of issuing longevity bonds. Longevity bonds are relatively straightforward. But working out the details of how much lower company pensions paid to scheme members would be if they sold their contracted-out obligations to the government is not straightforward. And if individual members could not veto any sale by the company of pension obligations, there is an issue of fairness. Yet if individual members could veto any sale, the administrative difficulties for companies in selling parts of their pension obligations could well be insurmountable.

The resources that could be generated for the public sector in the short term by taking such future liabilities back in exchange for payment are very large – potentially much larger than the £22½ billion revenues created by the sale of third-generation mobile phone licences. But how should the government treat the extra public sector pension liabilities it is taking on in accounting terms, given its desire to reassure people that the public finances are being managed in a fair and sustainable way?

On the face of it, treating this part of the obligation to pay future state pensions as debt – while not counting existing obligations to pay accrued pension rights under the state second pension, and its predecessor SERPS – would be strange. This implies that the revenues received by the government in the short term could be spent on capital investment projects that might otherwise not be affordable without breaching the 40% debt-to-GDP ceiling (for example, the Crossrail project to improve transport infrastructure in London).

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But for the government to finance extra investment through this mechanism would give additional ammunition to critics of the sustainable investment rule who argue that it is flawed in failing to include all public sector pension liabilities (as well as future Private Finance Initiative payments and some contingent liabilities). We have argued that these liabilities should be borne in mind in assessing the long-term health of the public finances, but that the sustainable investment rule as currently defined may still be a helpful rule of thumb. Deliberately increasing off-balance-sheet obligations to finance investment would go against the spirit of the rule and might well further undermine the already weakened credibility of the fiscal framework. It would strengthen the case for counting all future public sector pension liabilities as debt for the purposes of the sustainable investment rule and setting a new ceiling to reflect this.

6.7 Conclusion

We think real yields on bonds issued by the UK government are significantly more likely to be higher in the future than to stay at current low levels or fall further. Yields on long-dated index-linked bonds have fallen well under 1%. The UK government may look back in 10 years and regret that it issued anything other than long-dated index-linked bonds at yields under 1%. We believe that issuing long-dated inflation-proof debt represents a good deal for future taxpayers. It is not that one can be sure that we are in the midst of a bond market bubble and that yields have obviously been driven well under sustainable levels. Indeed, there are some reasons to believe that sustainable real yields may have moved down over the past decade. But the scale of the fall in real yields is so great that the risks have now become asymmetric – the chances of real yields going higher from here are greater than their going lower. Locking in at today’s low real yields by issuing long-dated indexed debt is therefore sensible.
7. Tax credits: fixed or beyond repair?

Mike Brewer (IFS)^1

**Summary**

- Since April 2003, the child and working tax credits have been extensively criticised, chiefly for the difficulties some families experience when HM Revenue and Customs (HMRC) recovers overpayments.
- In the 2005 Pre-Budget Report, the government announced substantial changes to the administration and operation of tax credits. These should reduce the scale of, and problems caused by, overpayments, but at the cost of making some families wait longer to receive money to which they are entitled and increasing families' compliance costs.
- It is still too early to tell whether the changes go far enough to avoid the need for further significant reform. But it is hard to see what more the government could do to reduce the problems caused by tax credit overpayments without abandoning some of the key principles behind the system.
- One key government aim was to provide greater income security for families leaving welfare for work. But IT problems have continually delayed the extension of tax credits to families on out-of-work benefits.
- The government has succeeded in creating a more responsive system of support for low-income families with children. But this has created the problem of overpayments, underlining the key trade-off between responsiveness of awards and certainty over their level.

**7.1 Introduction**

Since their introduction in April 2003, the child and working tax credits have been extensively criticised, chiefly for the difficulties some families experience when HMRC^2 recovers overpayments (see Box 7.2 later).

The government announced in May 2005 that it would improve the administration of tax credits and change some of the rules affecting overpayments. The December 2005 Pre-Budget Report (PBR) announced a more substantial set of changes to the rules and administration of tax credits, with the explicit aim of markedly reducing the problems caused by overpayments.

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^1 The author is grateful to Stuart Adam, Donald Hirsch, Matthew Wakefield and the editors for conversations about the issues and for comments on earlier drafts.

^2 Tax credits were operated by the Inland Revenue when they were introduced, but the Inland Revenue has since merged with HM Customs and Excise to become HM Revenue and Customs; this chapter uses ‘HMRC’ to refer to both the Inland Revenue and HM Revenue and Customs.
This chapter describes the background to the changes announced in PBR 2005, assesses the likelihood of their success and discusses whether these changes will mean that pressure to move back to a system of tax credits with fixed awards will now go away.

Section 7.2 describes the child and working tax credits, and compares the way they operate with the way their predecessor, the working families’ tax credit (WFTC), operated. It also describes the administrative and operational changes made to tax credits during 2005. Section 7.3 discusses in more detail the background to the changes made in 2005, and analyses the impact of the changes to tax credits announced in the December 2005 Pre-Budget Report. Section 7.4 assesses whether the child and working tax credits can be said to have met their key goals, and asks whether the current system looks like a final resting point in the turbulent history of this policy. Section 7.5 concludes.

7.2 How do tax credits work?

The child and working tax credits

The introduction of the current tax credit system in April 2003 represented the largest change to the personal tax and benefit system made by the current government. It brought together three ways that the tax and benefit system had directed financial support to families with children, with the aim that the new child tax credit would ultimately deliver the majority of child-contingent financial transfers to families. In addition, the working tax credit was created to provide extra help for people in work and on a low income whether or not they have children. For those without children (and without a disability), this was something that had not been available before April 2003. Box 7.1 gives more detail. Tax credits illustrate the government’s frustration with both the income tax and the benefits system as ways of targeting financial support: the income tax system does not allow sufficiently accurate targeting, and traditional means-tested benefits are seen as unacceptably complicated and stigmatising, and inappropriate for a programme that covers the vast majority of families with children.

As of December 2005, 5 million families with children were receiving the child tax credit and 600,000 families with children were receiving the equivalent level of support through out-of-work benefits. Of these 5 million families with children, 1.5 million were also receiving the working tax credit, and 356,000 of these 1.5 million families were receiving help towards their childcare costs. In addition, 320,000 families without children were receiving the working tax credit. Around 7.4 million families receive child benefit, so around 1.8 million families with children are receiving child benefit but not the child tax credit nor extra help for their children through out-of-work benefits, either because they have not claimed these programmes or because they are too rich to be eligible.

In 2004–05, HMRC paid out £15.8 billion in tax credits, and estimated entitlement to tax credits was £13.8 billion (the difference largely represents overpayments). The majority

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(73%) of entitlement to tax credits exceeds families’ liabilities to income tax. In addition, the Department for Work and Pensions (DWP) paid £3.4 billion in child additions to out-of-work benefits in 2004–05.

Box 7.1. Recent tax credit changes

What was new in April 2003?
The child tax credit provides income-related support to the main carer. Around 90% of families with dependent children should be entitled to it or to receive child additions in out-of-work benefits. All families entitled to the child tax credit receive some or all of the family element, currently £545 a year. Poorer families (roughly the poorer half of families with children in the UK) will also receive some or all of the per-child element, currently £1,690 a year per child.

The working tax credit provides in-work support to around 1.8 million families (single people or couples) with or without children working 16 or more hours a week but with a low income, and also provides support for formal childcare costs for families where all the adults are in work.

What was abolished?
The children’s tax credit reduced the income tax bills of around 5 million income-tax-paying families with children. It was subsumed within the family element of the child tax credit in April 2003.

The working families’ tax credit (WFTC) provided support to low-paid families with dependent children working 16 or more hours a week. It was subsumed within the working tax credit and the per-child elements of the child tax credit in April 2003.

Child allowances and the family premium in income support (IS) or income-related jobseeker’s allowance (JSA) provided extra money to families with dependent children claiming IS or income-related JSA. These are due to be abolished in Autumn 2006, to be replaced by the child tax credit.

Child additions to some National Insurance benefits provide extra money to families with dependent children receiving the retirement pension, incapacity benefit, severe disablement allowance, bereavement benefits or invalid care allowance. These additions were abolished for new claimants from April 2003.


How do tax credits now operate?
Below, we describe the key features of the operation of the child and working tax credits, by outlining a year in the life of a tax credit claim. We then compare this with the system of fixed awards operated under WFTC.

When a new claim for tax credits is made, a family’s initial award is usually based on the previous tax year’s income.

During the year, claimants are required to report to HMRC some changes of circumstances (such as a partner joining or leaving the household, or a significant fall in the amount spent on formal childcare) and are encouraged to report others (changes in the number of dependent children; changes in family income; changes in weekly hours if they go below 16, become 16 or more, go below 30, or become 30 or more hours a week; a significant rise in the amount spent on formal childcare).

If a change in circumstances justifies a higher award, then the monthly payment to the family is increased for the rest of the year, and HMRC makes a one-off payment to cover the underpayment (see Box 7.2) in the year to date.

If a change in circumstances justifies a lower award, then an overpayment has arisen (see Box 7.2). The monthly payment to the family is then reduced or stopped for the rest of the year, so that the total amount of tax credits paid in the tax year is equal to the total entitlement for the tax year. To reduce the number of families who experience overpayments through rises in income, the first £2,500 of any increase in income is disregarded.

At the start of the next tax year, claimants are required to verify their circumstances during the just-completed year, usually based on information from their P60s (a form that all employers give to their employees, detailing gross and net pay in the previous tax year). This verification may reveal that claimants received too little or too much in the previous tax year, in which case future awards are adjusted as described in Box 7.2.

The newly confirmed income figures for the previous tax year are used to calculate the tax credit award for the (new) current tax year.

WFTC – the main programme that the child and working tax credits replaced – operated very differently. Unlike the current tax credit system, awards of WFTC were based on past circumstances: when applying, claimants had to provide evidence that they were in work and of their recent (7 weeks to 3 months) earnings and childcare costs (people who applied as they

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**Box 7.2. What are overpayments and underpayments?**

The most significant problem with tax credits seems to be that they generate overpayments and underpayments. An **overpayment** arises when a family has been paid more tax credits than it was actually entitled to; as a result, future awards of tax credits are reduced, within limits, until the overpayment has been recovered (if the family is no longer entitled to tax credits, it will have to pay the money back to HMRC). Many overpayments arise when a family’s income rises and the family does not tell HMRC sufficiently quickly to enable an immediate adjustment in its award.

**Underpayments**, on the other hand, occur when families have not been paid enough tax credits; as a result, HMRC owes them money. An underpayment is often caused by a family experiencing a fall in income and not reporting it quickly enough to HMRC to enable an immediate adjustment in its award.
started a job could have their awards based on their employer’s best estimate of their likely earnings). Once awards had been calculated, they were fixed for 6 months, regardless of any changes in the circumstances of the family that had applied for them. Employers verified that claimants would be working at least 16 hours a week. Any changes in circumstances, of course, would be reflected in the next award, if the family re-applied after 6 months. Because awards were based on verified information, rather than a family’s own estimates, there was no need to re-assess awards in the future. However, as we explain in Section 7.4, the government felt that WFTC was onerous for claimants and was not sufficiently responsive: families might have to wait 6 months to receive extra help through tax credits if their circumstances changed in a way that raised their entitlement to tax credits. WFTC also suffered from less-than-full take-up, particularly amongst couples with children.

### 7.3 What went wrong, and what has been done?

#### What went wrong with tax credits?

Tax credits have experienced difficulties ever since computer problems caused substantial delays to payments to many families in the first few months of 2003–04. Since then, several reports (see Box 7.3) have identified significant problems due to:

- delays and errors in payments, mainly but not exclusively affecting the first year of tax credits (2003–04);
- overpayments (see Box 7.2) resulting in high repayments, penalties and hardship among people on very low incomes.

#### Box 7.3. Key reports on tax credits

Reports detailing problems with tax credits have been produced both by non-governmental organisations that represent claimants and their advisers and by official bodies. The most significant include:

- Child Poverty Action Group, *Tax Credits – One Year On*, 2004
- Citizens Advice, *Money with Your Name on It*, 2005
- Parliamentary Ombudsman, *Tax Credits – Putting Things Right*, 2005

In addition, the Comptroller General had to qualify his audit opinion on the 2003–04 and 2004–05 Trust Statements in respect of tax credits; broadly, this means that he cannot be sure that ‘revenue and expenditure [on tax credits] have been applied to the purposes intended by Parliament and conform to the authorities which govern them’ (page 67 of Inland Revenue 2004–05 Accounts*).
In 2003–04, out of 5.7 million tax credit awards, 1.9 million (33%) were overpaid and 700,000 (13%) underpaid. The total value of overpayments was £1.9 billion and of underpayments was £0.5 billion; in the same period, total entitlement to tax credits was £12.1 billion, and £13.5 billion was paid out. The mean overpayment was £1,028, but there were a few awards with very large overpayments: half the total value of overpayments was due to the 15% of overpaid awards where the overpayment exceeded £2,000. Although rises in income between 2001–02 and 2003–04 were one cause of overpayments, 47% of the value of overpayments was paid to families whose gross pre-tax income in 2003–04 was under £20,000.7

A recent survey (which pre-dated the 2005 PBR) of the key reports that had investigated problems with tax credits concluded that the delivery of tax credit entitlements was flawed, because of delays and errors in payments and because the number and size of overpayments arising were resulting in high levels of repayments, penalties and consequent hardship amongst people on low incomes.8 Furthermore, it found that both of these problems had been exacerbated by a general lack of comprehension amongst claimants about the system and by poor communication between claimants and Revenue staff.

The review attributed some of these problems to teething problems, but others are a direct result of the way that HMRC chose to administer tax credits, and others still are due to the rules and regulations that determine how entitlements are calculated and how overpayments are recovered.

Changes to tax credits in 2005

Presumably responding to public concern, the government announced in May 2005 that it would improve six areas of tax credit administration.9 Compared with those that followed, these changes were relatively small, designed to reduce the number of overpayments that arise and to reduce the inconvenience they cause to families when they do arise.

In PBR 2005, much more significant changes were announced, designed both to reduce substantially the amount of overpayments generated and to reduce the financial impact on families of reporting changes in circumstances; see Box 7.4 for details.

The government estimates that the package of measures will reduce the value of overpayments by about a third from its 2003–04 value of £1.9 billion. In net terms, this package is broadly cost-neutral in the medium term: HMRC estimates that it will cost the government £100 million in 2006–07, raise £200 million in 2007–08 and £50 million in

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9 These were to review information provided to claimants, to test methods of reminding claimants of the importance of providing up-to-date information in-year on changes in their income and circumstances, to improve the quality of service on the helpline, to identify and resolve IT system problems and processing errors more quickly, to develop innovative ways of working with the voluntary sector to target more active support on vulnerable families, and to suspend recovery of overpayments in cases of hardship where the recovery of an overpayment is disputed. See HC Deb (session 2005–06), 26 May 2006, Column 22WS, http://www.parliament.the-stationery-office.co.uk/pa/cm200506/cm Hansrd/cm050526/wmsindv/050526-x.htm.
Box 7.4. Changes to tax credits announced in 2005 Pre-Budget Report

1. From April 2006, the annual income disregard will increase from £2,500 to £25,000. This means that income in the current tax year will have to be at least £25,000 higher than income in the previous tax year before entitlement to tax credits in the current tax year is affected.

2. From November 2006, tax credit payments for low- to middle-income families will be reduced by a maximum of 25% where an overpayment has been generated (at present, overpayments can mean that tax credit awards are stopped altogether while the overpayment is being collected).

3. From April 2007, when claimants report a fall in expected income during the year, their tax credit payments will no longer include a one-off payment for the underpayment generated earlier in the year; instead, any underpayment will only be refunded after their award has been finalised at the end of the tax year. The government argues that many overpayments are caused by families overestimating the fall in their income, so this change reduces the number of overpayments that accrue to families whose income falls, but at the cost (to society) of increasing the number of underpayments.

4. In Summer 2006, the deadline for providing information to finalise and renew tax credit awards will be brought forward by one month (from the end of September to the end of August) to shorten the period during which provisional payments may be made using out-of-date information.

5. In early 2007, towards the end of the tax year, HMRC will contact key groups of claimants to obtain more up-to-date income information on which to base the next year’s payments while the finalisation process is completed.

6. From 2008–09, the income figure used in setting provisional payments will be uprated by average earnings until up-to-date information is provided.

7. From November 2006, families will have to report a wider set of changes in circumstances that reduce entitlement to HMRC within three months. From April 2007, the time allowed to report such changes will be reduced to one month.

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8 Brief details were given in the Pre-Budget Report documents. Full details can be found in HC Deb (session 2005–06), 5 Dec 2005, Column 55WS, http://www.parliament.the-stationery-office.co.uk/pa/cm200506/cmhansrd/cm051205/indexes/dx051205.htm.

2008–09, and cost £50 million in 2009–10 and £150 million in 2010–11. However, the long-run costs are not clear, because different parts of the package have different effects and because some of the reforms will have sizeable effects on cash flow in the short run but should have little or no impact in the long run. In particular:

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10 Estimates for 2006–07 to 2008–09 from 2005 PBR; estimates for later years from personal communication from HMRC to author.
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- The first change increases entitlements to tax credits for families whose current-year income is more than £2,500 higher than their previous year’s income, and so costs the government money.

- The second change allows families to repay overpayments over a longer period. This will cost the government money only in the short run (because the changes affect only the timing of payments).

- The rest of the reforms reduce the amount of money that HMRC pays out to families only to have to collect it back because the families were not entitled to it (in other words, the money was overpaid). The changes therefore save the government money in the short run (by affecting the timing of payments), but they will also save money in the long run if HMRC would otherwise have had to write off overpayments.

HMRC says that it holds no information that separately identifies the effect of the PBR package on HMRC’s costs of administering tax credits.\textsuperscript{11} Having fewer overpayments to collect should release resources that HMRC can use elsewhere, but implementing these changes will require extra resources, certainly in the short term and maybe in the long term.

