THE IFS GREEN BUDGET: JANUARY 2001

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In collaboration with

Goldman Sachs

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The IFS Green Budget

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Developments in the UK economy over the past year have been broadly in line with the projections in last year's Green Budget. A year ago, we expected GDP growth in 2000 to be 2.9% and RPIX inflation (retail prices excluding mortgage interest payments) to run below target throughout the year, averaging 2.0% in the fourth quarter. The out-turn for RPIX inflation was 2.1%, while GDP is now estimated to have grown by 3.0%.

In early 2001, there are concerns that recessionary forces could spread from the United States. Given the UK's excellent inflation performance, the Monetary Policy Committee of the Bank of England is in a very good position to respond quickly to adverse shocks. Thus the pace at which the UK economy can grow in 2001 is determined less by international factors than by the question of what growth rate is consistent with keeping inflation on target. Our judgement is that GDP growth of 2½–3% can be maintained in 2001 and beyond while meeting the government's 2½% inflation target.

An audit of the public finances

As last year, the public finances seem healthier than the government forecast. We expect public sector net borrowing (PSNB) to record a surplus of £15.9 billion in 2000–01, virtually unchanged from 1999–2000. This is £10 billion better than the March 2000 Budget forecast and £5.8 billion better than the November 2000 Pre-Budget Report forecast. The better-than-expected performance in the public finances reflects a combination of greater buoyancy in tax receipts and an undershoot in public spending. The government's fiscal rules continue to be met with ease.

The Pre-Budget Report announced measures that increase government borrowing by £2.6 billion in 2001–02, rising to £3.9 billion in 2002–03. The Chancellor also announced a range of motoring-related measures for consultation, that if implemented will raise borrowing by an additional £1.7 billion in 2001–02, rising to £2.2 billion in 2002–03. In our baseline forecast, we assume that these will be implemented. For our medium-term forecasts, we have adopted the Treasury's cautious assumption of trend GDP growth of 2¼% a year. Even so, we expect the surplus on current budget in the medium term to run about 0.5% of GDP above the path in the 2000 Budget and Pre-Budget Report. The Chancellor could announce additional discretionary measures costing £3–4 billion by 2002–03 to bring the public finances broadly onto the path envisaged in the 2000 Budget and Pre-Budget Report. If trend GDP growth turns out stronger, as we expect, the Chancellor of the day will have further room for manœuvre in future years.

We consider how the public finances have evolved relative to the projections set out in the Conservatives' last Budget, in November 1996. Our main findings are the following:

- Tax receipts in 2000–01 are likely to be £24 billion higher than projected in the November 1996 Budget. Higher-than-expected inflation explains £7 billion of this increase; hence, in real terms, taxes are £17 billion higher than the November 1996 forecast.
- Up until 1999–2000, all of the additional real increase in taxes was used to reduce public borrowing. Public spending in the first three years of the parliament was actually lower in real terms than the Conservatives' plans.
- By reducing public borrowing, the government has made significant savings on debt interest payments. Falls in unemployment have reduced cyclical social security spending. Discretionary public spending has risen, on average, by 2.1% a year in real terms during the past four years. This is slightly less than the annual increase in discretionary public spending by the Major Government.
- The government plans further significant increases in public spending in 2001–02 and beyond. If this parliament were to run for a full five-year term and the spending plans were delivered, real discretionary public spending would increase by an average of 2.9% a year, compared with the 1.4% a year recorded during the Conservative period of office from 1979 to 1997 and the 2.2% achieved during John Major's period as Prime Minister.

Personal taxes and benefits

Given the likelihood of some give-away in the Budget, the Chancellor will be considering a range of options on personal taxes and benefits. This government has already dramatically increased support for children, and in April of this year the new children's tax credit, replacing the married couple's allowance, will be introduced. An increase in the value of the children's tax credit from the £8.50 per week proposed to £10.00 has been widely discussed. But such a move would not help the poorest families, who pay no income tax. We therefore consider a package that adds increases to the child allowances in income support and the working families' tax credit, which could together deliver a highly progressive result and would help to achieve the government's aim of reducing child poverty. We also examine the alternative of a general tax cut benefiting both those with and without children. Options considered are cutting the basic rate of income tax, widening the 10% tax band, increasing the value of personal allowances and raising the higher-rate threshold. All of these tax reductions are substantially less progressive than a reform including benefit increases.

Taxation of fuel and the environment

The recent debate surrounding the taxation of private motoring has succeeded in highlighting the complex nature of tax design in this area. One message that is clear is that trying to address the wide range of different social costs associated with motoring with a single tax cannot be optimal. In most cases, finding a suitable tax base is difficult, but where a more appropriate tax base is available, such as congestion, it would be sensible to move away from a fuel tax towards a more targeted tax. In the Pre-Budget Report, the government

attempted to improve incentives for motorists to behave in a more environmentally friendly way. The extent to which this was achieved can, at best, be described as mixed.

Environmental issues are not restricted to motoring and there is no reason to focus too heavily on a road fuel tax whilst ignoring the damaging effects on the environment caused by other sectors of the economy. In some respects, the government is beginning to address environmental issues in other ways through the introduction of the climate change levy, although there is still scope for improving incentives for environmentally friendly behaviour in the use of other fuels.

Tax policy and companies

Raising productivity remains high on the Chancellor's agenda, with tax policy one of the possible instruments for achieving change. We discuss the arguments for extending the provision of research and development (R&D) tax credits from small and medium-sized enterprises (SMEs) to larger firms, in response to the relative decline in the UK's R&D spending in recent decades. We consider a range of options for the design of an incremental tax credit. These aim to target marginal R&D, rather than all R&D as is the case for the current SMEs credit.

We note that, in common with many other industrialised countries, the UK has recently reduced corporate tax rates while at the same time broadening the tax base. In the UK, these changes have led to a net increase in taxes on company profits. We also discuss recent debates about double taxation relief and North Sea oil taxation.

Longer-term welfare reform

The government's welfare reforms since 1997 have blurred the distinction between taxes and benefits. These reforms include the introduction of the working families' tax credit in 1999 and the children's tax credit in 2001, and the promise of the integrated child credit and the pension credit. We analyse these reforms and find that, together, they amount to a substantial change in the structure of government support to families with children and to pensioners. These developments have taken place alongside increases in generosity of means-tested transfers and a greater use of the family as the unit of assessment. The increases in generosity have undoubtedly meant that extra resources have been targeted at the less well-off. Other reforms improve the incentives to work for some and may increase take-up of the transfers. But these effects come at a cost of subjecting more individuals and families to a means test, the inconvenience of having to claim support and the need to provide detailed information to the authorities about their private lives.

2. Economic prospects

Developments in the UK economy over the past year have been broadly in line with the projections in last year's Green Budget. A year ago, we expected GDP growth in 2000 to be 2.9% and RPIX inflation (retail prices excluding mortgage interest payments) to run below target throughout the year, averaging 2.0% in the fourth quarter. The out-turn for RPIX inflation was 2.1%, while GDP is now estimated to have grown by 3.0%.

In early 2001, recessionary winds appear to be blowing from the US. Thankfully, given the UK's excellent inflation performance, the Monetary Policy Committee of the Bank of England is in a very good position to respond quickly to adverse shocks. Thus the pace at which the UK economy can grow in 2001 is determined less by international factors than by the question of what growth rate is consistent with keeping inflation on target. Our judgement is that GDP growth of 2½–3% can be maintained in 2001 and beyond while meeting the government's 2½% inflation target.

2.1 A chill wind from overseas

Growth in the world economy slowed significantly during 2000 – OECD GDP growth peaked at an annualised quarterly growth rate of 4.8% in the second quarter and dropped to around 2¾% in the fourth. The slowdown occurred in each of the major geographical regions but was most pronounced in the US. Several factors were responsible, including higher oil prices, higher interest rates and a collapse in share prices in the technology sector.

A further slowdown in growth is likely in early 2001, followed by a gradual pick-up as easier monetary policy, particularly in the US, takes effect. The Goldman Sachs forecast is for OECD real GDP growth to fall from 3.8% in calendar year 2000 to 2.3% in 2001. Growth of this magnitude is slightly below the rate of increase in supply potential for the OECD area and should prevent any rise in core inflation this year.

There are two main downside risks to these projections for economic activity, both stemming mainly from the US. First, the unwinding of the technology bubble could have a more significant detrimental impact on growth. New orders for electronic products in the US stopped expanding last summer, suggesting that a pause may be occurring in investment in information technology products. Since this form of expenditure accounts for 4% of nominal US GDP, and since it has been rising at an annual rate in excess of 30% in recent quarters, stagnation in this sector could remove more than one percentage point from US GDP growth this year. This would be a contractionary shock for the world economy that is larger than the Asian crisis of 1997–98.

Second, this could be combined with retrenchment elsewhere by US households and companies. Until the early part of 2000, the increase in net borrowing by the US private sector was roughly what might have been

expected, given the rise in the ratio of wealth to private sector income. However, the decline in share prices has taken the wealth ratio back to levels last seen in early 1998, when private sector net borrowing was only around 2–3% of GDP compared with 6% of GDP at the end of last year. If the private sector were suddenly to become aware of this wealth shortfall, a correction of 3–4% of GDP in US private expenditure could be feasible, only about one-half of which would be cushioned by a decline in the current account deficit of the balance of payments (due to lower imports) and a reduction in the government's budget surplus (for cyclical reasons and due to discretionary tax cuts).

These two contractionary effects – a potential IT investment collapse and a possible decline in the US private sector's financial imbalance – could, if left unchecked, be sufficient to cause a recessionary phase of economic activity. The US Federal Reserve's decision to cut its federal funds rate from 6.5% to 6% on 3 January was a clear signal that it is ready to act to prevent the downward spiral in confidence that would cause a hard landing. The Federal Reserve's action may have come too late to prevent stagnation in the US economy in the first quarter. But an outright recession should be avoided if, as seems likely, the Federal Reserve is prepared to continue in this vein in coming months. Thus, while the risks of a hard landing for the world economy cannot be ignored, this is not the most likely outcome in 2001.

2.2 How fast can the UK economy grow?

While the UK economy is not immune from adverse shocks from overseas, policymakers are in a very good position to respond flexibly to any such developments. The Monetary Policy Committee (MPC) of the Bank of England has a mandate to hit a target of 2.5% for RPIX inflation. This target is symmetrical and hence it provides just as much of a guarantee against inadequate demand as against excess demand. In the event of a negative demand shock from overseas, the correct response from the MPC, other things being equal, is a loosening of monetary policy.

The Bank of England's track record since gaining independence in May 1997 is such that it is possible to have a great deal of confidence in the MPC's willingness to respond quickly to any adverse shocks, particularly in the current environment with RPIX inflation running slightly below the government's target. There is also room for manœuvre on the fiscal side. Although fiscal policy is a much less flexible instrument than monetary policy, we show in Chapter 3 that the government is a long way from being constrained by its fiscal rules.

This means that the pace at which the UK economy can grow in 2001 is determined less by international factors than by the question of what growth rate is consistent with keeping RPIX inflation on target. The answer to this depends on two factors – what is the trend rate of GDP growth and how far is the UK from trend?

Trend growth

The economic upswing began in mid-1992 and hence the UK is now well into its ninth year of expansion. Over this period, GDP has grown on average by 2.9% a year, somewhat faster than the average growth rate of 2.5% a year during the post-war period. Much of this difference is attributable to a decline in unemployment – according to the International Labour Office (ILO) definition, the unemployment rate has fallen from a peak of 10.7% to 5.3% over the past eight years.

Unemployment may be able to fall somewhat further but this cannot continue indefinitely. If the UK is to sustain its recent rate of expansion, it will have to do so primarily by improving the productivity of existing workers instead of employing many more of them. Britain's productivity trend has not been particularly impressive in recent years. From 1995 to 1999, business productivity growth averaged only 1.3% a year. This compares with an historical average of 2.4% a year and annual growth of 3.1% in the first half of the 1990s. This is in marked contrast to the US where annual productivity growth picked up by 1 percentage point between the first and second halves of the 1990s.

To some extent, slower productivity growth and falling unemployment may be two sides of the same coin. If, as seems possible, many of the new jobs created during the second half of the 1990s added relatively little to value added, compared with existing jobs, falling unemployment will have depressed measured productivity growth. Once unemployment begins to level out, this effect should dissipate. There is already evidence of this. Between 1993 and 1999, the ILO unemployment rate fell by 0.8 of a percentage point a year, on average. Over the last year, the unemployment rate has fallen by 0.6 of a percentage point, and productivity has grown by 2.5%, the fastest rate for five years.

There are grounds for being reasonably optimistic about UK productivity growth in the next few years. UK companies appear to have invested in information and communications technology as much as US companies,[1] leaving them well placed to reap the rewards of rapid growth in internet commerce, which Goldman Sachs economists have identified as an important source of future efficiency gains.[2] Productivity may not accelerate in the same way as it has in the US over the last few years, primarily because the IT-producing sector, where productivity has grown particularly rapidly, is significantly smaller in the UK.

The baseline fiscal projections in Chapter 3 are based on the cautious assumption for trend GDP growth adopted by the government, namely 2¼% a year. Our central view, however, is that the UK economy will grow at 2¾% in the next few years – midway between Britain's historic trend growth rate and

[1] Goldman Sachs calculations. To be comparable with the US, real investment spending on UK information and communications technology is derived by applying US hedonic price indices (adjusted for exchange rate movements) to nominal UK investment data.

[2] M. Brookes and Z. Wahhaj, *The Shocking Effect of B2B*, Goldman Sachs, Global Economics Paper no. 37, February 2000.

the rate achieved over the past five years. We expect faster productivity growth to take over from falling unemployment as the main driving force behind this more optimistic view about GDP growth.

The output gap

Over time, the key to maintaining a stable rate of inflation is to keep the difference between actual and trend output – the output gap – as small as possible. Actual and trend output do not always move together – demand shocks tend to drive them apart. The MPC recognises this, and a major focus of monetary policy is to offset demand shocks.

We cannot observe the output gap directly, but the weakness of price inflation (particularly once allowance is made for oil price shocks) suggests that it is small. Some MPC members have been concerned that inflation may have been depressed temporarily by the unusual strength of the exchange rate. Other factors, such as increasing trade penetration, may also have increased competitiveness, depressing domestic prices still further. While it is difficult to be certain how enduring these disinflationary forces will prove, the absence of any marked upward pressure on wage inflation provides a further indication that the economy is operating reasonably close to trend.

In last November's Pre-Budget Report, the Treasury estimated that the economy was operating 0.5% above trend in 2000–01. This is close to the Goldman Sachs estimate of 0.6%. Given that RPIX inflation is currently running below target, the output gap can be eliminated gradually to push inflation back to its target.

2.3 Economic prospects

On these estimates for trend GDP growth and the output gap, the economy should be able to grow somewhere in the range of 2½–3% while keeping inflation close to target. The forecasts in this publication assume that the MPC sets interest rates in order to try to achieve GDP growth of this magnitude. Official interest rates are projected to fall ½ a percentage point in 2001, from the current level of 6% to 5.5%, to offset the negative shock from overseas.

The economy will get considerable support in coming quarters from a shift to a more expansionary fiscal stance. Although we expect public spending to undershoot the government's plans by £4½ billion this year (see Chapter 3 for details), it is still set to rise on IFS / Goldman Sachs estimates by around 5% in real terms in both 2000–01 and 2001–02.

Consumer spending growth has averaged 4% a year since 1997 and consumer confidence remains stable at a high level. However, consumer spending growth is likely to slow in 2001 as employment growth diminishes and negative wealth effects put modest upward pressure on the savings ratio. Consumer spending growth is forecast to slow from 3.8% in 2000 to 3.0% in 2001.

There is a great deal of uncertainty about investment. Business investment may be adversely affected by the weakening in share prices and uncertain

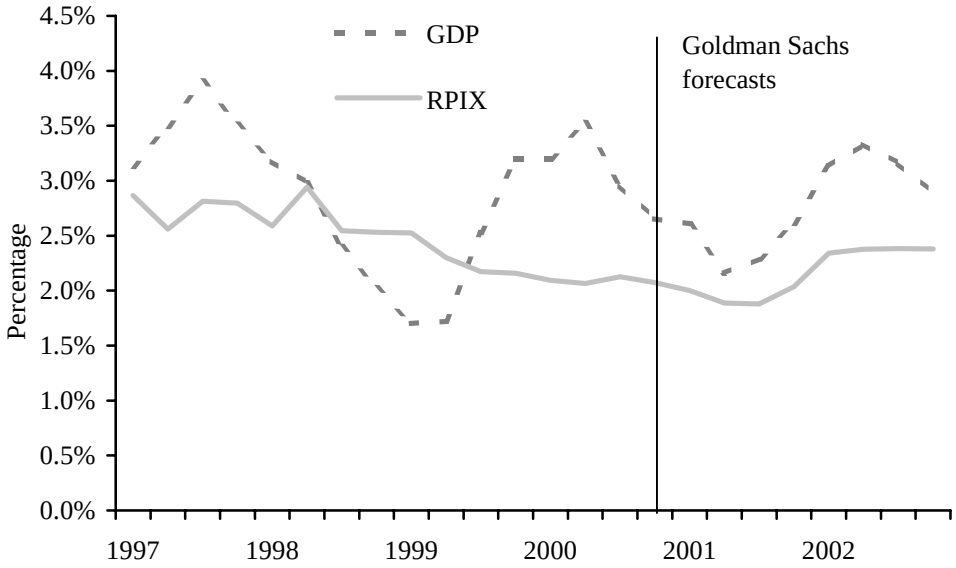
global growth prospects. Public investment is projected to grow rapidly in line with the government's plans. As a result, total fixed investment is projected to grow by 3¾% in 2001 after 1½% growth in 2000.

A weakening in global growth prospects means that the drag on the economy from net trade is likely to remain extensive. Although this may be offset to some extent by a continued depreciation in sterling, particularly against the euro, net trade volumes are likely to curb GDP growth by around 1% in 2001, similar to their effect in 2000.

Overall, the Goldman Sachs forecast is for GDP growth to slow from 3.0% in 2000 to 2.4% in 2001. This is fractionally more than the MPC would like to see, and RPIX inflation is expected to ease from 2.1% in 2000 to 2.0% in 2001. This should pave the way for a rebound in GDP growth to just over 3% in 2002 and a pick-up in RPIX inflation towards target, as shown in Figure 2.1. The deficit on the current account of the balance of payments is projected to worsen from around £14 billion (1.5% of GDP) in 2000 to £23¼ billion (2.4% of GDP) in 2001.

A summary of Goldman Sachs's main economic forecasts is shown in Tables 2.1 and 2.2.

Figure 2.1. GDP growth and retail price inflation (excluding mortgage payments)



Source: Goldman Sachs.

Risks

There are various risks to these forecasts. The main downside risk comes from overseas. If the Federal Reserve is unable to prevent a hard landing for the US economy, this would necessarily entail a weaker period of growth in the UK economy. But, given the UK's excellent inflation performance, there is

Table 2.1. Demand prospects

Annual percentage change	**1999**	**2000**	**2001**	**2002**
Household consumption				
HM Treasury[a]		3½	2¼ to 2½	1¾ to 2¼
Goldman Sachs[a]	4.4	3.8	3.0	2.9
Consensus			2.9	2.5
Fixed investment				
HM Treasury		2½	4¼ to 4 ½	3¾ to 4¼
Goldman Sachs	5.2	1.6	3.8	3.9
Consensus			3.1	2.9
Exports of goods and services				
HM Treasury		8	7 to 7½	6 to 6½
Goldman Sachs	4.0	7.6	6.3	8.3
Consensus			5.5	5.6
Imports of goods and services				
HM Treasury		9	7¼ to 7½	6 to 6½
Goldman Sachs	8.1	9.1	7.9	7.6
Consensus			6.7	5.7
Real GDP				
HM Treasury		3	2¼ to 2¾	2¼ to 2¾
Goldman Sachs	2.3	3.0	2.4	3.1
Consensus			2.6	2.5

[a]Includes non-profit institutions serving households.
Sources: HM Treasury – *Pre-Budget Report, November 2000*, Cm. 4917, HM Treasury, London, 2000; Goldman Sachs – *The UK Economics Analyst, January/February 2001*; Consensus – HM Treasury, *Forecasts for the UK Economy: A Comparison of Independent Forecasts, No. 165, January 2001*, HM Treasury, London, 2001.

Table 2.2. Other key indicators

	1999Q4	**2000Q4**	**2001Q4**	**2002Q4**
Price inflation (%)[a]				
HM Treasury		2¼	2½	2½
Goldman Sachs	2.2	2.1	2.1	2.4
Consensus			2.2	2.4
	1999Q4	**2000Q4**	**2001Q4**	**2002Q4**
Unemployment (million)				
Goldman Sachs	1.19	1.05	1.04	0.98
Consensus			1.03	1.02
	1999	**2000**	**2001**	**2002**
Current account (£ billion)				
HM Treasury		–14¼	–15	–17½
Goldman Sachs	–9.9	–13.9	–23.2	–25.9
Consensus			–18.2	–18.0

[a]RPI excluding mortgage interest payments.
Sources: As in Table 2.1.

nothing to prevent the MPC from easing monetary policy more aggressively. Thus any slowdown in the UK economy should prove temporary.

There are also downside and upside risks associated with the cyclical position of the UK economy. The labour market seems tight and the 2001 wage round will need to be monitored closely. Pay settlements averaged 3½% during the second half of last year. A small rise would be consistent with the inflation target. Anything more would suggest that the economy is operating further

above trend than expected, necessitating slower growth in 2001 than in the central forecast.

It is also possible that the supply-side performance of the UK economy has improved to a greater extent than allowed for in this forecast, particularly if the US experience of recent years is anything to go by. If this is the case, inflation will drift further below target unless the MPC eases monetary policy sufficiently to push GDP growth up.

Ben Broadbent and David Walton

3. An audit of the public finances

As last year, the public finances seem healthier than the government forecast. IFS / Goldman Sachs expect public sector net borrowing (PSNB)[1] to record a surplus of £15.9 billion in 2000–01, virtually unchanged from 1999–2000. This is £10 billion better than the March 2000 Budget forecast and £5.8 billion better than the November 2000 Pre-Budget Report forecast. The better-than-expected performance in the public finances reflects a combination of greater buoyancy in tax receipts and an undershoot in public spending. We consider the reasons for these in Sections 3.2 and 3.3.

The government's fiscal rules continue to be met with ease. The 'golden rule' requires the government to run a surplus on current budget over the economic cycle; in 2000–01, we expect a surplus of 2.2% of GDP. The 'sustainable investment rule' requires a stabilisation in the ratio of public sector net debt to GDP below 40%; in 2000–01, we expect a net debt ratio of 31.7%.

The Pre-Budget Report announced measures that increase government borrowing by £2.6 billion in 2001–02, rising to £3.9 billion in 2002–03. The Chancellor also announced a range of measures for consultation, mainly benefiting motorists, that if implemented will raise borrowing by an additional £1.7 billion in 2001–02, rising to £2.2 billion in 2002–03. In our baseline forecast, we assume that these will be implemented. For our medium-term forecasts, we have adopted the Treasury's cautious assumption of trend GDP growth of 2¼% a year. Even so, we expect the surplus on current budget in the medium term to run about 0.5% of GDP above the path in the 2000 Budget and Pre-Budget Report. The Chancellor could announce additional discretionary measures costing £3–4 billion by 2002–03 to bring the public finances broadly onto the path envisaged in the 2000 Budget and Pre-Budget Report. If trend GDP growth turns out stronger, as we expect, the Chancellor will have further room for manœuvre in future years.

As the end of the parliament approaches, it seems appropriate to consider how the public finances have evolved relative to the projections set out in the Conservatives' last Budget, in November 1996. We consider this in Section 3.6. Our main findings are the following:

- Tax receipts in 2000–01 are likely to be £24 billion higher than projected in the November 1996 Budget. Higher-than-expected inflation explains £7 billion of this increase; hence, in real terms, taxes are £17 billion (1.8% of GDP) higher than the November 1996 forecast.
- Up until 1999–2000, all of the additional real increase in taxes was used to reduce public borrowing. Public spending in the first three years of the parliament was actually lower in real terms than the Conservatives' plans.

[1] All references in the text to public sector net borrowing and the surplus on current budget exclude the windfall tax and associated spending.

- By reducing public borrowing, the government has made significant savings on debt interest payments. In addition, falls in unemployment have reduced cyclical social security spending. Discretionary public spending has risen, on average, by 2.0% a year in real terms during the past four years. This is still slightly less than the annual increase in discretionary public spending by the Major Government.
- The government plans further significant increases in public spending in 2001–02 and beyond. If this parliament were to run for a full five-year term and the spending plans were delivered, real discretionary public spending would increase by an average of 2.9% a year – a meaningful increase both on the 1.4% a year recorded during the Conservative period of office from 1979 to 1997 and on the 2.2% achieved during John Major's period as Prime Minister.

3.1 The government's fiscal rules

Since coming to office in May 1997, the government has adhered to two fiscal 'rules', both of which are assessed over the economic cycle:[2]

- The 'golden rule' requires the public sector to borrow only to invest; current spending must be financed from tax receipts. To achieve this, there must be a surplus on current budget over the economic cycle.
- The 'sustainable investment rule' requires net public sector debt to be kept stable as a share of GDP, which the government has judged should be no more than 40%. This imposes a limit on public sector net borrowing which, for any given surplus on current budget, places a constraint on public investment. On the government's existing plans for public investment, the sustainable investment rule is automatically satisfied if the golden rule is met.

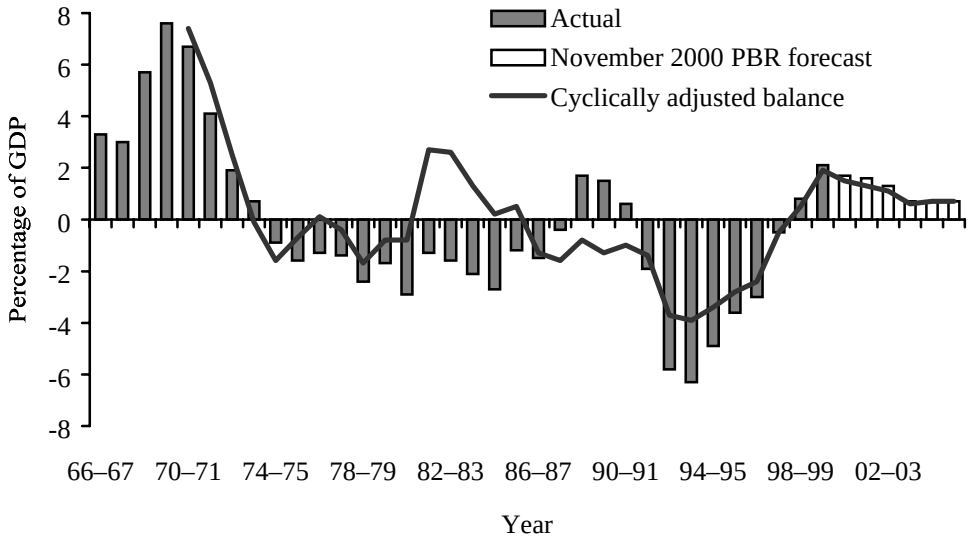
These rules were first adopted to enhance the credibility of fiscal policy. They ensure that the public finances are kept on a sustainable footing, although they could be breached for some time without the public finances becoming unsustainable.[3] In fact, the golden rule implies levels of borrowing that are historically very low. It is not the case that meeting the golden rule is necessarily optimal, particularly given the difficulties of determining precisely what constitutes current spending and investment. The government has argued that these rules promote intergenerational equity since each generation pays for its own current spending without imposing an unfair burden on future generations. But this is not guaranteed.[4]

[2] A more detailed description of these, and other measures of public borrowing, can be found in HM Treasury, *Analysing UK Fiscal Policy*, HM Treasury, London, 1999.

[3] For a discussion of the two fiscal rules, see, for example, C. Emmerson and C. Frayne, *The Government's Fiscal Rules*, Briefing Note, IFS, London, forthcoming.

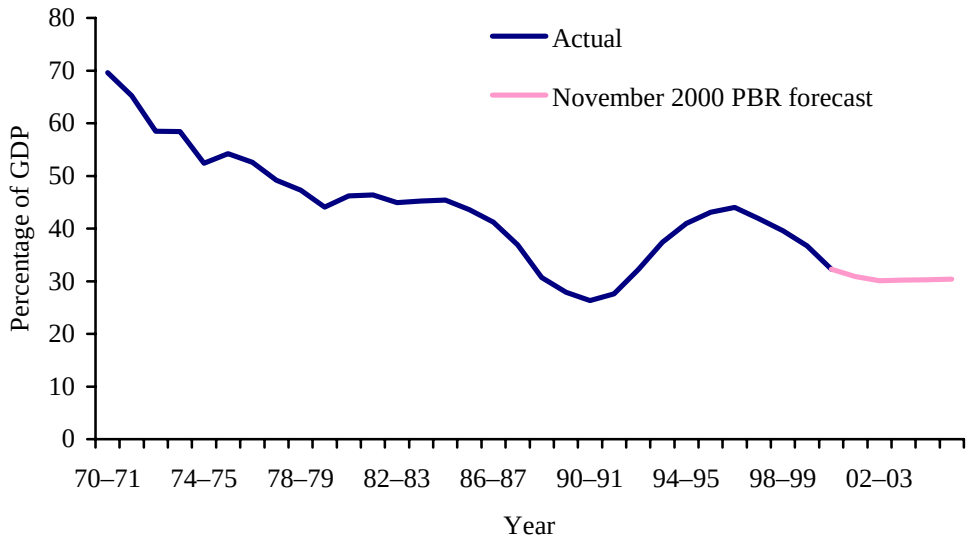
[4] Current spending may benefit taxpayers differentially depending on their age. Alternatively, an unanticipated increase in life expectancy may result in individuals receiving a greater pension than expected when making National Insurance contributions. For a more in-depth

Figure 3.1. Meeting the golden rule? Current budget balances as a percentage of GDP



Notes: Measures exclude the windfall tax and associated spending. For more details on the cyclically adjusted current budget surplus, see HM Treasury, *Fiscal Policy: Public Finances and the Cycle*, HM Treasury, London, 1999.
Source: HM Treasury, *Public Finances Databank, 24 November 2000*, HM Treasury, London, 2000.