**What was the justification for the PBR 2005 package?**

The package of changes announced in the 2005 Pre-Budget Report was designed explicitly to reduce the problems caused by overpayments.

As has been stressed by the government, overpayments are not an unexpected phenomenon: government documents about tax credits released before April 2003 said explicitly that there would be families who would be overpaid.\textsuperscript{12}

Overpayments are built in to the design of the child and working tax credits because these tax credits operate on an annual cumulative system. In this sense, they operate in a similar manner to income tax and, as we described earlier, in quite a different way from how WFTC operated.\textsuperscript{13} The fact that the current system of tax credits operates on an annual, cumulative basis has several implications:

**Awards depend on income over the whole tax year, not just recent income**

- Entitlement to tax credits is supposed to depend on income received in the current tax year, and this means that rises in income in (say) March 2006 reduce a family’s entitlement to tax credits received in (say) April 2005, thereby leading to an overpayment.\textsuperscript{14}

\textsuperscript{11} Personal communication from HMRC to author.


\textsuperscript{13} The old children’s tax credit operated on an annual cumulative system because it was a full part of the income tax system. However, because it operated through the PAYE system, and because it was relatively small in value and had a shallow taper affecting few relatively well-off families, concerns about overpayments never arose. By contrast, the current tax credits operate separately from PAYE, can be worth several thousands of pounds a year, and have a steep taper affecting millions of families.

\textsuperscript{14} Income tax works in exactly the same way, for people under PAYE. A comparable situation to a tax credit overpayment would be when individuals move from being basic-rate to higher-rate taxpayers: someone who had weekly earnings of £692.30 for the first 48 weeks of 2005–06, and then of £942.40 for the last 4 weeks of the year.
All tax credit awards are provisional, and have to be checked after the end of the tax year

- Because tax credits operate outside the PAYE system, there is no way that tax credit awards can depend upon current income. The government’s solution to this was to make initial tax credit awards ‘provisional’, by basing them on a proxy for current-year income. Awards only become ‘final’ when families confirm to HMRC (usually between July and September) what their income was over the preceding tax year. Two kinds of proxy for current income are used. The default is to use income in the previous tax year as a best estimate of income in the current year, but families who suspect that their current income is different from their income in the previous tax year are allowed to have their tax credit awards based on their own estimate of their current income.

- Any discrepancy between the original proxy for current-year income and actual income can therefore lead to overpayments or underpayments. In particular, overpayments arise when:
  - A family’s current-year income is higher than the previous year’s income. To reduce the extent to which this phenomenon would generate overpayments, the first £2,500 of a rise in income do not affect entitlements to tax credits.15
  - Families who suspect their income is lower than in the previous year underestimate their current income.16
  - There are delays in recalculating awards at the start of a tax year. Families currently have 6 months at the start of a tax year to confirm to HMRC their income in the previous tax year; this figure is then used to determine tax credit awards for the current year. Until this happens, families’ tax credits are based on income information that is 2 years out of date, frequently leading to an overpayment.

- None of these situations would arise if tax credits were an integral part of the tax system that could be operated through PAYE by employers, such as the former additional personal allowance and children’s tax credit.

would pay £126.77 in income tax (18.3% of gross earnings) a week for the first 48 weeks and £181.89 a week (19.3% of gross earnings) in the last 4 weeks. Someone with the same annual income (£37,000) spread equally across the year (£711.53 a week) would pay £131.01 (18.4% of gross earnings) in income tax each week. In effect, the individual who has a pay rise at the end of the year that makes them a higher-rate taxpayer has paid ‘too little’ income tax earlier in the year, and has to make up for it in the last 4 weeks.

15 This measure was relatively expensive: the government estimates that, had there not been a £2,500 disregard in 2003–04, entitlements to tax credits would have been £800 million lower, with the average fall in entitlement of around £10 a week affecting 1.5 million families. See HC Deb 2005–06, 4 Jul 2005, Column 98W, question 8584, http://www.publications.parliament.uk/pa/cm200506/cmhansrd/cm050704/text/50704w27.htm#50704w27.html sbhd1

16 Australia’s tax credit system is similar to the UK’s, except that initial tax credit awards are always based on families’ estimates of their current-year income. When designing tax credits, UK government officials said that they had learnt from the experience of the first year of tax credits in Australia, where a substantial number of families significantly underestimated their income and were therefore overpaid significant amounts of tax credits. The Revenue’s reaction to this was to reject the use of estimated income as a proxy and instead base the majority of tax credit awards on the previous year’s income. As in the UK, tax credit overpayments were extremely unpopular in Australia, and the government made several changes designed to reduce the incidence of overpayments, mainly by making families wait until they had verified their incomes after the end of the year before they could be paid all of the credits to which they were entitled. See P. Whiteford, M. Mendelson and J. Millar, *Timing It Right? Tax Credits and How to Respond to Income Changes*, Joseph Rowntree Foundation, York, 2003, http://www.jrf.org.uk/bookshop/eBooks/1859351107.pdf.
Accurately calculating entitlement to tax credits relies upon families telling HMRC promptly about changes in circumstances that affect tax credit awards

- There is no mechanism that allows tax credit awards to react automatically to many of the changes in circumstances that currently affect entitlement to tax credits (such as changes in the presence of a partner, the number of dependent children, spending on formal childcare, or whether parents work more or less than 16 or 30 hours a week). Entitlements to tax credits change on the day these changes occur, yet awards cannot be adjusted until families tell HMRC, and HMRC recalculate entitlement; overpayments often arise during the intervening period.

Will the PBR 2005 package fix the problems?

The most tangible impact of the changes announced in PBR 2005 will be to reduce the value of overpayments by a third (according to the government), reducing the number of families experiencing overpayments and the problems brought about by their recovery. This should be welcomed by tax credit recipients, particularly those who would otherwise have received an unwanted overpayment.

On the other hand, some elements of the package mean that some families will have to wait longer to receive tax credit payments to which they are genuinely entitled. Furthermore, several elements of the package require families to report more changes in circumstances to HMRC, and to report them more quickly, increasing the cost to families (measured in time and effort) of claiming and complying with tax credits. And the government may be hoping that, by reducing the number and value of overpayments, HMRC might be able to write off fewer of them in the future; if true, this would mean lower tax credit awards for some families in the future.

It is not possible to assess now whether the changes announced in PBR 2005 will go far enough to make overpayments a tolerable part of the tax credit system. However, it is not clear what further administrative or operational changes the government could have announced to reduce the problem of overpayments whilst remaining true to the concept of an annual, cumulative tax credit system. A superficially appealing policy is to write off (i.e. allow claimants to keep) all overpayments. But this would cost substantial sums of money, and, once claimants knew that overpayments would not be recovered, they would face a very strong incentive to play the system, further increasing the cost.

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17 It is not known how many fewer families will experience overpayments, but 1.9 million awards in 2003–04 had an overpayment, and HMRC estimates that the value of overpayments in 2003–04 is a good guide to the value in future years were the PBR 2005 package not to be introduced (see HC Deb (session 2005–06), 5 Dec 2005, Column 55WS, http://www.parliament.the-stationery-office.co.uk/pa/cm200506/cmhansrd/cm051205/indexes/dx051205.htm).

18 For example, families whose income falls year-on-year will have to wait until they confirm their income after the end of the tax year before receiving all the tax credits to which they are entitled, as will families whose earnings rise year-on-year by less than the average earnings index (after the change in April 2007).

19 Alternatively, if families do not change the speed at which they report changes in circumstances, then some of the savings to HMRC that have been assumed may not materialise.
Should overpayments remain a problem in the future, there are various broad directions that future policy could take, but all would require compromising some of the government’s original aims for the tax credits system:20

- **Reduce the importance of tax credits in families’ budgets**, thereby reducing the size of future overpayments. If this were to be done without creating losers, then it could be done by cutting the per-child element of the child tax credit and increasing child benefit rates, although this would be expensive and would run counter to the government’s approach of tackling child poverty in an affordable manner by using income-related programmes such as tax credits.

- **Reduce the volatility of families’ entitlements to tax credits**. Many of the cases of large overpayments are in families receiving help with childcare costs through the working tax credit. This could be because the rules around the childcare element are particularly complicated, but also because some families can receive very large amounts of tax credits through the childcare element. One way to reduce the scale of overpayments would be to find a different way of helping parents afford formal childcare, perhaps by replacing the childcare element of the working tax credit with some form of supplier subsidy. However, there are considerable (but different) drawbacks to supporting childcare through supplier subsidies, and such a change should be a medium- to long-run reform.

- **Return to a system of tax credits with fixed awards**, like those in WFTC. Such a system need not operate identically to WFTC, but the key features would be shared: awards would be based only on historical, verifiable, information, so there would be no need to verify circumstances at the end of the year and no way of generating overpayments. But such a system would also mean – just as occurred under WFTC – that families’ awards would always be based on their past circumstances; under such a system, the level of tax credit payments would be much more certain, but much less responsive, than under the current tax credit system.21

It would, of course, be possible to combine elements of each of these options with elements of the current tax credit system. For example, tax credits could operate as fixed awards only for claimants whose circumstances improved over time; this could be operationalised by having tax credits operate as a fixed award for all, but allowing families to re-claim during the period of the fixed award if they felt their circumstances justified a higher award. Such a reform might balance families’ need for certainty with the desire to achieve responsiveness.

However, returning to a system with fixed awards would have implications other than removing overpayments. Indeed, the advantages and disadvantages of moving back to fixed awards are obviously very similar to (but working in the opposite direction to) the advantages and disadvantages of replacing WFTC with the new system of tax credits that were

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20 Such compromises over the operation of tax credits are not unheard of: the government has decided that, from April 2006, tax credits will not be paid by employers, but instead should be paid direct by HMRC into claimants’ bank accounts, like social security benefits; this comes 6 years after the government said that paying tax credits through employers reinforced the message that work paid.

21 If tax credits were fixed, then it would be possible to replace the family element of the child tax credit with a rise in the first-child element of child benefit. This would remove over 2 million families from the tax credit system, at the small cost of extending a child benefit payment to 700,000 very rich families with children.
considered by the government when it decided to scrap WFTC. We therefore examine in the next section the aims that the government had for the new system of tax credits when it first announced the reform.

7.4 Have the new tax credits met their goals?

The changes announced in PBR 2005 should substantially reduce the problems caused by overpayments. However, overpayments would never have occurred had the government stuck with WFTC, as described earlier.

So to understand why the government deliberately designed a system that allows overpayments, it is important to realise what the government did not like about WFTC and what it hoped to achieve with the new tax credit system.

At a detailed level, paragraphs 2.29–2.32 of HM Treasury (2002)\(^2\) set out many of the advantages of the new tax credits as seen by the government. Some of these are more significant than others, and to appreciate fully why the government wanted to replace WFTC (and other programmes) with the current system, we need to focus on the key aims that the government had for tax credits that could not have been achieved without scrapping WFTC.

There were four of these:

i. To design a system of support for low-income families with children that was more responsive than WFTC, particularly when families experienced changes in circumstances that would justify increased state support. WFTC was seen as unresponsive because awards were fixed for 6 months, which meant that families whose income fell (or childcare costs rose) had to wait up to 6 months (and an average of 3 months) before receiving extra help.

ii. To provide more income security when families left benefits to move into work than previously provided by WFTC. Families with children who moved into work had to claim a new set of benefits if they moved from out-of-work benefits into low-paid work (or vice versa), and any delays in processing claims would lead to temporary shortfalls in income. It is argued that these perceived difficulties deterred some lone parents from seeking work.

iii. To reduce non-take-up of WFTC, particularly amongst couple families (HMRC estimates that between £0.7 billion and £1.1 billion of WFTC payments were unclaimed in 2002–03\(^3\)). Arguably, having three different income-related programmes for supporting families with children may have confused some families, who may therefore not have claimed all they were entitled to. There was also a perception that some non-take-up of WFTC could have been caused by families being unwilling to claim in-work support designed for a minority of families who are


relatively poor, and there was a hope that a system of tax credits to which the majority of families were entitled would be much less stigmatising.

iv. To reduce compliance costs incurred by low-income families with children claiming income-related benefits. These families had to fill in long and detailed claim forms twice a year if they were claiming WFTC continuously, and more frequently if they were moving in and out of work.

The government has met the first of these aims, but at a considerable cost to claimants. So far, it has failed to achieve the second, and it is not yet possible to assess the final two. We explain our reasoning below:

• **A more responsive system: achieved, at the cost of introducing uncertainty and over-payments.** The government has succeeded in making tax credits more responsive than WFTC: families do not need to wait 6 months for their awards to rise, as they might have had to do under WFTC. However, this responsiveness has only come about through designing the annual, cumulative system, so the price paid for more responsiveness has been the problem of overpayments and the attendant lack of certainty. Although some families felt that WFTC was too unresponsive, it is by no means clear that those families prefer the current system of tax credits to WFTC.

• **Greater income security: failed.** The government has still not abolished child allowances in out-of-work benefits, as originally set out in the plans for tax credits and as presaged in the original name of the child tax credit, an ‘integrated child credit’. The current plan is to abolish them in Autumn 2006, but this date has been postponed continually since April 2003 because of uncertainties over whether the IT system operating tax credits will be able to cope. This delay means that families moving off benefits and into work still face income insecurity when they cease to get child-related support through out-of-work benefits while they wait for HMRC to process their claim for tax credits.

• **Reducing non-take-up: too soon to judge.** Although we know how many families are receiving tax credits, reliable data on take-up rates (i.e. the proportion of those eligible to claim who are receiving tax credits) do not yet exist. Advisory groups cite cases where families who have experienced substantial problems with overpayments since 2003 are now preferring to stop claiming tax credits rather than risk further problems; it is not yet clear, though, whether these high-profile examples are indicative of a widespread phenomenon. Furthermore, it is too early to judge whether tax credits have addressed the problem of non-take-up: take-up rates of a new programme will always take a few years to reach their steady long-term level.

• **Reducing claimants’ compliance costs: no data to judge, but HMRC’s administration costs have risen.** Some tax credit recipients - chiefly better-off families or families with stable circumstances - only need to interact with HMRC once a year to receive tax credits. Although robust and quantified evidence does not yet exist, compliance costs for these families will probably be lower than they would have been had the families been claiming WFTC. However, better-off families would probably not have been eligible for WFTC, and would instead have been claiming the children’s tax credit, which had a much simpler claim process than the current set of
tax credits. On the other hand, it is likely that families who have to report changes in circumstances, appeal against overpayments or chase up missing or incorrect payments are facing much higher compliance costs than they would have done had they been claiming WFTC. Furthermore, the changes in PBR 2005 will probably increase claimants’ compliance costs by requiring faster notification of changes in circumstances and quicker end-of-year reconciliations and renewals, although they will probably reduce compliance costs by reducing the number of families affected by overpayments. The much-vaunted flexibility and responsiveness of tax credits have only come about by making families report changes in circumstances as they happen to HMRC, much as families receiving means-tested benefits have to report changes each week to DWP. Data are available on HMRC’s costs of administering tax credits: in both 2003–04 and 2004–05, these stood at just over 3 pence per pound paid out, higher than the costs of administering WFTC and nearly three times the cost of administering child benefit.24

In Table 7.1, we list the other advantages of tax credits as seen by the government, indicate whether the government’s ambitions have been met, and show which could have been achieved with the pre-2003 system. As the table shows, our assessment is that tax credits have not achieved all of the government’s ambitions for them, and some of those that have been achieved could have been achieved without scrapping WFTC.

Furthermore, as we argued earlier, of the significant ambitions that the government had for tax credits that did require WFTC to be scrapped, only one can be said to have been met so far: that of providing a more responsive system for low-income families with children. But the PBR 2005 changes arguably show that the government has altered its views on the right balance between responsiveness and certainty. After the changes announced in PBR 2005 are fully implemented, tax credits will be a lot less responsive to changes in income, and more responsive to other changes in circumstances that affect entitlements (hours of work, number of children, childcare costs), for the following reasons:

- For the vast majority of families whose income rises, tax credit awards will operate as if they were a system of fixed awards, because the amount of tax credits received in the current tax year will be determined by income in the previous year (through reform 1 in Box 7.4).

- For families whose income falls, tax credit awards will operate a little bit more like a system of fixed awards, and a little bit less like an annual, cumulative system. This is because families whose income falls will now need to wait until the following tax year before they can receive all of the tax credits to which they are entitled in the current year (through reform 3 in Box 7.4).

- Families who experience changes in other circumstances will have to report them more quickly to HMRC.

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### Table 7.1. The government’s other aims for the new tax credits system

<table>
<thead>
<tr>
<th>What did government consider wrong with 2002 system?</th>
<th>Government’s aim for tax credits</th>
<th>The outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-tax-credits system left too many families in poverty</td>
<td>Greater generosity</td>
<td>Poverty reduced, but tax credit problems in 2003–04 meant some families temporarily fell into poverty while their claims were being processed. Did not require WFTC to be scrapped to reduce poverty.</td>
</tr>
<tr>
<td>WFTC and means-tested benefits used different income definitions from income tax</td>
<td>Simpler administration as definition of income aligned with income tax</td>
<td>Succeeded in bringing definition of income closer to that used in income tax. Unclear whether this simplifies administration. Did not require WFTC to be scrapped to achieve closer definitions.</td>
</tr>
<tr>
<td>Measuring income over a short period (as WFTC did) was unfair, and allowed families to ‘play the system’</td>
<td>A fairer system because awards are based on annual income</td>
<td>Succeeded in creating system where awards are based on annual income, but annual, cumulative system leads to overpayments.</td>
</tr>
<tr>
<td>WFTC penalised second earners</td>
<td>Better incentives for dual-earner couples by assessing awards on gross, not net, income</td>
<td>Aim was realised, but other tax credit changes since April 2003 have reduced pay-off to having second adult in work. Did not require WFTC to be scrapped to achieve better incentives.</td>
</tr>
<tr>
<td>WFTC penalised savers by reducing awards when savings exceeded £3,000</td>
<td>Better incentives to save</td>
<td>Succeeded. There are no capital limits, and there is a generous disregard for unearned income. Did not require WFTC to be scrapped to achieve this.</td>
</tr>
<tr>
<td>Evidence suggests that mothers more likely than fathers to spend money in ways that benefit children, yet different programmes paid child-contingent support to different members of family</td>
<td>Support for children paid to main carer</td>
<td>Succeeded, but did not require WFTC to be scrapped to achieve this.</td>
</tr>
<tr>
<td>Payment through the wage packet underlined the pro-work message of tax credits, yet employers found WFTC onerous to operate</td>
<td>Support through the wage packet that was simpler for employers</td>
<td>Failed. HMRC will no longer pay tax credits through the wage packet from April 2006 because employers found it too onerous even after changes in 2003.</td>
</tr>
<tr>
<td>Some low-income families (students, and those with low incomes but large savings) could claim neither in-work nor out-of-work benefits</td>
<td>Support extended to groups previously denied income-related support</td>
<td>Succeeded in extending support to around 100,000 families previously denied income-related support (over and above those newly entitled to income-related support because tax credits more generous than their predecessors).</td>
</tr>
</tbody>
</table>

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The version of tax credits that will exist after all the PBR 2005 changes are implemented will look even less like something that is part of the tax system: for many families, the amount of tax credits received in a given year will not depend upon income in that year. Instead, the new version of tax credits will feel more like a means-tested benefit - because changes in family circumstances will have to be reported very quickly - and more like an in-work benefit such as WFTC - because awards will be fixed with regard to income rises.

So if the key advantage of tax credits so far has been increased responsiveness of awards to changes in circumstances, and if the scale of responsiveness of tax credits has been reduced, to some extent, by the changes announced in PBR 2005, then maybe it wouldn’t cause too much pain to go back to something like WFTC.

7.5 Conclusion

Does the fact that the government has made considerable changes to the administration and operation of tax credits show that it failed to anticipate correctly the impact of an annual, cumulative system of tax credits?

That there is a trade-off between responsiveness and certainty of awards should not have come as a surprise to the government: many organisations, including IFS, pointed out this trade-off when the government announced that it wished to create an integrated child credit.25 That overpayments were generated also should not have been a surprise: when it first announced how the new system of tax credits might work, HMRC openly acknowledged that the annual, cumulative system it wanted to introduce would lead to families being overpaid.

Presumably, then, what was unanticipated by the government, apart from the considerable difficulties with the IT system that processes tax credit awards, was either the volume of overpayments or the difficulties that low-income families have in understanding, complying with and budgeting around an annual, cumulative system of tax credits rather than one based on fixed awards.26 In the government’s defence, though, because the design of the new system of tax credits was innovative, compared both with past taxes and benefits in the UK and with those currently operating in other countries, there was limited evidence to draw upon when evaluating various options for the new system of tax credits. A positive thing that can be said, then, is that the next reform of tax credits will be able to be based on much more evidence than the current one. Given this improvement in the available evidence base, it would not be surprising for further reforms to occur sooner rather than later.

25 After details of how the new system of tax credits might work were announced, IFS researchers concluded that the ‘[government’s] aim of targeting the [child and working tax] credits effectively means that [it] has compromised on simplicity and predictability for families whose composition or income changes significantly during a year. Many families will find themselves in this position. The need for claimants to monitor annual income, average hours of work and, if appropriate, childcare costs will lead to a less certain and more complicated system for some families’; see M. Brewer, T. Clark and M. Myck, Credit Where It’s Due? An Assessment of the New Tax Credits, IFS Commentary no. 86, London, 2001.

26 It is not possible to say for certain whether the government underestimated the extent of overpayments, because it forecast only the number of families who would experience an overpayment through a rise in income, and this is only one cause of overpayments.
8. Productivity policy

Laura Abramovsky, Emla Fitzsimons, Alissa Goodman, Rachel Griffith, Rupert Harrison and Helen Simpson (IFS)

Summary

• The government is considering a number of potential changes to the R&D tax credit for small and medium-sized enterprises (SMEs). None of the options that we discuss is without potential drawbacks.

• Any change is also likely to increase the uncertainty and/or complexity associated with claiming relief. Given the long-term nature of R&D investment decisions, this seems to be an area where policy stability is particularly desirable. Thus implementing no changes may well be the best option.

• The 2005 Pre-Budget Report confirmed the launch of the National Employer Training Programme (NETP) from April 2006, now branded ‘Train to Gain’. The evidence for the NETP’s likely effectiveness in improving productivity is not very strong so far.

• Whether the public funding directed towards the NETP provides value for money in terms of fulfilling its key productivity aims will ultimately depend on its effectiveness in terms of generating both additional take-up of training and positive returns to the qualifications acquired through the policy.

• In the 2005 Pre-Budget Report, the Chancellor and the Deputy Prime Minister asked Kate Barker to lead a review of how the planning system can better deliver economic goals. We discuss some aspects of the relationship between planning and productivity, and present some evidence from the retail sector.

8.1 Introduction

Long-term increases in prosperity and living standards depend on sustained growth in labour productivity (output per worker). In recent decades, the level of labour productivity in the UK has been low compared with the USA, France and Germany, and the government has set itself a target of increasing the rate of labour productivity growth and narrowing the productivity gap.¹

This chapter discusses three areas of government policy aimed at improving Britain’s productivity performance. First, the government is considering a number of potential changes to the R&D tax credit for small and medium-sized enterprises (SMEs). We describe the background to the R&D tax credits and discuss the merits of various options for change.

Second, the 2005 Pre-Budget Report confirmed the launch of the National Employer Training Programme (NETP) from April 2006, now branded ‘Train to Gain’. We summarise recent evidence on the likely effectiveness of this policy in improving productivity. Finally, we discuss some of the issues raised by the forthcoming review of planning and economic performance that was announced in the 2005 Pre-Budget Report.

8.2 R&D tax credits

In July 2005, HM Treasury, the Department for Trade and Industry (DTI) and HM Revenue and Customs (HMRC) published a discussion document on potential improvements to the research and development (R&D) tax credits. The government’s response to the discussion process was published in December 2005, and in the Pre-Budget Report (PBR) the Treasury announced a number of changes to the administration of the existing scheme for small and medium-sized enterprises. The most significant of these was the creation of dedicated R&D units in HMRC to develop specialist R&D expertise and handle all SME R&D tax credit claims. The PBR also stated that the government ‘will continue to review whether there is a case for further enhancements to the existing structure of the SME R&D tax credit’, with any conclusions to be announced in Budget 2006.

This section briefly describes the background to the R&D tax credits and discusses the options for changes to the SME credit. None of the options we consider is without potential drawbacks, and, given the long-term nature of R&D investment decisions, this seems to be an area where policy stability is particularly desirable. Thus implementing no changes may well be the best option. At the very least, it would be desirable if the recent consultation were the last for some time, in order to give the policy time to ‘bed down’.

Background

The R&D tax credits are the largest single policy initiative introduced by the present government aimed at increasing private sector innovation activity. The SME R&D tax credit was introduced in April 2000, and the large company credit followed in April 2002. Both schemes operate by allowing companies to deduct more than 100% of qualifying current expenditure on R&D from their taxable profits (150% for SMEs and 125% for large firms), thus reducing the after-tax cost of the R&D. The SME credit is not only more generous than the large company credit but also includes a payable aspect, whereby SMEs with insufficient taxable profits to benefit from enhanced relief can claim a cash payment equal to 24% of eligible R&D expenditure. This payable credit is particularly attractive to small R&D-intensive start-ups that have not generated any taxable profits.

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HMRC statistics show that the cost of the SME credit in 2004–05 was £264 million, with over 80% of this accounted for by the payable credit. The annual number of claims for the SME credit is running at more than 4,000 a year. According to HMRC, the cost of the large company credit in 2004–05 is expected to be about £440 million, but this number is subject to a wide margin of error, and may turn out to be considerably larger, given that the SME credit has cost more than originally forecast.5

There is evidence from several other OECD countries that R&D tax credits are effective in generating additional R&D, although this evidence suggests that it could take as long as 10 years for the full effects to materialise.6 One reason for this is that R&D investment decisions are made with long time horizons, and it may take some time for changes in the price of R&D to feed through into companies’ decision-making processes. Hence it is still too early to evaluate fully the effectiveness of the UK R&D tax credits. As interim evidence, the government’s response to the recent consultation cited a survey in which 55% of companies that had made a successful claim said the tax credit had had some impact on either their level of R&D spending and/or the type of R&D projects they undertook.7 This could be consistent with a significant impact from the R&D tax credits but it is by no means sufficient evidence.

However, even if the R&D tax credits have their expected effect on levels of R&D expenditure, they are unlikely on their own to contribute significantly to achieving the government’s ambition to increase total UK R&D expenditure to 2.5% of national income by 2014.8 Figure 8.1 shows spending on business enterprise R&D (BERD), the largest component of total R&D, as a percentage of national income over the period from 1981 to 2004 for the USA, Germany, France and the UK. From 2004 to 2014, the figure also shows the increase in BERD intensity that would probably be required for the government’s ambition to be met.9 A generous estimate is that the existing R&D tax credits might raise UK BERD intensity by up to 0.1% of national income.10 This is less than one-quarter of the 0.5% of national income increase that would be required to meet the government’s 2014 ambition.

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9 The ambition for 2014 was introduced prior to the publication of the 2004 figures for the UK, so the dotted line indicating the required trend path starts in 2003. The decline in 2004 was disappointing, but we should not read too much into a single year of data. The 2014 ambition of 1.7% for BERD as a percentage of national income is taken from the indicative scenario in table 4.1 of HM Treasury, DTI and DfES, Science & Innovation Investment Framework 2004-2014, 2004, http://www.hm-treasury.gov.uk./spending_review/spend_sr04/associated_documents/spending_sr04_science.cfm.
10 This is based on consensus estimates of the responsiveness of R&D spending to changes in the price of R&D. For further assumptions underlying this calculation, see L. Abramovsky, S. Bond, R. Harrison and H. Simpson, Productivity Policy, IFS Briefing Note no. 60, 2005, http://www.ifs.org.uk/publications.php?publication_id=3362.

Notes: The ambition for 2014 was introduced prior to the publication of the 2004 figures for the UK, so the dotted line indicating the required trend path starts in 2003; the dotted line is an indication of the trend path BERD would need to follow to reach the ambition, but should not be read as suggesting that the ambition needs to be met each year.
Sources: OECD Main Science and Technology Indicators, 2004, updated for UK using ONS Business Enterprise Research and Development, 2004; authors’ calculations.

Of course, this does not indicate that the tax credits do not represent value for money, merely that they are unlikely on their own to have a dramatic impact on UK levels of business R&D. It is also worth pointing out that the existence of a government ambition for the level of R&D as a percentage of national income does not have a solid economic rationale, and the 2.5% figure is essentially arbitrary.

Potential changes to the SME R&D tax credit

It is useful to start by emphasising a few economic principles that should form the basis of any discussion of changes to the SME R&D tax credit. The main economic rationales underlying government support for business R&D are that companies may not always capture the full returns from their R&D (the ‘spillovers’ rationale) and that information constraints may result in a shortage of external finance for companies investing in risky R&D, especially for SMEs (the ‘credit constraints’ rationale). Both these types of market failure may result in companies underinvesting in R&D relative to the socially optimal level.

R&D tax credits are a form of government support that allows companies to maintain decision-making over how much to spend and which R&D projects to pursue, on the basis that companies are likely to have better information about potential payoffs than governments. Given the long-term nature of R&D investment decisions, stability, consistency and simplicity are particularly valuable characteristics of any system of government support for R&D, and any potential benefits from changing the structure of the SME R&D tax credit should be set against the complexity and uncertainty that might result from frequent changes to the policy. We return to this point below.
The main issue raised in the government’s discussion document was whether support through the R&D tax credits should or could be targeted at smaller and growing innovative companies, particularly in emerging sectors such as software. However, the response to the consultation process, published along with the PBR, stated that the government accepted the majority view of respondents that any additional support should be targeted on small companies generally rather than specific sectors or groups of companies.\(^\text{11}\) A number of potential changes have been explicitly ruled out, including any significant expansion of the definition of qualifying costs and an increase in the large company credit rate. Given these constraints, we discuss a range of potential changes to the SME scheme, some of which have been explicitly raised as possibilities, while others seem to be implied by the objectives expressed by the government.

**i. Increase the SME credit rate**

Increasing the SME credit rate would be the simplest way of providing additional support for SMEs. Evidence on the extent to which companies’ private incentives to invest in R&D fall below the returns to society as a whole could be read as justifying a more generous credit than exists at present, and more generous rates currently exist in other countries (e.g. Canada). However, there is no clear evidence on whether spillovers are more significant for smaller companies, and increasing the divergence between the SME and large company rates might create harmful distortions. In particular, it would exacerbate any difficulties experienced by growing companies as they make the transition from SME to large company (see point iii below for more discussion of this). Changes to the generosity of the credit could also reduce the stability and certainty that are particularly important for companies making long-term R&D investment decisions. To the extent that the change is to a more generous credit, this could be seen as less of a problem, but the effectiveness of the policy would be reduced if changes to the rate became a regular occurrence.

**ii. Raise the SME size threshold to allow larger companies to benefit from the higher credit rate and the payable credit**

In its response to the recent consultation, the government stated that it would consider a number of recommendations made by the Cox Review of creativity in UK business.\(^\text{12}\) One of these recommendations was that the upper size threshold for eligibility for the SME tax credit be raised from 250 employees to 500 employees. In support for this, the Cox Review cited evidence from the Third Community Innovation Survey that UK companies with fewer than 500 employees are significantly less likely to invest in R&D than larger companies. As the Review recognised, this change could be constrained by EU state aid rules, which use a common definition of SMEs across EU countries.\(^\text{13}\) Even if approval for the policy could be negotiated, it is possible that the SME tax credit might then interact in complex ways with other forms of support that differentiate between SMEs and large companies. However, it is difficult to know in advance whether this is likely to be a significant problem.

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\(^{13}\) As well as the number of employees, the definition of an SME includes upper limits on sales and assets.
The largest impact of raising the size threshold would be on companies with between 250 and 500 employees that do not have sufficient taxable profits to benefit from the existing enhanced relief under the large firms scheme. These companies would become eligible for the payable aspect of the SME tax credit, which currently accounts for 80% of the SME credit’s cost. While symmetry between companies with positive and negative profits is an attractive feature of the SME credit, the justification for the payable credit appears to be strongest for recent start-ups that have not yet generated sufficient cash flow to break even. The ‘credit constraints’ rationale for government support for business R&D is particularly relevant for these companies. The question then becomes whether there are a significant number of companies in this situation with more than 250 employees.

iii. Extend the transition period from SME to large firm so that growing companies could continue to claim under the SME scheme for longer

The government’s response to the consultation process stated that ‘the Government will continue to consider the evidence presented by the Cox Review, including on the difficulties facing companies as they make the transition from SME to large company’.14 When growing firms cease to be SMEs, they are no longer eligible for the more generous relief and payable credit under the SME tax credit, and become eligible instead for the less generous large companies scheme. However, the current system already includes a one-year grace period, so that companies must be classified as a non-SME for two consecutive periods before they cease to be eligible for the SME tax credit. One option would thus be to extend this period to two or more years, so that growing companies would be able to continue claiming under the SME scheme for longer after they had ceased to qualify as an SME. In most cases, however, this would merely postpone any difficulties caused by switching from the SME credit to the large companies scheme.

At any one time, this change would focus additional support on a relatively small number of growing companies and would also introduce a discrepancy in the tax treatment of similar companies according to whether they were growing or not growing. Since it is unlikely that growing companies find it harder to gain access to external finance than companies that are not growing, any economic rationale for this discrepancy would have to be based on the argument that growing companies are more likely to generate spillovers from their R&D. We are aware of no strong evidence on this point.

iv. Introduce an additional incremental element on top of the existing volume-based scheme

This was another of the Cox Review’s recommendations. Before the SME tax credit was first introduced, there was extensive discussion of whether the UK should adopt a volume-based or incremental credit.15 A volume-based credit reduces the after-tax price of all R&D conducted by a firm, irrespective of the historical path of the firm’s R&D expenditure, whereas an incremental credit reduces the after-tax price of any additional R&D above some

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base level, which could be, for example, the firm’s R&D expenditure in some base year or a rolling average of the last few years’ R&D expenditure. Incremental credits generally provide higher incentives for firms to raise their R&D spending for a given amount of cost to the exchequer, but a volume-based approach was chosen in the UK, not least due to its greater simplicity and certainty. Under some circumstances, it is also possible for incremental credits to provide perverse and even negative incentives, particularly if the base level is defined using some combination of recent years’ expenditure, since raising R&D expenditure in one year reduces the value of the credit in future years.

The government’s response to the recent consultation states that ‘discussions with business have reinforced the Government’s view that the volume-based structure is most effective’. This suggests that the government is not particularly receptive to the idea of an additional incremental element for the SME tax credit. Given the added complexity and uncertainty that an incremental element would introduce, this judgement seems sensible.

Another option that could be seen as a particular form of incremental credit would be to provide more generous relief to first-time claimants. This is potentially attractive given the administrative fixed costs of applying for relief for the first time, and would also focus additional support on encouraging first-time innovators, which is one of the stated priorities in the government’s response to the consultation. However, providing more generous relief for first-time claimants might also create avoidance problems that could be difficult to police. In particular, it could create incentives for companies to set up new R&D vehicles each year in order to benefit from more generous treatment. This option was not explicitly mentioned in the government’s response to the consultation, which may indicate that it is seen as unworkable.