Figure 3.2. Ups and downs in debt: net public sector debt as a percentage of GDP



Source: HM Treasury, *Public Finances Databank, 24 November 2000*, HM Treasury, London, 2000.

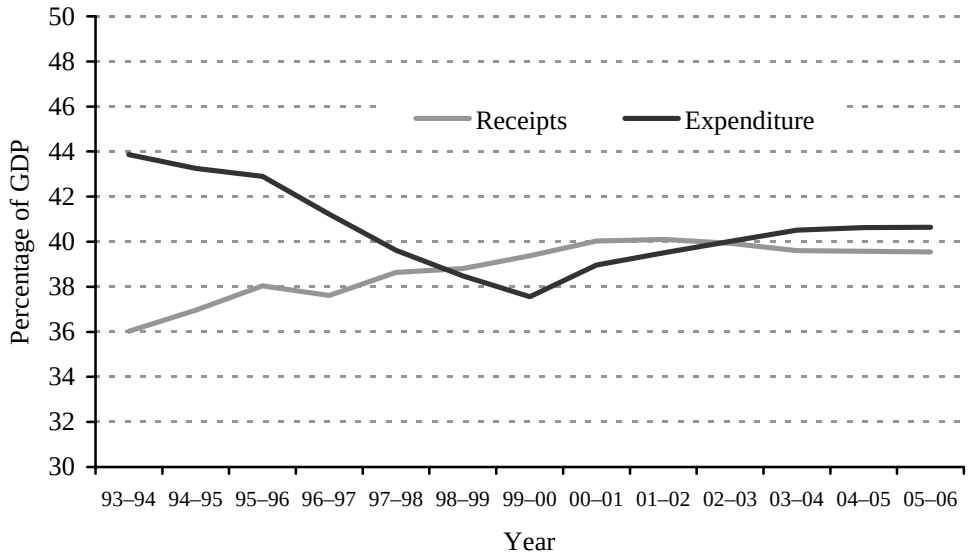
discussion, see J. Banks, R. Disney and Z. Smith, 'What can we learn from generational accounts in the UK?', *Economic Journal*, vol. 110, issue 467, pp. 575–97, 2000.

Previous governments have managed fiscal policy in different ways, but it is still of interest to see how past out-turns compare with the current rules. Figure 3.1 shows the current budget balance as a share of GDP from 1966–67 to the end of the present forecast period. The Treasury's estimate of the cyclically adjusted current budget balance is shown from 1970 onwards. In the late 1960s and early 1970s, the golden rule was met comfortably. During this period, public sector net borrowing was not particularly low but public investment was high. As Figure 3.2 shows, the sustainable investment rule was not met: net public sector debt was running above 40% of GDP.

During the second half of the 1970s, there were small deficits on the cyclically adjusted current budget, implying that the golden rule was narrowly missed. While there were current budget deficits during the first half of the 1980s, the cyclically adjusted series shows that, once allowance is made for the state of the economic cycle over this period, the golden rule was in fact met. The opposite is true of the last two years of the 1980s where, despite current budget surpluses, there were deficits on the cyclically adjusted measure. The net debt ratio fell steadily, reaching a low of 26.6% of GDP in 1990–91. During the first half of the 1990s, the golden rule was missed decisively: the cyclically adjusted deficit on current budget averaged 2.7% of GDP between 1990–91 and 1994–95. The net debt ratio rose steadily to a high of 44.0% in 1996–97.

There has been an improvement in the current budget every year since 1993–94. The surplus reached 2.1% of GDP in 1999–2000, larger than that achieved at the height of the economic boom in 1988–89. The forecasts in the government's November 2000 Pre-Budget Report (PBR) show a gradual decline in the surplus to 0.7% of GDP in 2005–06, implying that the golden rule will continue to be met comfortably. The public sector net debt ratio is forecast to stabilise at just over 30% of GDP.

Figure 3.3. From deficit to surplus followed by a return to deficit? Public sector receipts and spending as a percentage of GDP



Note: Measures exclude the windfall tax and associated spending.
Source: HM Treasury, *Public Finances Databank, 24 November 2000*.

The shares of tax receipts and total public spending in national income from 1993–94 to 2005–06 are shown in Figure 3.3. The difference in the two series is equal to public sector net borrowing. PSNB (excluding the windfall tax and associated spending) has moved from a deficit of 7.8% of GDP in 1993–94 to a surplus of 1.8% of GDP in 1999–2000. This was achieved by a 3.3 percentage point rise in the share of taxes in GDP and a 6.3 percentage point fall in the share of public spending in GDP.

The PBR projected the elimination of the overall budget surplus by 2002–03 and PSNB of 1.1% of GDP in 2005–06. This is due primarily to the increases in public spending announced in the March 2000 Budget and allocated in the July 2000 Spending Review. Taxes are projected to decline slightly as a share of GDP.

3.2 Issues in planning government revenues

Tax revenues as a share of GDP have increased during this parliament, from 37.6% of GDP in 1996–97 to 40.0% in 2000–01 on the government's latest estimates.[5] This increase is equivalent to around £23 billion in current prices. There are various reasons why the ratio of taxes to national income can change, the most important of which are economic growth and discretionary tax changes. We discuss each in turn.

Economic growth

A given tax system will tend to produce tax revenues that are higher as a share of GDP during periods when the economy is running above trend output and lower when the economy is operating below trend. This is due to, for example, changes in levels of employment and profits affecting income tax and corporation tax receipts. In addition to this cyclical effect, there is, over time, a tendency for taxes to increase as a share of GDP as the economy grows. This phenomenon is known as fiscal drag and is partly a product of the progressivity of the tax system. Income tax allowances are normally raised in line with retail price inflation, while earnings tend to grow in real terms. As a result, more income is taxed at each rate of income tax. The government will also tend to receive more revenue in social security taxes. The Treasury has estimated that, in the absence of offsetting measures, the ratio of taxes to GDP will rise by 0.23 percentage points a year when the economy is growing at close to a trend rate.[6]

Discretionary government tax measures

The proportion of national income taken in taxation is affected by discretionary changes in taxation. These can be implemented in several ways:

1. *Changes in tax rates:* For example, as a result of the duty escalators, the rates of taxation on petrol and tobacco have risen substantially since 1993.

[5] Figures for public sector current receipts as a share of GDP from HM Treasury, *Pre-Budget Report*, Cm. 4917, November 2000.

[6] HM Treasury, *Fiscal Policy: Public Finances and the Cycle*, HM Treasury, London, 1999.

Working in the other direction, the basic rate of income tax has fallen from 25p in 1995–96 to its current level of 22p.

2. *Changing the tax base:* Recent examples include the phasing-out of tax relief on profit-related pay announced in the November 1996 Budget and the abolition of the payment of dividend tax credits to pension funds announced in the July 1997 Budget. These are estimated to have raised income tax receipts by £1.7 billion and £5.4 billion a year respectively.

Table 3.1. Change in tax revenues in the previous parliament and the current parliament resulting from Budget announcements (£ billion)

Announcement	Last parliament to 1996–97	Current parliament to 2001–02
	Effect over and above any effect on previous parliament	
Conservative Budgets from 1987–92 parliament affecting revenues		
Spring 1991 Budget	2.3	n/a
Spring 1992 Budget	–4.0	n/a
Budget measures from 1987–92 parliament affecting revenues	–1.8	n/a
Conservative Budgets after the 1992 election		
Spring 1993 Budget	16.9	3.6
Autumn 1993 Budget	7.9	3.9
Autumn 1994 Budget	–0.9	0.4
Autumn 1995 Budget	–4.3	–1.3
Autumn 1996 Budget	n/a	0.8
Total Conservative Budgets during 1992–97 parliament	19.6	7.4
Labour Budgets after the 1997 election		
Summer 1997 Budget	n/a	5.6
Spring 1998 Budget	n/a	3.8
Spring 1999 Budget	n/a	–2.5
Autumn 1999 Pre-Budget Report	n/a	–4.0
Spring 2000 Budget	n/a	–0.6
Autumn 2000 Pre-Budget Report[a]	n/a	–0.6
Total Labour Budgets during current parliament	n/a	1.7
Total effect of Budget changes on taxes over parliament	**17.9**	**9.0**
Actual change in revenues over parliament	**–11.7**	**24.8**

[a] November 2000 Pre-Budget Report only includes those measures introduced without further consultation.

Notes: Increases are over and above the effect that any measure may have had on revenues in the preceding parliament. Measures announced in the March 2001 Budget may affect the figures for this parliament. Figures stated are for the effect on revenues in 1996–97 and 2001–02 respectively. All figures have been uprated to 2001–02 prices using nominal GDP growth. Reductions to the generosity of mortgage interest relief that occurred in the Budgets in Spring 1993, Autumn 1993, Summer 1997 and Spring 1999 are not included since the relief counts as government expenditure rather than tax forgone in the National Accounts. The Spring 1993 numbers include the effect of a 3% fuel escalator on annual revenues in both parliaments, while the Autumn 1993 figures include the effect of increasing this fuel escalator to 5% and introducing a tobacco escalator at 3%. The Summer 1997 numbers include the effect of increasing these escalators to 6% and 5% respectively. Both escalators were subsequently abolished in the November 1999 PBR. Thus the –£4 billion effect of the PBR includes the fiscal implications of removing the automatic tobacco and fuel escalators in 2000–01 and 2001–02. Any further changes in excise duties are treated as one-off changes in the year they occurred. For more details, see Appendix A.

Sources: HM Treasury, *Financial Statement and Budget Report*, various years; authors' calculations.

3. *Introducing new taxes:* For example, insurance premium tax and air passenger duty were introduced in the November 1993 Budget. In the March 1999 Budget, the Chancellor announced the introduction of the climate change levy from April 2001.

Government revenues in both the previous and the current parliament have changed partly as a result of Budget announcements. The effect that Budget announcements have had is shown in Table 3.1. For announcements made in previous parliaments, the table shows the effect that each Budget had on tax revenues in that parliament, and any additional effect that it had on subsequent parliaments. Budget measures announced during the 1992 to 1997 parliament meant that revenues by the end of that parliament were £19.6 billion higher in 1996–97, and an additional £7.4 billion higher in 2001–02, than they would have been in the absence of any Budget announcements. Most of this increase came from the measures announced in the Spring and Autumn 1993 Budgets.[7] The Autumn 1993 Budget, for example, increased tax revenues by £7.9 billion in 1996–97 and an additional £3.9 billion by 2001–02.[8] Despite these increases, actual government revenues fell by 1.2 percentage points of GDP in the last parliament, which is equivalent to £11.7 billion. This was due to other factors, such as economic growth, affecting revenues.

Measures announced in the 1992 to 1997 parliament increased revenues in 2001–02 by an additional £7.4 billion. This was largely the result of the automatic escalators on fuel and tobacco duties, which were assumed in the last Budget of the previous parliament to remain in place for the whole of the current parliament. Budget announcements since 1997 have increased this figure by £1.7 billion to £9.0 billion.[9] Overall, tax revenues, in the absence of any further announcements, will have increased over this parliament by 2.5 percentage points of GDP, which is equivalent to £24.8 billion.

While the effect of Budget announcements in the current parliament on government revenues may seem surprisingly small, it is largely a reflection of the abolition of the automatic fuel and tobacco escalators in the November 1999 Pre-Budget Report. The current government could, if it had wanted to, have reversed or offset any of the previous Budget announcements. It could also have made discretionary policy announcements so that the ratio of tax to national income did not rise.

Although tax revenues will have increased by £1.7 billion due to announcements made in the current parliament, taxes were first increased and then reduced. The effect on revenues in 2000–01, one year earlier than that shown in the table, is to increase revenues by £5.8 billion. This will, on current policies, fall to £1.7 billion in 2001–02, as shown in Table 3.1. This is due to factors such as the introduction of the children's tax credit and the removal of

[7] Measures announced in these Budgets included the introduction of VAT on fuel, higher employee National Insurance contributions, a freezing of income tax allowances and a reduction in the generosity of the married couple's allowance. These Budgets also introduced the fuel and tobacco escalators, which committed the government to increasing excise duties on fuel and tobacco in real terms by 5% and 3% respectively each year.

[8] All figures uprated to 2001–02 prices using nominal GDP growth.

[9] Numbers do not sum to total due to rounding.

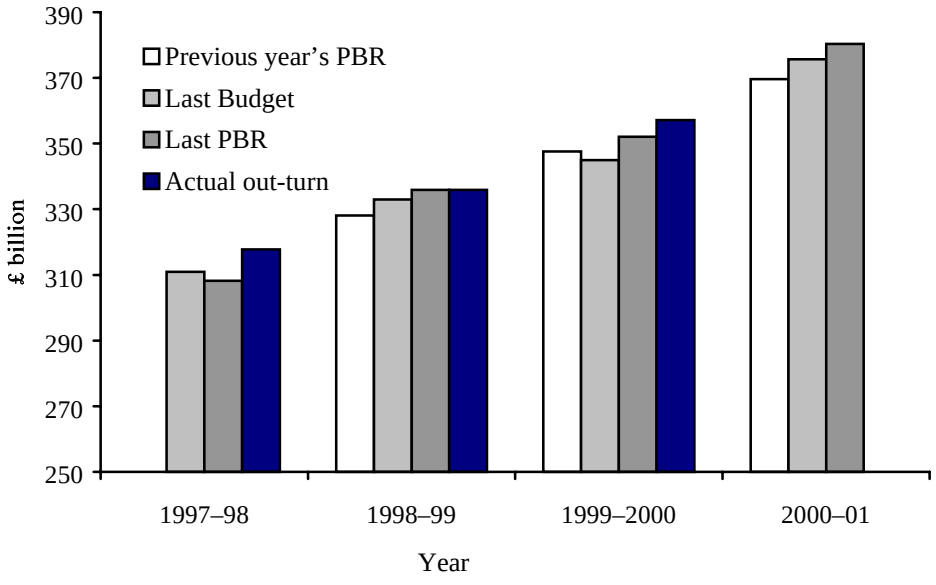
the automatic fuel and tobacco escalator for an additional year. If the March 2001 Budget implements in full the measures under consultation from the Pre-Budget Report, such as the reduction in duty on ultra-low sulphur petrol and diesel, then announcements made in this parliament will have made no effect on revenues in 2001–02.

It is also not known what would have happened had the Conservatives been re-elected in 1997. For example, the fuel and tobacco escalators could have been abolished or reduced earlier, or other taxes could have been reduced. Regardless, lower levels of taxes would not be possible without lower levels of public spending or higher levels of public borrowing.

Previous errors in forecasts of government receipts

Any estimate of future government receipts depends on the expected path of the economy and its relationship with tax revenues as well as on the net impact of previous Budget announcements. Figure 3.4 compares Treasury forecasts for current receipts with the eventual out-turn, adjusting for subsequent Budget measures. In recent years, the Treasury has consistently underestimated tax revenues. For example, the out-turn for public sector current receipts in 1998–99 was £335.9 billion; it was forecast at £328.1 billion in the November 1997 PBR and £333.0 billion in the March 1998 Budget.

Figure 3.4. An ever-improving situation? Out-turns for government receipts compared with previous Treasury forecasts



Notes: Forecasts from each Pre-Budget Report and Budget are adjusted to take account of subsequent changes to the tax system that affect future receipts. The first PBR was in November 1997, so there is no previous year's PBR corresponding to 1997–98.
Sources: HM Treasury, *Pre-Budget Report*, various years; HM Treasury, *Financial Statement and Budget Report*, various years.

This is no surprise since Treasury forecasts are currently, by design, more likely to underestimate than overestimate government receipts. They build in a deliberate degree of caution. Revenue projections are based on an underlying rate of real GDP growth of 2¼% a year, even though the Treasury believes that the economy's long-run sustainable growth rate is 2½% a year or possibly higher.[10] Furthermore, the Treasury employs cautious assumptions about oil prices, equity prices, the level of smuggling, unemployment and the ratio of VAT revenue to consumer expenditure.[11] This caution is evident in recent Treasury forecasts since they show no rise in the share of government revenues in GDP over the medium term.

There is ample justification for adopting a cautious approach to forecasting government revenues. The average absolute error in forecasting public sector net borrowing one year in advance is £10 billion even if growth in the economy is correctly forecast. Looking four years ahead, the average error is £27 billion.[12] Errors of this magnitude are easily sufficient for the government to fail to meet its golden rule.

How important is fiscal drag?

The Treasury's caution in projecting future tax receipts is striking, given that the reforms made to income tax and employee National Insurance may have actually increased fiscal drag. This is because any given increase in earnings should now lead to a larger increase in tax receipts than previously, since a larger proportion of income is now taxed at a higher marginal rate.[13] Using the IFS tax and benefit model, TAXBEN, it is possible to estimate the change in income tax and employee National Insurance revenues resulting from a 1% across-the-board increase in earnings under both the April 1997 and the April 2001 tax structures. These elasticities are shown in Table 3.2 and they imply a

Table 3.2. Increase in income tax and National Insurance receipts from a 1% increase in earnings, under two regimes

	April 1997	April 2001
Income tax	1.29	1.31
Employee National Insurance contributions	0.82	0.92

Source: IFS tax and benefit model, TAXBEN, using data from the Family Resources Survey, 1996–97.

[10] For more details, see HM Treasury, *Trend Growth: Prospects and Implications for Policy*, HM Treasury, London, 1999.

[11] The forecast for the rate of unemployment is only cautious when this rate is expected to fall by independent forecasters. For more details, see National Audit Office, *Audit of Assumptions for the 2000 Pre-Budget Report*, Hc959, Stationery Office, London, 2000.

[12] Average error corresponds to the average absolute error over the period 1985–86 to 1997–98; see HM Treasury, *Pre-Budget Report, November 1998*, Cm. 4076, 1998, Table B13 for more details.

[13] The 10% tax band is narrower than the 20% band that it replaced and personal allowances have fallen relative to average earnings. The entry fee for employee National Insurance contributions has been abolished. There have been above-inflation increases in both the lower earnings limit and the upper earnings limit, on earnings between which employee National Insurance contributions are made.

slightly stronger increase in tax revenues now for any increase in earnings than when Labour came to office. Changes to employer National Insurance work in the same direction.[14] Reforms to corporation tax may have gone the other way, although it not clear that these have had any effect at all.

3.3 Issues in planning government spending

Public expenditure has fallen as a share of GDP over the course of this parliament, from 41.2% in 1996–97 to 37.8% in 1999–2000, the latest year for which we have the out-turn. This is equivalent to a real-terms decrease in spending of just £1.4 billion or 0.4%. Spending in the current year (2000–01) is projected to increase to 39.2% of GDP. If spending hits this target, it will have risen over the first four years of this parliament by £21.9 billion in real terms, or 6.3%.[15]

As in our discussion of planning government revenues, economic growth and discretionary expenditure changes have played an important role in the fall in public spending as a share of national income. An additional factor has been the consistent underspending by government departments.

Economic growth

Public spending is much less cyclical than tax revenues. There is a tendency for its share of GDP to fall during upswings and rise during downswings, in part reflecting the counter-cyclical nature of unemployment-related social security benefits.[16] Other social security benefits will also tend to fall as a share of GDP as the economy grows, since benefits are uprated in line with price inflation rather than in line with earnings.[17] Spending on government debt interest payments also tends to fall as the economy grows. The decline in debt interest payments and cyclical social security benefits during this parliament is shown in Figure 3.5. These items are currently around 10.5% of total public spending, but this proportion is decreasing as spending on these items continues to fall.

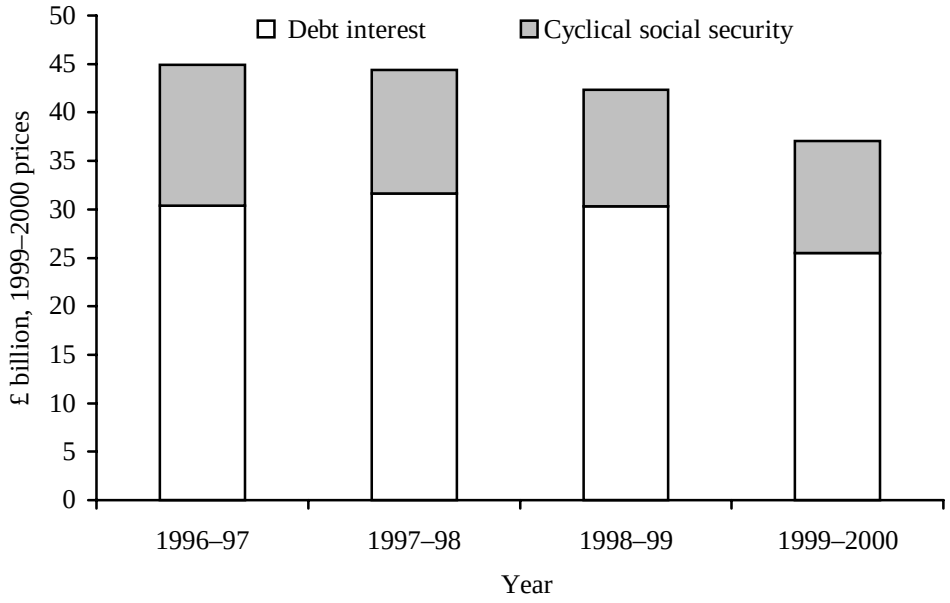
[14] This is because the reforms to employer National Insurance have increased the progressivity of the system by increasing the tax rate on earnings above the lower earnings limit from between 3% and 10% in 1997–98 to 11.9% in 2001–02. For more details, see L. Chennells, A. Dilnot and N. Roback, *A Survey of the UK Tax System*, Briefing Note no. 9, IFS, London (http://www.ifs.org.uk/taxsystem/taxsurvey.pdf).

[15] Figures are for total managed expenditure as set out in HM Treasury, *Pre-Budget Report November 2000*, Cm. 4917, HM Treasury, London, 2000.

[16] The government estimates that each 100,000 drop in unemployment cuts public spending by £580 million in 2000–01. Source: Department of Social Security, *Departmental Report: The Government's Expenditure Plans 2000/01 to 2001/02*, Stationery Office, London, 2000.

[17] An exception to this is that the government intends to uprate pensioners' minimum income guarantee in line with earnings every year. See statement by the Chancellor of the Exchequer on the Pre-Budget Report on 8 November 2000 (*Hansard*, column 325).

Figure 3.5. Cyclical spending: cyclical social security spending and debt interest payments, in real terms (1999–2000 prices)



Note: Discretionary increases to unemployment-related benefits (increases in the child premiums to income support) mean that the fall in social security spending shown in this graph understates the fall that has occurred due to falling unemployment.
Source: Department of Social Security, *The Changing Welfare State: The Reform of Social Security*, November 2000. HM Treasury, *Building Long-Term Prosperity for All: Pre-Budget Report November 2000*, Cm. 4917, 2000. HM Treasury, *Prudent for a Purpose: Building Opportunity and Security for All. 2000 Spending Review*, Cm. 4807, 2000.

Although growth in the economy helps to reduce the share of public spending in GDP, there are longer-term upward pressures. Demand for government-provided services, such as education and health, tends to grow at least as quickly as the economy expands. Demands on infrastructure traditionally provided by government, for example roads, tend to increase as the economy grows. Public sector wages, which represent a large proportion of the cost of providing many services, tend to grow in line with private sector wages over time. These increased demands resulting from economic growth do not automatically lead to higher public spending, but will only feed through into increases in public spending by discretionary additions to departmental budgets through the planning regime.

Discretionary spending measures

The first two years of the parliament

One of the key reasons for the fall in public spending as a share of GDP during this parliament was the government's aim to keep to the tight spending plans for 1997–98 and 1998–99 laid down in the November 1996 Budget by the previous Conservative administration. Overall expenditure[18] was £4.0 billion

[18] This refers to the overall public spending aggregate known as total managed expenditure (TME). TME, and its division between annually managed expenditure (AME), which is planned annually, and departmental expenditure limits (DELs), which are planned on a three-

lower in real terms[19] in 1998–99 than in 1996–97, a fall of 1.2% over the two-year period. Although cyclical social security spending fell, discretionary spending also declined. Growth in spending on defence, transport, housing, and trade and industry were all cut in real terms. Spending growth on health and on law and order were low in historical terms and considerably lower than the growth in GDP. Capital spending also fell, despite the government identifying this as one of the key 'problems with previous approaches to public spending' and one that it claims to have learnt lessons from since it came to power in 1997.[20] The trends in public spending are shown in Table 3.3.

Table 3.3. Public spending in the first two years of this parliament compared with the Conservatives' record: average annual real change in spending

	First two years of Labour: April 1997 to March 1999	Entire Conservative period: April 1979 to March 1997
Total spending	–0.6	1.6
National Health Service	2.2	3.1
Social security	–1.1	3.6
Defence	–2.5	–0.2
Education	1.6	1.5
Law and order	0.8	4.1
Transport	–9.8	0.5
Current spending	–0.4	1.8
Capital spending	–10.3	–5.3

Notes: Current spending includes depreciation. Defence spending is net of receipts from the sale of MOD married quarters. Education spending is net of proceeds from the sale of the student loan book. National Health Service spending is net NHS spending in the UK.
Sources: HM Treasury, *Public Expenditure Statistical Analyses, 1997–98 and 2000–01*; Pre-Budget Report November 2000; ONS Press Release, *Public Sector Accounts: 3rd Quarter 2000*, 21 December 2000.

Spending in 1999–2000 and beyond

After these first two years of tight spending control, the July 1998 Comprehensive Spending Review (CSR) saw a marked change in public spending plans. For the three years starting from 1999–2000, public spending was planned to rise significantly in real terms each year. Overall expenditure was expected to rise between 1998–99 and 1999–2000 by 2.8% in real terms, or £9.5 billion.[21] Just over one-third of this growth was to be in areas managed

year basis, were first set out in HM Treasury, *Economic and Fiscal Strategy Report 1998*, Cm. 3978, 1998, for spending years going forward from 1999–2000. However, the Treasury also publishes historical series for these aggregates, allowing comparisons to be made prior to the introduction of the new planning regime.

[19] All of the amounts in this section are expressed in real terms, 1999–2000 prices.

[20] HM Treasury, *Planning Sustainable Public Spending: Lessons from Previous Policy Experience*, November 2000.

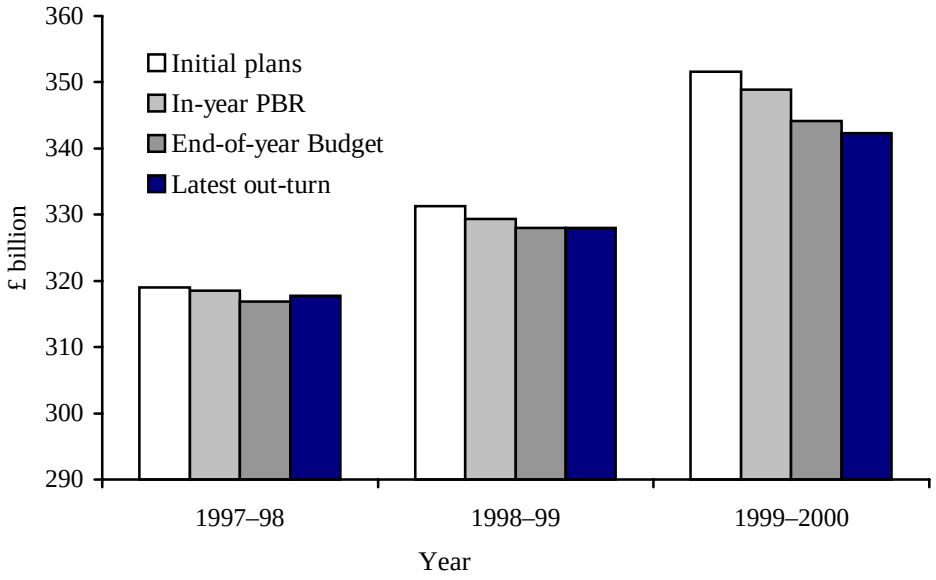
[21] HM Treasury, *Planning Sustainable Public Spending: Lessons from Previous Policy Experience*, November 2000.

on an annual basis, known as annually managed expenditure (AME), much of this reflecting increased generosity of some social security benefits. Social security spending was expected to grow by around £2.5 billion overall. The remainder of the increase was for government departments as embodied in the plans for departmental expenditure limits (DELs). Total DELs were planned to grow by £6.1 billion or 3.5% in real terms in 1999–2000. Similar increases were planned for DEL spending in 2000–01 and 2001–02. Despite the apparent move to 'firm three year plans' for public spending,[22] Budget 2000 added to these allocations.

Errors in forecasts: public expenditure underspends

The significant growth in spending envisaged by the first CSR had, up to the end of 1999–2000, failed to materialise. Compared with initial plans, there has been a considerable underspend on cyclical items of expenditure, such as social security spending and debt interest, as well as on discretionary items across many programmes and departments. Throughout this parliament, public spending in each year has turned out lower than initial plans and forecasts.

Figure 3.6. Underspending every year? Government spending compared with initial plans and projections



Notes: These measures have been adjusted to take into account subsequent additions to public expenditure. Spending is measured by general government expenditure (GGE) in 1997–98 and 1998–99, and by total managed expenditure (TME) in 1999–2000. Initial plans for 1997–98 are those set out in the November 1996 Budget. Initial plans for 1998–99 are those set out in the July 1997 Budget. Initial plans for 1999–2000 are those contained in the July 1998 *Economic and Fiscal Strategy Report*.
Sources: ONS Press Release, *Public Sector Accounts: 3rd Quarter 2000*, 21 December 2000; HM Treasury, *Pre-Budget Report*, various years; HM Treasury, *Financial Statement and Budget Report*, various years; HM Treasury, *Stability and Investment for the Long Term: Economic and Fiscal Strategy Report 1998*, Cm. 3978, 1998.

[22] See HM Treasury, *Modern Services for Britain: Investing in Reform*, Cm. 4011, 1998.

As Figure 3.6 makes clear, the underspend in 1999–2000 was particularly large: £8.2 billion less was spent than was planned in the CSR. Total managed expenditure (TME) was up only slightly in real terms on the previous year, compared with the 2.8% real-terms increase initially projected. This is despite more than £1 billion worth of discretionary additions, mostly to the social security budget, made in Budget 1999.

Why such a large underspend in 1999–2000?

Table 3.4 shows how overall public expenditure in 1999–2000, as measured by TME and its components, has been revised downwards over time compared with the plans set out in the July 1998 CSR.

Table 3.4. Expenditure plans for 1999–2000: total managed expenditure (TME) and its constituents (£ billion)

	CSR 1998	Budget 1999	Budget 2000	SR 2000	Latest out-turn	Under-spend (on CSR 1998)	Under-spend (on DEL final limits)
TME	351.6	349.2	345.2	340.7	343.4	8.2	–
Of which:							
DEL	179.2	179.2	178.8	176.8	176.8	2.4	4.5
AME	172.4	170.0	166.4	163.9	166.6	5.8	–
Of which:							
Social security benefits	100.5	99.1	97.1	97.0	97.2	3.3	–
Debt interest	27.6	26	25.5	25.5	25.5	2.1	–
Of which:							
Current expenditure	342.9	343.7	339.7	338.1	339.9	3.0	–
Net investment	8.6	5.5	5.5	2.6	3.5	5.1	–

Notes: The division between current and capital expenditure is affected by the adoption of 1995 European System of Accounts (ESA95) in September 1998. This makes an important difference to these measures (see below). DEL and AME are affected by the change to resource accounting from Budget 2000 onwards. However, this makes only a very minor difference to the out-turns for these aggregates in 1999–2000. For more details, see HM Treasury, *Pre-Budget Report November 2000*, Cm. 4917, Table B13. Current expenditure includes depreciation.

Sources: Latest out-turn – ONS Press Release, *Public Sector Accounts: 3rd Quarter 2000*, 21 December 2000; authors' calculations based on HM Treasury, *Pre-Budget Report November 2000*, Cm. 4917, HM Treasury, London, 2000. DEL final limits – HM Treasury, *Public Expenditure Provisional Outturn*, Cm. 4812, HM Treasury, London, 2000. HM Treasury, *Financial Statement and Budget Report*, various years. HM Treasury, *Stability and Investment for the Long Term: Economic and Fiscal Strategy Report 1998*, Cm. 3978, 1998. HM Treasury, *Spending Review 2000*, Cm. 4807, HM Treasury, London, 2000.

The biggest undershoot was in AME – £5.8 billion less than expected. This was due, in part, to unexpected buoyancy in the economy which reduced the need for cyclical spending. Within AME, social security spending was £3.3 billion lower than expected despite an addition of almost £900 million to social security spending in Budget 1999, mostly through discretionary increases in the generosity of pensioners' winter fuel allowances and child

premiums in income support.[23] Central government debt interest payments were £2.1 billion lower than had originally been envisaged. Changes in definitions complicate comparisons among many of the other elements of AME,[24] but underspending occurred in net public service pensions (£1 billion), whilst spending by self-financing public corporations ran contrary to this trend, overshooting the amount forecast in Budget 1999 by about £1 billion. Local government self-financed expenditure – for example, that raised by the council tax – also overspent relative to Budget 1999 projections, by £200 million.[25]

There was also a considerable shortfall in departmental spending. Spending by departments under DEL in 1999–2000 fell short of the original plans set out in the CSR by £2.4 billion. This understates the true level of underspending by departments. Taking into account the extra allocations awarded to departments as a result of accumulated spending entitlements built up from underspends in previous years (amounting to £2.2 billion[26]), the total DEL underspend in 1999–2000 was £4.5 billion.

Table 3.5 shows that the £4.5 billion DEL underspend was spread widely across departments. The final column of Table 3.5 shows the underspend relative to the size of each department's final budget. Compared with an average underspend of 2.5% across all DELs, the Welfare-to-Work (WTW) programme underspent its budget most significantly, failing to spend more than 50% of the £1.5 billion allocated to it. WTW has now been removed from the DEL planning regime and added to AME, where it will be managed on an annual basis. Notable absences from these large underspends were the Department of Health (DoH) and DETR (local government and regional policy), under which, amongst other things, the majority of spending on schools in England takes place. These budgets take up 22.5% and 18.9% of the total DEL respectively, but their underspends were both less than half of a percentage point of their total budgets.

From Table 3.4, it can be seen that more than half of the total underspend in TME in 1999–2000 arose because of a shortfall in planned net investment. This seems remarkable, given that net investment accounted for just 1% of TME. Table 3.6 sets out the major components of public sector net investment for 1999–2000 and how these have been revised. A major reason for the shortfall was a change in accounting conventions that has boosted estimates of

[23] Since the working families' tax credit and the disabled person's tax credit are counted along with other tax credits as an accounting adjustment in AME rather than in social security spending, the £180 million extra spending on these announced in Budget 1999 for 1999–2000 does not affect the estimates for social security.

[24] The shift from cash to resource budgeting in the 2000 Spending Review affects the definitions of some of these aggregates, making comparisons over time difficult.

[25] Underspending or overspending in local government self-financed expenditure has no impact on the public finances, since the taxes for this spending are raised locally.

[26] This includes £700 million DEL underspend carried forward from 1998–99 and an additional £1.5 billion in allocations resulting from the underspends built up from previous years under the End-Year Flexibility (EYF) scheme.

Table 3.5. Departmental spending in 1999–2000: underspend relative to final DELs

	Underspend (£ billion)	Underspend as a % of total underspend (%)	Underspend as a % of final DEL (%)
Education and Employment	0.83	18.4	5.2
Welfare to Work	0.76	17.0	50.7
DETR – main programmes	0.53	11.8	5.1
Scotland	0.44	9.8	3.1
Trade and Industry	0.40	8.9	12.0
Defence	0.32	7.1	1.4
Health	0.18	4.0	0.4
DETR – local government and regional policy	0.02	0.5	0.1
Other	1.01	22.5	2.7
Total	**4.49**	**100**	**2.5**

Note: The total underspend given here of £4.5 billion is that set out in July 2000 in the Public Expenditure Provisional Out-turn, which estimated the provisional outturn for total DEL spending in 1999–2000 to be £176.9 billion, compared with final DELs of £181.4 billion. The November 2000 Pre-Budget Report showed a provisional out-turn for DEL spending of £176.8 billion, £100 million below the July provisional out-turn. The breakdown of this further £100 million underspend has not been accounted for here.
Source: HM Treasury, *Public Expenditure 1999–2000 Provisional Outturn July 2000*, Cm. 4812, HM Treasury, London, 2000.

Table 3.6. Public sector net investment in 1999–2000 and its components

	CSR 98	Budget 99	Budget 00	PBR 2000	Latest out-turn
Central government spending and local authority support in DEL	10.7	12.3	12.0	9.9	–
Locally financed expenditure	0.7	0.6	0.8	0.9	–
National Lottery	2.0	2.2	1.5	1.4	–
Public corporations	5.0	4.3	4.7	4.5	–
Other capital spending in AME	1.2	0.7	0.5	0.9	–
Allocation of reserve and AME margin	0.2	0.1	0.0	0.0	–
Public sector gross investment	**19.8**	**20.3**	**19.6**	**17.6**	**18.2**
less Depreciation	–11.2	–14.8	–14.1	–14.4	–14.6
Public sector net investment	**8.6**	**5.5**	**5.5**	**3.2**	**3.5**

Note: Current expenditure includes depreciation.
Source: Latest out-turn – ONS Press Release, *Public Sector Accounts: 3rd Quarter 2000*, 21 December 2000. HM Treasury, *Pre-Budget Report*; HM Treasury, *Financial Statement and Budget Report*, various years; HM Treasury, *Stability and Investment for the Long Term: Economic and Fiscal Strategy Report 1998*, Cm. 3978, 1998.

depreciation. Differences in the measure of depreciation account for £3.4 billion[27] of the £5.1 billion underspend. However, there has also been a

[27] Approximately £3 billion of the difference in these depreciation aggregates is the result of definitional changes. In September 1998, the Office for National Statistics moved to the 1995 European System of Accounts (ESA95), which resulted in a number of increases in the official measure of depreciation, most notably due to the addition of depreciation of roads and bridges into the measure.

£1.6 billion[28] underspend in public sector gross investment, mainly by central government. Again, it is noteworthy that locally financed expenditure has not been part of the general trend of underspending. Of the central government[29] capital underspend that has been carried forward into 2000–01 under the DEL End-Year Flexibility (EYF) scheme, about 75% is accounted for by capital spending that has not been undertaken in the DfEE, DETR (main programmes) and DTI.[30]

Private sector investment under the Private Finance Initiative (PFI) was also considerably lower in 1999–2000 than initial projections. The estimated out-turn for capital spending under PFI in 1999–2000 was £1.6 billion.[31] This compares with initial projections made in Budget 1998 of £4.2 billion and in Budget 1999 of £3.8 billion.

Current spending also fell short, by £3 billion (see Table 3.4), despite a £3.2 billion increase in depreciation due to the accounting change referred to above. A large proportion of the current underspend was accounted for by social security and debt interest payments. There was also a considerable underspend within DEL current budgets. More than £3 billion of current spending from 1999–2000 DELs has been carried forward as notional spending entitlements into 2000–01. Departments accounting for the largest proportion of this are the DfEE, DETR (main programmes) and Scotland.

How desirable is this large underspend?

To the extent that the underspend is due to an improved economic climate, it is of little concern. A further element is undoubtedly the result of the flexibility that departments are now given to carry forward any unspent DEL allocations in the EYF scheme. This has been designed to avoid wasteful end-of-year spending surges as departments rush to spend their allocations before year-end. Of more concern for the government is that underspends may also have arisen because departments have been unable to spend up to the plans set out for them – for example, because of recruitment problems or problems getting capital projects off the ground. For instance, although the NHS has not been part of the general underspend, vacancy rates amongst nursing staff in NHS Trusts in England are as high as 3.8%.[32] There is evidence that recruitment in other key public service areas, such as among teachers and the police, is also considerably below requirement. If this is the case, it raises questions about the ability of the government to achieve its targets for spending rises in certain key areas in the current economic climate.

Another potential worry is that these underspends might build up through time. Not only would this lead to a suboptimal allocation of government

[28] Numbers do not sum to total due to rounding.

[29] Including local authority support in DEL.

[30] Source: HM Treasury, *Public Expenditure 1999–2000 Provisional Outturn July 2000*, Cm. 4812, HM Treasury, London, 2000, Table 7.

[31] See HM Treasury, *2000 Spending Review: Investing in the Future. Departmental Investment Strategies: A Summary*, Cm. 4916, November 2000, Table 5.3.

[32] Department of Health, Recruitment, Retention and Vacancies Survey, March 2000: vacancies in NHS Trusts in England – 3-month vacancy rates at 31 March 2000.

resources relative to estimated need (as embodied by the original spending plans), but it could have an undesirable macroeconomic impact if the amounts of expenditure involved were large enough.[33] In recognition of this, the Treasury may, in future, have to take a position on the length of time for which underspend entitlements can be held, or limit in some other way the amount of the underspend that can be brought forward and spent each year. Underspends are not, in fact, allocated directly to departments, but are added to the DEL reserve, to which departments may apply for funds. Although the EYF scheme contains notional spending entitlements in 2000–01 of more than £4.2 billion as a result of DEL underspending in previous years,[34] in expectation of continuing underspending in the current year, just £1.75 billion has been added to the DEL reserve for 2000–01, whilst £0.75 billion has been added to the DEL reserve for 2001–02. Departments will have to apply to the reserve in order to take up this money. They may also apply for additional spending corresponding to their EYF entitlements not allowed for in the reserve, although, in the current climate of underspending, it seems unlikely that departments will spend up to their original DEL allocations let alone their full EYF entitlements.

3.4 Borrowing in 2000–01

The combination of higher-than-expected government revenues and lower-than-expected levels of public spending that has occurred in recent years has led to a more favourable out-turn for government borrowing than previously expected. In 1999–2000, the government ran a surplus on PSNB of £16.1 billion (1.8% of GDP), which was far greater than forecasts of a £6.8 billion surplus in the January 2000 Green Budget, a £3.5 billion surplus in the November 1999 PBR and a £3 billion deficit in the March 1999 Budget.[35] This was also the case in 1998–99, when the £2.5 billion surplus on PSNB exceeded the surplus predicted in the 1998 PBR by £1.0 billion and the January 1999 IFS / Goldman Sachs forecast by £0.2 billion.

In 2000–01, the public finances have continued to be in a healthier state than expected at the time of the last Budget. Central government revenues in the first nine months of the financial year were 6.2% higher than a year earlier, compared with the March 2000 Budget forecast of 5.3% growth for the year as

[33] An analogy is with a company that allows its employees to carry over their unused annual holiday leave. If this means that employees use their holiday time sensibly rather than all taking unsatisfactory holidays in December, this could be a good idea. However, if all employees built their holidays up over a number of years, it could lead to undesirable outcomes, both in terms of the functioning of the staff if they have not taken sufficient leave each year (this is the suboptimal allocation of resources argument) and in terms of the overall functioning of the company if all staff decided to take their built-up leave at once (this is the macroeconomic effects argument).

[34] This amounts to the full DEL underspend less any DEL claims agreed during the course of the year from the reserve that have not been spent, but including any EYF underspends from previous years not taken up. See HM Treasury, *Public Expenditure 1999–2000 Provisional Outturn*, Cm. 4812, July 2000.

[35] See Appendix A for more details.

a whole. Over the same period, central government spending has grown by just 5.1%, compared with the March 2000 Budget forecast of 7.1%.[36] If these trends in receipts and spending persisted for the remaining months of 2000–01, the central government surplus on PSNB would be £20.1 billion. This is substantially greater than the £10.1 billion forecast in the November 2000 PBR, which was already higher than the £4.1 billion predicted in the March 2000 Budget.

The November 2000 Pre-Budget Report assumed that departments will spend their DEL allocations in the current financial year. Given the underspends in recent years, which were discussed in Section 3.3, and the growth in spending seen so far this year, this seems unlikely. The immediate effect of any underspend is, other things being equal, a reduction in borrowing. In following years, this should be counterbalanced with an equivalent increase in borrowing as departments carry any underspend forward. The only lasting gain to the public finances will be the relatively small reduced debt interest payments and depreciation from the initial underspend.

The Treasury forecast for AME was not revised in the PBR, despite lower-than-expected spending on items such as social security benefits and debt interest payments. As in previous years, these savings were added to the AME margin, or reserve. This is shown in Table 3.7. In both the 1999 and 2000 Budgets, TME was reduced by resetting the AME margin back to £1 billion in the forthcoming financial year and £2 billion for the following year.

Table 3.7. The size of the AME reserve (£ billion)

	1999–00	**2000–01**	**2001–02**	**2002–03**
Comprehensive Spending Review, July 1998	1.0	2.0	3.0	n/a
Pre-Budget Report, November 1998	3.0	4.5	6.0	n/a
Budget, March 1999	1.0	2.0	3.0	n/a
Pre-Budget Report, November 1999	3.5	3.9	6.4	n/a
Budget, March 2000	0	1.0	2.0	n/a
Spending Review 2000, July 2000	n/a	1.5	1.0	2.0
Pre-Budget Report, November 2000	n/a	2.6	2.7	3.6
IFS / Goldman Sachs forecast	n/a	*0*	*1.0*	*2.0*
Reduction in spending arising from unused margin	n/a	*2.6*	*1.7*	*1.6*

Source: Various HM Treasury Pre-Budget Report, Budget and Spending Review documentation.

The IFS / Goldman Sachs forecasts for 2000–01

The IFS / Goldman Sachs forecast assumes that the increase in the AME margin will not be needed, either in 2000–01 or in subsequent years, and hence the margin will be returned to its normal level in the March 2001 Budget. This reduces spending by £2.6 billion in 2000–01. The IFS / Goldman Sachs forecast is for an underspend in DELs relative to plans of £2 billion, of which £1 billion is forecast to be capital expenditure. We assume that departments will be able to carry forward half of this underspend into 2001–02 and half into 2002–03.

[36] Latest figures from ONS / HM Treasury Press Release, *Public Sector Finances: December 2000*, 19 January 2001.

On the receipts side, the IFS / Goldman Sachs forecast is for revenues to be £1 billion higher than in the November 2000 PBR and £5.7 billion higher than the March 2000 Budget. This difference is mainly due to greater income tax receipts. Our forecasts imply a deceleration in the growth of receipts from the pace seen so far in 2000–01, mainly due to slower growth in corporation tax receipts. Our projections are shown in Table 3.8, and more details are provided in Table 3.10.

Table 3.8. Comparison of Green Budget and HM Treasury forecasts for government borrowing, 2000–01 (£ billion)

	Budget, Mar. 00	Pre-Budget Report, Nov. 00	Green Budget, Jan. 01	Differences in Green Budget forecast relative to:	
				Budget	PBR
Current receipts	375.6	380.3	381.3	5.7	1.0
Total managed expenditure	370.9	371.6	367.1	–3.8	–4.5
Of which:					
Departmental expenditure limits	193.7	195.2	193.2	–0.5	–2.0
Annually managed expenditure	177.2	176.4	173.9	–3.3	–2.5
Public sector net borrowing[a]	–6.0	–10.1	–15.9	–10.0	–5.8
Net investment	8.2	7.0	6.0	–2.2	–1.0
Surplus on current budget[a]	14.0	16.6	21.1	7.1	4.5
Net public sector debt (% of GDP)	35.1%	32.3%	31.7%	–3.4 ppts	–0.6 ppt

[a] Excludes windfall tax and associated spending.

Note: ppt = percentage point.

Sources: Treasury forecasts – HM Treasury, *Pre-Budget Report*, Cm. 4917, November 2000; HM Treasury, *Financial Statement and Budget Report, March 2000*, Hc346, 2000.

The IFS / Goldman Sachs forecast is for PSNB, excluding the windfall tax and associated spending, to record a surplus of £15.9 billion (1.7% of GDP), only slightly below the £16.1 billion (1.8% of GDP) surplus in 1999–2000. This compares with forecasts of £10.1 billion in the PBR and £6.0 billion in the March 2000 Budget. We expect the surplus on current budget to be £21.1 billion (2.2% of GDP), compared with forecasts of £16.6 billion and £14.0 billion in the PBR and March 2000 Budget respectively.

The fiscal stance in 2000–01

In the March 2000 Budget, the Chancellor predicted a cyclically adjusted budget surplus of 0.5% of GDP. This estimate was raised to 0.8% of GDP in the PBR. On IFS / Goldman Sachs forecasts, the eventual out-turn could be as high as 1.2% of GDP, little changed from 1999–2000. The measures announced in the PBR will help to offset part of this unexpected fiscal tightening. The Chancellor will need to decide in the 2001 Budget how much more, if any, of this tightening should be offset in 2001–02 and future years.

3.5 Borrowing in 2001–02

Reflecting the better-than-expected trend in the public finances since the last Budget, the PBR contained a number of measures, shown in the top half of Table 3.9, that increase government borrowing by £2.6 billion in 2001–02, rising to £3.9 billion in 2002–03. These brought the Treasury's medium-term

projections for PSNB back to a similar level to those in the March 2000 Budget. Pensioners gained most from the PBR. The Chancellor announced an above-inflation increase in the basic state pension in April 2001 and April 2002 and large increases in the minimum income guarantee to which the poorest pensioners are entitled. Motorists also gained from the PBR announcement that there will be a nominal freeze in petrol duties in April 2001, which costs the exchequer £0.6 billion a year.

Table 3.9. Effect of measures announced in the Pre-Budget Report on the exchequer (£ billion)

	2001–02	2002–03
Measures implemented without further consultation		
Pensioners' package	–1.8	–2.5
Disability and carers' package	–0.2	–0.2
One-year nominal freeze for all fuel duties	–0.6	–0.6
Urban regeneration package	–0.2	–0.2
Unapproved share options	0.2	–0.2
Other measures	–0.1	–0.2
Total measures implemented without further consultation	*–2.6*	*–3.9*
Measures under consultation		
Reduce duty on ultra-low sulphur petrol by 2p	–0.4	–0.4
Reduce duty on ultra-low sulphur diesel by 3p	–0.6	–0.6
Extension of the small-car threshold on VED to 1,500cc	–0.3	–0.3
50% cut in VED for lorries and abolition of VED on tractors	–0.3	–0.3
Fund to encourage cleaner lorries	–0.1	n/a
Further one-year nominal freeze in fuel duty	n/a	–0.6
Total measures under consultation	*–1.7*	*–2.2*
TOTAL MEASURES	**–4.3**	**–6.1**

Note: Measures under consultation are assumed to have the same effect in 2002–03 as in 2001–02. If anything, this is likely to underestimate slightly the true cost of introducing these measures in full.

Sources: HM Treasury, *Pre-Budget Report*, Cm. 4917, November 2000, Table B4 (p. 170); HM Treasury / DETR Press Release 1, *A Fair Deal for Transport and the Environment*, 8 November 2000; authors' calculations.

The PBR also contained a range of measures that are currently subject to consultation. These are not included in the Treasury's public finance forecasts, and, if implemented, they will cost the exchequer an additional £1.7 billion in 2001–02, rising to £2.2 billion in 2002–03. These are shown in the bottom half of Table 3.9. The proposed measures include a reduction in fuel duty on ultra-low sulphur petrol, an extension of the small-car threshold for vehicle excise duty (VED) to 1,500cc and a 50% reduction in VED for lorries.[37] The IFS / Goldman Sachs forecast assumes that all of these measures will be implemented in full.

[37] See Chapter 5 for a discussion of these proposals.

Table 3.10. Comparison of Green Budget and HM Treasury forecasts for government borrowing, 2000–01 and 2001–02 (£ billion)

	2000–01		2001–02	
	PBR Nov. 2000	*Gr. Budget Jan. 2001*	*PBR Nov. 2000*	*Gr. Budget Jan. 2001*
Inland Revenue				
Income tax[a]	98.9	100.0	102.6	105.1
Corporation tax[b]	32.2	32.2	38.7	37.5
Petroleum revenue tax	2.0	2.0	2.0	2.0
Capital gains tax	3.0	3.0	2.7	2.7
Inheritance tax	2.3	2.3	2.4	2.4
Stamp duties	8.3	8.3	8.1	8.1
Total Inland Revenue (net of tax credits)	**146.7**	**147.8**	**156.6**	**157.8**
Customs and Excise				
Value added tax (VAT)	59.2	59.2	61.5	62.1
Fuel duties	23.2	23.5	23.6	22.6
Tobacco duties	7.4	7.4	7.6	8.0
Spirit duties	1.8	1.8	1.8	1.8
Wine duties	1.7	1.7	1.8	1.8
Beer and cider duties	3.0	3.0	3.2	3.2
Betting and gaming duties	1.5	1.5	1.5	1.5
Air passenger duty	1.0	1.0	1.0	1.0
Insurance premium tax	1.7	1.7	1.9	1.9
Landfill tax	0.5	0.5	0.5	0.5
Climate change levy	n/a	n/a	0.8	0.8
Customs duties and levies	2.1	2.1	2.2	2.2
Total Customs and Excise	**103.0**	**103.4**	**107.4**	**107.4**
Vehicle excise duties	4.9	4.5	5.1	4.5
Oil royalties	0.6	0.6	0.6	0.6
Business rates[c]	17.0	17.0	17.7	17.7
Social security contributions	59.8	59.8	62.3	61.6
Council tax	13.9	13.9	14.7	14.7
Other taxes and royalties[d]	8.8	8.8	9.0	9.0
Total taxes and social security contribns[e]	**354.7**	**355.7**	**373.3**	**373.3**
Accruals adjustments on taxes	2.9	2.9	0.9	0.9
less Own resources contribution to EU	–6.6	–6.6	–5.4	–5.4
less PC corporation tax payments	–0.4	–0.4	–0.4	–0.4
Tax credits[f]	4.9	4.9	5.5	5.5
Interest and dividends	5.2	5.2	5.0	5.0
Other receipts	19.6	19.6	20.5	20.5
Current receipts	**380.3**	**381.3**	**399.4**	**399.4**
Current spending	**364.6**	**361.1**	**384.2**	**382.5**
Windfall tax and associated current sp.[g]	0.9	0.8	0.8	0.8
Current balance[h]	**16.6**	**21.1**	**16.0**	**17.7**
Net investment	7.0	6.0	10.7	11.2
Windfall tax and associated capital sp.[g]	0.5	0.9	0.7	0.7
Public sector net borrowing[h]	**–10.1**	**–15.9**	**–6.0**	**–7.2**

[a] These figures are net of the children's tax credit and the working families' tax credit. [b] Includes advance corporation tax (net of repayments). Also includes North Sea corporation tax after ACT set-off, and corporation tax on gains. [c] Includes district council rates in Northern Ireland. [d] Includes money paid into the National Lottery Distribution Fund. [e] Includes VAT and 'traditional own resources' contributions to EU budget. Net of tax credits, cash basis. [f] Excludes children's tax credit, which scores as a tax repayment in the National Accounts. For more details, see Appendix B. [g] Removes spending financed by the windfall tax. [h] Excludes spending financed by the windfall tax.

Note: For more details of the IFS / Goldman Sachs forecast in 2000–01, see Table A.3 in Appendix A.

Sources: Treasury forecasts from HM Treasury, *Pre-Budget Report*, Cm. 4917, November 2000; this table is equivalent to Table B11 (p. 180). IFS / Goldman Sachs calculations.

The IFS / Goldman Sachs forecasts for 2001–02

A detailed breakdown of the IFS / Goldman Sachs forecasts for 2000–01 and 2001–02 is presented in Table 3.10. For 2001–02, our total receipts forecast coincides with the Treasury's PBR forecast. On the assumption that the PBR consultative measures are implemented, our lower forecasts for road fuel duties and vehicle excise duty are offset by higher forecasts for income tax and VAT receipts than in the PBR.

On the spending side, we forecast £1.7 billion less current spending than the November 2000 Pre-Budget Report, despite the fact that we have carried forward £0.5 billion of current departmental spending from 2000–01. This reflects primarily a reduction in AME margin to £1 billion. We also forecast lower debt interest payments in 2001–02 than the Treasury forecast due to our larger surplus on PSNB in 2000–01. We also expect slightly less spending on cyclical social security due to a lower unemployment forecast than the Treasury. We forecast that capital spending will be £½ billion higher than the Treasury, due to the carry-forward of the capital underspend in 2000–01.

Looking at government borrowing, the IFS / Goldman Sachs forecast for 2001–02 is that there will be a current budget surplus of £17.7 billion (1.8% of GDP), which is £1.7 billion higher than that forecast in the PBR. This is as a result of our lower forecast for current spending. Our forecast for public sector net borrowing in 2001–02 is for a surplus of £7.2 billion (0.7% of GDP). This is £1.2 billion higher than the Treasury's £6.0 billion figure, despite our carrying forward £½ billion of capital spending in 2001–02 from the underspend in the current financial year.

The fiscal stance in 2001–02

Allowing for the measures announced in the PBR, including those under consultation, the cyclically adjusted surplus on PSNB falls, on IFS / Goldman Sachs estimates, to 0.4% of GDP in 2001–02. This is 0.1 of a percentage point of GDP higher than in both the March 2000 Budget and the PBR. We discuss the scope for further fiscal easing in Section 3.8.

3.6 How does the current government differ from previous administrations?

As the end of the parliament approaches, it seems appropriate to consider how the public finances have evolved relative to the projections set out in the Conservatives' last Budget, in November 1996. Of course, this does not necessarily show what the Conservatives would have done had they been re-elected in May 1997, but it represents a useful baseline. Table 3.11 compares the projections for the public finances in the November 1996 Budget with the latest IFS / Goldman Sachs estimates. Public sector receipts were projected to rise from £286 billion in 1996–97 to £357 billion in 2000–01. On our estimates, receipts this year will total £381 billion – an increase of £24 billion relative to the Conservatives' projections.