Conclusion

Clearly, none of these options is without potential drawbacks. Raising the SME credit rate (option i above) is probably the simplest change to administer, but, as discussed above, it would exacerbate any difficulties faced by growing companies as they cross the threshold from SME to large company. Extending the grace period in this transition (option iii above) might reduce these difficulties, but in most cases it would merely postpone them.

Any change is also likely to increase the uncertainty and/or complexity associated with claiming relief. As discussed above, given the long-term nature of R&D investment decisions, this seems to be an area where policy stability is particularly desirable. Thus implementing no changes may well be the best option. At the very least, it would be desirable if the recent consultation were the last for some time, in order to give the policy time to ‘bed down’.

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8.3 The National Employer Training Programme

The 2005 Pre-Budget Report confirmed the launch of the National Employer Training Programme from April 2006, now branded ‘Train to Gain’. This is a policy designed to encourage employers to provide work-related training to low-skilled employees in order for them to acquire basic skills and Level 2 vocational qualifications (NVQ2). The NETP will offer free training, either to a basic skill qualification or a Level 2, to employees who lack basic literacy, numeracy or language skills, or who do not possess a Level 2 qualification or above. In addition to free training, employees will receive a number of hours of paid time off for training during working hours, and employers with fewer than 50 employees will receive wage compensation for these hours – available at least in 2006–07 and 2007–08. The package also includes an independent brokerage service to help employers identify their training needs and source appropriate training provision. The NETP is expected to cost £268 million in 2006–07 and £437 million in 2007–08 (of which around £38 million in each year will pay for the wage compensation to small businesses).

In this section, we consider the potential rationale behind introducing a subsidy for employer-provided training and examine the available evidence from the evaluation of the Employer Training Pilots, which trialled elements of the NETP. In light of this, we then discuss the extent to which the NETP is likely to be effective in increasing productivity and the scope for future evaluation of the policy.

Why intervene in the provision of employer-provided training?

The government’s stated aim for the Employer Training Pilots, the predecessor to the NETP, has been to ‘[stimulate] the demand for work-based training for low-skilled employees where market failures that reduce investment in skills are most acute’. What are these market failures and what is the evidence for them?

The most important possible market failure in this context arises because the skills acquired in basic skills and Level 2 training are likely to be largely transferable across jobs. This means that employers run the risk that, having paid for the training, the employee will then be poached by another firm. In the case where employees are unable to pay for such training themselves, this could lead to underprovision. There may also be informational failures, or firms themselves (especially small firms) may be credit constrained, both also leading to underprovision.

There is remarkably little evidence on the magnitude of these potential market failures. On the one hand, it is certainly the case that workers with low or no qualifications are substantially less likely to receive employer-provided training than workers with higher qualification levels. For example, just 12% of employees with no qualifications, and 23% of those who

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18 For information, Level 1 qualifications are equivalent to fewer than five GCSEs grades A*–C; Level 2 qualifications are equivalent to five GCSEs grades A*–C; Level 3 qualifications are equivalent to two or more A level passes; and Level 4 and above qualifications are equivalent to at least a first degree.

19 Department for Education and Skills.

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have qualifications below Level 2, report having received job-related education or training in the last three months. This compares with 30% of those whose highest qualification is at Level 2, 34% of those at Level 3, and 43% of those qualified to Level 4 or above. Small firms (those employing fewer than 50 workers) are significantly less likely than larger firms to provide training to their low-qualified staff.\(^{21}\)

However, the lack of training among this section of the workforce might arise not because of market failures, but simply because the returns may be insufficient to justify the investment. For example, the evidence on the private wage returns to holding Level 2 qualifications compared with having a Level 1 or no qualification at all suggests that NVQ2s offer little or no wage benefit to most recipients, although it should be noted that individuals who receive their NVQ2s through their employers (rather than through government training schemes or at a school or college) do, on average, experience some positive financial returns. Individuals with a Level 2 qualification are also more likely than similar individuals without a Level 2 qualification to go on to acquire higher qualifications.\(^{22}\)

As well as the market failures frequently cited by the government, there may also be equity arguments for intervention to provide training for less-advantaged groups. For example, it may be considered an issue of social justice that individuals who left school without any qualifications be given opportunities to gain qualifications, regardless of the long-term pay-offs. This is certainly a part of the motivation behind the government’s newly introduced ‘Level 2 Entitlement’, which guarantees that the government will meet the full tuition cost for a first Level 2, whether obtained through the employer or by other routes.\(^{23}\)

Finally, the government has set itself an ambition to see 2¼ million adults achieve functional competence in literacy, language and numeracy, and over 3 million adults achieve their first full Level 2 qualification, by 2010.\(^{24}\) NETP will provide additional avenues through which individuals can gain these qualifications and so will potentially help the government to meet its targets.

Has the policy been effective so far?

NETP has been developed following three years of piloting a number of different policy variants through the Employer Training Pilots (ETPs) that have been in operation in a number of Local Learning and Skills Councils (LLSCs) since September 2002. There is evidence available on the impact of the ETPs in their first year of operation on the take-up of training by eligible employers and employees, as a result of an evaluation conducted at IFS.\(^{25}\)

\(^{21}\) Authors’ calculations based on Spring 2005 Labour Force Survey. Calculations cover employees in England aged between 19 and 64.


The evidence suggests that the pilots appear to have had small positive effects on the take-up of training amongst employers and employees, but that the associated levels of ‘deadweight’ (i.e. training that would also have been undertaken in the absence of the ETP) are relatively high. For example, the evaluation findings suggest that in the early years of the pilots, the proportion of eligible employers providing Level 2 training to low-qualified workers has risen from approximately 8% to around 8½% as a result of the policy. Our ‘back-of-the-envelope’ calculations on the basis of these evaluation results suggest that about 10–15% of the ETP training is ‘additional’ training and that about 85–90% is ‘deadweight’.

Such levels of deadweight are perhaps to be expected amongst training programmes of this kind. Given that the ETP was universally available, widely marketed, and offered employers financial incentives to provide training, we would expect the programme to attract a considerable number from the minority of employers who would have provided this type of training without the ETP offer. It should also be noted that this evaluation focused mainly on the first-year effects of the ETP programme. It might be the case that additional training generated by the policy increases beyond its initial levels, since the numbers of employers and employees participating in ETP have increased considerably over time. For example, in the first six LLSC areas in which the ETP was piloted, the number of new employers and employees signing up to ETP increased from around 2,400 and 17,000 respectively in the first year to 4,800 and 43,000 in the second year, and approximately 4,000 and 41,000 in the first 11 months of the third year of operation.²⁶

**Conclusion**

The evidence for the NETP’s likely effectiveness in improving the UK’s productivity performance is not very strong so far. As we have noted, there is some limited evidence on the existence of positive returns to NVQ2 obtained through the employer, as measured by employees’ wages.²⁷ However, the evaluation of the Employer Training Pilots found that in their first year of operation, they did not appear to raise the levels of training much beyond what would have occurred in any case. If this remained the case under the NETP, the net gain to productivity would probably be very small.

The government has suggested that in the light of these findings, it will work hard to improve the additionality of the national policy, and promises to monitor this.²⁸ However, given that the policy will be in place nationwide, it will be extremely difficult to find adequate comparison groups to allow the impact of the NETP on the take-up of training to be evaluated effectively. Nevertheless, it may still be possible to evaluate the longer-term impact of this

²⁶ These figures are derived from the ETP Management Information data, provided by the Institute for Employment Studies. The first-year figures cover September 2002 to August 2003, and the second year covers September 2003 to August 2004. Note that the third-year figures are provisional as they presently only cover September 2004 to July 2005.

²⁷ Note that this measure could be underestimating the effect on productivity since it does not take into account any productivity gains captured by firms. Note also that these findings are based on general research on the gains to NVQ2s, but that there has been no specific research on the wage gains amongst participants in the ETP programme.

national policy on participating employees, by measuring the returns to a Level 2 qualification obtained through the NETP. Whether the public funding directed towards the NETP provides value for money in terms of fulfilling its key productivity aims will ultimately depend on its effectiveness in terms of generating both additional take-up of training and positive returns to the qualifications acquired through the policy.

8.4 Planning regulation and economic performance

In the 2005 Pre-Budget Report, the Chancellor and the Deputy Prime Minister asked Kate Barker to lead a review to consider ‘how, in the context of globalisation, planning policy and procedures can better deliver economic growth and prosperity alongside other sustainable development goals’. As well as examining ways to improve the efficiency and speed of the planning system, the Review will also examine the relationship between planning and productivity. This section briefly discusses some aspects of the relationship between planning regulation and productivity, and presents some evidence from the retail sector.

Planning and productivity

Planning regulation has a direct effect on productivity. In the absence of regulation, businesses design buildings and choose sites to minimise their own cost and maximise their own revenue. Without government intervention, businesses are not likely to take account of the impact that their activities have on others – for example, through pollution, congestion or a reduction in recreational space. The aim of regulation should be to ensure that these externalities are taken into account. The direct impacts of planning regulation on productivity could work through various channels, including inefficient building design, lower entry rates of new businesses, or lower rates of adoption of new technologies that are associated with new building.

In addition, irrespective of planning outcomes, the planning process represents a fixed cost associated with land development, and the outcomes of the planning process are not completely predictable for applicants. Both fixed costs and uncertainty may reduce or delay investment. Other things equal, reducing any unnecessary costs and uncertainty associated with the planning process should thus be a goal of policy.

As well as the direct impacts of planning outcomes on productivity, there may be indirect impacts through competitive effects. For example, the threat of entry by a local rival may encourage incumbent firms to increase their efficiency or invest in innovation. If the planning system makes entry unlikely, this effect will be reduced. The Competition Commission

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29 Ideally, we would also try to measure the impact on the productivity of participating workplaces. However, this poses considerably greater methodological challenges. Note that the quantitative evaluation of ETP did not consider the returns to participation for employers or employees.

inquiry into the supermarket industry discusses the competitive implications for planning policy in some detail.31

**Why should government intervene in land use?**

The main rationale for government invention in the use of land is that there may be externalities from land use that are not taken into account by users of land. Some types of activities will affect not only the companies undertaking them and their staff and customers, but also other people living, working or undertaking other activities in the vicinity. For example, a cement factory that generates frequent traffic of large lorries opening up next door to a primary school will have a negative impact on the children, parents and staff at the school. The local authority may want to impose an additional (in this case, prohibitively high) cost on the cement factory of driving heavy lorries past the primary school when children are coming to and from school. Without some form of intervention, the cost to the children, parents and teachers will not be borne by the company when deciding where to locate the cement factory and so will not affect its decision.

The ideal intervention would price these externalities by levying additional costs so that users of land face the full cost of their location decisions when deciding where to locate economic activity. However, such interventions can be difficult to design and implement. In general, planning authorities are unlikely to have very precise information about the monetary value of these externalities.

Instead, under the current system, companies must seek permission to locate certain categories of activity in certain areas (or buildings have to be designated for certain uses). This system of planning regulation also requires the planning authority to have sufficient information in order to weigh up various costs and benefits. Without sufficient information, regulation can lead to distortions in economic activity. A problem with many forms of regulation is that it can be costly (and perhaps infeasible) for planning authorities to collect sufficient information.

It is worth commenting on the high price of land in the UK. For example, estimates from the Competition Commission’s supermarket investigation suggest that the price of retail land is substantially lower in France, Germany and the Netherlands than in the UK.32 However, the high price of land is not in itself a rationale for government intervention if the price accurately reflects the scarcity of a resource. The UK is densely populated and, since land is relatively scarce, it will be optimal for companies to use less land and more of other inputs, relative to countries such as the USA, France and Germany, where land is more abundant. A high price of land relative to other inputs sends a signal to companies to do exactly this.

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An example: supermarkets

A prominent example of businesses affected by planning regulation is supermarkets. From the 1970s to the mid-1990s, there was a decline in the proportion of retail space in town centres (and edge-of-town sites) and an increase in out-of-town developments. National planning controls on retail development were minimal over this period. Concern was expressed about the vitality of town centres and about issues around social exclusion of people without cars.

Reforms in 1993 and 1996 resulted in the current legislation and introduced the 'sequential approach'. The main features of this system are as follows:

- Local authorities should have a Regional Spatial Strategy, which includes an assessment of the need for additional floor space for retail (among other activities).

- Local authorities follow a sequential approach in which they decide whether local needs can be met by (1) sites within existing town centres, (2) sites on the edge of town and, only then, (3) sites out of town.

What effect has planning regulation had on the food retail industry? Figure 8.2 shows the number of supermarket openings each year in the UK for the period between 1991 and 2003, split into establishments that are above and below 30,000 square feet, which is approximately minimum efficient scale for a supermarket. The share of openings that were below efficient scale increases over the period, especially after 1996, the year in which the main planning regulation, Planning Policy Guidance 6 (PPG6), was introduced.

Figure 8.2. Supermarket openings in the UK by store size

Note: PPG6 = Planning Policy Guidance 6.
Source: Authors' calculations using Institute for Grocery Distributors data.


34 The Competition Commission's supermarkets investigation estimates that there are increasing returns to scale up to around 3,000 square metres, or around 30,000 square feet.
Based largely on the information contained in Figure 8.2, the Office of the Deputy Prime Minister has concluded that planning regulation has been effective in stemming the increase in out-of-town stores (which are largely above efficient scale). However, if we look at the composition of these new stores (Figure 8.3), it is clear that growth in new stores is largely due to convenience stores, driven by expansion of the Tesco’s Express and Metro brands (and of Sainsbury’s Local). One question that arises is whether growth in these brands was as much a response to changes in consumer preferences as a response to planning regulation.

Figure 8.3. Supermarket openings in the UK by type of store

How might these changes to the planning regime relate to productivity outcomes? Productivity in the retail sector in the UK is low compared with that in the USA - the sector is responsible for around 20% of the UK-US productivity gap. Several commentators, including McKinsey and the Competition Commission, have attributed this, at least in part, to restrictive planning regulations. The thrust of this argument is as follows:

- Planning regulations hinder entry of large stores and the result is that the UK has a larger number of stores below minimum efficient scale.
- Planning regulations hinder the entry and exit of stores. It is hard to introduce new technologies in old stores (refitting is expensive), but easier to integrate them into new stores, so less store turnover means stores are slower to take up new technologies.
- Planning regulations hinder entry by new low-cost stores (e.g. Asda/Walmart) and thus stifle competition.

However, there are a number of problems with this simple story. First, output per capital input in the UK is still relatively low, but significantly less so than output per worker.\textsuperscript{38} For a country where land is in relatively short supply to use less land and more labour seems hardly surprising, and may simply be the optimal response of companies to different factor endowments.

Second, the most profitable firm in the UK is Tesco, which has many small stores (below minimum efficient scale). Tesco is widely cited as an innovative firm that has used information and communication technologies (ICT) in creative ways that suit its small-store business model, and is now applying its approach in other countries and other markets.\textsuperscript{39}

Both these facts suggest that the relationship between planning and productivity in the retail sector is by no means simple. While retail is in some respects a special case, many of these insights apply to other sectors of the economy. The forthcoming planning review should thus be wary of drawing conclusions without considering these complexities in some detail.


\textsuperscript{39} See, for example, http://news.bbc.co.uk/1/hi/business/1263694.stm.
9. Company taxation

Steve Bond (IFS)

Summary

- Corporate tax rates have fallen in many developed countries since the current UK corporation tax rate of 30% was introduced in 1999. This trend may make it difficult for the UK to sustain a 30% tax rate and remain an attractive location for investment. Decisions of the European Court of Justice may also threaten the government’s medium-term projections for corporation tax revenues.

- 2005 saw two separate increases in the taxation of North Sea oil and gas producers. We explain why it is fear of further tax rises, rather than the level of the tax rate itself, that is likely to have a detrimental impact on investment.

- The 2005 Pre-Budget Report announced the final demise of the zero starting rate of corporation tax, introduced in 2002. We review the brief history of this curious initiative, and suggest there are important lessons to be drawn.

9.1 Introduction

Two major current issues in company taxation are the implications of international developments for UK corporation tax, and the government’s agenda to reduce tax avoidance by companies. The former is discussed in Section 9.2, while the latter is discussed separately in Chapter 10. This chapter also looks at recent developments in North Sea oil taxation (Section 9.3) and the taxation of micro businesses (Section 9.4).

9.2 International pressures and the European Court of Justice

Recent years have seen the continuation of a general downward trend in corporate income tax rates in developed countries, which started with the UK cut from 52% to 35% over the period 1984 to 1986, and the 1986 US tax reform. In Europe, an important development has been the accession into the European Union of a number of central and eastern European countries with relatively low corporate tax rates, such as Estonia, Hungary, Latvia, Lithuania, Poland and Slovakia. This has been followed by actual or proposed cuts in corporate tax rates in, for example, Austria, Finland, Germany, Greece and the Netherlands.

In his initial years as Chancellor of the Exchequer, Gordon Brown appeared to be following this international trend. The UK corporation tax rate was reduced from 33% to 31% in 1997, and again to 30% in 1999. However, the UK tax rate has been static since then, while a number of other countries have lowered their corporate tax rates. As a result, as shown in Table 9.1, the UK rate of 30% no longer appears as low now as it did in 1999. Among the EU
member states, Austria, Denmark, Finland, Ireland, Portugal and Sweden now have lower corporate tax rates than the UK, as do nine of the 10 recent accession countries.\footnote{The exception is Malta.} If the downward trend elsewhere continues, there must be some doubt as to whether the UK will be able to sustain a corporation tax rate of 30% and remain an attractive investment location for international companies. It is worth noting that a more aggressive stance on tax avoidance by the UK government does not enhance the attraction of the UK for multinational investors. Chapter 10 provides a more detailed look at the issue of (corporate) tax avoidance and the government’s current strategy to combat it.

Table 9.1. Statutory corporate income tax rates, including local taxes

<table>
<thead>
<tr>
<th>Year</th>
<th>UK Tax rate</th>
<th>G7 Average rate</th>
<th>UK rank</th>
<th>EU15 Average rate</th>
<th>UK rank</th>
<th>EU25 Average rate</th>
<th>UK rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>33</td>
<td>43.5</td>
<td>1</td>
<td>38.1</td>
<td>3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1999</td>
<td>30</td>
<td>39.8</td>
<td>1</td>
<td>35.9</td>
<td>4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2005</td>
<td>30</td>
<td>36.3</td>
<td>1</td>
<td>30.1</td>
<td>7</td>
<td>26.3</td>
<td>16</td>
</tr>
</tbody>
</table>

Notes: All averages are unweighted means. Typical local taxes and surtaxes are included. A rank of 1 indicates the lowest corporate tax rate in the group of countries considered.


The European Court of Justice (ECJ) has also become a more significant influence on the structure of company taxation within the EU. Provisions of EU Treaties covering non-discrimination, the freedom of movement of capital and the freedom of establishment have been used by companies to challenge the legality of various features of national tax systems.

Recent changes to UK transfer pricing legislation and planned changes to the taxation of finance leases have clearly been driven by the need to comply with EU law.\footnote{These developments were discussed in section 8.2 of R. Chote, C. Emmerson, D. Miles and Z. Oldfield (eds), The IFS Green Budget: January 2005, IFS Commentary no. 98, http://www.ifs.org.uk/budgets/gb2005/index.php.} Last year, Marks and Spencer was successful in a case brought against the UK government involving tax relief against UK corporation tax for losses that had been made by some of its European subsidiaries. The ECJ ruling greatly limited the circumstances in which losses made by an overseas subsidiary can be set against profits made by the parent company, so that the revenue implications of this decision for the UK exchequer are not serious. Nevertheless, another long-standing principle of the UK corporation tax has been overturned by a decision of the ECJ.

Looking forward, two current challenges to aspects of UK corporation tax could have significant implications if they are upheld by the ECJ. Both concern the taxation of overseas subsidiaries of UK companies.

Where overseas subsidiaries are located in low-tax jurisdictions, so-called Controlled Foreign Company (CFC) rules allow the UK government to tax the profits of these overseas subsidiaries directly. Cadbury Schweppes is challenging the legality of these rules as they have been applied to two subsidiaries located in Dublin and taxed under the Irish International Financial Services Centre regime. If this challenge is successful, the application of CFC rules...
within the EU would be brought into question. CFC rules are mainly required to limit the extent to which international companies have an incentive to shift profits for tax purposes into tax havens outside the EU. Nevertheless, restrictions on their application within the EU could still have serious implications for UK corporation tax revenues, potentially making it easier for UK companies to route profits through other EU countries that have less effective CFC legislation against non-EU tax havens than that which applies in the UK.

The second case concerns dividends paid from a subsidiary to a parent company. Corporation tax is not charged on dividends received by a UK parent from a UK subsidiary. But dividends received by a UK parent from overseas subsidiaries are not exempt from UK corporation tax. The UK operates a credit system, under which dividend income from overseas subsidiaries is subject to UK corporation tax, with a credit given for corporate income tax paid by the foreign subsidiary on the underlying profits that were earned and taxed abroad. In practice, this means that there may be a UK corporation tax charge when dividend income is received from subsidiaries located in countries with a lower corporate tax rate than the UK. This difference in the treatment of dividends received from UK and overseas subsidiaries is also subject to a challenge at the ECJ. If this is upheld, the UK could either switch to an exemption system under which dividend income from overseas subsidiaries would also be exempt from UK corporation tax, or apply the credit system also to dividends received from domestic subsidiaries. The former would imply giving up any tax revenue that is currently collected from dividend income received by UK companies from their foreign subsidiaries. The latter option would raise administrative and compliance burdens for companies with a group structure within the UK, but would protect this source of revenue. In effect, this was the approach taken by the UK government in the case of transfer pricing, where rules initially designed to apply to transactions between parents and subsidiaries in different jurisdictions were extended to apply also to transactions between affiliated UK firms.

In the longer term, another factor influencing the development of UK corporation tax may be the proposal from the European Commission for a common consolidated corporate tax base within a participating bloc of countries. Under this proposal, a company’s taxable profits would be calculated for the bloc as a whole, rather than separately for each individual country as happens under national corporate tax systems at present. This tax base would then be allocated to the individual countries according to a form of formula apportionment, and individual countries would then be free to apply their own corporate tax rate to their allocation of this tax base. At least initially, the UK would not be likely to participate in such a development. Moreover, the likelihood of this proposal being implemented is open to question. Previous Commission proposals for major reforms of corporate taxation within the EU have enjoyed limited success. In this case, there are formidable technical and political hurdles to be overcome in order to get agreement both on the definition of the common consolidated tax base and on its allocation between participating countries. If a significant group of countries were eventually to adopt a common corporate tax base, however, this could also reduce the attraction of the UK as a location for multinational firms wishing to operate within the EU. Costs of complying with multiple tax systems would then be reduced for firms that located or expanded within the participating bloc.

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**Figure 9.1. Corporate tax revenues as a share of national income for the G7 countries, 1999–2003 average**

![Graph showing corporate tax revenues as a share of national income for G7 countries, 1999–2003 average.](image)

Note: For the UK, these OECD figures include corporation tax revenue from the North Sea sector.

These international developments all raise questions about the sustainability of the government’s current level of revenue from corporation tax. In 2004–05, UK revenue from corporation tax (excluding the North Sea oil sector) was around 2.6% of national income. This figure is already quite high among developed countries. Figure 9.1 shows OECD figures for all corporation tax receipts as a share of national income for the G7 countries in the period 1999 to 2003. The government’s medium-term projection for non-North-Sea corporation tax revenue nevertheless sees it increasing to 3.3% of national income. However, this medium-term projection was reduced from 3.5% at the time of the March 2005 Budget to 3.3% in the December 2005 Pre-Budget Report. Even this level may prove difficult to sustain or may risk having a detrimental impact on investment in the UK.

### 9.3 North Sea taxation

There have been major changes to the taxation of profits earned by North Sea oil and gas producers in recent years. In 2002, there was the introduction of a 10% supplementary rate of corporation tax for the ring-fenced operations of North Sea producers, on top of the standard 30% corporation tax rate. Together with other changes introduced at the time, this was estimated to raise around £0.5 billion per year. In 2005, changes to the timing of ring-fenced tax receipts resulted in the removal of this 10% supplementary rate.

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4 This relatively high level of corporate tax receipts rests in part on the profitability of firms in the financial sector – see M. Devereux, R. Griffith and A. Klemm, ‘Why has the UK corporation tax raised so much revenue?’, *Fiscal Studies*, vol. 25, pp. 367–88, 2004.
5 For the UK, these OECD figures include corporation tax receipts from the North Sea sector.
corporation tax payments brought forward an additional £1.1 billion into the tax year 2005-06.\textsuperscript{9} In his December 2005 Pre-Budget Report, the Chancellor announced a further increase in the supplementary rate of corporation tax to 20\% from January 2006, so that profits from North Sea oil and gas production will be subject to a 50\% corporation tax rate. This tax increase is expected to raise an additional £2 billion per year from 2006-07 onwards.\textsuperscript{10}

The introduction of a higher rate of corporation tax for North Sea oil and gas producers in 2002 was part of a wider reform of the North Sea tax regime. As well as raising the tax rate, this reform also introduced 100\% first-year allowances for investment in North Sea operations, and saw the ending of licence royalties. For fields that began development after 16 March 1993, this left the profits of North Sea oil and gas operations subject to a single tax, corporation tax, at a 40\% rate.\textsuperscript{11}

This regime, with 100\% investment allowances, appeared to be broadly neutral in its impact on investment decisions. Consider a project that requires an upfront investment of $I$ and is expected to generate a stream of future net revenues with a present discounted value of $R$. A value-maximising investor will wish to undertake the investment if $R$ is greater than $I$ or if the net present value of the project, $NPV = R - I$, is positive. Now suppose that the investment expenditure qualifies for tax relief at a tax rate of $t$. The cost to the investor, net of tax relief, is reduced to $(1 - t) \times I$. If future net revenues are taxed at the same rate $t$, their post-tax net present value is reduced to $(1 - t) \times R$. The net present value of the project subject to this tax regime is then $(1 - t) \times (R - I) = (1 - t) \times NPV$. Provided the tax rate is constant and less than 100\%, all investment projects that were attractive to investors in the absence of the tax remain attractive to value-maximising investors in the presence of the tax. Revenue is raised from projects with strictly positive net present values and not from investments that are marginal in the sense of only just covering their investment costs.

This approach has often been advocated as a way of taxing natural resources.\textsuperscript{12} Since oil and gas deposits are scarce relative to demand, their development is normally expected to generate returns that are substantially higher than investment costs. These excess returns or ‘rents’ provide the tax base. Provided the tax regime is credible, this base can be taxed at a high rate, so ensuring a substantial share of the rents for the government. The neutrality of the system also ensures that all the fields that would be developed in the absence of the tax continue to be developed in the presence of the tax, so that potentially economically viable reserves are not left in the ground.

However, the neutrality of this tax regime rests crucially on the constancy of the tax rate. If the tax rate that applies to future returns is expected to be higher than the tax rate at which upfront investment costs attract tax relief, then projects with a positive net present value in the absence of tax may become unattractive to investors after taking all tax payments into


\textsuperscript{11} Older fields that began development before 16 March 1993 continue to be subject to petroleum revenue tax.

Company taxation

account. In other words, this tax regime will deter otherwise viable investment projects if there is an expectation that the tax rate is likely to increase.

Given this, it is unfortunate that the effective tax rate applied to the ring-fenced profits of North Sea oil and gas producers has now been increased twice in the last year.

The change to the timing of North Sea corporation tax payments, announced in Budget 2005, required payments to be made earlier than had previously been the case. For a taxpayer that can lend at a 10% annual interest rate, a tax rate of 50% with a one-year payment lag is equivalent to a current tax charge of 0.5/1.1 = 45.5%. A reduction in the payment lag thus increases the effective tax rate.

In fact, the main effect of these changes to the timing of North Sea corporation tax payments was to bring forward an instalment payment of around £1.1 billion from April 2006 to January 2006. This gave a temporary boost to corporation tax receipts for the fiscal year 2005-06, but has only a modest impact on the effective rate at which North Sea profits are taxed.

The increase in the supplementary tax rate to 20%, announced in the 2005 Pre-Budget Report, is far more significant. The concern for North Sea investment is not so much that a constant tax rate of 50% would be damaging, but that the suspicion of a rising tax rate is likely to deter investment. The government now argues that the 50% tax rate is ‘striking the right balance between producers and consumers, ... to promote investment and ensure fairness for taxpayers’. At the time, however, the tax regime introduced in 2002 was also said to ‘ensure a regime that raises a fair share of revenue and encourages long-term investment’. The worry for the industry is that much the same rhetoric could be used to support further tax increases in the future.

Of course, these increases in North Sea taxation have come against a background of high world oil prices, so that any detrimental effect on investment in the short term may be masked by the effect of higher oil and gas prices on the underlying viability of new fields. Nevertheless, the government is well aware of the damage that may be done in the longer term by fears of future tax increases. In his December 2005 Pre-Budget Report, the Chancellor took the unusual step of ruling out further increases in North Sea taxation during the life of the current Parliament. Unfortunately, the Chancellor’s credibility in this area is somewhat tarnished. The regime he introduced in 2002 was then said to establish ‘a more secure basis on which companies can plan for the future’. Given this recent history, and the timescale involved in the development of offshore oil and gas fields, it is unclear how far this

13 Consider a project for which \( R = I \), which would be marginal in the absence of tax. Write the tax rate applied to future net revenues as \( t_F = t + \Delta t \), where \( t \) is the current tax rate and \( \Delta t \) is the expected change in the tax rate. Then the net present value in the presence of tax is \((1 - t_F) \times R - (1 - t) \times I = (1 - t) \times (R - I) - \Delta t \times R\), which is negative if the tax rate is expected to increase.


promise will go towards restoring investors’ confidence in the stability of the UK tax regime for oil and gas production.

9.4 The starting rate of corporation tax: an obituary

In 1999, the Chancellor introduced a new starting rate of corporation tax at just 10%. This applied to companies with taxable profits of up to £10,000, and provided some benefit to those with taxable profits of up to £50,000. Previously, firms with taxable profits of up to £50,000 were taxed at the standard small companies’ rate of 20%. In 2002, this starting rate of corporation tax was reduced to zero for firms with up to £10,000 of taxable profits.

The objective of these measures was to encourage the formation and growth of micro businesses. According to Budget 1999, ‘the 10 per cent rate will encourage investment and enterprise’.17 In Budget 2002, the zero rate was introduced ‘to provide further support to new and growing companies’.18 The benefit of this low starting rate was clawed back as the level of profits increased, so that there was no benefit at all for firms with annual taxable profits of £50,000 or over.

The zero rate, in particular, provided a strong incentive for self-employed individuals to set up small companies. Dividends paid by companies are taxed at a lower rate than income from employment, and dividends are not taxed at all for individuals paying the basic or lower rates of income tax.19 A sole trader can easily convert employment income into business profits simply by paying him or herself a lower wage or salary. By converting up to £10,000 into profits and paying these to him or herself as a dividend, the sole trader could enjoy a substantial tax saving.

Not surprisingly, the main effect of this zero starting rate of corporation tax was to encourage existing self-employed individuals to incorporate, to take advantage of this tax saving. This development was widely predicted,20 and should have come as no surprise to the Treasury. The economic benefits, if any, of converting the legal form of existing activities from self-employment to small incorporated businesses were never clear.

In 2004, the government responded to this development by restricting the benefit of the zero starting rate of corporation tax to profits that were retained by the company. Profits paid out as dividends were effectively taxed at the standard small companies’ rate, which by then had been reduced to 19%. This removed the main tax advantage of the measure for individuals replacing one form of cash income (salary) by another (dividends).

In his December 2005 Pre-Budget Report, the Chancellor announced the abolition of the starting rate of corporation tax altogether. Given where the system had got to, this was an
entirely sensible simplification. However, we are now back to precisely where we were in 1998, with profits of up to £50,000 being taxed at the standard small companies’ rate, regardless of whether they are paid out as dividends or retained by the firm (see Table 9.2). In the mean time, thousands of individuals have incurred effort and expense to set up legally incorporated businesses that they would not have otherwise have done.

Table 9.2. Tax rates on profits for micro enterprises

<table>
<thead>
<tr>
<th>Announced</th>
<th>Starting rate under £10,000</th>
<th>Small companies’ rate over £50,000</th>
<th>Basic rate of income tax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget 1996</td>
<td>23%</td>
<td>23%</td>
<td>23%</td>
</tr>
<tr>
<td>Budget 1997</td>
<td>21%</td>
<td>21%</td>
<td>23%</td>
</tr>
<tr>
<td>Budget 1998</td>
<td>20%</td>
<td>20%</td>
<td>23%</td>
</tr>
<tr>
<td>Budget 1999</td>
<td>10%</td>
<td>20%</td>
<td>22%</td>
</tr>
<tr>
<td>Budget 2002</td>
<td>0%</td>
<td>19%</td>
<td>22%</td>
</tr>
<tr>
<td>Budget 2004</td>
<td>0% retained profits, 19% distributed profits</td>
<td>19%</td>
<td>22%</td>
</tr>
<tr>
<td>PBR 2005</td>
<td>19%</td>
<td>19%</td>
<td>22%</td>
</tr>
</tbody>
</table>

Note: For profits between £10,001 and £50,000 a system of marginal relief applied such that the average tax rate fell between the starting rate and the small companies’ rate.
Sources: Various Budgets and Pre-Budget Reports.

The taxation of sole traders and micro enterprises is a difficult area for any tax system, coming at the boundary between the personal and corporate income taxes. For many years, UK government policy was to tax the profits of micro businesses at the same rate as the basic rate of personal income tax. This alignment of tax rates removed the possibility of saving income tax by converting salary into dividends, at least for owners of small companies who were basic-rate taxpayers.

As summarised in Table 9.2, Gordon Brown has deviated from this policy both by cutting the small companies’ rate of corporation tax below the basic rate of income tax, and more significantly by the short-lived introduction of a much lower starting rate of corporation tax. The former provides an incentive for small-business owners who are basic-rate taxpayers to convert salary into dividends, but the incentive is probably not sufficiently large to encourage many sole traders to incur the costs of incorporation. The latter provided a strong incentive for self-employed individuals to incorporate, and the growth in incorporations during 2002 and 2003 was an entirely predictable result.

This episode provides a clear example of how the introduction of distortions into the tax system can have unintended effects on economic behaviour. The impact on tax revenue was large enough for the Chancellor to be obliged to close a ‘loophole’21 in the tax system which he himself had introduced only three years earlier. We can only hope that the Treasury will draw appropriate lessons from this unfortunate experience.

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10. Tax avoidance

Steve Bond (IFS), Malcolm Gammie (TLRC) and John Whiting (TLRC)

Summary

• The government’s efforts to tackle tax avoidance have become more high-profile in recent years. Measures to ‘protect revenues’ announced since the 2002 Budget alone are estimated to be raising about £4½ billion this year.

• The traditional distinction between illegal tax evasion and legal tax avoidance (or planning) has been complicated by the efforts of the authorities to have some forms of avoidance seen as unacceptable even if they satisfy the letter of the law. In some areas, the government is now threatening to use retrospective legislation to ensure that taxpayers contribute what ministers regard as their ‘fair share’.

• The Tax Avoidance Disclosure regime is the most important recent legislative development in tackling avoidance. It appears to have been successful from the government’s point of view, judging by the volume of disclosures made and the blocking measures deployed to halt arrangements it sees as unacceptable.

• The authorities are also highlighting to senior executives the risk to their reputation of being found to engage in unacceptable tax avoidance, while leaving it unclear exactly what is unacceptable. This may help to raise revenue in the short run, but is also likely to make the UK a less attractive location for internationally mobile companies and individuals.