Table 3.11. Differences in public finances from November 1996 Budget

	1996–97	1997–98	1998–99	1999–00	2000–01
Current receipts	3	14	16	21	24
Of which:					
Real GDP	0	0	–2	–2	0
Inflation	0	2	5	7	7
Budget measures[a]	0	3	4	7	6
Other	3	9	9	9	11
Current expenditure[b]	5	2	2	6	19
Of which:					
Inflation	0	3	5	7	7
Current balance	–2	12	14	15	5
Net capital spending	–4	–3	–2	–2	–1
Net borrowing	–2	–15	–17	–17	–5

[a] Includes measures included in the Pre-Budget Report and announcements made at other times that directly affect tax revenues.
[b] Including depreciation.
Note: Definitional changes arising from the introduction of the European System of Accounts 1995 affect comparisons between the November 1996 Budget and subsequent years. In practice, correct accounting for these measures makes little difference to the interpretation of the numbers. For example, in 1997–98, the different accounting regime would increase the level of taxes planned in the November 1996 Budget by around £1 billion, hence making the increase in taxes under the current government £11 billion in real terms rather than the £12 billion shown by the table. On the spending side, correct treatment of the new accounting system would increase current spending in the November 1996 Budget by £4 billion, hence leading to the conclusion that the current government spent £5 billion less in real terms than what was planned by the Conservatives rather than the £1 billion shown by the table. Capital spending, as planned in the November 1996 Budget, would be reduced by £2 billion, so that the current government actually spent £1 billion less than what was planned by the Conservatives, rather than the £3 billion shown in the table. For more details, see HM Treasury, *Pre-Budget Report: November 1998*, Cm. 4076, HM Treasury, London, 1998.
Sources: HM Treasury, *Financial Statement and Budget Report, November 1996*, HM Treasury, London, 1996; IFS / Goldman Sachs forecasts.

We address two questions. First, why have receipts been so much higher than the Conservatives projected? Second, what has happened to the money?

Why have receipts been greater?

There are many reasons why receipts in 2000–01 might have turned out higher than expected. We have broken down the increase into four components: fiscal drag, inflation, discretionary measures and other forecasting changes.

Fiscal drag

As discussed in Section 3.2, tax receipts tend to grow slightly faster than the growth in GDP. Thus, if the economy has grown faster than projected, tax receipts would also be expected to be higher. The Conservatives assumed a trend growth rate in real GDP of 2½% a year. Allowing for faster growth in the early part of the period to take up the slack in the economy, the November 1996 Budget projected a cumulative 12% increase in real GDP between 1996–97 and 2000–01. The out-turn has been exactly this. Hence none of the extra tax receipts are due to greater fiscal drag associated with faster real GDP growth. The composition of GDP growth and the composition of, for example,

earnings growth will also affect government revenues. To the extent that this growth has been different from the November 1996 projections, any changes will be recorded in the 'other' category.

Inflation

Inflation has been a little higher than projected in the November 1996 Budget, averaging 2.5% a year rather than 2%. This factor accounts for £7 billion of the £24 billion extra receipts.

Budget announcements

There have been substantial changes in taxes announced during this parliament in Budgets and, more recently, in Pre-Budget Reports. On our estimates, the net increase in taxes in 2000–01 has been £6 billion relative to the 1996–97 tax base. As Table 3.1 showed, the net effect of Budget measures since 1996 in 2001–02 will fall to £1.7 billion. This is due to the effect of announcements made but not yet fully in place – for example, the children's tax credit. In addition, the November 1996 Budget assumed that the road fuel escalator would stay in place at least until the end of this parliament. This would have implied a 5% real increase in fuel duties in March 2001, whereas the recent PBR committed the government to a nominal freeze. If the government implements all of the measures for consultation announced in November's Pre-Budget Report, there will have been no change in government revenues resulting from Budget announcements over the five-year parliament.

Other forecasting changes

Tax receipts can be affected by many other factors besides those considered above – for example, oil prices and changes in the composition of GDP. In addition, there are potential forecasting errors on the revenue implications of Budget announcements. These account for the remaining £11 billion of the extra tax receipts in 2000–01.

What has happened to the higher receipts?

Up until 1999–2000, all of the additional real increase in taxes was used to reduce public borrowing. Public sector net borrowing in 1997–98 was £15 billion lower than in the November 1996 Budget projections and was £17 billion lower in each of the following two years.

Table 3.11 shows that public spending in the first three years of the parliament was actually lower than the Conservatives' plans in real terms. For example, in 1999–2000, spending in nominal terms was £6 billion higher than that planned in the November 1996 Budget, but this was more than explained by higher inflation than expected. Once this is taken into account, spending was £1 billion lower in real terms than that set out in the November 1996 Budget.

In the current year, the government has planned a decisive boost to public spending. Allowing for the fact that we expect public spending to undershoot the government's plans by around £4.5 billion this year, it is nevertheless set to increase by almost 5% in real terms. This would be the fastest annual growth rate for eight years. Even so, as shown in Table 3.12, the growth in real public spending will have averaged only 1.2% a year during the first four

years of the Labour Government. This is the same as that seen during Mrs Thatcher's period of office and less than the 1.6% a year delivered during the entire Conservative term of office.

Table 3.12. Changes in taxation and spending, various periods of interest

	Real average annual increase over:				
	Thatcher years	Major years	Tories from 1979 to 1997	Current parliament to: 2000–01	2001–02
Total taxes	2.0	1.3	1.8	4.6	4.1
Total government spending	1.2	2.6	1.6	1.2	1.9
Of which:					
Total current spending	1.3	2.9	1.8	1.2	1.6
Total capital spending	–2.9	–9.8	–5.3	3.7	16.1
Discretionary public spending	1.0	2.2	1.4	2.1	2.9
Spending by type					
Education spending	1.2	2.1	1.5	3.6	3.9
NHS spending	3.0	3.3	3.1	4.7	4.9
Social security spending[a]	2.8	5.2	3.6	0.9	1.6
Defence spending[b]	1.0	–2.6	–0.2	–1.7	–1.4

[a] Social security spending comprises of total benefit expenditure, social security administration and spending on the working families' tax credit and the disabled person's tax credit.
[b] Defence spending excludes receipts from the sale of married quarters in 1996–97.
Note: Spending increases based on IFS / Goldman Sachs estimates. Underspend for 2000–01 could affect the increases in education and NHS spending shown in the table.
Source: HM Treasury, *Pre-Budget Report, November 2000*, HM Treasury, London, 2000; HM Treasury, *Public Finances Databank, 24 November 2000*, HM Treasury, London, 2000; HM Treasury, *Public Expenditure Statistical Analyses 2000–01, April 2000*, Cm. 4601, Stationery Office, London, 2000.

Since 1996–97, spending has grown at a slightly lower rate than during the Conservatives' period of government from 1979 to 1997 and tax receipts have increased more quickly. This has led to a reduction in borrowing and significant savings on debt interest payments. Lower unemployment has reduced cyclical social security spending. The reductions in debt interest payments and cyclical social security spending amount to 4% and 20% a year respectively between 1996–97 and 2000–01. Excluding these items, Table 3.12 also shows that discretionary public spending has risen, on average, by 2.1% a year during the past four years. This is still slightly less than the annual increase in public spending by the Major Government but is 0.7 percentage points a year higher than achieved under the Conservatives. In particular, the average annual increase in education and NHS spending will be higher under the current government than under either Margaret Thatcher or John Major.

The comparisons illustrate why people's perceptions about the state of public services may not have altered much under this government. Discretionary public spending growth has not yet matched the record of the Major Government. A large part of the increase in spending is in capital spending, which may take longer to materialise into benefits felt by the general public. Also, the boost to public spending has come almost entirely in the current year, giving little time for people to notice a difference. The share of public spending in GDP has fallen 1.5 percentage points since the last year of the Conservative Government. Even if we exclude debt interest and cyclical social security spending, the share has fallen by 0.9 percentage points.

If the government were to decide to run for a full five-year term, the picture could look different. The government plans further significant increases in public spending in 2001–02 and beyond. Using IFS / Goldman Sachs forecasts for 2001–02,[38] the average annual growth in real public spending over the five years from 1996–97 would be 1.9%; real discretionary public spending would increase by 2.9% a year, comfortably more rapidly than the Conservative's record on public spending.

3.7 Medium-term borrowing forecasts

In projecting the medium-term path for the public finances, we have taken the cautious approach adopted by the Treasury and assumed trend GDP growth of 2¼% a year. These assumptions are shown in Table 3.13 – the only difference from the PBR is that real GDP growth in 2001–02 is likely to be 2½% instead of 2¼%. Like the Treasury, this is not our central expectation for GDP growth. We argued in Chapter 2 that the UK might reasonably be able to grow at an underlying rate of 2¾% a year over the forecast horizon.[39] The output gap calculations and cyclically adjusted estimates of borrowing are based on this higher growth assumption.

IFS / Goldman Sachs medium-term forecasts for the public finances are shown in Table 3.14. These forecasts assume that the measures announced in the PBR are implemented in full, including those under consultation. The scope for further discretionary measures in the Budget is considered in Section 3.8. Public spending is slightly lower in 2002–03 and 2003–04 than the Treasury's PBR forecast, reflecting a lower AME margin and lower debt interest payments, but it is back on track in the last two years of the forecast horizon on the assumption that current spending grows at 2.5% a year in real terms and net public investment stabilises at 1¾% of GDP. Receipts are stronger throughout the forecast horizon due to greater fiscal drag than the Treasury assumes.

[38] This allows for half of this year's £2 billion likely undershoot in DELs to be carried forward to next year and setting the AME margin back to £1 billion.

[39] The UK has grown at an annual rate of 2½% in the post-war period and by almost 3% over the past five years. One of the Treasury's performance targets is 'By 2004, to raise the trend rate of growth from the current estimate of 2.5%' (source: HM Treasury, *Public Service Agreements, July 2000*, Cm. 4808, HM Treasury, London, 2000.

Table 3.13. Comparison of the Treasury's and our main economic assumptions

	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06
Output (GDP, % growth)						
HM Treasury PBR	3	2¼	2¼	2¼	2¼	2¼
IFS / Goldman Sachs	3	2½	2¼	2¼	2¼	2¼
GDP deflator (% growth)						
HM Treasury PBR	2	2½	2½	2½	2½	2½
IFS / Goldman Sachs	2	2½	2½	2½	2½	2½
Money GDP (% growth)						
HM Treasury PBR	5	4¾	4¾	4¾	4¾	4¾
IFS / Goldman Sachs	5	5	4¾	4¾	4¾	4¾
Money GDP (£ billion)						
HM Treasury PBR	950	995	1,042	1,091	1,142	1,196
IFS / Goldman Sachs	948	996	1,043	1,093	1,145	1,199

Note: For more details of the IFS / Goldman Sachs central economic forecast, see Table A.4 in Appendix A.

Sources: Treasury economic forecasts from HM Treasury, *Pre-Budget Report*, Cm. 4917, November 2000; this table is similar to Table B3 (p. 169). IFS / Goldman Sachs calculations.

Table 3.14. Medium-term public finances forecasts, based on cautious macroeconomic assumptions (£ billion)

	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
IFS / Goldman Sachs forecasts						
Current budget						
Current receipts	381.3	399.4	417.4	437.3	458.4	480.9
Current expenditure[a]	361.1	382.5	402.1	422.5	443.8	466.3
Windfall tax & ass. curr. sp.[b]	0.8	0.8	0.7	0	0	0
Surplus on current budget[c]	21.1	17.7	15.9	14.8	14.6	14.6
Capital budget						
Net investment	6.0	11.2	15.0	18.2	20.0	22.0
Windfall tax & ass. cap. sp.[b]	0.9	0.7	0.0	0	0	0
Public sector net borrowing[c]	–15.9	–7.2	–0.9	3.4	5.4	7.4
HM Treasury forecasts						
Current budget						
Current receipts	380.3	399.4	416	432	452	473
Current expenditure[a]	364.6	384.2	404	425	444	465
Windfall tax & ass. curr. sp.[b]	0.8	0.8	0.7	0	0	0
Surplus on current budget[c]	16.6	16	14	8	8	8
Capital budget						
Net investment	7.0	10.7	14.5	18.2	20	22
Windfall tax & ass. cap. sp.[b]	0.9	0.7	0.0	0	0	0
Public sector net borrowing[c]	–10.1	–6	1	10	12	13

[a] In line with the National Accounts, depreciation has been included as current expenditure.
[b] Removes spending financed by the windfall tax.
[c] Excludes spending financed by the windfall tax.

Sources: Treasury forecasts from HM Treasury, *Pre-Budget Report*, Cm. 4917, November 2000; this table is equivalent to Table B5 (p. 172). IFS / Goldman Sachs calculations.

Fiscal rules met with room to spare

The surplus on current budget stabilises at around £14–15 billion on the IFS / Goldman Sachs medium-term projections, £6–7 billion higher than in the

March 2000 Budget and November 2000 PBR. The average surplus over the period from 1999–2000 to 2005–06 is 1.7% of GDP. Thus the golden rule will be met comfortably. On our cyclically adjusted estimates, shown in Table 3.15, the surplus on current budget is running at 1.2% of GDP at the end of the forecast horizon, 0.5 of a percentage point of GDP above Treasury projections. PSNB also remains historically low. Public sector net debt declines steadily

Table 3.15. Compliance with the fiscal rules: the current balance and net public sector debt ratio as a percentage of GDP

	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06
Fiscal balances							
Surplus on current budget[a]	2.1	2.2	1.8	1.5	1.4	1.3	1.2
Average surplus since 1999–2000	2.1	2.2	2.0	1.9	1.8	1.7	1.7
PSNB[a]	–1.8	–1.7	–0.7	–0.1	0.3	0.5	0.6
Public sector net debt	36.8	31.7	29.5	28.0	26.9	26.0	25.3
Cyclically adjusted fiscal balances							
Surplus on current budget[a]	1.9	1.9	1.5	1.3	1.1	1.2	1.2
PSNB[a]	–1.5	–1.4	–0.4	0.2	0.5	0.5	0.6
Output gap[b]	0.3	0.6	0.3	0.4	0.2	0.0	0.0

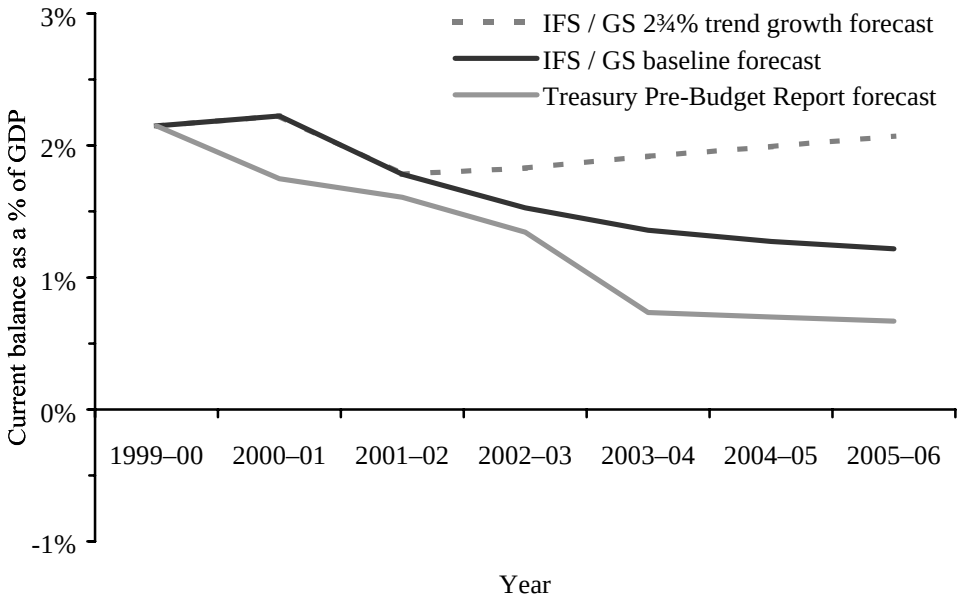
[a] Excluding windfall tax and associated spending.

[b] The output gap is the difference between the actual level of output in the economy and the trend level of output. Positive numbers for the output gap indicate that output is above trend.

Note: This table is similar to HM Treasury, *Pre-Budget Report*, Cm. 4917, November 2000, Table B1 (p. 166). For more information on cyclical adjustments, see HM Treasury, *Fiscal Policy: Public Finances and the Cycle*, 1999.

Source: IFS / Goldman Sachs calculations.

Figure 3.7. Current budget surplus forecasts as a percentage of GDP



Sources: Treasury forecast from HM Treasury, *Pre-Budget Report*, Cm. 4917, November 2000; IFS / Goldman Sachs calculations.

throughout the forecast horizon to almost 25% of GDP in 2005–06, below the previous low recorded in 1990–91.

As noted already, these forecasts are based on a cautious path for real GDP growth. If we adopt the IFS / Goldman Sachs central estimate of 2¾% trend GDP growth, the surplus on current budget continues to rise, to around 2% of GDP by the end of the forecast horizon. This is shown in Figure 3.7.

3.8 The Budget judgement

With the public finances continuing to come in better than expected, the Chancellor is likely to feel that there is scope in the Budget to announce discretionary cuts in taxes or additional increases in spending. The government's approach was set out by Gus O'Donnell, HM Treasury's Director of Macroeconomic Policy and Prospects, in evidence to the House of Commons Treasury Select Committee after the March 2000 Budget.[40] He stated that 'there is no Government intention to run up surpluses for ever. The intention is to move back towards meeting the Golden Rule with a reasonable margin'. He likened the situation to a golfer who had hit the ball straight down the fairway when an unanticipated wind comes along and blows the ball to the right. The next shot aims back towards target.

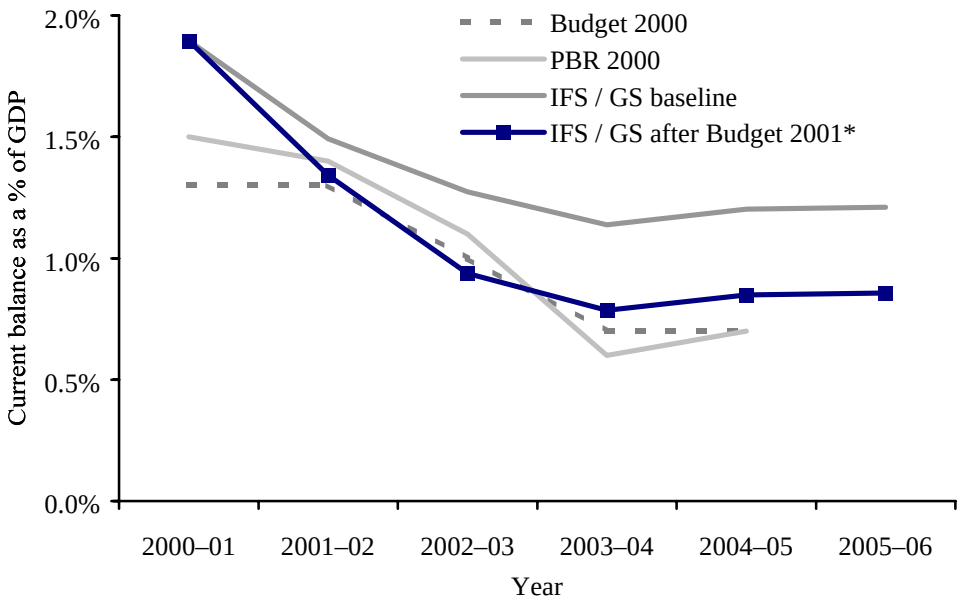
As Figure 3.8 shows, the measures announced in the November 2000 PBR brought the cyclically adjusted surplus on current budget back into line with that planned in the March 2000 Budget. In fact, as Table 3.16 shows, to prevent the surplus on current budget from rising, the Chancellor has already announced, over the past two years, a fiscal loosening amounting to £12 billion in 2001–02 over and above the £9 billion in 2000–01. If the consultative measures announced in the PBR are included, this figure rises to almost £14 billion.

The IFS / Goldman Sachs central forecast already assumes that the Chancellor will cut taxes by £1.7 billion in 2001–02 and £2.2 billion in 2002–03 by implementing in full the measures under consultation from the PBR. Despite this, the cyclically adjusted surplus on current budget is running around 0.5 of a percentage point of GDP above the path in the March 2000 Budget and the PBR.

In the Budget, we expect the Chancellor to announce £3–4 billion of additional discretionary measures by 2002–03. As Figure 3.8 shows, this would bring the cyclically adjusted surplus on current budget broadly in line with that envisaged in the March 2000 Budget. The path of PSNB would also be similar to that planned in the March 2000 Budget. The Chancellor would thus be able to claim that the fiscal stance was at least as tight as intended in last year's Budget.

[40] House of Commons Treasury Select Committee, *Fifth Report: The 2000 Budget, 13 April 2000 Report, Proceedings, Minutes of Evidence and Appendices*, Hc379, Stationery Office, London, 2000.

Figure 3.8. Cyclically adjusted surplus on current budget as a percentage of GDP



* Assumes a package of tax cuts or spending increases announced in the March 2001 Budget costing £1.5 billion in 2001–02 and £3.5 billion in 2002–03, over and above the cost of the measures under consultation from the November 2000 Pre-Budget Report.
Sources: Treasury forecast from *Pre-Budget Report*, Cm. 4917, November 2000; IFS / Goldman Sachs calculations.

Table 3.16. A comparison of the size of fiscal loosenings contained in the Chancellor's recent announcements (£ billion)

	2000–01	2001–02
Measures announced		
March 1999 Budget	–1.4	–3.6
November 1999 Pre-Budget Report	–2.2	–3.5
March 2000 Budget	–4.9	–11.6
November 2000 Pre-Budget Report	–0.7	–2.6
Total measures announced since March 1999 Budget	*–9.3*	*–21.3*
Consultation measures, November 2000 Pre-Budget Report	n/a	–1.7
Total including measures under consultation	*–9.3*	*–23.0*

Note: November 1999 Pre-Budget Report includes the abolition of the automatic escalators on petrol and tobacco taxes; March 2000 Budget includes the increases in government expenditure announced over and above that implied by the Comprehensive Spending Review. Of the increases in spending announced for 2001–02, £5.9 billion was not actually allocated to departments until the July 2000 Spending Review.
Source: HM Treasury, *Financial Statement and Budget Report*, various years; HM Treasury, *Pre-Budget Report*, various years.

The Chancellor is still likely to have room for manœuvre in future years if trend GDP growth turns out higher than in the cautious case. For instance, if trend GDP growth turns out to be around 2¾% a year, there may eventually be scope to cut taxes or increase spending by a further £10 billion in today's prices by 2005–06.

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4. Budget options for personal tax and benefits

The government may feel that macroeconomic conditions leave it with some leeway for further fiscal loosening before the general election. If so, it has a number of options in direct tax and benefit policy for how it might implement this. First, it may wish to redirect further resources to one of the groups that it has already prioritised, families with children. Alternatively, it may decide that the time is right for a more general tax give-away, in which case it confronts an additional choice in how it delivers this – a lower basic rate, a wider starting rate and higher allowances, for example, all being possibilities. In this chapter, we review a number of possible alternatives, each of which has roughly equivalent exchequer costs.

4.1 A package for children

This government has increased state support for children dramatically. Although universal child benefit has been increased, most redistribution has been through more targeted measures. The introduction of the working families' tax credit (WFTC) involved substantial new resources, income support for those with children has been increased and, from April, the children's tax credit (which is targeted away from high-income parents) will redistribute further to those with children. Given this track record, it is interesting to ask what further measures the government might introduce to benefit families with children.

A potential part of such a package would be an increase in the generosity of the children's tax credit. Indeed, in the Pre-Budget Report and subsequently, the Chancellor has indicated that he is considering such a move. Under current plans, the children's tax credit will deliver a tax discount of £8.50 per week to families with children where neither parent is a higher-rate taxpayer (which is to say that neither has an income above £33,935 in 2001–02, assuming default indexation). But Gordon Brown has publicly declared that he is 'consulting on a bolder proposal' to increase this value to £10 per week, which would cost £350 million.[1]

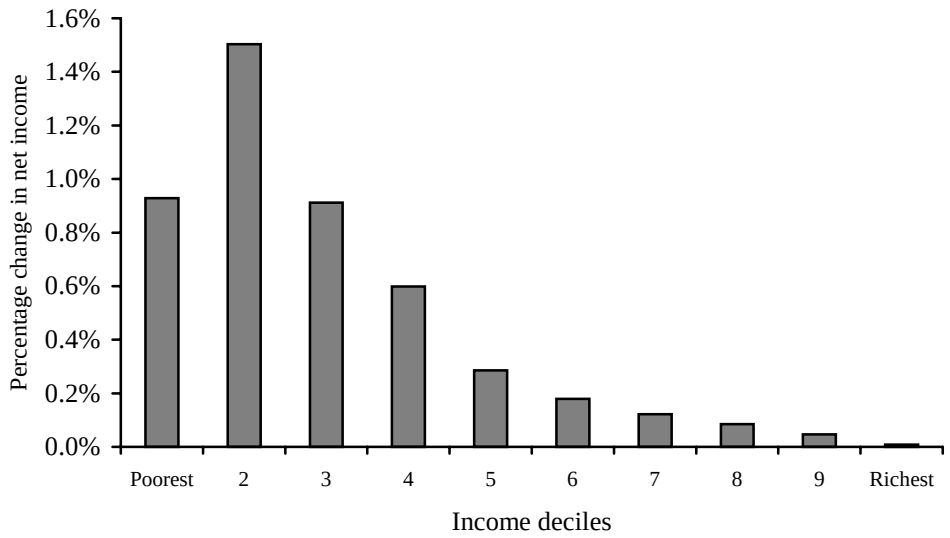
But the children's tax credit alone would deliver no gains to non-taxpaying families. As most of the poorest families pay no tax, the measure would do little to advance the government's strategic aim of eliminating child poverty within twenty years. For this reason, the Chancellor might like to consider undertaking concurrent moves to boost the incomes of poorer families with children.

[1] Speech by the Chancellor of the Exchequer to the National Council for One Parent Families on 5 December 2000.

One possibility would be to increase further the child allowances in income support and WFTC. Any such move might be felt to have a further advantage in smoothing the transition to the proposed integrated child credit discussed in Chapter 7. To date, besides increasing these allowances in general, the government has concentrated considerable resources on increasing those for children under 11 to equate them with those for 11- to 16-year-olds. It could now complete this process by increasing the rates for children under 16 so as to equate them with the support available in respect of 17- and 18-year-old dependants. Under current plans, WFTC credits for children of 16 or under will rise to £26.00, compared with £26.75 for 17- and 18-year-olds. In income support, the respective figures will stand at £31.45 and £32.25, making the requisite increase 80p. These increases remain modest, so the government might like to go further. For example, it could increase the WFTC child credit to £29.00 and the corresponding income support allowance to £34.45. This would mean that allowances for children under 16 had increased by a total of £3 in each of the main means-tested benefits.[2]

If such a package were combined with the mooted increase in the children's tax credit, the total cost would be around £1.2 billion. Figure 4.1 shows the effect on average incomes across the complete income distribution, which includes both households with and households without children. Overall, the package is strongly progressive, with the biggest effects being at the lower end of the income distribution.

Figure 4.1. Gains across the income distribution from a package of measures to increase support for children



Note: Income deciles are derived by dividing the total population into 10 equally sized groups according to household income adjusted for family size. Decile 1 contains the poorest tenth of the population, decile 2 the second poorest and so on, up to the top decile (decile 10), which contains the richest tenth.
Source: IFS tax and benefit model using Family Resources Survey 1998–99.

[2] Adjustments to housing benefit and council tax benefit are factored into the reform packages to ensure that gains from this reform are not lost through reductions in these benefits.

But even if the government wanted to redistribute progressively, it remains open to question whether it would want to follow this policy. The extent of the increase in support for families with children so far under Labour has been so substantial that the government might decide that poverty in childless households is now in need of more urgent address. In April 2001, the income support allowance for the youngest children is already scheduled to reach £31.45, a real increase of 72% over the £18.25 that the default inflation indexation of the Spring 1997 allowance would have produced. The corresponding increase in benefit for the lowest-paid families in work has been even greater. Had family credit simply been indexed, each child under 11 would have increased maximum entitlement by £13.00 in April 2001, whereas the corresponding figure for WFTC is actually set to be £26.00, a real increase of 100%. In contrast, since Labour assumed office, income support for childless adults has been frozen in real terms.

In consequence, the extra income support set to be received by a parent in respect of her first child from April 2001 (£45.95) is already considerably higher than the level of income support provided for a young single adult (£42 per week from April 2001).[3] Further, the benefit arising for additional children (£31.45 from April 2001) is already higher than that awarded in respect of the second adult in a couple (£30.20 from April 2001). Moves in the direction of the reform package considered here would obviously further extend the relatively favourable position of children in the benefit system.

None the less, the government may wish to push on with its strategic goal of eliminating specifically child poverty, in which case such a package may be seen as an appealing way to complete a term in office that has had this as one of its central aims.

4.2 Personal tax cuts

The Chancellor might prefer that the benefits of any fiscal loosening be felt by all taxpayers, rather than being restricted to those with children. In this section, we consider the distributional effects of some relatively modest income tax cuts, each of which is scaled to cost roughly the same as the package for children considered in the last section. One possibility is a ½p cut in the basic rate of income tax, while alternatives include widening the 10% band (i.e. raising the basic-rate threshold), raising allowances and increasing the higher-rate threshold. Table 4.1 explains the relevant terminology of the income tax system.

Basic-rate tax cut

A ½p cut in the basic rate of income tax, from 22% to 21½%, would cost the exchequer approximately £1.3 billion.[4] Gains are restricted to those with

[3] Income support for the first child is higher than the £31.45 child allowance because it also includes the family premium.

[4] Unless otherwise stated, figures in this section are calculated using the IFS tax and benefit model run over Family Resources Survey data. Costings differ somewhat from those produced by HM Treasury (reproduced here in the 'ready reckoner' in Appendix E). The latter are

incomes sufficient to pay basic-rate tax: for childless individuals under 65, this means gross income must exceed £6,115. Half a penny is gained for each pound of annual income between this amount and the point where higher-rate tax liability begins. This implies that the maximum possible gain is £139.10 per year (£2.68 per week), which goes to anyone with gross income above £33,935.[5]

Table 4.1. The April 2001 income tax system

Term	Definition	Amount of taxable income	Amount of gross income
Personal allowance	Gross income on which no tax is paid. Income immediately above this is taxed at 10% (the starting rate).	£0	£4,535
Basic-rate threshold	Taxable income at which 22% tax rate (the basic rate) begins.	£1,580	£6,115
Higher-rate threshold	Taxable income at which 40% tax rate (the higher rate) begins.	£29,400	£33,935

Note: The table is for a childless single person under 65 receiving only earned income.

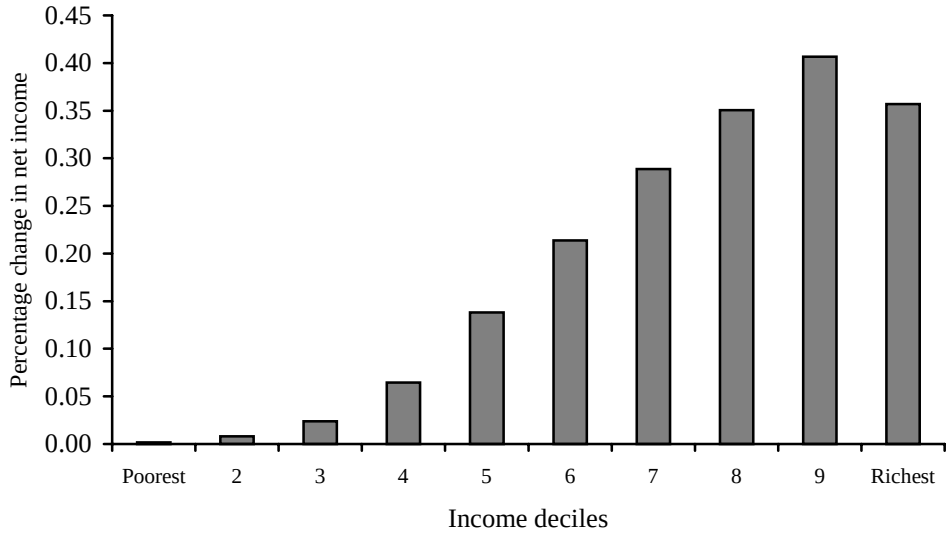
The reform is therefore regressive, as Figure 4.2 shows by plotting percentage gains across the income distribution. This regressivity is even starker when analysed in cash terms. Amongst the bottom 30% of the income distribution, gains are practically zero, which reflects the small numbers of basic-rate taxpayers in these three deciles. In contrast, the largest gains accrue to the top decile, where the average weekly income gain is £2.97 per household compared with an average gain of just 83p across all families.

Being regressive, this tax cut, if undertaken in isolation, would represent a break with the redistributive direction of Budget packages introduced since 1997. The fact that it only affects individuals with income above £6,115 also limits its effectiveness in 'reducing high marginal [tax] rates at the bottom end of the earning scale', an aim Labour committed itself to in its 1997 manifesto. For these reasons, the government may seek alternative means to cut tax. We consider these options next.

based, instead, on Family Expenditure Survey data, and they also ignore the exchequer consequences of changes in social security benefit spending produced by tax changes.

[5] Illustrative figures are for a childless single person under 65 receiving only earned income.

Figure 4.2. Gains across the income distribution from a ½p cut in the basic rate of tax



Note: See note to Figure 4.1.
Source: IFS tax and benefit model using Family Resources Survey 1998–99.

Raising the personal allowance or widening the 10% band

An alternative means of cutting income tax by £1.3 billion would be an increase of £235 per year in the personal allowance over and above the statutory inflation adjustment. This would take its level in 2001–02 to £4,770.[6] Individuals who would otherwise have a taxable income of less than £235 (i.e. for childless people under 65, those with a gross income of between £4,535 and £4,770) would be floated out of tax entirely.[7]

A second alternative is to widen the 10% tax band by increasing the basic-rate threshold by £470. This would mean that income for a childless adult under 65 would not be taxed at 22% until gross income reached £6,585, as opposed to £6,115 under statutory indexation. This measure would also cost £1.3 billion.

Anyone with gross income above £4,535 would gain from the increase in the personal allowance. The amount of the gain to an individual would depend on the rate at which her last £235 of income is taxed. Somebody whose last £235 is taxed at 10% would gain £23.50 per year (45p per week). If the last £235 is taxed at the basic rate, then the gain is £51.70 per year (99p per week). If the higher rate is paid on the last £235, then the amount is an annual £94.00 (£1.81 per week).

By contrast, in order to gain from the widening of the 10% band, an individual would have to have gross income in excess of £6,115 per year. For childless non-pensioners whose only income is earned, as long as gross income exceeds £6,585, £56.40 per year (£1.08 per week) would be gained.

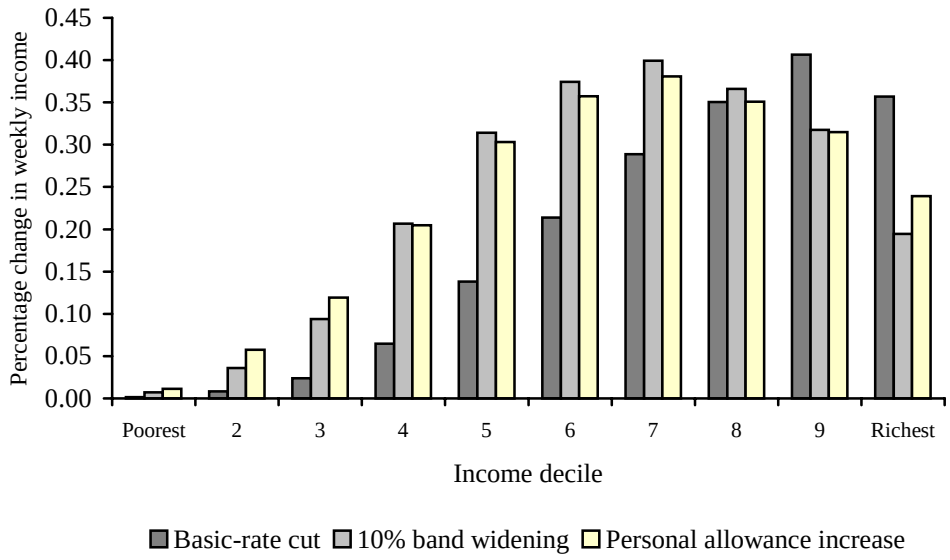
[6] The larger age-related allowances for pensioners are increased by the same cash amount over and above indexation.

[7] Illustrative figures assume all income is earned.

From this description of the two reforms, it is clear that the widening of the 10% band is slightly more generous to basic-rate taxpayers, whilst the increase in the personal allowance is the more generous reform for higher-rate taxpayers. Individuals who only pay tax at the 10% starting rate will gain a little from the increase in the personal allowance but not at all from the widening of the 10% band. Compared with the reduction in the basic rate of income tax considered in the previous subsection, both the reforms considered here are more generous to low earners but less generous to high earners. For childless non-pensioners, the basic-rate cut becomes more generous than the widening of the 10% band only once annual gross income exceeds £17,395, and it becomes more generous than the raised personal allowance once income exceeds £16,455.[8]

These distributional points are borne out by Figure 4.3, which compares the percentage gains in income in each decile accruing from each of the three reforms. Whereas the basic-rate cut gives the biggest percentage boost to incomes of households in the second richest decile, the other two reforms are regressive only across the first seven deciles of the population. The graph shows clearly that the overall patterns of gains produced by the latter two reforms are remarkably similar.

Figure 4.3. Gains across the income distribution from alternative direct tax cuts



Note: See note to Figure 4.1.
Source: IFS tax and benefit model using Family Resources Survey 1998–99.

In terms of tackling the poverty trap (the high effective marginal tax rates produced for low-income families by the interaction between taxes and benefits), both a wider 10% band and a more generous personal allowance will bring some benefits. Increased personal allowances remove some individuals from tax altogether and reduce the marginal income tax rate of others, both of

[8] Illustrative figures assume all income is earned.

which reduce overall effective tax rates.[9] A wider 10% band would similarly reduce the tax rates faced by individuals whose income was previously just sufficient to leave them facing basic-rate tax. The effectiveness of both measures in tackling the poverty trap is seen in their effect on the marginal tax rates of those currently experiencing rates over 60% because of tax–benefit interaction. The increased allowance reduces effective tax rates for 80,000 such adults, and, amongst these, the average fall in effective marginal tax rate experienced is 16.4 percentage points. Widening the starting-rate band reduces marginal rates for fractionally fewer (75,000) of the target group by a similar average amount, 13.8 percentage points. The Treasury recently estimated that some 950,000 households were exposed to marginal rates in excess of 60% in 1998.[10] Given this, neither tax cut would do more than modestly ameliorate the overall problem of the poverty trap.

Given the similarity of the two reforms, both in terms of distribution and in their effect on work incentives, it may be preferable to opt for wider allowances, as this makes for greater simplicity in two particulars. First, it removes more individuals from the tax net completely, producing commensurate reductions in the number of tax records the Inland Revenue needs to keep.[11] Second, widening the 10% band complicates tax administration by increasing the number of individuals who are entitled to a tax rebate on their savings (where default deduction of 20% tax at source means that starting-rate taxpayers are entitled to a rebate worth 10% of their taxable savings income).

Both reforms considered in this subsection are more progressive than the cut in the basic rate considered in the previous subsection, but both remain regressive overall, principally because they do not provide any help to individuals with incomes below the personal allowance. Both reforms would have some – albeit limited – effect in alleviating the poverty trap.

Raising the higher-rate threshold

Over the 1990s, the number of higher-rate taxpayers has increased, principally because the higher-rate threshold has typically been indexed only in line with prices, rather than keeping pace with earnings. The widening earnings distribution has further contributed to the growing numbers with incomes sufficient to pay higher-rate tax. Table 4.2 shows the number of higher-rate taxpayers in alternate financial years since 1990. The total number liable to pay higher-rate tax increased by around 1 million, taking it to 2.7 million by 2000–01. Correspondingly, the level of earnings required before being liable to pay higher-rate tax declined from 76% above the average for a full-time worker in 1990 to just 55% above the average by April 2000. The trends shown by the table actually pre-date the 1990s. In the financial year 1985–86,

[9] Some individuals facing higher-rate tax will also experience a fall in their effective marginal tax rate, but this group would not normally be thought of as facing a 'poverty trap'.

[10] HM Treasury, *Budget 2000 – Prudent for a Purpose: Working for a Stronger and Fairer Britain*, HC346, Stationery Office, London.

[11] Widening the 10% band (and indeed cutting the basic rate) will still remove a small number of individuals from tax, owing to the workings of various tax credits.

there were just 950,000 higher-rate taxpayers, and in 1980–81, there were only 796,000.

Table 4.2. Changing numbers of higher-rate taxpayers

Financial year	Number of higher-rate taxpayers (thousands)	Higher-rate floor as a % of average earnings[a]
1990–91	1,700	176%
1992–93	1,720	168%
1994–95	2,000	162%
1996–97	2,080	162%
1998–99	2,350	158%
2000–01	2,720	155%

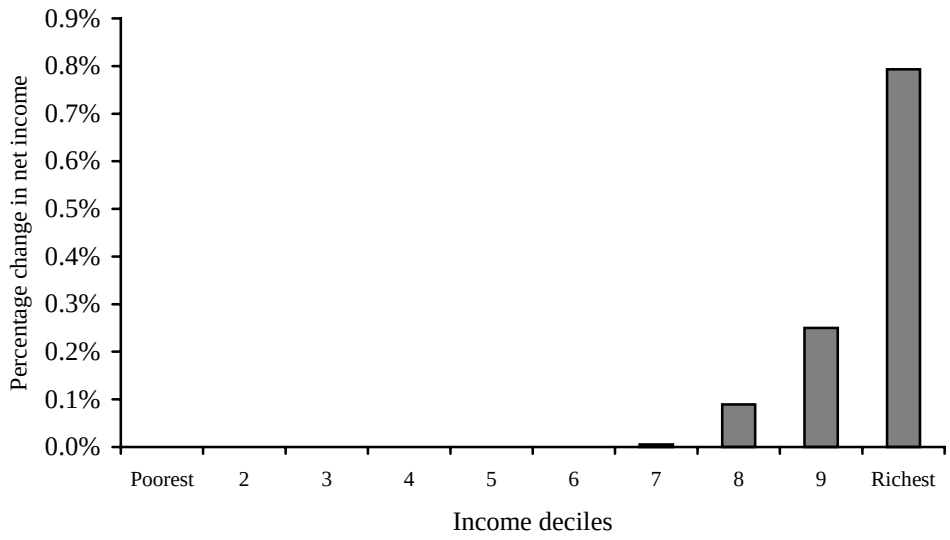
[a] Income at which higher-rate tax becomes payable for a single adult (i.e. the higher-rate threshold plus the personal allowance) as a percentage of average earnings amongst full-time employees in April of each tax year.
Sources: *Inland Revenue Statistics*, various editions; New Earnings Survey 2000.

As the higher rate now affects people somewhat lower down the earnings distribution than previously, some may feel that an increase in the higher-rate threshold would be timely, with a view to restoring the moderately well-paid to the basic-rate tax bracket. It should be recalled, however, that the average tax rates of those just above the higher-rate threshold remain far closer to the 22% basic rate than to their 40% marginal rate – as most of their income remains in the basic-rate bracket. Further, raising the higher-rate threshold will award tax cuts even to the very wealthiest, as it would reduce the part of their income that is susceptible to higher-rate tax. The only way that gains could be restricted to those on moderately high incomes would be to increase the higher rate simultaneously.

Raising the higher-rate threshold should not, therefore, be seen as a policy targeted at 'middle England'. This comes through in Figure 4.4, which displays the modelled distributional results for an increase in the higher-rate threshold of £3,400 over and above indexation, taking its value to £32,800. The reform costs around £1.3 billion and would reduce the marginal rate of tax for some 440,000 higher-rate taxpayers to the basic rate. It would be worth £11.77 per week to individuals with incomes above £37,335, and progressively less than that to those with incomes between that level and £33,935.[12] It is worth nothing to individuals with incomes below the latter level. There is virtually no effect on disposable incomes for the bottom 70% of households, and proportional gains in the top three deciles rise sharply with income.

[12] Illustrative figures are for a childless single person under 65 receiving only earned income. Interestingly, the workings of the children's tax credit mean that, for individuals with children whose income is now just sufficient to deny them any benefit from the credit, an increase in the higher-rate threshold would mean an increase in marginal tax rate, from 40% to 46.7%.

Figure 4.4. Gains across the income distribution from a £3,400 increase in the higher-rate threshold



Note: See note to Figure 4.1.
Source: IFS tax and benefit model using Family Resources Survey 1998–99.

4.3 Conclusion

This Budget might well involve some fiscal loosening, and if it does, it is highly likely that a substantial proportion of this will be brought about by either lower direct taxes or more generous transfer payments. If the government's main concern is securing redistribution, either towards low-income families or towards other target groups, then more generous social security benefits will be most effective. Income tax cuts represent an alternative less in keeping with the distributional principles underlying economic policy since 1997, although important distinctions remain between how the gains from different types of income tax cut are distributed. For example, widening allowances offers a less regressive outcome than a basic-rate cut.

Tom Clark and Matthew Wakefield

5. Taxation of fuel and the environment

Increases in the price of petrol over the past year have led to widespread objection about the rate at which road fuels are taxed in the UK. Although partly driven by increases in the world oil price, the increase in the price of petrol seems to have focused attention on the contribution of the tax rate on petrol to its current high price level. In the period from May 1997 to September 2000, there was a 37% increase in the price of unleaded petrol, of which 25 percentage points (around two-thirds of the increase) were due to increases in the tax rate.[1] The UK currently has the highest tax rate on petrol in the European Union. Table 5.1 shows the total tax (duty plus VAT) on unleaded petrol in a selection of OECD countries and the total tax as a percentage of the retail price for the first quarter of 2000.

Table 5.1. Tax on unleaded petrol in a selection of OECD countries, first quarter 2000

Country	Total tax (pence per litre)	Total tax as a % of retail price (%)
UK	58.6	77
Norway	54.6	70
France	46.8	73
Netherlands	46.4	68
Finland	46.0	69
Sweden	45.7	69
Denmark	44.6	68
Germany	42.5	71
Italy	42.4	68
Belgium	41.3	68
Japan	39.0	57
Austria	34.3	63
Switzerland	34.1	64
Ireland	31.5	63
Spain	29.1	62
Luxembourg	27.7	58
Portugal	24.9	51
Greece	24.3	56
Australia	17.4	53
US	7.1	24
Mexico	5.3	13

Source: *Energy Prices and Taxes Quarterly Statistics*, First Quarter 2000, International Energy Agency. Prices converted to sterling using September 2000 exchange rate.

Of these countries, the UK had the highest tax rate on unleaded petrol at the beginning of 2000, both in terms of the total tax per litre and the total tax expressed as a percentage of the retail price. Even in Norway, which had the next highest rate, total tax was 4 pence per litre lower than in the UK. Mexico

[1] From September 2000 to December 2000, there was a further 2% increase in the price of unleaded petrol.

and the US had the lowest tax rates – the total tax per litre in the UK is more than eight times greater than the rate in the US.

Protest groups have put pressure on the government to cut duty on petrol, claiming that the current high rate increases the cost of motoring to an unacceptable level and places a particular burden on groups that have little alternative but to use their cars. Environmental groups, on the other hand, would prefer to see the tax on petrol remain high because of the impact that motoring has on environmental problems such as global warming. As well as trying to meet environmental targets, the government relies on petrol duty for a significant proportion of its revenue – in 1999–2000, it raised £22.3 billion, which is almost 6% of total government revenue.[2]

The petrol tax debate has highlighted important issues surrounding the taxation of private motoring and issues of tax design in general, and these are discussed in Sections 5.1 and 5.2. Concern about environmental damage raises more general issues about other possible environmental taxes that could be used if the government is serious about wanting to protect the environment. Section 5.3 looks at other tax options for the government.

In the Pre-Budget Report, the government attempted to reduce the burden on motorists from the high price of fuel but at the same time improve environmental incentives. Section 5.4 discusses the announcements that were made and the extent to which they meet each of these two objectives.

5.1 The economics of tax design

Petrol is just one example of a number of goods that has a tax additional to VAT levied on it. Some of the economic issues that relate to fuel taxation are general ones that arise when we consider taxation of any good and some are specific to certain types of good whose consumption generates external social costs. Box 5.1 discusses these issues.

Even in theory, the issue of tax design is complex. Designing taxes in practice is even more complicated. For example, in the case of pollution, finding a suitable tax base is usually very difficult and, even if one is available, setting an optimal tax rate would require information that is very hard to obtain. Taxes on private motoring are good examples of the difficulties that arise in the issue of tax design.

[2] HM Treasury, *Financial Statement and Budget Report, March 2000*, Hc346, 2000.

Box 5.1. The economics of tax design

There are two principal reasons why taxes are levied at different rates on different goods. The first is to raise revenues in the manner that causes the least distortion. The second reason for taxing some goods more heavily than others arises when the consumption of certain goods generates external social costs (called externalities).

Efficiency

If markets are working correctly, they will ensure that resources in the economy are allocated in the most efficient manner. Applying taxes can change the prices of goods relative to each other, which will have an effect on consumers' demand for goods, thereby distorting choices. Therefore taxes on goods should be set so as to minimise the distortionary costs of any consequent changes in consumers' behaviour. Designing efficient taxes is extremely complicated, since changes in the price of one good can affect the demands for many other goods, but a general rule of thumb is to tax most highly those goods for which consumer demand is relatively unresponsive to price changes.

Externalities

Sometimes markets do not work correctly. One example of this is when the use of some goods is associated with social costs (or externalities) that are not directly charged for. As a result, these goods are too cheap, relative to other goods, and this often results in their overconsumption. One way to correct the prices of such goods relative to the prices of other goods is to tax them. In this case, the less people respond to increases in the price of a good following a tax change, the higher the tax that is needed to achieve a given reduction in consumption.

In order to correct the inefficiency caused by the failure of the market to work correctly, the tax must be levied as directly as possible on the externality. For example, one type of exhaust emission is nitrogen oxides, which can be transported over large distances before being deposited as acid rain. The damage caused by acid rain is the effect that we want to reduce. In theory, we would want to tax each individual according to the harm that they caused by contributing to acid rain. Clearly, this is impossible because it would require knowledge of exactly how much acid rain that individual caused and where the acid rain fell. It is very difficult to think of an alternative feasible tax that would proxy the direct tax exactly – even a tax on emissions of nitrogen oxides is not perfect, since the harm done by acid rain depends on where it falls.

5.2 Taxation of private motoring

In the UK, in addition to VAT, excise duty is imposed at a fixed rate per litre on petrol. The duty differs across the various types of petrol as Table 5.2 shows. Since 1993, and until recently, fuel duties have been increased each year by a fixed percentage above inflation. The Labour Government's first Budget, in July 1997, increased this duty 'escalator' from 5% to 6%. In the November 1999 Pre-Budget Report, the Chancellor announced that, in future, any changes to fuel duties would be made on a Budget-by-Budget basis.

Table 5.2. Duties on road fuels, March 2000

Fuel type	Duty (pence per litre)
Unleaded petrol	48.82
Higher octane unleaded petrol (including lead replacement petrol)	50.89
Ultra-low sulphur diesel	48.82

The other tax on private motoring in the UK is vehicle excise duty. VED is a lump-sum annual tax on car-ownership. The system that is currently in place sets two rates of VED – the full annual rate, which is currently £155 per vehicle, and a small-car rate of £100 which is paid by owners of vehicles with an engine size below 1,100cc. In the Pre-Budget Report, various changes were announced to the rates of petrol duty and VED, and these are discussed in Section 5.4.

From the government's point of view, one objective of these additional taxes on motoring is to raise revenue. In addition, motoring is one example of a good that involves not only private costs to the individual, such as the price of the car, insurance and petrol prices, but also additional costs that are not directly charged for, such as air and noise pollution, congestion and road damage. Imposing taxes on motoring in addition to VAT is also an attempt to raise the price the consumer pays for motoring to the level that more accurately reflects these additional social costs. The issues that arise when designing an optimal tax, both on revenue grounds and on the grounds of correcting for overconsumption of goods that involve additional social costs, were discussed in Box 5.1. How these issues relate to VED and petrol duty is discussed below.

Fuel duty

One of the government's objectives for a fuel tax is to raise revenue. Evidence suggests that, at least in the short run, people do not reduce the number of miles that they travel a great deal in response to increases in the price of petrol.[3] This means that it is sensible, as a matter of efficient tax design (raising revenue in the least distorting way), to tax petrol more heavily than we tax other goods that we think are more price-sensitive. But this is only one

[3] See D. J. Graham and S. Glaister, 'The demand for automobile fuel: a survey of elasticities', draft paper, under review in *Journal of Transport Economics and Policy*.

consideration – we also have to ask whether it is sensible to impose a fuel tax on environmental grounds.

Few people would dispute that there are grounds for taxing motoring for environmental reasons, but finding a suitable tax base and setting an appropriate level of the tax is difficult. Motoring is associated with a number of different pollutants and social costs. Most of the sources of pollution from motoring are extremely difficult to tax directly. Trying to tackle all of these sources of pollution by means of a single tax on fuel would only work well if all types of pollution and the harm done by them were linearly related to the amount of petrol used. In fact, the only pollutant that is directly proportional to the amount of fuel used, and for which the emission levels are approximately proportional to the harm caused, is carbon dioxide, which contributes to global warming. Most of the harm done by pollution from the car varies according to the place of emission, the time of day, the weather and how the pollution interacts with other pollutants, and measuring levels of these pollutants according to these factors would not be practical.

Even if it were possible to target pollutants directly, the actual environmental costs are extremely hard to quantify. Take carbon dioxide emissions as an example. Carbon dioxide emissions are reasonably well targeted by a tax on the quantity of fuel used, but in order to set the appropriate level of the tax, we need to know the social or environmental cost of carbon dioxide and this involves valuing global warming – something that is inherently uncertain.

The other important consideration when imposing a fuel tax on environmental grounds is that evidence shows that, in the short run, people are not very responsive to increases in the price of petrol.[4] One recent estimate suggests that, for a 1% increase in the price of road fuel, there is a reduction in miles driven of ½%. This is not a very large response. In theory, this is not a problem – it just means that, in order to achieve a given reduction in miles travelled, the level of tax imposed on fuel has to be high. In practice, recent events have shown that a high tax rate on petrol may be politically unacceptable and may have undesirable distributional consequences, as discussed in Section 5.4.

Until the November 1999 Pre-Budget Report, a duty escalator was in place on road fuel which meant that, each year, fuel duty was increased by at least 6% in real terms. Apart from raising revenue, is there any rationale for having an escalator instead of deciding on any increase on a Budget-by-Budget basis? One reason is that it sends a clear message to motorists and manufacturers about the harmful consequences of motoring and could encourage the manufacture and purchase of more-fuel-efficient cars. When a motorist makes a decision as to what car to buy, it is a long-term purchase. If consumers know that fuel duties are set to increase in the future, they will be able to incorporate this information into their decision-making and, as a result, may purchase a more fuel-efficient car. If consumers believed that fuel duties were unlikely to be increased substantially in the future, the fuel efficiency of a car might be a less important factor in their decision-making.

[4] See D. J. Graham and S. Glaister, 'The demand for automobile fuel: a survey of elasticities', draft paper, under review in *Journal of Transport Economics and Policy*.

Imposing a tax on fuel is administratively simple, and there are good reasons for taxing fuel more heavily on the grounds of efficient tax design and also on environmental grounds, but setting the appropriate level of the tax is difficult. The fact that motoring is associated with a whole host of environmental problems means that we can be certain that trying to address them all through a simple, largely undifferentiated fuel tax cannot be optimal. The other tax on private motoring is vehicle excise duty. To what extent, if any, does VED help meet environmental targets?

Vehicle excise duty

VED is a tax on car-ownership.[5] It raises a relatively small amount of revenue for the government – in 1999–2000 VED on all types of vehicles (including goods vehicles) raised just under £5 billion.[6] Simply owning a car does not create any environmental problems, and so using the ownership of a car as a basis on which to impose a tax is unlikely to reduce environmental damage. Once it is paid, VED does not affect the cost of an additional journey, although it does reduce car-owners' disposable incomes, which may to some extent reduce the number of journeys people make. VED may also indirectly affect pollution and congestion levels by deterring ownership of cars, although, at the current rate, it is not clear how large this effect might be.

Until June 1999, VED was levied at a fixed rate per vehicle, but the structure was changed in the 1999 Budget to include a lower rate for small cars. In the March 2000 Budget, further changes to the system were announced, which will come into effect from March 2001. First, the small-car threshold was increased from 1,100cc to 1,200cc and, second, a new system of 'graduated VED' for new cars was introduced. This involves placing cars in bands according to their rate of carbon dioxide emissions and charging VED accordingly. This system will apply only to new cars because detailed information about carbon dioxide emission performance is only available for new cars.

The idea behind these changes is that engine size and carbon dioxide emissions are proxies for fuel efficiency. When deciding on the type of car to buy, people should correctly take into account that a more fuel-efficient car will cost less to run per mile. If this is the case, carbon dioxide emissions may be better targeted by a fuel tax, rather than a graduated system of VED. But if there is evidence to suggest that future running costs, such as fuel efficiency, are not fully taken into account in consumers' car purchase choices, there may be a case for using the tax system to encourage people to buy more-fuel-efficient cars. By changing the structure of VED, it may be possible to create incentives for people to drive more-fuel-efficient cars, although this effect may not be very large since VED is small in relation to the cost of a car. The government hopes that the new system will send a clear signal to both manufacturers and consumers that fuel-efficient cars are more environmentally friendly.

[5] VED is payable as long as the car is used on a public highway. No payment is due for very old vehicles.

[6] HM Treasury, *Financial Statement and Budget Report, March 2000*, Hc346, 2000.

Designing an optimal tax system to address the social costs involved with any activity is extremely difficult, even when a suitable tax base is available, because of the difficulties in measuring those costs. In the case of motoring, it is even more difficult because, for many instances of environmental damage and other social costs associated with motoring, there is no suitable tax base available. One exception to this, where there is a more appropriate tax base available, is the case of congestion.

Congestion charging

Congestion is just one of the social costs associated with motoring and it may be possible to reduce congestion levels by imposing a congestion charge. Congestion charges have been introduced in some other countries. Usually, the schemes involve charging motorists to enter a fixed area in a city centre. Singapore introduced an area licence scheme in 1975 that charges vehicles to enter the city centre between certain times by requiring the purchase of daily or monthly permits which have to be displayed on the windscreen. Three Norwegian cities also charge vehicles to enter the centre, with payments being made either electronically, via the fitting of an electronic tag to the vehicle, or at a booth.