10.1 Introduction

Recent years have seen the government step up its efforts to reduce the amount of tax revenue that it perceives to be lost as a result of various forms of tax avoidance. Its responses include the development of the Tax Avoidance Disclosure rules, under which certain tax planning schemes have to be notified to the tax authorities shortly after they are marketed or implemented, and the ‘Tax in the Boardroom’ agenda, under which the authorities are highlighting to large companies and their senior management the risk to their reputation of engaging in more esoteric forms of tax planning.

Tax avoidance is not a new phenomenon. But it has received much more attention in recent years, both internationally (for example, through the establishment of the four-country Joint International Tax Shelter Intelligence Committee) and in the UK. As shown in Table 10.1, measures described as ‘protecting revenues’ or ‘protecting tax revenues’ introduced since Budget 2002 alone are estimated to raise around £4½ billion in 2005–06.¹ Some revenue-

¹ This estimate is based on figures from various Budgets and Pre-Budget Reports. Nominal figures are uprated to 2005–06 terms using the Treasury’s latest estimates of money GDP. Where Treasury estimates for later years are not published, the revenue raised from earlier measures is assumed to remain constant as a share of national income.
raising anti-avoidance measures are always likely to be required just to prevent a widening in
the existing ‘tax gap’ (between what the authorities collect in revenue and what they think
they should be collecting) as new avoidance schemes are developed. But the government
clearly wants to do more than just run to stand still, and would like reduce the tax gap over
time - especially as it has repeatedly overestimated revenues in recent years, making its fiscal
rules harder to meet.

Table 10.1. Treasury estimates of amounts raised through measures
announced since Budget 2002 aimed at ‘protecting revenues’
(£ billion, 2005–06 terms)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Since Budget 2005</td>
<td>n/a</td>
<td>n/a</td>
<td>0.2</td>
<td>0.5</td>
<td>0.7</td>
</tr>
<tr>
<td>Budget 2005</td>
<td>n/a</td>
<td>n/a</td>
<td>0.7</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Between Budget 2004 and Budget 2005</td>
<td>n/a</td>
<td>0.0</td>
<td>1.0</td>
<td>1.2</td>
<td>1.1</td>
</tr>
<tr>
<td>Budget 2004</td>
<td>n/a</td>
<td>0.3</td>
<td>0.8</td>
<td>0.9</td>
<td>0.9</td>
</tr>
<tr>
<td>Between Budget 2003 and Budget 2004</td>
<td>0.0</td>
<td>0.2</td>
<td>0.4</td>
<td>0.6</td>
<td>0.6</td>
</tr>
<tr>
<td>Budget 2003</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Between Budget 2002 and Budget 2003</td>
<td>1.0</td>
<td>0.8</td>
<td>0.9</td>
<td>0.9</td>
<td>0.9</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of national income</td>
<td>1.4</td>
<td>1.9</td>
<td>4.5</td>
<td>5.6</td>
<td>5.7</td>
</tr>
</tbody>
</table>

Sources: Various Budgets and Pre-Budget Reports. Only measures scored under ‘protecting revenues’ or ‘protecting
tax revenues’ included. Nominal figures uprated to 2005–06 terms using the Treasury’s latest estimates of money
GDP. Where Treasury estimates not published, the revenue raised is assumed to remain constant as a share of
national income.

This chapter takes stock of what has happened of late, puts it into context and reviews the
direction of these developments.

10.2 What is acceptable tax avoidance?

Defining relevant terms used to be straightforward. Tax evasion was, and still is, the use of
illegal means to reduce tax liabilities - for example, making false statements on tax returns. In
contrast, tax avoidance - or planning, or mitigation - was legal, and the only question was
whether an action worked technically or not. This could require a court case to decide, but the
distinction between evasion and avoidance was clear in principle.

These days, the terminology is more complex, including what is widely seen as an attempt by
the tax authorities to blur the distinction between avoidance and evasion and to tar avoidance
with a certain amount of the disapproval that normally attaches to evasion.

In the eyes of the authorities, all actions that are taken to reduce a tax bill appear to be viewed
as suspect in some way, unless they are very clearly just taking advantage of a tax relief in the
manner that was intended. That, though, raises its own difficulties: what did Parliament intend
by the legislation in question?
Of course, if the judges decide that the particular arrangements entered into by the taxpayer did not work, and did not achieve the tax saving that he or she had in mind, then there is no avoidance. But, equally, there will have been no avoidance if the judges decide that Parliament misfired, so that the arrangements fall within the letter of the law – however much it may appear that Parliament may not have intended its language to cover the particular arrangements entered into by the taxpayer. As a matter of law, that is what Parliament has prescribed and a taxpayer does not avoid tax by limiting his or her liability to what the law prescribes.

Tax avoidance is thus encouraged by the complexity of tax legislation. Complexity leaves room for dispute about the intention of the law as written, and for creative attempts to find arrangements that fall within the letter of the law, if not its spirit. Thus it is not surprising that tax avoidance attracts considerable attention in areas such as the taxation of international companies, where the UK tax system must interact with foreign tax systems and complexity is perhaps inevitable. Another area is the taxation of financial companies, where financial innovation (such as the use of derivative instruments) has allowed transactions to be constructed in ways that attract a more favourable tax treatment, while having essentially the same economic substance as simpler transactions that would be taxed less favourably.

Quite apart from the fact that Parliament does not always say what it probably meant to say – or overlooks the possibilities for avoidance that its language offers taxpayers – the judges themselves do not always agree on their approach to arrangements designed to reduce tax liabilities. In a number of his judgments, Lord Templeman sought to build a distinction between actions that are acceptable and those that are not. Any illegal arrangements are clearly unacceptable, but so too are some legal ones. Lord Templeman’s brand of judicial activism would have struck down unacceptable arrangements, even if they fell within the letter of the law. They would not then have their intended tax-reducing effect, under a form of judicial general anti-avoidance doctrine.

Lord Templeman’s approach has not, however, survived his retirement. The current House of Lords has rejected the idea of some form of overriding judicial general anti-avoidance doctrine in favour of a purposive approach to the construction of tax legislation (one in which the court seeks to discern the particular legislative purpose of the provisions and then to interpret them to give effect to that purpose), coupled with an unblinkered approach to the taxpayer’s arrangements, i.e. focusing on what they really amounted to or achieved.

This appears from the recent House of Lords cases of Barclays Mercantile Business Finance Limited v Mawson (2004 UK HL 51) and IRC v Scottish Provident Institution (2004 UK HL 52). These cases suggest that the more contrived and artificial the taxpayer’s arrangements, and the less explicable they are by his or her everyday business or personal circumstances, the more likely the judges are to rule them unacceptable. Barclays Mercantile won but Scottish Provident lost, probably because the transactions in question could be seen as part of Barclays Mercantile’s normal business activities, while for Scottish Provident they fell outside its everyday business and were undertaken solely to exploit particular tax provisions and generate a tax loss.
The attempt to draw a dividing line between tax planning and unacceptable avoidance received an extra twist with the statement on Finance Bill measures by the Paymaster General, which accompanied the 2004 Pre-Budget Report. This referred to avoidance on rewards from employment, particularly in relation to bonus payments. It stated that ‘this Government is determined to ensure that all employers and employees pay the proper amount of tax and NICs on the rewards of employment, however those rewards are delivered’ and that ‘everyone ... should pay ... their fair share’. Importantly, the statement made clear that not only would legislative action be taken to stop avoidance devices, but also such action would be retrospective to the date of the statement where the arrangements in question ‘... emerge in future designed to frustrate our intention that employers and employees should pay the proper amount of tax and NICs on the rewards of employment’.

This statement underlines how difficult it is to draw the line between acceptable and unacceptable avoidance. The traditional game is for Parliament to legislate the boundaries of taxation and lay a minefield designed to keep taxpayers on the ‘right’ side of the line. Taxpayers and their advisers then chart a path through the legislative minefield and Parliament returns to the task of laying mines and building higher fences. Now Parliament also reserves the right to move the boundary, so that even if you chart a path through the minefield, you may still end up on the ‘wrong’ side of the fence.

10.3 Underlying issues

As this last point illustrates, there are fundamental constitutional objections to the threat and use of retrospective legislation. The context within which the Paymaster General’s statement was made, however, illustrates both the importance of tax avoidance and the issues that underlie much of the problem of avoidance.

A starting point is perhaps to ask why taxpayers want to undertake tax planning. The answer should be obvious. As Lord Clyde so vividly put it in 1929, ‘No man in this country is under the least obligation, moral or otherwise, so as to arrange his legal relations to his business or to his property as to enable the Inland Revenue to put the largest possible shovel into his store’ (Ayrshire Pullman Motor Services & Ritchie v CIR, 1929, 14 TC 754). Even the great American tax avoidance judge, Learned Hand, said that there was no morality to the payment of taxes and to say otherwise was ‘mere cant’ (Commissioner vs. Newman, 195F.2D 848, 850-51, CA2 1947).

Few people ‘enjoy’ paying tax even though many recognise the necessity to pay some tax as the price of achieving and maintaining a civilised society. From a business’s perspective, tax planning is largely about managing or reducing costs. Therein lies the crux of the issue: tax planning is not all about reducing a tax bill beyond what the authorities might argue is a ‘proper’ amount; much tax planning is concerned with ascertaining likely outcomes and managing them. Business, as much as anything, wants so far as possible to operate in an environment of certainty.

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2 http://www.hm-treasury.gov.uk/media/938/F0/pbr04_PMGstatement.pdf.
The definitions and arguments in these areas have evolved over the years. What was once planning might now be tarred as avoidance and even unacceptable avoidance. The attempts to mitigate National Insurance contributions (NICs) on employee rewards are an example of this evolution. Whatever one’s view of some of the schemes attempted in recent years, their origin can be traced to the lifting of the upper earnings limit from employers’ NICs in 1985, which significantly increased the amount of contributions at stake.

Some forms of planning are still clearly acceptable: salary sacrifice schemes, for example, can work to mitigate NIC bills. But a very artificial construct aimed purely at mitigating NIC charges is likely to be viewed as unacceptable and possibly even a target for retrospective action (as per the Paymaster General’s statement in 2004).

Three aspects mark this out as an interesting case. First, the scope for avoidance was obvious, having removed the upper limit on employers’ contributions. Second, it is clearly divisive and unacceptable that the majority of employers should be paying NICs in respect of their employees, while others should avoid their obligations with increasingly artificial schemes. This undermines the integrity of the tax system as a whole. Third, the arrangements usually represented a ‘shot to nothing’: if an employer entered into an arrangement to avoid the tax which failed, the only penalty was having to pay the tax that would have been paid in the absence of the arrangement.

Ultimately, different people will reach different views on where the blame lies in these situations. Is it with government and its revenue departments, for failing to appreciate the likely responses to its decisions, and for piecemeal initial attempts to counter them that were largely ineffective? Or with taxpayers, for entering into arrangements that may only have a remote chance of success, on the basis that they will still be ahead of the game if they fail either by deferring payment of tax or by settling with the Revenue for less than they would otherwise have paid absent any arrangements? At least in this field - the payment of employee salaries and bonuses - it is possible to say with reasonable certainty that the use of artificial arrangements to pay such salaries and bonuses will no longer be tolerated and will be countered, if necessary, retrospectively.

This is not to condone the threat or use of retrospective legislation, but to illustrate the point that employee earnings are a relatively straightforward tax base. All tax avoidance is ultimately a function of the tax base, namely how easy it is to define what the government wants to tax in legislative language. So a statement such as that made by the Paymaster General is easier to make in the field of employee earnings than it is in relation to, say, finance leasing, as illustrated by the Barclays Mercantile case. As the recent decision of the Canadian Supreme Court in Canada Trust Co also illustrates, finance leasing transactions are difficult to categorise as avoidance, even under a statutory general anti-avoidance measure. This is because the tax base in question - business profits - is inherently difficult to define. The Courts will not be able to provide a coherent answer if the underlying legislation is not coherent, and legislation is least likely to be coherent when there is no clear underlying economic principle to define what is sought to be taxed.
10.4 Tax Avoidance Disclosure

The major recent development on the legislative front in the UK as far as tax avoidance is concerned has undoubtedly been the advent of Tax Avoidance Disclosure (TAD) rules. Introduced by Finance Act 2004 and a variety of Statutory Instruments, this is a framework for early disclosure to the tax authorities of planning that falls under certain headings.

The catalyst for the introduction of the TAD regime was probably schemes such as Gilt Strips, which sought to eliminate tax and NICs on big bonus payments. The prevalence of this and other planning convinced the tax authorities and the government in the UK that they were losing the battle against tax avoidance, with significant revenues at stake.

The essence of the TAD regime, which became fully effective in the latter part of 2004, is:

- Promoters (professional firms and financial institutions in the main) have to disclose marketed schemes within five days of making them available.
- Similarly, tax planning that falls under certain categories has to be disclosed within five days of starting to implement it.
- The taxes covered initially were income tax, capital gains tax and corporation tax.
- Disclosure is only required if an ‘employment product’ or ‘financial product’ is involved.
- There are various ‘filters’ designed to screen out disclosure of routine material, a key one being the use of a ‘premium fee’ test, i.e. would the idea or advice in question command a premium fee in the market place?
- In-house planning would normally only be disclosed when the tax return was submitted.

In parallel to these rules for direct taxes, disclosure for VAT planning was also introduced but took a slightly different route. The obligation to disclose is on the registered trader and what has to be disclosed falls into two camps:

- designated schemes, such as payment handling services or value shifting;
- planning with one or more ‘hallmarks’ such as confidentiality agreements or a sharing of VAT saved.

Disclosure has to be made within 30 days of submitting the VAT return.

These disclosure regimes have produced a considerable volume of disclosures - informal HMRC statistics suggest some 500–600 direct tax disclosures and about 750 indirect tax disclosures by Autumn 2005. They also led to a raft of blocking measures in each of the 2004 and 2005 Pre-Budget Reports and the 2005 Budget. This is a clear indication that the system is working - that the authorities are getting the information they need to take action.

The aim of the disclosure regime is to get at innovative ideas - new schemes. However, it is important to note that disclosure is not restricted to marketed schemes, as was expected when the regime was first announced. There is a requirement to disclose planning that arises from bespoke everyday advice under certain circumstances. It is this that has caused much difficulty. Another source of difficulty is the interaction with legal professional privilege,
with lawyers at one stage arguing that they could not be required to disclose. Amendments to the regulations have sidestepped this problem to a degree, without completely solving it.

In the mean time, disclosure for stamp duty land tax has been added from August 2005 (and has already attracted more than 200 disclosures, fuelled at least in part by a lack of filters within the system apart from a monetary limit of £5 million). Then, in late 2005, legislation was laid before Parliament to bring NICs into the regime from sometime in 2006.

The December 2005 Pre-Budget Report announced that this regime would be strengthened in three ways:

- it would be extended to all of income tax, capital gains tax and corporation tax (i.e. not restricted to employment and financial products);
- the filters would be reviewed and redefined and potentially strengthened;
- the requirement for in-house planning notifications would be changed such that disclosure would be required in 30 days.

10.5 ‘Tax in the Boardroom’

Another important development is the recent attempt by HM Revenue & Customs to raise awareness among senior management of large companies of the potential risks of being caught on the wrong side of what the authorities consider to be unacceptable tax avoidance.

In Autumn 2005, HMRC officials wrote directly to the chairmen of the UK’s largest 500 companies, seeking to establish a dialogue over the management of tax issues and tax risk. There are certainly positive aspects to greater communication between tax collectors and taxpayers, which should lead to greater understanding of the other side’s position. The attempt to raise the profile of tax at the Board level in many ways chimes with views in the investment community and some leading tax advisers.

However, there is also a perception in some quarters that the newly merged revenue authority is seeking to exert pressure on companies by raising questions about their tax strategies at boardroom level. Combined with the increase in anti-avoidance legislation described above, this development reinforces the signal from the authorities that they are taking a tougher line on various forms of avoidance.

Indeed, the emphasis on ‘tax risk’ could also be perceived as an attempt to increase uncertainty among taxpayers about the border between acceptable and unacceptable forms of tax planning, and to foster increased nervousness about the reputational risk of being seen to fall on the wrong side of the divide. Promoting opacity and unpredictability may seem a clever way to raise revenue in the short run, but transparency and certainty have long been seen as hallmarks of a fair and efficient tax system. It is hard to know if and when such an approach will turn out to be a significant deterrent to international companies and globally mobile individuals deciding whether to locate or remain in the UK, but if and when the evidence becomes clear, the damage may be hard to undo. The government should remember that it is not just companies that need to worry about reputational risk.
10.6 Conclusion

Although it has moved to extend tax avoidance disclosure and strengthen the filters for non-reportable arrangements, the government undoubtedly regards the disclosure regime as successful. Success, however, comes at the cost of an outpouring of specific or ‘targeted’ tax avoidance rules that, on top of all the other legislative activity in the tax field in recent years, threatens to clog the system. It may be correct that many of the anti-avoidance provisions are of ‘limited’ application – consigning schemes to the history books or ensuring that they never get off the ground – but there remains a cost to taxpayers, and business in particular, in ensuring that their ordinary commercial and personal arrangements do not fall foul of particular provisions and in avoiding their unintended effects.

It is important for the integrity of the tax system that people should contribute their ‘fair share’ of tax revenues and that there should not be undue scope for particular individuals to reduce their share of those revenues. This is the basis of the Paymaster General’s statement on employment liabilities. This principle is less easily applied to business taxation because the nature of the tax base – ‘profits’ – is more difficult to state and in today’s conditions is global in nature. It is an inherently difficult tax base both to define and to identify with the UK. In this respect, it is difficult to achieve a coherent policy that, on the one hand, demands that businesses pay their ‘fair share’ of taxation without undue avoidance and, on the other, aims for a globally competitive tax system. Ongoing targeted anti-avoidance provisions may contribute to the former objective while undermining the latter by clogging the arteries of a competitive tax system.