The principle behind congestion charging is the same as that behind taxing any of the social costs associated with motoring, i.e. the tax base should relate as closely as possible to the externality involved. In this case, an optimal congestion charge would relate the level of the charge to the level of congestion at a particular time. This would be rather complex and would require sophisticated technology to implement it.

If the technology to implement an optimal congestion charge is unavailable, any charge that is introduced should be linked as directly as possible to the level of congestion. For example, traffic levels during the night are almost certain to be lower than in morning and evening rush hours, so it would be sensible to charge people accordingly. Where a simple charge based on a fixed fee to enter an area in the city centre is the only practical option, the basis of the charge should be to make the cost of making an additional journey in a congested area more accurately reflect the social cost involved. Where a charge per journey is impractical but a charge for a fixed period of time could be implemented more easily, the length of time that the charge is based on should be related as closely as possible to the length of time involved in a single journey. This means, for example, that a daily charge would be more appropriate than an annual charge.

A simple system of congestion charging is currently under consideration by the Greater London Assembly. The proposal is to have a fixed charge of £5 per day for vehicles entering a zone in central London between 7am and 7pm. In London, congestion levels throughout the working day tend to be fairly constant,[7] and so a congestion charge that is fixed during these hours would be fairly well targeted. In cities where congestion was only a problem during morning and evening rush hours, a congestion charge of this kind would not be as well targeted.

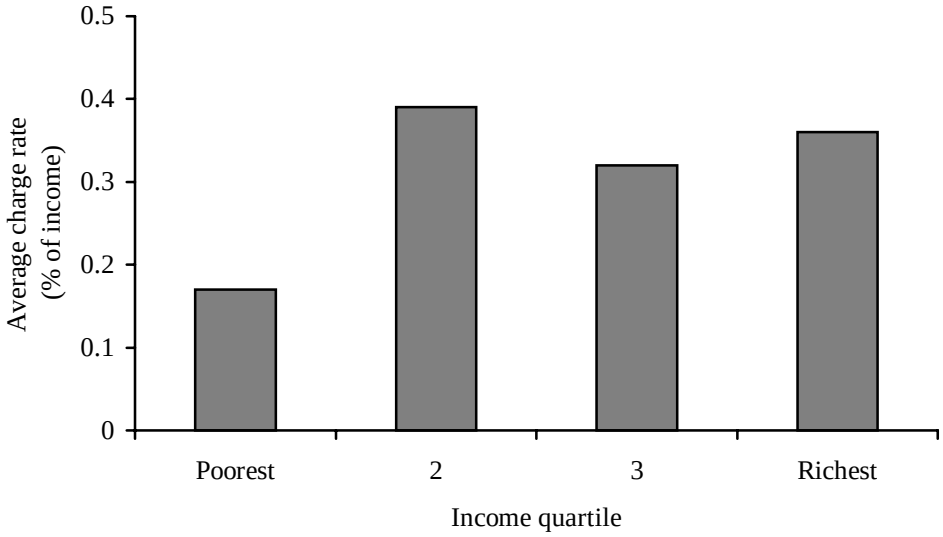
[7] http://www.go-london.gov.uk/transport/content.htm

Although imposing an optimal congestion charge is likely to be highly impractical, some kind of simple approximation, such as the scheme that is proposed for London, is certainly more targeted towards reducing congestion than a fuel tax or VED.

Any tax or charge has distributional implications, and this is something that the Greater London Assembly has considered when thinking about the introduction of a congestion charge. The people who are most affected by the congestion charge are, of course, those who drive their cars most frequently into Central London from outside the charging area.

Figure 5.1 shows how the average charge as a percentage of income would vary with income.[8] Households are divided into four equal groups according to their income, and the average congestion charge as a percentage of household income is shown. The graph shows, for example, that the poorest 25% of households would pay a charge that represented, on average, around 0.17% of their income. A tax or charge is described as being progressive if the amount paid as a proportion of income (the average tax or charge rate) increases as income increases. If the opposite is true – i.e. the average tax or charge rate falls as income increases – then the tax or charge is described as being regressive. Figure 5.1 shows that the households that would be most affected, on average, by the congestion charge are those whose income lies just below the middle of the distribution (quartile 2). On average, higher-income households are affected more than the lowest-income households.

Figure 5.1. Effect of the introduction of the proposed London congestion charge, by income group



Note: Income quartiles are derived by dividing the total population into four equal groups according to household income. Quartile 1 contains the poorest 25% of the population and quartile 4 contains the richest 25% of the population.
Sources: 1991 London Area Transport Study, which interviewed households living in the area within the M25; Family Expenditure Survey, 1997–98.

[8] The following discussion is based on I. A. Crawford, *The Distributional Effects of the Proposed London Congestion Charging Scheme*, Briefing Note no. 11, IFS, 2000 (http://www.ifs.org.uk/consume.gla.pdf).

There are two important points to note regarding the distributional effect shown in Figure 5.1. First, within each quartile, the graph shows the average effect for households in that particular group. Within each group, there is likely to be a great deal of variation in the charge rate. Some households in each band will not own a car and so will not be affected at all by congestion charging, whereas others may drive their car into central London every day. Second, the numbers in Figure 5.1 do not take into account any possible change in driving behaviour that may occur as a result of introducing the congestion charge. There could be a number of different responses to the charge, and responses are likely to differ across the income distribution. Possible reactions to the charge include households reducing the number of times they travel into central London or substituting between different modes of transport. For households that reduce the number of journeys that they make by car into central London, the results shown give an upper bound on the incidence of the charge. There is, however, the possibility that the incentive to use the car is increased as a consequence of the reduction in congestion and so, for some households, the incidence of the charge could be higher than the liability shown in Figure 5.1. It should also be noted that the graph shows the distributional effect of a possible congestion charge in London. The distributional impact of the introduction of a congestion charge in any other city could be very different.

Congestion charging is a possible way forward for the government to improve incentives for motorists to behave in a more environmentally friendly way. It is not only motorists who do damage to the environment, though – there are many different sources of pollution in the UK and there might be scope for improving incentives in other sectors of the economy.

5.3 Other environmental taxes

One of the current major environmental concerns is carbon dioxide emissions, which contribute to global warming. Motoring is not the only source of carbon dioxide emissions. In the UK, road transport was forecast to account for only 21% of emissions in 2000.[9] This clearly leaves scope for taxing other sectors of the economy. This section looks at the use of other environmental taxes.

Taxation of other fuels

Not all fuels are taxed equally. If it is the harmful effect of carbon dioxide that we want to address, then any fuel that produces carbon dioxide should be taxed according to the amount of carbon dioxide emissions it produces. The useful property of carbon dioxide emissions is that the level of emissions and the harm done are proportional to the amount of carbon in the fuel being burnt. Therefore a sensible policy would be to tax all types of fuel according to their carbon content. Domestic fuel is currently subject to a reduced rate of VAT of 5%. In the Spring Budget in 1993, the then Chancellor, Norman Lamont, announced the introduction of VAT on domestic fuel. After initially

[9] DETR, *Climate Change: The UK Programme*, November 2000 (http://www.environment.detr.gov.uk/climatechange/).

introducing a rate of 8%, the original plan was to charge VAT at the full rate of 17.5%, but this plan was abandoned after widespread protest and the rate remained at 8%. In its first Budget, the Labour Government cut the rate to 5%.

The objections to levying VAT on domestic fuel are mainly distributional. In the UK, spending on domestic fuel is considered to be a necessity, and it makes up a larger proportion of the household budget of poorer households than of richer ones. Imposing a tax on domestic fuel would have a larger impact, as a proportion of income, on poorer households than on richer households. This does not mean that a tax on domestic fuel should not be imposed if it is believed that this is appropriate on environmental grounds, because any undesirable distributional consequences could be offset by compensating poorer households through the tax and benefit system.

A related issue is the tax treatment of energy-saving materials. From April 2000, the rate of VAT on certain energy-saving materials, such as insulation for walls, floors and roofs, was reduced from the full rate of 17.5% to the reduced rate of 5%. Prior to this date, while the reduced rate of VAT was applied to domestic fuel, the full rate was applied to energy-saving materials, which would distort the relative prices of these two types of goods. This would lead to people investing too little in energy-saving materials. Reducing the rate of VAT on insulation in order to bring it into line with the rate on domestic fuel therefore seems desirable.[10]

The other type of fuel that is subject to a relatively low level of tax is aviation fuel. There are two types of aviation fuel: aviation gasoline (avgas) is used in small privately owned aircraft and is subject to a rate of duty of 27 pence per litre, whereas aviation turbine kerosene (avtur) is used in commercial aircraft and no duty is levied on it. Air travel is currently taxed via air passenger duty. Passengers are charged £10 for flights to European countries and £20 elsewhere. The number of passengers is related to the size of the aircraft, and so is loosely linked to the amount of fuel used, but it is not an ideal tax base if the aim is to use air passenger duty as an environmental tax. It would be more sensible to tax aircraft fuel instead. The problem in the past has been the lack of international agreement to tax aircraft fuel. Because of the international nature of air travel, if the UK taxed aircraft fuel but other countries did not, it would be likely that aircraft would simply fill up in other countries to avoid the tax. If an international, or at least a European, agreement were made, taxing aircraft fuel would seem to be a sensible way forward.

The other major contribution to carbon dioxide emissions comes from the business sector. The government has made recent moves to address the levels of emissions in the business sector.

[10] For more discussion on the tax treatment of energy-saving materials, see A. Dilnot and C. Giles (eds), *The IFS Green Budget: January 1998*, Commentary no. 67, IFS, London, pp. 86–9.

The climate change levy

Following the recommendations of the 1998 Marshall Report, *Economic Instruments and the Business Use of Energy*,[11] the government is introducing a tax on business sector energy usage in order to meet its greenhouse gas and carbon dioxide (CO_2) emissions targets. The climate change levy (CCL) on business sector energy usage will be introduced from April 2001. Concerns about adverse effects on international competitiveness have led to energy-intensive sectors being eligible for an 80% discount on the levy rates if they enter into a CCL Agreement with the government.[12]

The full social benefits of reducing greenhouse gas emissions, which firms may not take into account in their production decisions, provide a rationale for intervention to reduce emissions. In order to reduce emissions in practice, the use of a tax may have advantages over regulating emissions or the use of tradable permits. If governments had full information on firms' costs of emissions reduction, the socially optimal level of emissions could be achieved using any of these instruments. But because governments do not have perfect information about these costs, fiscal instruments may have advantages over regulation.[13] A further advantage of taxes over regulation is that they produce incentives for firms to invest in emissions-reducing or more-energy-efficient technology. With regulation, there is no incentive to reduce emissions beyond the compliance level. In some circumstances, permits may have advantages over taxes – for example, when a specific level of emissions reduction needs to be guaranteed.

The UK government has committed itself to a legally binding target of reducing greenhouse gas emissions by 2008–12 to 12.5% below their 1990 levels. It has also set a domestic target of a reduction in CO_2 emissions to 20% below their 1990 levels by 2010. In 1990, the sectors covered by the levy – the business, public and agriculture sectors – accounted for around 36% of CO_2 emissions.[14] The CCL will form part of a package of business sector emissions reduction measures, including the Integrated Pollution Prevention and Control Regulations and the proposed domestic and international emissions trading schemes. The levy will not apply to the domestic and transport sectors or to fuels used in the production of other forms of energy.

The introduction of the CCL is intended to be revenue-neutral. Revenue raised from the levy will be spent on a 0.3 percentage point cut in employer National Insurance contributions (NICs), 100% first-year capital allowances for investments in energy-saving technologies and the creation of an energy efficiency fund. The principal route for channelling the revenue back to the business sector is through the employer NICs reduction to 11.9%. The benefits of this cut will be skewed towards more-labour-intensive, and potentially less-

[11] Marshall Report, *Economic Instruments and the Business Use of Energy*, HM Treasury, London, 1998.

[12] These discounts are subject to European State Aids clearance.

[13] For a detailed discussion of these issues, see L. Chennells and A. Dilnot (eds), *The IFS Green Budget: January 1999*, Commentary no. 76, IFS, London, 1999.

[14] DETR, *Climate Change: The UK Programme*, November 2000 (http://www.environment.detr.gov.uk/climatechange/).

energy-intensive, sectors. The levy is expected to raise around £1 billion in 2001–02.[15] The enhanced capital allowances are expected to cost around £100 million of that total, and £50 million is expected to be allocated to the energy efficiency fund.

Box 5.2. Climate change levy rates

0.07 pence/kWh for liquefied petroleum gas
0.15 pence/kWh for gas and coal
0.43 pence/kWh for electricity
Business sectors entering into CCL Agreements will receive an 80% discount on these rates.

The CCL has been scaled down since it was first announced, through a reduction in the rates of the levy. Those that will apply from April 2001 are shown in Box 5.2. The 1999 Budget stated that the levy would raise around £1.75 billion in its first full year. At that point, the proposed reduction in employer NICs was 0.5 of a percentage point.

The CCL will be applied to downstream energy bills, so the energy supply sector will be exempt. Ideally, it would be desirable to tax emissions directly, but, in practice, the levy will be based on energy usage. The proposed rates of the levy vary with fuel type. The effectiveness of the tax in inducing firms to undertake energy efficiency measures will depend on how responsive they are to changes in the costs of energy usage.

Many sectors will not be subject to the full rates of the levy. Firms in some sectors will be competing with firms that do not produce in the UK and are not subject to a tax on energy usage. This has raised concerns about the impact of the levy on international competitiveness. The major energy-using sectors – for example, chemicals and steel – have negotiated CCL Agreements with the government, in return for a discount on the levy. The agreements require that all 'cost-effective energy efficiency measures' are implemented by 2010, and contain intermediate targets and reviews before that date. If they agree to meet these targets, firms covered by the agreements will receive a reduction of 80% on the levy.

The difficulties of implementing environmental taxes on increasingly mobile business activities are illustrated by the CCL Agreements and reductions in the levy that will apply to the energy-intensive sectors. The ability of firms to relocate also demonstrates that, without international co-ordination, overall environmental aims may be difficult to achieve.

Emissions trading

The government is consulting on the design of a domestic emissions trading scheme for the UK. Firms will be able to join the emissions trading scheme voluntarily. Those outside the CCL Agreements will be given a financial

[15] HM Treasury, *Financial Statement and Budget Report, March 2000*, Hc346, 2000.

incentive to agree emissions reductions targets.[16] Firms within the CCL Agreements will be able to use emissions trading to help meet their targets. Once the scheme is up and running, the government plans for the electricity generators to participate.

5.4 Announcements in the Pre-Budget Report

In the November 2000 Pre-Budget Report, the government attempted to alleviate motorists' concerns about the cost of motoring and at the same time improve environmental incentives for motorists.

'Chancellor Gordon Brown announced today an affordable and targeted series of measures to help modernise road transport and increase choice for access to cheaper motoring for people who need to use their cars, while continuing to protect the environment'.[17]

How far will the measures that have been announced go in reducing the cost of motoring and, in particular, which groups of the population will be helped the most? Will the proposals help protect the environment in the way that the government aims? This section begins by discussing the measures aimed at private motorists. The fuel protests in September 2000 were led largely by parts of the haulage industry. The government was particularly sympathetic in the Pre-Budget Report to concerns of the UK haulage industry regarding the competition it faces from abroad and within the UK. This section also discusses the measures in the Pre-Budget Report that were aimed at hauliers, how far they are in keeping with environmental policy and whether they are likely to have an effect on the haulage industry.

Measures for private motorists

The only measure that was introduced in the last Pre-Budget Report (PBR) regarding the taxation of private motoring that is not subject to consultation was the freezing of all road fuel duties in nominal terms (which amounts to a real-terms cut), at a cost of £560 million in 2001–02. In addition to this, the government plans to reduce the duty on ultra-low sulphur petrol (ULSP) and ultra-low sulphur diesel (ULSD), which are considered to be more environmentally friendly than conventional fuels. The total cost of the cuts in duty announced in the PBR, if they were implemented, would be around £1.5 billion in 2001–02.[18] The cuts are subject to consultation and are conditional on the oil companies guaranteeing nation-wide availability of ULSP. In the March 2000 Budget, it was announced that the duty rate on

[16] £30 million has been allocated for this financial incentive (source: DETR, *A Greenhouse Gas Emissions Trading Scheme for the United Kingdom*, November 2000).

[17] HM Treasury / DETR Press Release 1, *A Fair Deal for Transport and the Environment*, 8 November 2000.

[18] HM Treasury / DETR Press Release 1, *A Fair Deal for Transport and the Environment*, 8 November 2000.

ULSP would be reduced by 1p on 1 October 2000 from its previous level, which was the same as that applied to conventional unleaded petrol. The announcement in the PBR was for a further cut of 2p. The duty rate on ULSD, which is currently taxed at the same rate as conventional unleaded petrol, will be cut by 3p if ULSP becomes available nation-wide. According to the UK Petroleum Industry Association,[19] a large proportion of petrol retailers are already selling ULSP and the major retailers state that it is being sold at no extra cost compared with unleaded petrol. The other measure introduced regarding private motoring was an increase in the engine size threshold below which motorists pay a reduced rate of VED. Currently, the small-car threshold is 1,100cc, but there is already a pre-announcement due to come into effect in April 2001 which would increase the threshold to 1,200cc. In the PBR, it was increased again, to 1,500cc, but again this measure is subject to consultation. The combined cost of all the measures announced for motorists (including those measures that are subject to consultation) is nearly £2 billion in 2001–02.[20] More details of the cost to the exchequer of the measures announced in the Pre-Budget Report are contained in Table 3.9.

The environmental benefits of ULSP are clear. Emissions of many pollutants are reduced (particularly nitrogen oxides and carbon monoxide) and also, because of its low sulphur content, it enables the introduction of new petrol engine technologies that offer significant improvements in fuel efficiency. ULSP and conventional unleaded petrol are very close substitutes, and the previous experience of the duty differential between leaded and unleaded petrol tells us that a duty differential is likely to work well in encouraging the use of ULSP. The policy of a duty reduction on unleaded petrol worked well despite there being conversion costs in switching from leaded to unleaded petrol. Since there are no conversion costs to individuals in switching to ULSP from conventional unleaded petrol, people are likely to make the change much more quickly.

If the duty cut is fully passed on to consumers, this should result in motorists being able to buy cheaper petrol. Currently, there is only a 1p duty differential, and major retailers are selling ULSP at the same retail price as unleaded petrol. Increasing the differential should lead to a lower retail price if the duty cut is passed on to consumers. Cutting duty on a more environmentally friendly fuel to encourage its use highlights the problems with using a fuel tax to meet a number of environmental targets, not all of which are directly linked to fuel use. Although there will be lower levels of some pollutants, such as nitrogen dioxide, a fall in the price of petrol that could result from the duty cut in ULSP might encourage people to use their cars more. The result of this could be an increase in congestion levels, noise pollution and, until new engine technologies are introduced, carbon dioxide emissions. The same duty differential could have been achieved in a more environmentally friendly way by increasing the duty on unleaded whilst keeping the duty on ULSP unchanged. Introducing a duty cut, despite it being on cleaner fuel, is hard to describe as being environmentally friendly.

[19] http://www.ukpia.com

[20] HM Treasury / DETR Press Release 1, *A Fair Deal for Transport and the Environment*, 8 November 2000.

The second announcement in the PBR was the increase in the small-car threshold from 1,200cc to 1,500cc. The government estimates that around a third of all cars will benefit from the lower rate of VED, at a cost of around £250 million a year over the next three years.[21] The rationale behind the introduction of a small-car rate of VED (as described above) was to create an incentive for motorists to purchase smaller, more environmentally friendly cars. It may be of benefit if motorists do not fully take into account future fuel costs when they decide what type of car to buy. But increasing the small-car threshold reduces the incentive to buy the smallest, most-fuel-efficient cars relative to the system where the threshold is lower.

Neither of these measures for private motoring announced in the Pre-Budget Report can readily be regarded as being environmentally friendly. The other objective was to reduce the cost of motoring to alleviate motorists' concerns. The cut in VED was particularly aimed at helping those living in rural areas.

'... many, especially those in rural areas, have put it to me that greater choice would be available to rural motorists and motorists generally if the 55 pound deduction could be accessible for not just cars under 1200 cc, but for cars up to 1500 ccs ...'.[22]

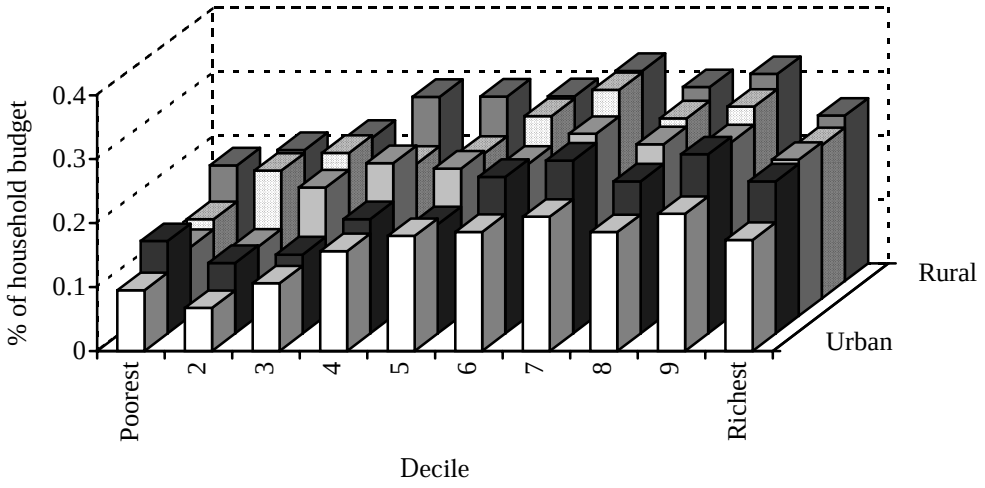
Households that gain the most from the proposed reduction in duty on ULSP are those for whom petrol makes up the largest proportion of the household budget. Figure 5.2 shows how the gains from the duty cut are distributed according to two characteristics – household income and population density. The white row at the front of the graph shows the average gain as a proportion of the household budget, by income decile, for those households living in the most urban areas. This shows that it is middle- to high-income households that gain the most from the proposal. The dark bars at the back show that the pattern remains similar for the most rural areas, with the largest gains in middle- to high-income households. Overall, it is middle- to high-income households living in rural areas that are set to gain the most from this proposal. Poorer households tend not to gain, as they are less likely to own a car than richer households.

Figure 5.3 shows the gains from all the changes in VED – both the changes that were pre-announced in the March 2000 Budget and the measures that were proposed in the November 2000 Pre-Budget Report – distributed according to the same two characteristics. This shows that the largest gains are amongst the poorest households living in the more rural areas. Taking together both the proposal relating to VED and the proposed cut in duty on ULSP, the households that gain the most are those from all income groups living in rural areas. Middle- to high-income households gain most from the cut in duty and low-income households gain most from the cut in VED.

[21] HM Treasury / DETR Press Release 1, *A Fair Deal for Transport and the Environment*, 8 November 2000.

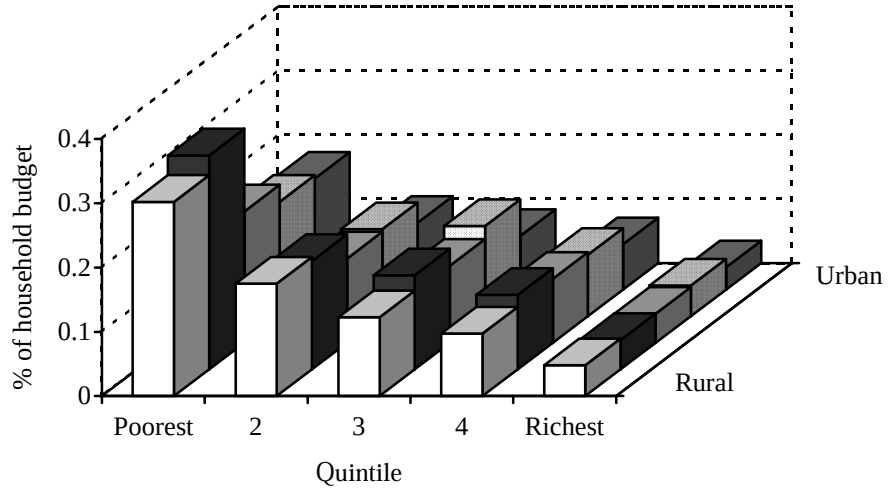
[22] Statement by the Chancellor of the Exchequer on the Pre-Budget Report, 8 November 2000.

Figure 5.2. Gainers from the proposed cut in duty on ULSP, by household income and population density



Note: The boundary points for the income deciles are the same across population density. This means that there are different numbers of households in each income group across the areas of different population density.
Source: Family Expenditure Survey 1997–98.

Figure 5.3. Gainers from the changes to VED, by household income and population density



Note: The boundary points for the income quintiles are the same across population density. This means that there are different numbers of households in each income group across the areas of different population density.
Source: National Travel Survey 1996–98.

Measures for the haulage industry

There were a number of measures announced in the Pre-Budget Report that were aimed specifically at the haulage industry. One of the proposals is a reform of lorry VED, which is subject to consultation. The cuts are expected to cost around £300 million per year. Related to this proposal is a VED rebate for lorries for the current year of up to 50%. The government intends to set aside a fund of £100 million ('scrappage allowance') to offer an incentive for hauliers to scrap their older, more-polluting vehicles and to encourage cleaner lorries and technology. The other main announcement was the intention to introduce some form of road-user charging or 'BRIT disc' for foreign hauliers. Although all UK hauliers will also be subject to this charge, the government intends to prevent them being adversely affected by the new charge; the most likely compensation will be through a further cut in lorry VED. Apart from the VED rebates, all announcements are subject to consultation. If all measures were implemented, it would cost the government a total of £750 million a year.[23] Although the cut in duty on ULSD was not aimed specifically at the haulage industry since it applies to all vehicles that use diesel, it could be considered as such since 99% of lorries run on diesel.

There is a widespread view that there is overcapacity in the haulage industry and, as a result, it is highly competitive. UK hauliers therefore may not see much benefit from a cut in ULSD duty, since it is likely, in such a competitive industry, that any cut would be passed on to customers. Lowering the duty on this fuel cannot be justified on environmental grounds because almost 100% of the market in diesel is already accounted for by ULSD. In the Pre-Budget Report, the justification given for reducing duty on ULSD was to keep the rate in line with that on ULSP. But, as noted above, cutting the rate of duty on ULSP is difficult to describe as environmentally friendly. Cutting all rates of VED for lorries and creating stronger incentives for hauliers to use the least environmentally damaging vehicles may be more in keeping with environmental targets but might not help to reduce any overcapacity in the industry.

The government has not announced any details about the BRIT disc scheme but, according to the most recent information from the European Commission,[24] the maximum annual charges allowable are 1,550 Euros for the most-polluting vehicles and 1,250 Euros for the least-polluting lorries (around £1,000 and £800 respectively). There is no agreement on the difference in operating costs between the UK and other European countries. Duty on diesel is about twice as high in the UK as in France, but other operating costs, such as National Insurance and corporation tax, may offset this to a large extent. One of the complaints from parts of the haulage industry at the time of the fuel protests was that it faced direct competition from foreign hauliers who fill up their fuel tanks across the Channel to take advantage of lower fuel duty and then undertake business that takes place entirely in the UK. In fact, a survey undertaken by the Department of the Environment, Transport and the

[23] HM Treasury / DETR Press Release 1, *A Fair Deal for Transport and the Environment*, 8 November 2000.

[24] http://europa.eu.int/comm/transport/themes/land/english/lt_11_en.html#eurovignette

Regions[25] found that this activity, which is referred to as 'cabotage', accounts for only 0.06% of national transport, when national transport is measured by tonne-kilometres moved by UK registered vehicles in the UK. Even if UK hauliers faced a large amount of competition from this source, it is not certain that the BRIT disc charge would reduce competition since it would be a relatively small fee.

A more sensible announcement was the scrappage allowance. This will create a direct incentive for hauliers to replace their most environmentally damaging vehicles with newer, cleaner vehicles. It may also encourage some exit from the industry and so ease the overcapacity problem.

5.5 Conclusion

The recent debate surrounding the taxation of private motoring has succeeded in highlighting the complex nature of tax design in this area. One message that is clear is that trying to address a wide range of different social costs associated with motoring with a single tax cannot be optimal. In most cases, finding a suitable tax base is difficult, but where a more appropriate tax base is available, such as in relation to congestion, it would be sensible to move away from a fuel tax towards a more targeted tax. In the Pre-Budget Report, the government attempted to improve incentives for motorists to behave in a more environmentally friendly way. The extent to which this was achieved can, at best, be described as mixed.

Environmental issues are not restricted to motoring, and there is no reason to focus too heavily on a road fuel tax whilst ignoring the damaging effects on the environment caused by other sectors of the economy. In some respects, the government is beginning to address environmental issues in other ways through the introduction of the climate change levy, although there is still scope for improving incentives for environmentally friendly behaviour in the use of other fuels.

Helen Simpson and Zoë Smith

[25] http://www.transtat.detr.gov.uk/tables/2000/lorries/forlorry.pdf

6. Tax policy and companies

Raising productivity is once again at the top of the Chancellor's agenda. The first section of this chapter briefly discusses the potential role of tax policy in increasing productivity, including the possibility of the introduction of a further R&D tax credit open to large firms.