The current approach may serve to meet the government’s immediate revenue needs and in some areas may contribute to a perception of greater fairness. Its long-term effects in other areas of the tax system may be less beneficial. However, a more satisfactory approach to dealing with tax avoidance issues would require a more fundamental overhaul of tax policy than has been on the agenda in the UK for many years. In the short term, we can be confident that the 2006 Budget will bring a further round of anti-avoidance measures.
Appendix A: Forecasting public finances

Carl Emmerson and Christine Frayne (IFS)

This appendix looks at the techniques used for the Green Budget public finance forecasts. It starts by comparing the forecasts made for borrowing in 2004–05 in last year’s Green Budget and the December 2004 Pre-Budget Report with the eventual out-turn. It then goes on to provide more background information to the short-term and medium-term public finance forecasts that are set out in Chapter 5.

A.1 The accuracy of our previous forecasts

The December 2005 Pre-Budget Report (PBR) gave an out-turn figure of £38.8 billion for public sector net borrowing in 2004–05. This was higher than both the Treasury December 2004 Pre-Budget Report forecast of £34.2 billion and the January 2005 IFS Green Budget forecast of £34.4 billion. The deficit on the current budget was £19.9 billion, which was closer to the £15.9 billion deficit forecast in the January 2005 IFS Green Budget than the £12.5 billion deficit forecast in the Treasury December 2004 Pre-Budget Report. Current receipts came in weaker and current spending (including depreciation) higher than expected in either forecast. The December 2005 Pre-Budget Report out-turn for public sector net investment was £18.9 billion, which came in between the £18.5 billion January 2005 IFS Green Budget forecast and the £21.7 billion Treasury December 2004 Pre-Budget Report forecast. (Table A.1.)

Table A.1. A comparison of last year’s IFS Green Budget forecast and the Treasury’s December 2004 Pre-Budget Report forecast with the estimated out-turn for 2004–05 from the December 2005 Pre-Budget Report

<table>
<thead>
<tr>
<th>£ billion</th>
<th>HM Treasury PBR forecast, December 2004</th>
<th>IFS Green Budget forecast, January 2005</th>
<th>Estimate, PBR, December 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current receipts</td>
<td>451.0</td>
<td>449.6</td>
<td>448.4</td>
</tr>
<tr>
<td>Current expenditure</td>
<td>463.5</td>
<td>465.5</td>
<td>468.3</td>
</tr>
<tr>
<td>Net investment</td>
<td>21.7</td>
<td>18.5</td>
<td>18.9</td>
</tr>
<tr>
<td>Public sector net borrowing</td>
<td>34.2</td>
<td>34.4</td>
<td>38.8</td>
</tr>
<tr>
<td>Surplus on current budget</td>
<td>−12.5</td>
<td>−15.9</td>
<td>−19.9</td>
</tr>
</tbody>
</table>

*Includes depreciation.


Table A.2 shows the breakdown of the forecasts for tax receipts contained in the December 2004 Pre-Budget Report and the January 2005 IFS Green Budget. Both sets of predictions overestimated total receipts, although the January 2005 IFS Green Budget did so by a smaller
margin. However, the HM Treasury 2004 Pre-Budget Report was closer to the 2004–05 out-turn for net taxes and National Insurance contributions. The largest absolute error was in non-tax receipts, which were £3.8 billion lower than both the Pre-Budget Report and IFS Green Budget forecasts. In terms of tax receipts, the largest absolute error for both the Pre-Budget Report’s and the IFS Green Budget forecast was in corporation tax: the December 2004 Pre-Budget Report underestimated corporation tax receipts by £1.2 billion while the Green Budget forecast’s underestimate was slightly larger, at £1.9 billion.

Table A.2. IFS Green Budget and Treasury main errors in forecasting tax receipts, 2004–05

<table>
<thead>
<tr>
<th>£ billion</th>
<th>Pre-Budget Report, December 2004</th>
<th>IFS Green Budget forecast, January 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income tax (net of tax credits)</td>
<td>0.8</td>
<td>−0.4</td>
</tr>
<tr>
<td>National Insurance contributions</td>
<td>−0.4</td>
<td>0.4</td>
</tr>
<tr>
<td>Value added tax</td>
<td>0.5</td>
<td>0.0</td>
</tr>
<tr>
<td>Corporation tax (net of tax credits)</td>
<td>−1.2</td>
<td>−1.9</td>
</tr>
<tr>
<td>Net taxes &amp; National Insurance contributions</td>
<td>−1.2</td>
<td>−2.6</td>
</tr>
<tr>
<td>Non-tax receiptsa</td>
<td>3.8</td>
<td>3.8</td>
</tr>
<tr>
<td>Total current receipts</td>
<td>2.6</td>
<td>1.2</td>
</tr>
</tbody>
</table>

*a Includes accruals adjustments on taxes, the tax credits adjustments, interest and dividends, gross operating surplus and rent; net of oil royalties and business rate payments by local authorities, the own resources contribution to the EC budget and PC corporation tax payments.


A.2 Techniques used in our forecasts

For the current financial year, three different sources of information are examined before coming to a judgement for each element of government revenue. In addition to the latest Treasury forecast from the December 2005 Pre-Budget Report, we use information from the revenues implied by a current receipts method, and the IFS modelled approach.¹

1. Information from current receipts. The current receipts method uses the information on receipts received in the current financial year compared with those received up to the same point in the previous financial year. An estimate for the current year’s receipts is then calculated using the following formula:

\[
\text{2005–06 forecast} = \frac{\text{Receipts received so far this year}}{\text{Receipts received to the same point last year}} \times 2004–05 \text{ receipts.}
\]

While this is useful when forecasting revenues in the current financial year, it cannot provide projections for borrowing in future years. Also, particular caution should be used when revenues are cyclical or changes have been made that may affect the timing of payments – for example, the effect of the recent move to a quarterly system of corporation tax payments.

2. The IFS modelled receipts approach. This estimates growth in each of the taxes using forecasts for the growth in the tax base relevant to each tax, combined with an estimate of the elasticity of revenue with respect to the growth in the tax base. Information on the revenue effects of pre-announced tax changes from previous Budgets is then added in order to reach a forecast. Hence, modelled receipts can be summarised by the following formula:

\[
2005-06 \text{ forecast} = (2004-05 \text{ receipts} \times \text{Tax-base change} \times \text{Elasticity}) + \text{Tax changes}.
\]

This technique enables forecasts to be made for future years, given the expected structure of the tax system. It should be noted that these forecasts become considerably less accurate for later years, since forecasts for changes in tax bases, estimates of elasticities and the impact of tax changes all become less accurate.

The elasticities are largely estimated from TAXBEN, the IFS tax and benefit model. The estimates for income tax elasticities are supplemented by a model of the responsiveness of income tax revenues to changes in employment and wages. For fuel, an elasticity calculated from previous IFS research is used. Elasticities for beer, spirit, wine and tobacco duties are taken from the median elasticity found in a range of UK studies.

A.3 Forecasts for 2005–06

The Green Budget forecast is a judgement based on the Treasury’s latest forecast contained in the December 2005 Pre-Budget Report, the current receipts method and the IFS modelled approach. Each of these is presented in Table A.3. There is very little divergence between our expectation of receipts and spending in 2005–06 and those published in the Pre-Budget Report.

---


Table A.3. Forecasts for government borrowing in 2005–06

<table>
<thead>
<tr>
<th>£ billion</th>
<th>PBR Dec. 2005</th>
<th>Current receipts method</th>
<th>IFS forecasting model</th>
<th>IFS forecast judgement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income tax (net of tax credits)</td>
<td>131.3</td>
<td>133.8&lt;sup&gt;e&lt;/sup&gt;</td>
<td>131.6</td>
<td>131.6</td>
</tr>
<tr>
<td>National Insurance contributions</td>
<td>84.2</td>
<td>85.8</td>
<td>82.0</td>
<td>84.2</td>
</tr>
<tr>
<td>Value added tax (VAT)</td>
<td>74.4</td>
<td>73.1</td>
<td>76.1</td>
<td>74.4</td>
</tr>
<tr>
<td>Corporation tax (net of tax credits)</td>
<td>41.3</td>
<td>39.5</td>
<td>38.5</td>
<td>41.5</td>
</tr>
<tr>
<td>Petroleum revenue tax</td>
<td>2.2</td>
<td>2.0</td>
<td>1.3</td>
<td>2.2</td>
</tr>
<tr>
<td>Fuel duties</td>
<td>23.9</td>
<td>23.3</td>
<td>24.4</td>
<td>23.3</td>
</tr>
<tr>
<td>Capital gains tax</td>
<td>2.8</td>
<td>n/a</td>
<td>2.7</td>
<td>2.8</td>
</tr>
<tr>
<td>Inheritance tax</td>
<td>3.3</td>
<td>2.5</td>
<td>3.0</td>
<td>3.3</td>
</tr>
<tr>
<td>Stamp duties</td>
<td>10.2</td>
<td>10.1</td>
<td>9.7</td>
<td>10.2</td>
</tr>
<tr>
<td>Tobacco duties</td>
<td>8.2</td>
<td>8.4</td>
<td>8.4</td>
<td>8.3</td>
</tr>
<tr>
<td>Spirits duties</td>
<td>2.4</td>
<td>2.3</td>
<td>2.5</td>
<td>2.4</td>
</tr>
<tr>
<td>Wine duties</td>
<td>2.3</td>
<td>2.3</td>
<td>2.3</td>
<td>2.3</td>
</tr>
<tr>
<td>Beer and cider duties</td>
<td>3.4</td>
<td>3.3</td>
<td>3.6</td>
<td>3.4</td>
</tr>
<tr>
<td>Betting and gaming duties</td>
<td>1.4</td>
<td>1.4</td>
<td>1.5</td>
<td>1.4</td>
</tr>
<tr>
<td>Air passenger duty</td>
<td>1.0</td>
<td>1.0</td>
<td>0.9</td>
<td>1.0</td>
</tr>
<tr>
<td>Insurance premium tax</td>
<td>2.5</td>
<td>2.4</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Landfill tax</td>
<td>0.8</td>
<td>0.8</td>
<td>0.7</td>
<td>0.8</td>
</tr>
<tr>
<td>Climate change levy</td>
<td>0.8</td>
<td>0.8</td>
<td>0.8</td>
<td>0.8</td>
</tr>
<tr>
<td>Aggregates levy</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>Customs duties and levies</td>
<td>2.2</td>
<td>2.3</td>
<td>2.3</td>
<td>2.2</td>
</tr>
<tr>
<td>Total HM Revenue and Customs</td>
<td>398.8</td>
<td>395.4</td>
<td>395.2</td>
<td>399.0</td>
</tr>
<tr>
<td>Vehicle excise duties</td>
<td>4.9</td>
<td>4.9</td>
<td>5.0</td>
<td>4.9</td>
</tr>
<tr>
<td>Business rates</td>
<td>20.3</td>
<td>20.3</td>
<td>19.2</td>
<td>20.3</td>
</tr>
<tr>
<td>Council tax&lt;sup&gt;a&lt;/sup&gt;</td>
<td>21.1</td>
<td>21.1</td>
<td>21.1</td>
<td>21.1</td>
</tr>
<tr>
<td>Other taxes and royalties&lt;sup&gt;b&lt;/sup&gt;</td>
<td>12.9</td>
<td>12.9</td>
<td>12.6</td>
<td>12.9</td>
</tr>
<tr>
<td>Net taxes and NI contributions&lt;sup&gt;c&lt;/sup&gt;</td>
<td>458.0</td>
<td>454.6</td>
<td>453.1</td>
<td>458.2</td>
</tr>
<tr>
<td>Other adjustments&lt;sup&gt;d&lt;/sup&gt;</td>
<td>24.9</td>
<td>24.9</td>
<td>24.9</td>
<td>24.9</td>
</tr>
<tr>
<td>Current receipts</td>
<td>483.0</td>
<td>479.5</td>
<td>478.0</td>
<td>483.1</td>
</tr>
<tr>
<td>Current spending</td>
<td>493.6</td>
<td>493.6</td>
<td>493.6</td>
<td>493.6</td>
</tr>
<tr>
<td>Current balance</td>
<td>–10.6</td>
<td>–14.1</td>
<td>–15.6</td>
<td>–10.5</td>
</tr>
<tr>
<td>Net investment</td>
<td>26.3</td>
<td>26.3</td>
<td>26.3</td>
<td>26.3</td>
</tr>
<tr>
<td>Public sector net borrowing</td>
<td>37.0</td>
<td>40.4</td>
<td>41.9</td>
<td>36.8</td>
</tr>
</tbody>
</table>

<sup>a</sup>HM Treasury figures are based on stylised assumptions rather than government forecasts, as council tax increases are determined annually by local authorities, not by the government. <sup>b</sup>Includes VAT refunds and money paid into the National Lottery Distribution Fund. <sup>c</sup>Includes VAT and the traditional ‘own resources’ contributions to the EU budget. <sup>d</sup>This line is a sum of accruals adjustments on taxes, tax credits adjustment, interest and dividends and other receipts, less own resources contribution to EU Budget and PC corporation tax payments. <sup>e</sup>Current receipts estimate of income tax revenues includes capital gains tax.

Note: Figures in italics are taken from the 2005 PBR.

Sources: Treasury forecasts from HM Treasury, Pre-Budget Report 2005, Cm. 6701, December 2005, [http://www.hm-treasury.gov.uk/pre_budget_report/prebud_pbr05/report/prebud_pbr05_repindex.cfm](http://www.hm-treasury.gov.uk/pre_budget_report/prebud_pbr05/report/prebud_pbr05_repindex.cfm) (this table is similar to table B14 on page 225); IFS calculations.
**HM Revenue and Customs receipts**

For income tax (net of tax credits), we forecast £131.6 billion, which is £0.3 billion higher than the PBR forecast of £131.3 billion. Our estimate is broadly consistent with the current receipts projection for net income tax and capital gains tax of £133.9 billion and the IFS modelled forecast of £131.6 billion.

Our forecast for corporation tax (net of tax credits) is £41.5 billion. This is £0.2 billion higher than the Treasury forecast of £41.3 billion. The current receipts forecast suggests that net receipts will be £39.5 billion, but this excludes the additional £1.1 billion in receipts from North Sea oil companies that was brought forward by the March 2005 Budget. The IFS modelled forecast suggests receipts of just £38.5 billion. We discount this on the basis of current receipts to date – in addition, the Treasury should have significantly more information on short-term corporation tax receipts in particular.

Our forecast for stamp duties matches the Treasury’s, with expected receipts of £10.2 billion this year. This is slightly higher than both the current receipts forecast (£10.1 billion) and the IFS modelled forecast (£9.7 billion).

Our forecast for National Insurance contributions also matches that of the Treasury (£84.2 billion). This is between the current receipts forecast (£85.8 billion) and the IFS modelled receipts forecast (£82.0 billion).

We forecast VAT receipts of £74.4 billion, which is the same as the Treasury’s forecast and again roughly halfway between the forecast from the current receipts projection (£73.1 billion) and the IFS modelled receipts (£76.1 billion).

We forecast that fuel duties will yield £23.4 billion, which is £0.5 billion below the Treasury’s projection. This is taken on the basis of the current receipts forecast (£23.4 billion).

**Other government receipts**

For all other receipts, we take the Treasury’s forecasts for 2005–06.

**Government expenditure**

We assume that the Treasury’s forecasts for current spending (£493.6 billion) and public sector net investment (£26.3 billion) in 2005–06 are accurate. There is a reasonable chance that the Treasury will in fact underspend on public sector net investment. While such an undershoot would reduce public sector net borrowing, it would have no impact on the golden rule. In addition, under the End-Year Flexibility arrangements, any underspending by departments could simply lead to higher spending in future years.

**Government borrowing**

We forecast a deficit on current budget of £10.5 billion for 2005–06. This is £0.1 billion lower than the £10.6 billion deficit forecast by the Treasury.

We forecast that public sector net borrowing will be £36.8 billion, which is £0.2 billion lower than the £37.0 billion forecast by the Treasury.
A.4 Medium-term forecasts

Compliance with the golden rule is judged over the economic cycle, and any assessment of the fiscal stance should take into account the performance of the economy. Table A.4 presents the macroeconomic forecasts underlying the Green Budget forecasts under the three different economic scenarios used. For the Green Budget baseline forecast, the Treasury’s macroeconomic forecasts are used. These assume that national income will grow by 1¾% in 2005–06, 2¼% in 2006–07, 3% in 2007–08, 2¼% in 2008–09 and thereafter at ¼ percentage point below the Treasury’s estimate of trend growth, namely at 2¼%. Under the first alternative Green Budget scenario (the Morgan Stanley central case), growth in national income is expected to be in line with the Treasury’s prediction this year, slightly higher than the Treasury for 2006–07, lower in 2007–08 and 2008–09, and then higher in the medium term. Under the second alternative Green Budget scenario (the Morgan Stanley ‘worse case’ scenario), growth is lower every year until 2009–10, reflecting a pessimistic view of the level.

Table A.4. Medium-term public finance forecasts under various macroeconomic assumptions

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Green Budget baseline</strong> (PBR ‘cautious’ assumptions)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross domestic product (GDP)</td>
<td>1¾</td>
<td>2¼</td>
<td>3</td>
<td>2¼</td>
<td>2¼</td>
<td>2¼</td>
</tr>
<tr>
<td>Real consumers’ expenditure</td>
<td>1½</td>
<td>2½</td>
<td>2½</td>
<td>2¼</td>
<td>2¼</td>
<td>2¼</td>
</tr>
<tr>
<td>Employment</td>
<td>0.8</td>
<td>0.8</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
</tr>
<tr>
<td>Real wages</td>
<td>1½</td>
<td>1½</td>
<td>1½</td>
<td>1½</td>
<td>1½</td>
<td>1½</td>
</tr>
<tr>
<td>GDP deflator</td>
<td>2½</td>
<td>2½</td>
<td>2½</td>
<td>2½</td>
<td>2½</td>
<td>2½</td>
</tr>
<tr>
<td><strong>Alternative Green Budget scenario I</strong> (Morgan Stanley central case)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross domestic product (GDP)</td>
<td>1½</td>
<td>2½</td>
<td>2¼</td>
<td>2¼</td>
<td>2¼</td>
<td>2¼</td>
</tr>
<tr>
<td>Real consumers’ expenditure</td>
<td>1½</td>
<td>2½</td>
<td>2½</td>
<td>2¼</td>
<td>2¼</td>
<td>2¼</td>
</tr>
<tr>
<td>Employment</td>
<td>1.0</td>
<td>0.7</td>
<td>0.7</td>
<td>0.6</td>
<td>0.7</td>
<td>0.6</td>
</tr>
<tr>
<td>Real wages</td>
<td>1½</td>
<td>1½</td>
<td>1½</td>
<td>1½</td>
<td>1½</td>
<td>1½</td>
</tr>
<tr>
<td>GDP deflator</td>
<td>2½</td>
<td>2½</td>
<td>2½</td>
<td>2½</td>
<td>2½</td>
<td>2½</td>
</tr>
<tr>
<td><strong>Alternative Green Budget scenario II</strong> (Morgan Stanley ‘worse case’)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross domestic product (GDP)</td>
<td>1½</td>
<td>1½</td>
<td>2</td>
<td>2</td>
<td>2½</td>
<td>2½</td>
</tr>
<tr>
<td>Real consumers’ expenditure</td>
<td>1½</td>
<td>¾</td>
<td>1½</td>
<td>1½</td>
<td>2¼</td>
<td>2½</td>
</tr>
<tr>
<td>Employment</td>
<td>0.9</td>
<td>0.3</td>
<td>0.6</td>
<td>0.6</td>
<td>0.9</td>
<td>0.9</td>
</tr>
<tr>
<td>Real wages</td>
<td>1½</td>
<td>1½</td>
<td>1½</td>
<td>1½</td>
<td>1½</td>
<td>1½</td>
</tr>
<tr>
<td>GDP deflator</td>
<td>2½</td>
<td>3</td>
<td>2¼</td>
<td>2½</td>
<td>2½</td>
<td>2½</td>
</tr>
</tbody>
</table>

of sustainable output. This is associated with markedly lower real consumer spending growth, which is also shown in the table, alongside employment, real earnings growth and the GDP deflator.

Under the Green Budget baseline scenario, published Treasury forecasts are used, where available, for all macroeconomic assumptions. Under all scenarios, the growth in corporate profits is not used for corporation tax figures, due to difficulties in forecasting these profits in the current climate. Instead of this, we assume that in the medium term, corporation tax receipts return to their average level in recent years.
## Appendix B: Headline tax and benefit rates and thresholds

<table>
<thead>
<tr>
<th></th>
<th>2005–06 level</th>
<th>2006–07 level¹</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Income tax</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal allowance:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>under age 65</td>
<td>£4,895 p.a.</td>
<td>£5,035 p.a.</td>
</tr>
<tr>
<td>aged 75 and over</td>
<td>£7,220 p.a.</td>
<td>£7,420 p.a.</td>
</tr>
<tr>
<td>Married couple’s</td>
<td></td>
<td></td>
</tr>
<tr>
<td>allowance, restricted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>to 10%:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>aged 65 or over on 6</td>
<td>£5,905 p.a.</td>
<td>£6,065 p.a.</td>
</tr>
<tr>
<td>April 2000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>aged 75 or over</td>
<td>£5,975 p.a.</td>
<td>£6,135 p.a.</td>
</tr>
<tr>
<td>Lower rate</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>Basic rate</td>
<td>22%</td>
<td>22%</td>
</tr>
<tr>
<td>Higher rate</td>
<td>40%</td>
<td>40%</td>
</tr>
<tr>
<td>Basic-rate limit</td>
<td>£32,400 p.a.</td>
<td>£33,300 p.a.</td>
</tr>
<tr>
<td>Tax rates on interest</td>
<td>10%, 20%, 40%</td>
<td>10%, 20%, 40%</td>
</tr>
<tr>
<td>income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax rates on dividend</td>
<td>10%, 32.5%b</td>
<td>10%, 32.5%b</td>
</tr>
<tr>
<td>income</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>National Insurance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower earnings limit</td>
<td>£82 p.w.</td>
<td>£84 p.w.</td>
</tr>
<tr>
<td>(LEL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper earnings limit</td>
<td>£630 p.w.</td>
<td>£645 p.w.</td>
</tr>
<tr>
<td>(UEL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earnings threshold</td>
<td>£94 p.w.</td>
<td>£97 p.w.</td>
</tr>
<tr>
<td>(employee and employer)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 1 contracted-in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>rate:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>employee – below UEL</td>
<td>11%</td>
<td>11%</td>
</tr>
<tr>
<td>– above UEL</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>employer – below UEL</td>
<td>12.8%</td>
<td>12.8%</td>
</tr>
<tr>
<td>– above UEL</td>
<td>12.8%</td>
<td>12.8%</td>
</tr>
<tr>
<td>Class 1 contracted-out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>rate:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>employee – below UEL</td>
<td>9.4%</td>
<td>9.4%</td>
</tr>
<tr>
<td>(salary-related schemes)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>– above UEL</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>employer – below UEL</td>
<td>9.3%</td>
<td>9.3%</td>
</tr>
<tr>
<td>– above UEL</td>
<td>12.8%</td>
<td>12.8%</td>
</tr>
<tr>
<td><strong>Corporation tax</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rates: starting rate</td>
<td>zero²</td>
<td>19%</td>
</tr>
<tr>
<td>small companies’ rate</td>
<td>19%</td>
<td>19%</td>
</tr>
<tr>
<td>standard rate</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td><strong>Capital gains tax</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual exemption limit</td>
<td>£8,500 p.a.</td>
<td>£8,800 p.a.</td>
</tr>
<tr>
<td>(individuals)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>trusts</td>
<td>£4,250 p.a.</td>
<td>£4,400 p.a.</td>
</tr>
<tr>
<td>Non-business assets:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>higher-rate taxpayers</td>
<td>24%–40%</td>
<td>24%–40%</td>
</tr>
<tr>
<td>basic-rate taxpayers</td>
<td>12%–20%</td>
<td>12%–20%</td>
</tr>
<tr>
<td>Business assets:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>higher-rate taxpayers</td>
<td>10%–40%</td>
<td>10%–40%</td>
</tr>
<tr>
<td>basic-rate taxpayers</td>
<td>5%–20%</td>
<td>5%–20%</td>
</tr>
<tr>
<td><strong>Inheritance tax</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Threshold</td>
<td>£275,000</td>
<td>£285,000</td>
</tr>
<tr>
<td>Rate for transfer at</td>
<td>40%</td>
<td>40%</td>
</tr>
<tr>
<td>or near death</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Value added tax

<table>
<thead>
<tr>
<th></th>
<th>2005–06 level</th>
<th>2006–07 level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard rate</strong></td>
<td>17.5%</td>
<td>17.5%</td>
</tr>
<tr>
<td><strong>Reduced rate</strong></td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Registration threshold</strong></td>
<td>£60,000 p.a.</td>
<td>£62,000 p.a.</td>
</tr>
</tbody>
</table>

## Excise duties

<table>
<thead>
<tr>
<th>Item</th>
<th>2005–06 level</th>
<th>2006–07 level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beer (pint at 3.9% abv)</td>
<td>29p</td>
<td>29p</td>
</tr>
<tr>
<td>Wine (75cl bottle at 12% abv)</td>
<td>126p</td>
<td>129p</td>
</tr>
<tr>
<td>Spirits (70cl bottle at 40% abv)</td>
<td>548p</td>
<td>561p</td>
</tr>
<tr>
<td>20 cigarettes: specific duty</td>
<td>205p</td>
<td>210p</td>
</tr>
<tr>
<td><em>ad valorem (22% of retail price)</em></td>
<td>102p</td>
<td>104p</td>
</tr>
<tr>
<td>Ultra-low-sulphur petrol (litre)</td>
<td>47p</td>
<td>48p</td>
</tr>
<tr>
<td>Ultra-low-sulphur diesel (litre)</td>
<td>47p</td>
<td>48p</td>
</tr>
</tbody>
</table>

## Air passenger duty

<table>
<thead>
<tr>
<th>Destinations</th>
<th>2005–06 level</th>
<th>2006–07 level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Destinations within the EU: economy</td>
<td>£5</td>
<td>£5</td>
</tr>
<tr>
<td>club/first class</td>
<td>£10</td>
<td>£10</td>
</tr>
<tr>
<td>Destinations outside the EU: economy</td>
<td>£20</td>
<td>£20</td>
</tr>
<tr>
<td>club/first class</td>
<td>£40</td>
<td>£40</td>
</tr>
</tbody>
</table>

## Betting and gaming duty

<table>
<thead>
<tr>
<th>Item</th>
<th>2005–06 level</th>
<th>2006–07 level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross profits tax</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>Spread betting rate: financial bets</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>other bets</td>
<td>10%</td>
<td>10%</td>
</tr>
</tbody>
</table>

## Insurance premium tax

<table>
<thead>
<tr>
<th>Item</th>
<th>2005–06 level</th>
<th>2006–07 level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard rate</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Higher rate (for insurance sold accompanying certain goods and services)</td>
<td>17.5%</td>
<td>17.5%</td>
</tr>
</tbody>
</table>

## Stamp duty

<table>
<thead>
<tr>
<th>Item</th>
<th>2005–06 level</th>
<th>2006–07 level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land and buildings: standard residential threshold</td>
<td>£120,000 p.a.</td>
<td>£120,000 p.a.</td>
</tr>
<tr>
<td>residential threshold in disadvantaged areas</td>
<td>£150,000 p.a.</td>
<td>£150,000 p.a.</td>
</tr>
<tr>
<td>non-residential threshold</td>
<td>£150,000 p.a.</td>
<td>£150,000 p.a.</td>
</tr>
<tr>
<td>rate: up to threshold</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>threshold—£250,000</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>£250,000—£500,000</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>above £500,000</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Stocks and shares: rate</td>
<td>0.5%</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

## Vehicle excise duty

<table>
<thead>
<tr>
<th>Item</th>
<th>2005–06 level</th>
<th>2006–07 level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard rate</td>
<td>£170 p.a.</td>
<td>£175 p.a.</td>
</tr>
<tr>
<td>Small-car rate (engines up to 1,549cc)</td>
<td>£110 p.a.</td>
<td>£115 p.a.</td>
</tr>
<tr>
<td>Heavy goods vehicles (varies according to vehicle type and weight)</td>
<td>£160–£1,850 p.a.</td>
<td>£170–£1,940 p.a.</td>
</tr>
</tbody>
</table>

## Landfill tax

<table>
<thead>
<tr>
<th>Item</th>
<th>2005–06 level</th>
<th>2006–07 level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard rate</td>
<td>£18 per tonne</td>
<td>£21 per tonne</td>
</tr>
<tr>
<td>Lower rate (inactive waste only)</td>
<td>£2 per tonne</td>
<td>£2 per tonne</td>
</tr>
</tbody>
</table>
### Business rates

<table>
<thead>
<tr>
<th>Rate applicable for high-value properties in:</th>
<th>2005–06 level</th>
<th>2006–07 level</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>42.2%</td>
<td>43.3%</td>
</tr>
<tr>
<td>Scotland</td>
<td>46.55%</td>
<td>45.3%</td>
</tr>
<tr>
<td>Wales</td>
<td>42.1%</td>
<td>43.2%</td>
</tr>
</tbody>
</table>

### Council tax

Average rate band D council tax in England: £1,214

Councils to set

### Income support / income-based jobseeker’s allowance

<table>
<thead>
<tr>
<th>Category</th>
<th>2005–06 level</th>
<th>2006–07 level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single (aged 25 or over)</td>
<td>£56.20 p.w.</td>
<td>£57.45 p.w.</td>
</tr>
<tr>
<td>Couple (both aged 18 or over)</td>
<td>£88.15 p.w.</td>
<td>£90.10 p.w.</td>
</tr>
</tbody>
</table>

### Basic state pension

<table>
<thead>
<tr>
<th>Category</th>
<th>2005–06 level</th>
<th>2006–07 level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>£82.05 p.w.</td>
<td>£84.25 p.w.</td>
</tr>
<tr>
<td>Couple</td>
<td>£131.20 p.w.</td>
<td>£134.75 p.w.</td>
</tr>
<tr>
<td>Winter fuel payment: for those aged 60–79</td>
<td>£200£</td>
<td>£200</td>
</tr>
<tr>
<td>for those aged 80 or over</td>
<td>£300£</td>
<td>£300</td>
</tr>
</tbody>
</table>

### Pension credit

<table>
<thead>
<tr>
<th>Category</th>
<th>2005–06 level</th>
<th>2006–07 level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guarantee credit for those aged 60 or over: single</td>
<td>£109.45 p.w.</td>
<td>£114.05 p.w.</td>
</tr>
<tr>
<td>Couple</td>
<td>£167.05 p.w.</td>
<td>£174.05 p.w.</td>
</tr>
<tr>
<td>Savings credit for those aged 65 or over: threshold – single</td>
<td>£82.05 p.w.</td>
<td>£84.25 p.w.</td>
</tr>
<tr>
<td>threshold – couple</td>
<td>£131.20 p.w.</td>
<td>£134.75 p.w.</td>
</tr>
<tr>
<td>maximum – single</td>
<td>£16.44 p.w.</td>
<td>£17.88 p.w.</td>
</tr>
<tr>
<td>maximum – couple</td>
<td>£21.55 p.w.</td>
<td>£23.58 p.w.</td>
</tr>
<tr>
<td>withdrawal rate</td>
<td>40%</td>
<td>40%</td>
</tr>
</tbody>
</table>

### Child benefit

<table>
<thead>
<tr>
<th>Category</th>
<th>2005–06 level</th>
<th>2006–07 level</th>
</tr>
</thead>
<tbody>
<tr>
<td>First child</td>
<td>£17.00 p.w.</td>
<td>£17.45 p.w.</td>
</tr>
<tr>
<td>Other children</td>
<td>£11.40 p.w.</td>
<td>£11.70 p.w.</td>
</tr>
</tbody>
</table>

### Child tax credit

<table>
<thead>
<tr>
<th>Category</th>
<th>2005–06 level</th>
<th>2006–07 level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family element (doubled for first year of a child’s life)</td>
<td>£545 p.a.</td>
<td>£545 p.a.</td>
</tr>
<tr>
<td>Child element</td>
<td>£1,690 p.a.</td>
<td>£1,765 p.a.</td>
</tr>
</tbody>
</table>

### Working tax credit

<table>
<thead>
<tr>
<th>Category</th>
<th>2005–06 level</th>
<th>2006–07 level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic element</td>
<td>£1,620 p.a.</td>
<td>£1,665 p.a.</td>
</tr>
<tr>
<td>Couples and lone-parent element</td>
<td>£1,595 p.a.</td>
<td>£1,640 p.a.</td>
</tr>
<tr>
<td>Childcare element: maximum eligible cost for one child</td>
<td>£175.00 p.w.</td>
<td>£175.00 p.w.</td>
</tr>
<tr>
<td>maximum eligible cost for two or more children</td>
<td>£300.00 p.w.</td>
<td>£300.00 p.w.</td>
</tr>
<tr>
<td>proportion of eligible costs covered</td>
<td>70%</td>
<td>80%</td>
</tr>
</tbody>
</table>

### Features common to child and working tax credits

<table>
<thead>
<tr>
<th>Category</th>
<th>2005–06 level</th>
<th>2006–07 level</th>
</tr>
</thead>
<tbody>
<tr>
<td>First threshold</td>
<td>£5,220 p.a.</td>
<td>£5,220 p.a.</td>
</tr>
<tr>
<td>First threshold if entitled to child tax credit only</td>
<td>£13,910 p.a.</td>
<td>£14,155 p.a.</td>
</tr>
<tr>
<td>First withdrawal rate</td>
<td>37%</td>
<td>37%</td>
</tr>
<tr>
<td>Second threshold</td>
<td>£50,000 p.a.</td>
<td>£50,000 p.a.</td>
</tr>
<tr>
<td>Second withdrawal rate</td>
<td>1 in 15</td>
<td>1 in 15</td>
</tr>
</tbody>
</table>
### Maternity benefits

<table>
<thead>
<tr>
<th></th>
<th>2005–06 level</th>
<th>2006–07 level(^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sure Start maternity grant</strong></td>
<td>£500</td>
<td>£500</td>
</tr>
<tr>
<td><strong>Statutory maternity pay:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>weeks 1–6</td>
<td>90% earnings</td>
<td>90% earnings</td>
</tr>
<tr>
<td></td>
<td>£106.00 p.w.</td>
<td>£108.85 p.w., or 90%</td>
</tr>
<tr>
<td></td>
<td>earnings if lower</td>
<td>earnings if lower</td>
</tr>
<tr>
<td>weeks 7–26</td>
<td>£106.00 p.w.</td>
<td>£108.85 p.w.</td>
</tr>
<tr>
<td><strong>Maternity allowance</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) 2006–07 figures take pre-announced values where available and estimated results of standard indexation otherwise.

\(b\) Offsetting tax credit available which reduces effective tax rates to 0% and 25%.

\(c\) Minimum rate of 19% applies on distributed profits.

\(d\) Applies where rateable values are at least £21,500 in Greater London, £15,000 in the rest of England, £29,000 in Scotland, and to all non-domestic properties in Wales. Lower rates apply below these thresholds.

\(e\) In addition to the winter fuel payment, there is a one-off payment of £200 for those aged 65 or over and not receiving pension credit guarantee and £50 for those aged 70 or over and receiving pension credit guarantee.


For a summary of the main tax measures introduced in each Budget and Pre-Budget Report since 1979, see http://www.ifs.org.uk/ff/budget_measures.xls.