Since it came to power, the government has made a series of changes to the UK corporation tax system. Section 6.2 reviews these developments and sets them in the context of changes to corporation tax systems in other countries. The internationalisation of corporate activity creates pressures on governments to subsidise desirable mobile activities such as research and development (R&D), and on the structure and viability of corporation tax in general. As a result, tax policy for firms will need to consider this international dimension. Developments in corporation tax systems abroad will increasingly drive domestic corporation tax changes.

Sections 6.3 and 6.4 discuss two areas of company taxation that have received recent interest: double taxation relief and the taxation of North Sea oil.

6.1 Productivity and fiscal incentives

The November 2000 Pre-Budget Report and an accompanying document, *Productivity in the UK: The Evidence and the Government's Approach*, have highlighted differences in labour productivity between the UK and the US, Germany and France. In 1999, labour productivity, measured by output per worker, was 45% higher in the US than in the UK, 18% higher in France and 11% higher in Germany.[1] As shown in Figure 6.1, the difference with the US measured by total factor productivity (TFP), which accounts for both labour and capital inputs, is narrower but not negligible.

The government rightly points to three major factors that are likely to explain the labour productivity gap: low UK investment in physical capital, in human capital and in innovative activity. Effective competition has also been highlighted as playing an important role in productivity growth. Each of these issues is considered briefly in turn. Evidence suggests that the UK has had low levels of aggregate investment in physical capital as a proportion of GDP, relative to other industrialised countries.[2] Capital intensity, measured by capital per hour worked, is lower in the UK than in the US, France and Germany.[3]

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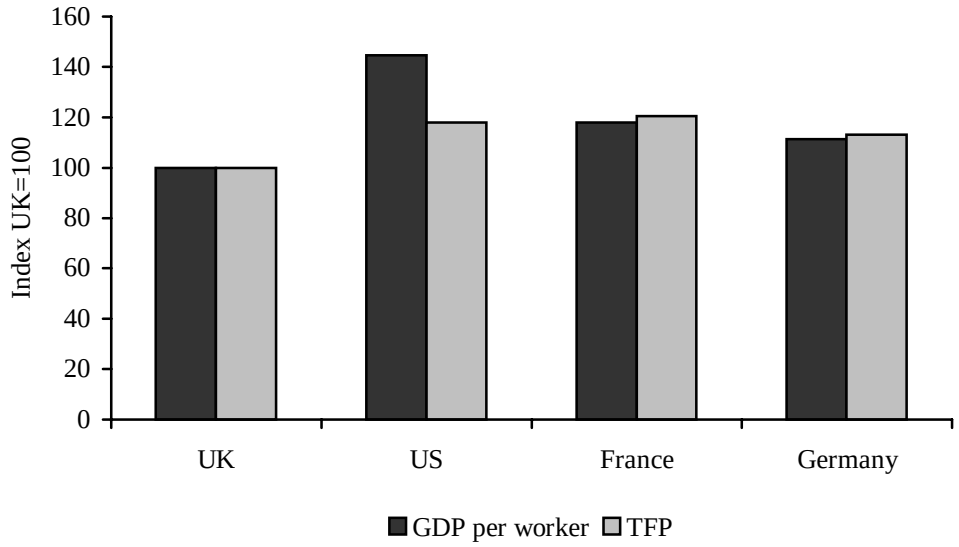
[1] HM Treasury, *Productivity in the UK: The Evidence and the Government's Approach*, November 2000. The difference with the former West Germany is around 20%.

[2] See S. Bond and T. Jenkinson, 'The assessment: investment performance and policy', *Oxford Review of Economic Policy*, vol. 12, no. 2, pp. 1–29, 1996.

[3] M. O'Mahony, *Britain's Productivity Performance 1950–1996: An International Perspective*, National Institute of Economic and Social Research, London, 1999.

Figure 6.1. The productivity gap, 1999



Source: HM Treasury, *Productivity in the UK: The Evidence and the Government's Approach*, November 2000.

Improvements in skill levels will increase labour productivity, and, with a more skilled work-force, firms will be better able to take advantage of technological advances. The skills distribution in the UK differs from that in the US, where a larger proportion of the work-force have high-level skills, and differs from that in Germany, where a larger proportion of the work-force have intermediate-level skills. Firm-level evidence that compares UK-owned firms located in the UK with foreign-owned firms located in the UK finds that foreign-owned firms have higher labour productivity and points to the use of a more highly skilled work-force as well as higher investment in physical capital as underlying the labour productivity advantage.[4] Industry-level evidence suggests that an increase in the proportion of workers undertaking training in an industry is associated with higher wages and higher labour productivity.[5]

A particular area of concern is that, over the last two decades, total expenditure on R&D as a share of GDP has been either falling or static in the UK. The capacity of firms to innovate and to capitalise on innovations generated elsewhere is of central importance to productivity growth. Analysis of labour productivity growth in the US over the latter half of the 1990s has pointed to investment in information and communications technology (ICT) and TFP growth in the high-tech ICT sector as having been important contributory factors. But there is an ongoing debate over the extent to which

[4] N. Oulton, 'Why do foreign-owned firms in the UK have higher labour productivity?', in N. Pain (ed.), *Inward Investment, Technological Change and Growth: The Impact of Multinational Corporations on the UK Economy*, Palgrave, Hampshire, 2000.

[5] L. Dearden, H. Reed and J. Van Reenen, 'Who gains when workers train?', IFS, Working Paper no. WP00/04, 2000.

any TFP-enhancing benefits of ICT are spilling over into other sectors of the economy.[6] Evidence on the UK's innovative performance is discussed below.

Comparisons of plant-level productivity within the UK find that labour productivity varies substantially between plants, even within industrial sectors.[7] But this observation is not unique to the UK, as dispersion in productivity across plants has been found in many studies.[8] The entry and exit of firms have been shown to have made an important contribution to productivity growth. New entrants may replace lower-productivity firms and can also be a source of competitive pressure. Competition, by creating incentives for firms both to increase efficiency and to innovate, is an important driver of productivity growth.

Fiscal incentives to increase productivity

The government's strategy to increase productivity has two strands: providing macroeconomic stability and improving the functioning of markets through microeconomic reforms. The government sees policies, such as the reforms to competition policy, as important in creating an environment in which there are the appropriate incentives for firms and individuals to improve productivity, and where resources are efficiently allocated. While, in some cases, intervention is warranted, stability is also important at the microeconomic level.

Any policy intervention at the microeconomic level should be carefully designed to address a specific market failure or to correct an existing distortion. In some markets, such as in the production of knowledge, there is an established rationale for government intervention. The social returns to R&D are generally found to be greater than the private returns to knowledge producers. This implies a role for government in aligning private incentives with social rates of return to increase investment in R&D. Similarly, the market may underprovide education and training if individuals being trained and their employers do not appropriate all the gains from education and training.

Intervention through the tax system in order to change incentives and affect behaviour will be most effective when a market failure has been clearly identified, when there is evidence that it is significant and when a policy exists that will improve upon the outcome. The government has sought to rationalise specific policies, such as tax incentives for employee share ownership, as addressing market failures. While it is the case that such forms of

[6] R. J. Gordon, 'Does the "New Economy" measure up to the great inventions of the past?', National Bureau of Economic Research, Working Paper no. W7833, August 2000. D. Jorgenson and K. Stiroh, 'Raising the speed limit: US economic growth in the information age', *Brookings Papers on Economic Activity*, August 2000. UK productivity comparisons with the US are not straightforward due to differences in the construction of price indices for ICT outputs and inputs.

[7] M. Barnes and J. Haskel, 'Productivity in the 1990s: evidence from British plants', draft paper, Queen Mary and Westfield, University of London, 2000.

[8] E. Bartelsman and M. Doms, 'Understanding productivity: lessons from longitudinal microdata', *Journal of Economic Literature*, vol. 38, pp. 569–94, September 2000.

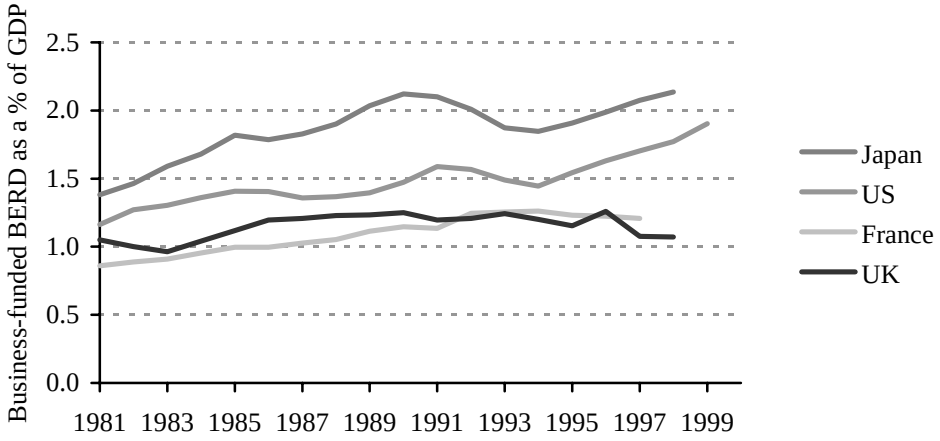
remuneration may help align the incentives of employees and shareholders, it is not clear why it is not in the interest of firms to provide such remuneration in the absence of any tax incentives. It is important that changes to the tax system do not create unwelcome distortions to economic activity. The possibility of introducing distortions is discussed in more detail below, in the context of the design of an R&D tax credit open to large firms.

Many of the business tax reliefs introduced by the government since the July 1997 Budget have been aimed at small and medium-sized enterprises (SMEs) and at investors in these firms. They include changes to first-year capital allowances, changes to the capital gains tax taper for business assets, the introduction of the Enterprise Management Incentives scheme and the R&D tax credit for SMEs. While the tax measures introduced for smaller companies will not cost the government much in terms of forgone tax revenue, they are also unlikely to have a significant effect on aggregate levels of investment and R&D in the UK. This is because large firms carry out the majority of investment and R&D expenditure. It should also be noted that the rationale outlined above for subsidising R&D applies to large firms as well as to small firms. As is discussed next, the government is now considering introducing an R&D tax credit available to large firms.

An R&D tax credit for large firms?

The November 1998 Pre-Budget Report discussed two possible tax credits for R&D. The first was based on the volume of R&D spending for SMEs. This refundable, volume-based credit was introduced from April 2000. The second R&D tax credit discussed was open to all firms and based on their incremental increase in R&D spending. Consultation over the introduction of a general credit, potentially of this incremental form, was initiated by the Chancellor in the November 2000 Pre-Budget Report. This section discusses recent trends in UK business expenditure on R&D, the rationale for introducing a broader R&D tax credit and important design issues in the context of an R&D tax credit for large firms.

Figure 6.2. Business-funded business-conducted R&D as a percentage of GDP



Source: OECD, *Main Science and Technology Indicators Statistics*.

Total expenditure on R&D in the UK as a proportion of GDP has been falling or static since the 1980s. Part of this decline can be attributed to a decline in government expenditure on R&D, but concerns have also been raised that business expenditure on R&D (BERD) as a percentage of GDP is low in the UK compared with other countries. BERD can be split into that funded by industry and that funded by government. Figure 6.2 shows that, while business-funded BERD as a proportion of GDP has remained static in the UK, it has been increasing in other countries. This increase is particularly notable since 1994 in the US and Japan.

The UK's track record of R&D investment lies behind calls for the extension of R&D tax credits from SMEs to all firms. The extension of R&D tax credits is also supported by concerns that, in the absence of government interventions, firms will undertake too little R&D because of the difficulty of containing new ideas and innovations. Innovations generate spillover benefits – once a discovery has been made, it can be imitated and used by competing firms – so that firms engaging in R&D may not be able to appropriate fully the returns on their investment. So while their R&D expenditures may benefit the economy as a whole, individual firms will not stand to gain to the same extent. The introduction of a tax credit aims to address this by raising firms' returns to undertaking R&D, and thereby bringing firms' private returns more in line with the economy-wide benefits of additional R&D. It is worth noting that there is already significant government intervention in this area – for example, through public funding of R&D and through the patent system. Like the patent system, R&D tax credits may have an advantage in that they allow the market to choose research projects and thus avoid picking winners. Evidence also shows that R&D tax credits can be effective in generating additional R&D.[9]

In considering the introduction of a tax credit, there are some key design features that the government will have to consider.[10] In particular, the government needs to decide whether it wants to extend the current volume tax credit for SMEs, which credits the entire volume of R&D undertaken by firms, or use an incremental tax credit, which would only credit incremental R&D above a certain base.

Volume-based credits give firms a subsidy on every pound of R&D they undertake. This includes both the R&D they would have done in the absence of the R&D tax credit and the incremental R&D induced by the credit. As such, a volume-based tax credit can be an expensive way of subsidising marginal R&D. But, by providing a subsidy for small firms, which might potentially face financing constraints, a volume-based credit can also assist in financing R&D.

Rolling this volume-based credit out to all firms would involve large additional revenue costs, since SMEs undertake only a small proportion of

[9] B. Hall and J. Van Reenen, 'How effective are fiscal incentives for R&D? A review of the evidence', *Research Policy*, vol. 29, pp. 449–69, 1999.

[10] There are many design and implementation issues not considered here, such as compliance costs, legislative issues and restriction of the tax credit to R&D performed in the UK.

total BERD.[11] Incremental tax credits, however, are designed to provide a subsidy only on the additional R&D expenditure, not on the R&D firms are already undertaking. If this is done effectively, it will increase firms' incentives to do R&D in the same way as with volume-based credits but at a much lower exchequer cost. A problem arises in defining precisely what is 'incremental' R&D. In order to do this, we have to define a base level of R&D. The two methods currently in use are to define the base as a rolling average of past R&D expenditure or to define the base by reference to some fixed point.

A rolling-average-base design was used initially in the US and is currently used in the French and Canadian tax credit systems. A base level of R&D is defined as the average firm-level expenditure on R&D over the preceding three years. A firm's incremental or marginal R&D is then defined as the difference between current R&D expenditure and this base. But this system can lead to reduced and sometimes perverse R&D incentives. In a dynamic setting, firms will take into account the fact that increasing their current R&D expenditure will also increase their future incremental base. This will significantly reduce the incentive effect of the credit. This rolling-average-base credit can also lead to a pro-cyclical tax credit, with the potential for some firms to face a temporarily negative effective credit rate.[12]

In order to target incremental R&D but overcome these negative dynamic effects of using a rolling-base credit, some countries have used a fixed definition of base R&D. One such system would be an inflation-indexed fixed base. The base used is the level of R&D undertaken by a firm in a specific year – for example, the year before the credit is introduced. This is then updated each subsequent year by inflation. R&D above this inflation-indexed base is then eligible for the credit. As the inflation-indexed base moves away from a firm's true marginal base, the credit will become less efficient in terms of subsidising only marginal R&D. This means that, over time, the fixed-base credit can become less effective. One modification might be to update the base level of R&D, for example every five years. However, adverse dynamic incentives, similar to the problems with the rolling-average base, can then arise.

For the last decade, the US has used an alternative system that defines each firm's R&D base as a percentage of its sales. Using the firm's R&D/sales ratio in one year, the R&D base can be updated in subsequent years in line with sales. The base therefore expands and contracts in line with total sales. So long as a firm's R&D/sales ratio is constant over time, this base will target the marginal R&D expenditure whether the firm is expanding or contracting. To the extent that the R&D/sales intensity does change over time, however, this will reduce the efficacy of the credit. For firms whose R&D/sales intensity rises, so that the base is too low, the tax credit will be given on marginal and non-marginal R&D. As a result, the credit will become less tax-revenue-efficient as more non-marginal R&D is subsidised. For firms whose

[11] In 1997, small companies with fewer than 400 employees contributed around 23% of total business expenditure on R&D (http://www.dti.gov.uk/ost/setstats/data/4/index.htm).

[12] For more details, see N. Bloom, R. Griffith and A. Klemm, *Issues in the Design and Implementation of an R&D Tax Credit for UK Firms*, IFS Briefing Note, forthcoming, 2001.

R&D/sales intensity falls, so that the base is too high, their marginal R&D will not be eligible for any tax credits. Since the firm's base is completely fixed in relation to current sales, negative dynamic effects will, to a large extent, be avoided.[13]

An incremental tax credit could be introduced to operate in addition to the current-volume-based tax credit for SMEs. The more generous SMEs tax credit would continue to provide R&D incentives and financing assistance for smaller firms and start-ups. The wider incremental tax credit could then target larger firms, providing similar incentives to undertake additional R&D but at a lower revenue cost. If this credit were to be set at 33%, for example, then, given a corporation tax rate of 30%, it would provide a similar 10% effective tax incentive to the volume-based tax credit for SMEs.[14] Maintaining the volume-based credit for SMEs would also address problems of defining an R&D base for start-up firms which have no R&D track record.

There are indications that R&D is becoming increasingly internationalised. Large firms incorporated in the UK appear to undertake an increasing share of their R&D expenditure abroad – usually in the US or Europe – so that targeting these UK firms would involve providing tax credits for R&D undertaken overseas. In reverse, a significant amount of R&D undertaken within the UK is carried out by foreign firms with large UK subsidiaries.[15] This raises questions about the location of R&D expenditure that we might want to subsidise. Evidence suggests that the spillover benefits to R&D are higher in the location in which R&D is carried out.[16]

6.2 Recent UK corporate tax reforms

The government has made a number of significant changes to the UK corporate tax system over the course of the current parliament. The July 1997 Budget announced major changes. The repayment of dividend tax credits was abolished immediately for pension funds and certain other companies (notably insurance companies in relation to their pension business), and abolished from April 1999 for all tax-exempt shareholders.[17]

Prior to the July 1997 Budget, the UK had a partial imputation system, in which part of the corporation tax payment on the profits underlying dividends

[13] Other than the extent to which current R&D affects future sales. In general, the negative dynamic effects will be less, the weaker the relationship between a firm's current R&D and its base in the future.

[14] The SMEs credit, by providing a additional 50% R&D expenditure deduction against their 20% corporation tax, provides a 10% effective tax incentive.

[15] In 1999, 23% of total UK BERD was funded from abroad. See National Statistics First Release, *Business Enterprise Research and Development 1999*, 2000.

[16] See, for example, R. Henderson, A. Jaffe and M. Trajtenberg, 'Geographic localisation of knowledge spillovers as evidenced by patent citations', *Quarterly Journal of Economics*, vol. 108, pp. 577–98, 1993.

[17] Charities receive compensation for this loss, which is scheduled to be phased out by 2003–04. Personal Equity Plans (PEPs) and Individual Savings Accounts (ISAs) receive a 10% dividend tax credit until March 2004.

was imputed to shareholders and creditable against their income tax liability on dividends. This continues to be the case for taxpaying shareholders, but is no longer the case for tax-exempt shareholders. So far as tax-exempt shareholders are concerned, the UK now has a less generous classical system, under which corporate tax liabilities and income tax liabilities are quite separate. In theory, this change removed a distortion that encouraged firms to pay profits out as dividends and finance investment from other sources, in so far as they were concerned about the tax implications for tax-exempt shareholders.

The abolition of repayable dividend tax credits also raised around £5 billion per annum for the exchequer. In the same Budget, the main corporation tax rate was reduced from 33% to 31%, and the small companies' rate was reduced from 23% to 21%. Nevertheless, the net effect of these changes was to increase taxes on company profits by around £3 billion per annum.[18]

In the March 1998 Budget, further changes were announced, including the abolition of advance corporation tax (ACT) with effect from April 1999. ACT was paid by the firm at the time it distributed dividends and had the effect of bringing forward part of the firm's corporation tax payment. The remainder, called mainstream corporation tax, was paid nine months after the end of the firm's financial year.

For most firms, ACT only affected the timing of tax payments, but it amounted to an additional tax in cases where firms paid ACT in excess of their total corporation tax liability. This 'surplus ACT' could be carried forward, but with no compensation for the delay before it was reclaimed. This problem could occur when profits were temporarily low but firms chose not to cut dividends in proportion, or more seriously where firms earned a substantial proportion of their profits abroad. In these cases, a firm with high total profits and hence high dividends could nevertheless face a low UK corporation tax liability, in recognition of taxes paid abroad. Between 1994 and 1999, the foreign income dividends (FIDs) scheme provided some relief for firms in this position. Under the FIDs scheme, the Inland Revenue repaid ACT where dividends were declared to be paid out of foreign-source income. There was no tax credit available to shareholders, and the take-up of the scheme was predictably limited.

ACT was replaced by a system of quarterly instalments for the payment of corporation tax. This could easily have been designed to be revenue-neutral, if, on average, it had brought forward around 40% of total corporation tax payments by around nine months. However, the system actually implemented has the effect of accelerating corporation tax payments by rather more than this, on average, and so raises additional revenue of some £1–2 billion per annum during a four-year transitional period.[19] Smaller companies are excluded from this payments system, so they gain from the change if they pay any dividends.

[18] HM Treasury, *Financial Statement and Budget Report*, July 1997. This Budget also implemented the windfall tax.

[19] HM Treasury, *Financial Statement and Budget Report*, March 1998.

A further twist is caused by companies that still have surplus ACT. To avoid accelerated repayment of the stock of surplus ACT, a system of 'shadow' ACT was designed. Even though no ACT is now paid, the amount that would have been paid under the old rules is calculated and called shadow ACT. Surplus ACT accumulated in the past can then only be recovered against current corporation tax payments in excess of this level of shadow ACT. The effect is that firms will be able to recover past surplus ACT at the same rate as they would have done if the ACT system had not been abolished.

The 1998 Budget also continued the trend of cutting the main corporation tax rate. From April 1999, this fell another percentage point to 30%, and the small companies' rate fell to 20%. The cost of these rate cuts was around £1 billion per annum.[20] There were no major changes to corporation tax in the 1999 and 2000 Budgets, although new measures were introduced or announced for smaller companies. April 2001 will see the introduction of the climate change levy (CCL) and 100% first-year capital allowances for investment in energy-saving technologies. The CCL is designed to be revenue-neutral for the business sector.[21] No further changes to company taxation are expected other than the possible introduction of an R&D tax credit available to large firms.

The striking feature of the changes that have been introduced since 1997 is that the headline rate of corporation tax was reduced, whilst government receipts from taxes on company profits were substantially increased. Additional government revenue is estimated at around £3–4 billion per annum during the transitional period, as a net result of the changes to dividend taxation and the payments system and the cuts in corporation tax rates.

International perspective

Over the same period as the current Chancellor has reduced UK corporation tax rates, there has also been a move towards lower corporation tax rates in other countries. This common trend is indicative of increasing economic integration and of competition between countries to attract mobile investment. Several OECD countries have implemented reforms of company taxation in the last five years. Box 6.1 gives further details of some of these reforms.

The trend of the reforms is one of base-broadening and rate-cutting. Like the UK reforms, those in Australia, Germany and Ireland have either reduced the value of existing allowances or increased taxes on dividends to finance cuts in the corporate tax rate.

Whilst the UK continues to have a relatively low corporate tax rate in comparison with most industrialised countries, it consistently raises a relatively high share of GDP in corporate tax revenues. In part, this reflects the relatively limited value of allowances available for capital investment and R&D. Thus far, the current government has only extended these allowances for smaller companies, although, as discussed in Section 6.1, a more significant change may be introduced in relation to R&D. If the government wishes to use the tax system to achieve its aim of raising the level of company

[20] HM Treasury, *Financial Statement and Budget Report*, March 1998.

[21] This is discussed in more detail in Chapter 5.

investment, it may eventually need to consider further reductions in the rate of corporation tax or other reforms that reduce the cost of capital for firms.

Box 6.1. Examples of recent reforms to corporate tax systems

Australia is a typical example of base-broadening, rate-cutting reform. A new business tax system was announced in 1999, lowering the corporate tax rate from 36% to 34% for the 2000–01 tax year, and to 30% in the following year. At the same time, tax allowances for depreciation were made less generous to finance this cut in the tax rate.

Germany implemented a major reform of its corporate income tax in 2000. This included big cuts in the federal corporate tax rates, from 30% on distributed profits and 40% on retained profits, to a uniform rate of 25%. Local trade tax for companies was not affected. The reductions were financed by reducing the generosity of depreciation allowances and by an increase in personal taxes on dividend income. Germany will abolish its current full imputation in January 2002, and replace it by a modified type of classical system, called a 'half-income system'. Under this system, no credits are given to shareholders for corporate tax paid, but only half of any dividend income will be taxable for income tax purposes. Another important feature of the German reform was that capital gains resulting from cross-holdings of company shares will be exempted from tax (subject to anti-abuse conditions).

Ireland has recently reformed its corporate income tax in a way that extends the very low rate currently charged for manufacturing and certain types of business to all trading income, and complies with the EU code of conduct on business taxation. For firms not eligible for the current 10% rate, the corporate tax rate on trading income will be cut in four stages, from 28% to 12.5% by 2003. For eligible firms, the 10% rate will remain in place until 2010, after which they will also be subject to the same 12.5% rate on trading income. From April 1999, Ireland has also switched from a partial imputation to a classical treatment for dividend income.

Italy announced a corporate tax reform in 1996, which took effect in 1998. The local corporate income tax, previously charged at 16.2%, was replaced by a new tax at a very low rate (4.25%) on a much broader base, business value-added. A distinction was introduced between 'ordinary income', taxed at a preferential rate of 19%, and residual profits, which continue to be taxed at 37%. In the long term, 'ordinary income' will approximate what economists refer to as 'normal profits' or 'the required rate of return on capital', calculated by applying a nominal interest rate to a measure of equity invested in the firm. In the short term, this principle is compromised, since only retained profits and new equity issued since 1996 are included in the measure. The overall tax liability is also subject to a minimum of 27% of total profits, although abolition of this minimum rate is currently being discussed. Whilst this Italian reform contains an element of base-broadening and rate-cutting in relation to the local tax, it stands out from the pattern in introducing a new allowance related to the opportunity cost of equity-financed investment.

6.3 Double taxation relief

In 1998, the Chancellor announced that the Inland Revenue would conduct a detailed review of the system of double taxation relief for companies. Residents of a country who invest abroad risk taxation both in the country where they locate their investment and in their country of residence. This acts as a disincentive to foreign investment. Residence countries resolve this problem either by exempting foreign income from domestic taxation or by allowing credit for foreign tax against domestic tax liabilities.

The development of the UK foreign tax credit regime

The UK operates a credit rather than an exemption system, and its current credit system dates from 1945. The system has been modified since 1945 in piecemeal fashion, in response to changes in the taxation of foreign income and changes in dividend taxation and to curb tax avoidance, for example through the sale of foreign tax credits.

The 1945 system was a curious affair. Some aspects were very restrictive. Its 'item-by-item' basis, for example, meant that foreign tax suffered on an overseas dividend could be credited against the UK tax on that dividend only. Thus a UK company that received two foreign dividends in an accounting period would be unable to use excess credits on the first dividend against tax due on the second dividend, even if they were both paid by the same company.[22] In addition, it could not use the excess credits against UK tax on any other income in that or any other accounting period.

Other elements of the 1945 system were, on the other hand, extremely liberal. UK companies could claim credit on a dividend for the foreign tax, ('underlying tax') borne on the profits out of which a foreign company paid its dividends. Also, relief for underlying tax extended through any number of tiers of foreign companies, provided that at each level there was a minimum 10% voting control.

Inevitably, over time, UK companies found ways of bypassing the restrictive elements of the 1945 system while taking the benefit of its more liberal aspects. Thus few UK-based multinational companies own their foreign subsidiaries directly from the UK. Conventional planning involves owning such subsidiaries through a foreign holding company, based for example in the Netherlands. The UK company remits foreign profits through its Dutch holding company, 'mixing' low- and high-taxed dividends in the Dutch company to produce an average foreign tax rate on the Dutch company's dividends. The Inland Revenue accepted this use of 'mixer' companies as an appropriate way for UK companies to circumvent the outdated item-by-item limitation.

[22] For example, a foreign subsidiary pays dividends of 150 and 100 to its UK parent company. The foreign tax attributable to the dividends is 90 and 20 respectively. Taxable foreign dividends are therefore 240 and 120, and UK tax at 30% on each is 72 and 36. There is further tax to pay of 16 on the second dividend, but no tax to pay on the first, and there are excess credits of 18 (72 – 90). The parent could not use the excess credits on the first dividend to eliminate the UK tax on the second dividend.

The UK, in common with other credit countries, does not allow taxpayers to claim credit for foreign tax in excess of the domestic tax liability on the income in question. As the UK has lowered its corporate tax rate to 30%, it has increased the likelihood that foreign tax credits, including underlying tax, will exceed the UK tax liability. Mixer companies have allowed UK multinationals to mix offshore high-taxed profits, for example from Germany, with low-taxed profits, for example from a tax haven, so avoiding both excess foreign tax credits on the former and tax under the UK's controlled foreign company regime on the latter.[23]

The Finance Act 2000 proposals

The March 2000 Budget eliminated this particular use of mixer companies but, in doing so, proposed to reform credit relief along lines that would have made the UK less competitive as a location for foreign investment. The Budget proposals departed from the anticipated outcome of the 1998 review and, after sustained pressure from UK multinationals, the Finance Act 2000 enacted modified proposals. In essence, these modified proposals, which will operate from 31 March 2001,

- remove the UK tax advantages of offshore mixer companies;
- prevent excess tax credits on high-taxed foreign dividend income from eliminating UK tax on tax-haven profits;
- permit 'onshore pooling', so that excess foreign tax credits on foreign dividends (capped at a 45% rate as compared with the UK 30% rate) can be set against low-taxed foreign dividends (provided they are not derived from a tax haven);
- allow excess foreign tax credits on foreign dividends to be carried back to earlier accounting periods, carried forward to later accounting periods or set against UK tax on other foreign dividends on a company or group basis.

These revised proposals were inevitably produced in haste, given the change of tack between the Budget and the Finance Bill. Mature reflection since their enactment has, not surprisingly, revealed a number of technical problems, which the Chancellor has said he will correct in his 2001 Budget.

An assessment of the foreign tax credit reforms

The Chancellor stated his objectives for the review of the 1945 system as being 'to remove or reduce the disincentive that double taxation represents to

[23] Company *A* owns a tax-haven subsidiary *X* that is taxed at 10% on its income and a subsidiary *Y* that is taxed at 50%. The UK's controlled foreign company rules require *A* to pay UK tax on the tax-haven profits whether remitted to the UK or not. If *A* owned both subsidiaries through an offshore mixer company, *B*, it could remit the profits of both through the mixer, allowing the tax rates to be averaged. *X* pays a dividend of 90 (tax credit 10), *Y* pays a dividend of 50 (tax credit 50) and the mixer, *B*, pays a dividend of 140 (tax credit 60). *A* has no UK tax to pay because the averaged foreign tax credits eliminate its UK liability on *B*'s dividend of 140.

overseas investment by addressing the juridical double taxation of income from overseas investments, while

- reducing distortions in the international allocation of savings and investment;
- ensuring that the United Kingdom receives a fair share of international tax revenues;
- ensuring fairness to all taxpayers and, subject to the above
- minimising compliance and administrative costs'.[24]

It is far from clear, however, that the 2000 reforms meet any of these objectives, even assuming that the further changes in 2001 do succeed in eliminating the technical deficiencies of the new legislation. The 2000 reforms made many detailed changes that improve the 1945 system, and the greater flexibility in using excess foreign tax credits on foreign dividends brings the UK more in line with other foreign tax credit systems. Onshore pooling, however, introduces very considerable complexity to the whole area of foreign tax credit planning. As such, it represents a greater boost for the UK tax professions than it does for the neutrality, fairness or administrative simplicity of the tax system.

It must also be uncertain whether the changes will secure for the UK a 'fairer share' of international tax revenues, assuming that we know what the UK's 'fair share' is. Any multinational company will take a global view of its tax liabilities. A UK-based company's strategy will be to secure the maximum credit for foreign taxes paid and, to the extent that credit is not available, to avoid receiving foreign dividends that create unnecessary UK tax liabilities.

From a policy perspective, there is no particular reason why the UK should subsidise UK investment in countries with high-tax regimes by allowing tax on profits earned in those countries to reduce UK tax that would otherwise be due on low-taxed foreign profits earned elsewhere. But if this was an offensive aspect of offshore mixer companies, it must be an equally offensive aspect of the onshore pooling system.[25]

By penalising offshore mixer companies but allowing similar averaging of foreign tax rates through onshore pooling, the 2000 reforms may do little more than impose restructuring costs on UK multinationals that benefit no one other than foreign revenue authorities, who may collect tax on the restructuring, and professional advisers. In any event, the EC Treaty may not allow the UK to treat mixer companies based elsewhere in the European Union less favourably than onshore pooling companies.

[24] Inland Revenue, *Double Taxation Relief for Companies: Outcome of the Review*, March 2000, paragraph 1.4.

[25] Though excess foreign tax credits are capped at 45% under the onshore pooling regime while pre-2001 offshore mixer companies were uncapped.

Policy assessment

The distortion in the international allocation of savings and investment arises mainly through the existence of several different tax systems, each seeking to tax a highly mobile commodity – in this case, investment capital. The outcome of the double taxation review illustrates what should have been well known: that if the UK wants to be seen as a favourable location for foreign investment by multinational companies, it cannot choose less favourable options than those adopted by comparable regimes elsewhere.

We can observe tax competition at work in other current proposals to exempt from tax, or to defer tax on, gains arising from substantial shareholdings.[26] They recognise the UK's comparative international disadvantage in seeking to tax gains on corporate shareholdings in other companies when many countries exempt such gains. But these proposals have implications for how UK companies structure and finance their foreign investment, if it were decided that UK companies should pay no tax on share gains in foreign companies but should continue to be taxed on foreign dividends subject to credit relief.

Ultimately, competition between different tax systems for highly mobile international investment capital has only one likely outcome, and that is the elimination of taxation on that capital. It would mean the demise of corporation tax in its current form. The alternative would be for countries to integrate their corporate tax systems on an agreed basis, so that savings and investment face the same taxation at home and abroad. But while this approach may be the one that minimises distortions, the overwhelming problem, apart from reaching agreement on a common system, is that it needs only a few countries to decline to co-operate for any agreement by the rest to be undermined.

On a parochial level, it would be difficult to think of a more unsatisfactory outcome to this review. UK multinationals face a more complex foreign tax credit system, while the government may have done little more than strengthen its anti-tax-haven legislation, which it could have achieved in simpler ways. Meanwhile, the positive improvements to the 1945 regime have been lost sight of in the general commotion over offshore mixer companies and onshore pooling.

The net effect of this exercise has been a loss of confidence by international companies in the UK's policy formation process. At the same time, the UK corporate tax system has a very unstable appearance internationally. The Inland Revenue may have to 'tweak' the new foreign tax credit regime over several years before it functions satisfactorily, and the regime may still be subject to challenge under EC law. Furthermore, if the government enacts measures to exempt from tax, or defer tax on, gains on corporate shareholdings in other companies, it may be necessary to revisit the taxation of foreign dividend income and foreign tax credit relief.

[26] Inland Revenue, *Corporation Tax: Chargeable Gains: Deferral Relief for Substantial Shareholdings, A Technical Note*, June 2000; Inland Revenue, *Corporation Tax: Relief for Gains on Substantial Shareholdings, A Technical Note*, November 2000.

6.4 Taxing North Sea oil

In the 1998 Budget, a consultation with the oil industry on the future of North Sea oil taxation was announced. In September of 1998, however, the Chancellor decided not to proceed with the consultation, because of low oil prices.[27] At the time of the November 2000 Pre-Budget Report, the oil price had roughly tripled, but it was made clear that changes to North Sea oil taxation are not currently on the government's agenda.[28] The reasons given were that the future of the oil price is uncertain and that investment should not be discouraged. Nevertheless, this issue could arise again if the oil price remains high for longer than expected.

The current tax regime is the result of the complex history of changes that have occurred in North Sea taxation. As some of these changes were only applied to fields approved after the reform, the taxes applied today to a particular oilfield's profit depend on its initial date of approval. Fields approved after 15 March 1993 pay only corporation tax at the standard rate. The only difference compared with onshore profits is that this tax is 'ring-fenced', i.e. losses made elsewhere cannot be offset against profits of a UK continental shelf oilfield. Fields approved before that date are subject also to petroleum revenue tax (PRT). This is currently charged at a rate of 50%. Fields approved prior to 31 March 1982 are additionally liable to licence royalties, a revenue-based tax, currently charged at 12.5%. Each of these taxes has its own allowances. They also interact with one another, as royalties can be set off against PRT, and both can be set off against corporation tax. As a result of different tax structures across fields, the marginal tax rate that applies to an additional pound of revenue resulting from an increase in the oil price ranges from 30% to 69.4%.[29]

The aim of the abandoned consultation was to ensure that the North Sea tax regime takes 'an appropriate share of profits … while continuing to maintain a high level of oil industry interest in the future development of the UK's reserves'.[30] According to the economic theory of resource taxation, taxation should primarily be targeted at the economic rents earned from oil production. These are profits over and above the minimum rate of return required to justify the investment, which accrue due to the scarcity value of oil. Taxing economic rents rather than conventional measures of profits or revenues ensures that the tax is neutral with regard to investment. Developments that are commercially viable in the absence of tax would continue to be viable in the presence of tax. Marginal fields, which earn no rents, would pay no tax over their lifetimes, and revenues would be focused on intra-marginal or rent-earning fields.

The current system's performance according to these criteria depends on a field's tax liability. Corporation tax is charged at the standard rate on a

[27] Inland Revenue Press Release 124/98, 7 September 1998.

[28] Statement of the Chancellor of the Exchequer on the Pre-Budget Report, 8 November 2000.

[29] Inland Revenue, *Taxation of UK Oil Production* (www.inlandrevenue.gov.uk/international/ns-fiscal2.htm).

[30] Inland Revenue Budget News Release, 17 March 1998.

conventional measure of profits. It thus takes a low share of economic rents and deters marginal investment decisions, although this distortion is no greater than for onshore investments. Petroleum revenue tax, which is charged at a higher rate and provides more generous allowances for investment expenditures, is closer to a rent tax in principle, and takes a larger share of economic rents. However, the actual rules of PRT differ from a pure rent tax in significant respects, which introduce arbitrary distortions between fields according to the length of their payback periods and the rate of inflation, for example. Licence royalties are essentially revenue-based and therefore discourage investment in marginal fields. A related disadvantage is that they take a large share of profits when oil prices and profits are low, but only a small share when oil prices and profits are high.

It is difficult to analyse the performance of the whole regime, because of interactions between the different taxes and their allowances and because of the differential treatment of fields developed at different dates. While views can be taken on whether investment neutrality or high tax revenue is more important, it is hard to see any rationale for taking different shares of profits or for distorting investment decisions to different degrees across fields.

It would be wrong to assume that the inefficiency associated with licence royalties no longer matters because investments in older fields are sunk costs. As oilfields reach the end of their lifetime, incremental investment often becomes necessary to extract the remaining oil. If such investment is discouraged, this leads to inefficiently early abandonment of fields. Once abandoned, the cost of recovering remaining quantities of oil becomes prohibitive.

In recent public debate, especially in the light of high fuel prices, a lot of attention was drawn to the high profits oil producers have recorded in 2000, as a result of the high oil price. In the second quarter of 2000, net profit rates averaged 33% for North Sea oil companies as opposed to 6% for manufacturing industry.[31] This led to demands that these profits should be taxed more highly. The Chancellor, on the other hand, stressed that he was 'determined not to make short term decisions based on short term factors'.[32] Concerning the price of oil, the only sensible prediction that can be made is that it will remain volatile. A more compelling argument for reform is thus that the tax system for North Sea oil should be appropriate under a wide range of oil prices. This is precisely the advantage of a rent tax, which would automatically take a higher share of profits when oil prices are high and rents comprise a high share of total profits than when oil prices are low.

Countering this case for reform is the importance of stability in the tax system for the planning of long-term investments by firms. On the other hand, it can be argued that the current system is so unbalanced that there is already considerable uncertainty concerning when and how the system will next be changed. One major, coherent reform could thus reduce tax uncertainty in these circumstances. Certainly, the oil and gas sector continues to play a major role in the UK economy. While its share of GDP dropped from 7% in 1984 to

[31] Reported in the *Financial Times*, 25 October 2000.

[32] Statement of the Chancellor of the Exchequer on the Pre-Budget Report, 8 November 2000.

under 2% in 1998, investment in that year was 19% of total industrial investment.[33] At the same time, production increased and reached an all-time high in 1999. Estimates of reserves still remaining are usually in the range of a third to two-thirds of total reserves,[34] so that production will continue for many years to come. The debate on the North Sea tax regime and possible reforms is not likely to disappear soon.

The history of North Sea taxation is an unfortunate example of some of the weaknesses in tax policymaking in the UK. When significant oil deposits were first discovered, the government had a clean sheet on which to design a tax system, unconstrained by the legacy of previous decisions. Rather than introducing a coherent rent tax that automatically adjusts tax liabilities to changing economic conditions, significant departures from this principle were introduced into petroleum revenue tax, in response to short-term revenue considerations. These have required successive governments to raise tax rates or introduce new taxes when profits are high and to lower tax rates or abolish taxes when profits are low. This culminated in the arguably premature abolition of PRT itself for new fields after 1993. As no government has been willing to introduce a fundamental reform of the North Sea tax system, the current government finds itself with a similar dilemma to that faced by its predecessors whenever oil price rises have led to high North Sea profits. Whether it will find a more coherent solution to this dilemma remains to be seen.

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Alexander Klemm and Helen Simpson

[33] DTI, *UK Energy Indicators*, 1999.

[34] DTI, *Digest of UK Energy Statistics*, 2000.

7. Prospects for personal tax and benefit reforms

The present government has made many reforms to the UK's personal tax and benefit system in the three-and-a-half years since its election.[1] Among the most prominent changes have been the replacement of family credit with the working families' tax credit and the introduction of a 10p starting rate of income tax, the children's tax credit and the minimum income guarantee for pensioners. But it is clear that other radical reforms may be yet to come.

In this chapter, we first discuss the reforms that will already be in place by April 2001 – the children's tax credit and the working families' tax credit. We then describe the reforms that have yet to be implemented – the integrated child credit, the employment tax credit and the pension credit – and where many details still remain to be decided. We analyse the government's objectives for the future reforms and show how the reforms relate to those in place already. We then discuss what the trends in reform might mean for the forthcoming Budget, and for the future, should Labour win the next general election. In particular, we ask 'to what extent is the tax and benefit system becoming more integrated?', 'is means testing being extended?' and 'has there been a move back towards joint taxation?'.

7.1 The new transfers

Reforms so far: the working families' tax credit and the children's tax credit

The working families' tax credit (WFTC) was the first major tax and benefit reform of the parliament and was introduced in October 1999. The next reform will be the children's tax credit, which will be introduced in April 2001. These reforms have both replaced existing measures – family credit and the married couple's allowance respectively.

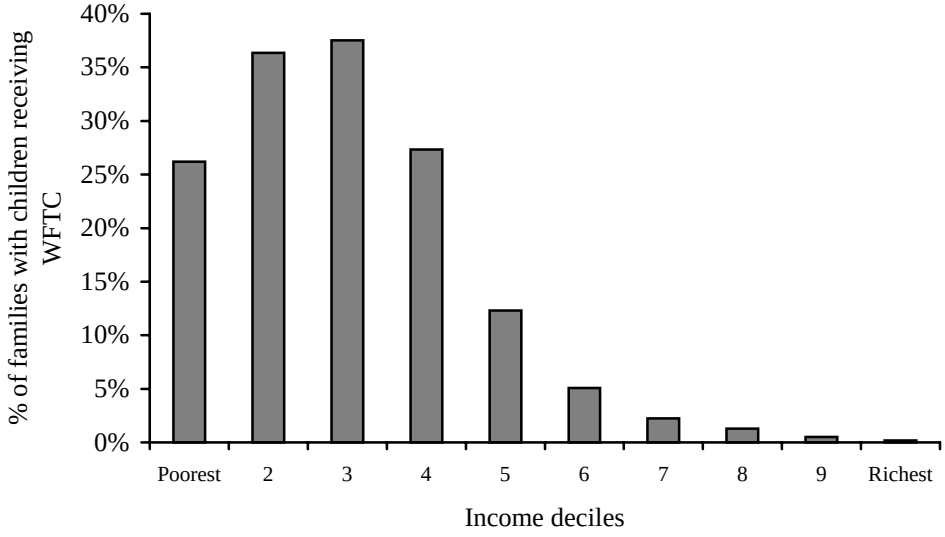
WFTC, a refundable tax credit,[2] is more generous than family credit and provides substantial help with registered childcare costs. It is available to low-income families with children where at least one adult is working 16 or more hours a week. The credit is reduced by 55p for every pound of family income (after tax and National Insurance) above £91.45 per week. Figure 7.1 shows the proportion of families with children in each income decile that are eligible for WFTC. Entitlement to WFTC is concentrated amongst families at the bottom of the income distribution: over 35% of families with children in the second and third income deciles are eligible for WFTC, compared with only

[1] Complete descriptions of all reforms since 1997, together with summaries of their cost and distributional effects, can be found in M. Myck, *Fiscal Reforms Since 1997*, IFS Briefing Note no. 14, 2000 (http://www.ifs.org.uk/publications/briefnotes.shtml).

[2] See the Annex to Appendix B for definitions of elements of the tax system.

0.2% of families with children in the highest decile. Not all low-income families with children are eligible as not all are in work. Some high-income families with children are eligible as our deciles are constructed on household income, and there may be cases where a low-income family with children lives with other adults in a high-income household.

Figure 7.1. Percentage of families with children eligible for the working families' tax credit, by income decile



Note: Income deciles are derived by dividing the total population into 10 equally sized groups according to household income adjusted for family size. Decile 1 contains the poorest tenth of the population, decile 2 the second poorest and so on, up to the top decile (decile 10), which contains the richest tenth. The childcare tax credit has not been modelled – this could extend eligibility up the income distribution.
Source: IFS tax and benefit model using Family Resources Survey 1998–99.

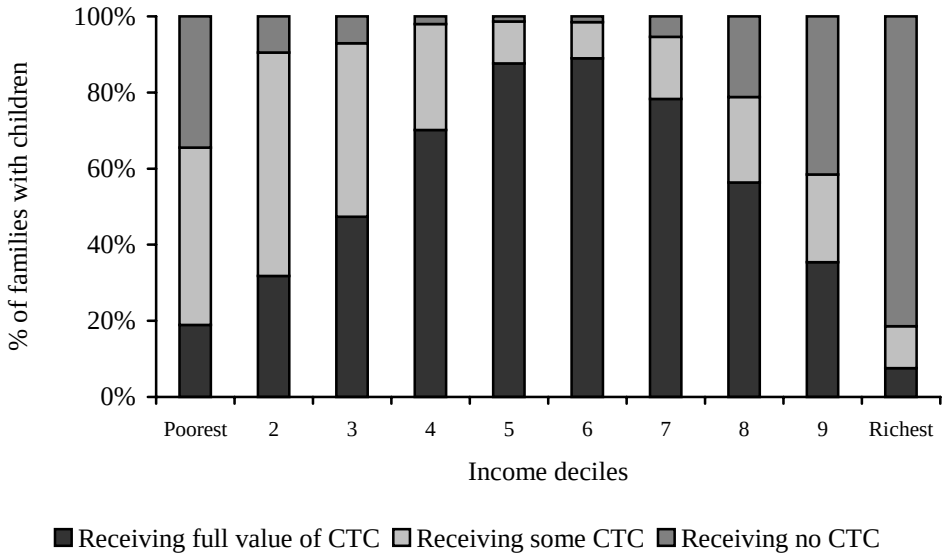
The children's tax credit will be a non-refundable tax credit[3] for families with children, and therefore only assists families that pay income tax. On current plans, it will reduce the tax bill of a family by up to £442 per year (£8.50 per week).[4] Basic-rate taxpayers will have their tax bill reduced by the amount of the credit (but they will not see the full value of the credit if their tax bill is less than the value of the credit). Higher-rate taxpayers will gain by less, as the children's tax credit will be withdrawn from families where either partner is a higher-rate taxpayer: £1 of the value of the credit will be withdrawn for every £15 of annual income taxed at the higher rate. Figure 7.2 shows the proportion of families with children in each decile that will be eligible for the credit. Families with children in deciles 5 and 6 are the most likely to benefit from the full amount of the credit. At the lower end of the income distribution, families pay little or no income tax, and so cannot benefit by the full amount

[3] See the Annex to Appendix B for definitions of elements of the tax system.

[4] Options for increasing the generosity of this credit are discussed in Chapter 4.

of the credit. Most families in the highest deciles have some or all of the credit withdrawn because there is a higher-rate taxpayer in the family.

Figure 7.2. Percentage of families with children eligible for the children's tax credit (CTC), by income decile



Note: See note to Figure 7.1.
Source: IFS tax and benefit model using Family Resources Survey 1998–99.

The integrated child credit

The government announced in March 2000 that it wanted to '… bring together the different strands of support for children in the WFTC, Income Support and the Children's Tax Credit to create an integrated and seamless system of financial support for children'.[5] This integrated child credit is a radical reform of the tax and benefit system that will affect almost all of the 7 million families with children in the UK. A recent IFS publication, *Financial Support for Families with Children*, described the options for the reform in greater detail.[6]

From April 2001, there will be four ways that the government directs financial support to children:

- child benefit – a flat-rate, non-means-tested, non-taxable benefit for each child;
- means-tested benefits for families where no one works – income support and income-related jobseeker's allowance – which contain extra child

[5] HM Treasury, *Tackling Poverty and Making Work Pay: Tax Credits for the 21st Century*, The Modernisation of Britain's Tax and Benefit System no. 6, HM Treasury, London, 2000.

[6] M. Brewer, M. Myck and H. Reed, *Financial Support for Families with Children: Options for the New Integrated Child Credit*, IFS, London, 2001.

allowances for children and a family premium for any family with children;

- in-work means-tested benefits for low-income working families – the working families' tax credit and the disabled person's tax credit – which contain credits for each child;
- the children's tax credit, which will not vary with the number of children and will be phased out where there is a higher-rate taxpayer in the family.

The government set out some broad objectives for an integrated child credit in the Pre-Budget Report in November 1999 and in the 2000 Budget,[7] but few practical details on how the credit will operate have yet been released. The information released so far has only shown how an integrated child credit would look if it mirrored the current structure of financial support for families with children. What is known is that the government proposes to combine the children's tax credit with the child credits in WFTC and the child-related elements of income support into one payment. On this basis, weekly child-related support for the first child will vary from £15.50 for the richest families, who only receive child benefit, to £45.95 for the poorest, who receive income support, but will reach £50 for some families on WFTC, who receive child benefit, the child credit in WFTC and the children's tax credit.[8]

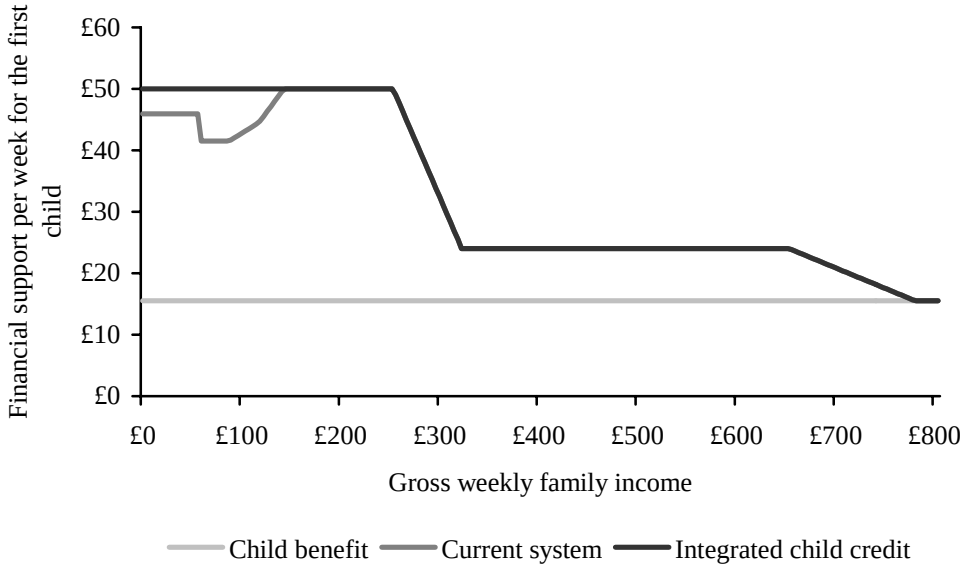
Figure 7.3 shows how financial support for the first child will vary with income in April 2001, and how this could change under an integrated child credit. If the integrated child credit is to be a single system of support for out-of-work and low-paid families, then families currently on income support will gain, as support for these families needs to be raised to the level received by some families in low-paid work. On this basis, an integrated child credit could cost around £1 billion per year more than the current system and would represent around £10 billion of transfer payments.

The integrated child credit will be assessed on the joint income of a family, and so will extend joint assessment to around 3 million taxpaying families who have, since 1990, managed their financial dealings with governments as individuals. Families on means-tested benefits already experience some form of joint assessment. The estimate of cost in the previous paragraph assumes

[7] HM Treasury, *Tackling Poverty and Making Work Pay: Tax Credits for the 21st Century*, The Modernisation of Britain's Tax and Benefit System no. 6, HM Treasury, London, 2000; HM Treasury, *Supporting Children through the Tax and Benefit System*, HM Treasury, London, 1999.

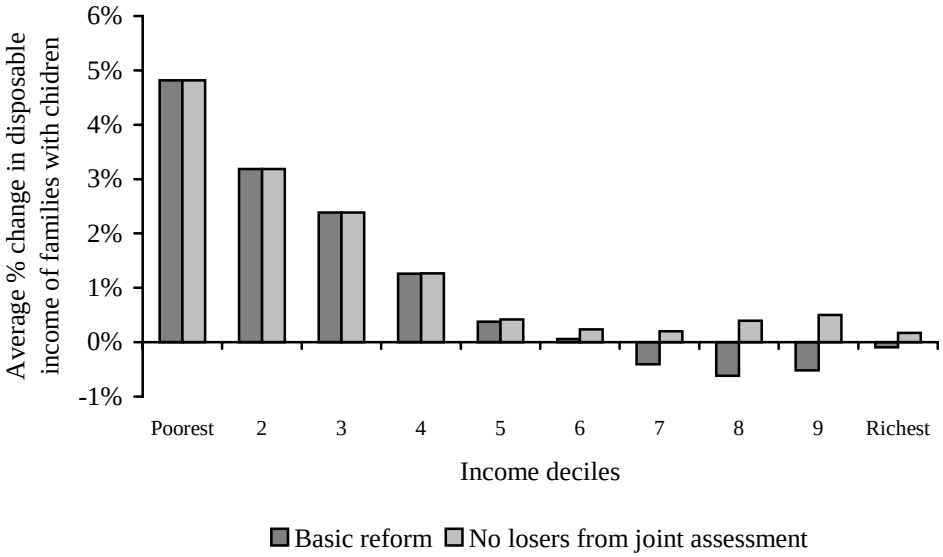
[8] Families on WFTC receive more per child than those on income support to compensate them for not being entitled to free school meals. In addition, families will be unable to benefit from the full value of the children's tax credit if their annual tax bill before the credit is less than £442, which is why support increases as gross weekly income rises from £59 to £144 in Figure 7.3. There is some controversy about whether the values shown in Figure 7.3 represents child-related support in the current tax and benefit system. Government documents treat the basic credit of WFTC as an adult-related payment because, from 2003, all adults will be able to claim an employment tax credit. But, until that time, the amount of extra financial support that a low-income couple without children could receive if they then had a child and claimed WFTC could be substantially greater than £50 per week. These rather technical issues are discussed further in M. Brewer, M. Myck and H. Reed, *Financial Support for Families with Children: Options for the New Integrated Child Credit*, IFS, London, 2001.

Figure 7.3. Financial support for children from April 2001 and under an integrated system



Note: The figure is drawn for a family with one child. It assumes that the family qualifies for WFTC at a weekly wage of £59.20, or 16 hours of work at the national minimum wage.
Source: IFS tax and benefit model.

Figure 7.4. Distributional impact of the introduction of the integrated child credit



Note: See note to Figure 7.1.
Source: IFS tax and benefit model, and taken from M. Brewer, M. Myck and H. Reed, *Financial Support for Families with Children: Options for the New Integrated Child Credit*, IFS, London, 2001.

that the integrated child credit would start to be withdrawn from richer families at the same point at which the children's tax credit will be withdrawn.[9] But the integrated child credit will be based on joint family income, rather than on the income of the highest earner as is the case for the children's tax credit. This means that families that do not contain a higher-rate taxpayer but do have a combined net income of over £483 per week could lose. The government could, though, design an integrated child credit so that no family would lose from this move to joint assessment: this would cost an additional £650 million per year.

Figure 7.4 shows the distributional impact of the introduction of the integrated child credit both in its basic form and in the more expensive form that ensures that no family is left worse off from the move to joint assessment. In the latter case, some families in higher deciles gain, because the threshold at which the integrated child credit is withdrawn is higher for some families than that at which the children's tax credit will be withdrawn.

The integrated child credit represents a significant reform of the tax and benefit system for families with children, and almost all the parameters of the current system could be changed. The government will have to decide how the credit should relate to family size and family income and how it will be administered. The three elements of support for families with children that will be combined in the integrated child credit are currently governed by different rules and administered on different bases. Decisions will have to be made on:

- how to treat different sorts of income and capital;
- the period of assessment and length of award;
- the responsiveness of the credit to changes in family structure or income;
- whether eligibility for and payment of the integrated child credit will be cumulative – like income tax – or non-cumulative – like National Insurance.

Table 7.1 summarises the major differences in administration in the current system that will have to be resolved if the government is to achieve an integrated and seamless system.

The employment tax credit

The government has announced that the principle of the working families' tax credit will be extended to families without children when the integrated child credit is introduced. This means that all low-income working families, whether or not they have children, could claim an employment tax credit based upon joint family income, and that families with children would also receive support through an integrated child credit. This is being presented in part as an inevitable consequence of the move to an integrated child credit, but this need not be the case. After the introduction of the integrated child credit, it will be necessary to have an in-work tax credit for adults with children to ensure that

[9] The children's tax credit is withdrawn from higher-rate taxpayers, i.e. when weekly gross income reaches £653 per week (as shown in Figure 7.3). This corresponds to a net income of £483 per week.

those currently on WFTC are no worse off, but there is no necessity to extend this in-work credit to those without children. The introduction of an employment tax credit for those without children must therefore be seen as a deliberate policy choice by the government.

Table 7.1. Administration of the current system of financial support for families with children

	Income support	WFTC	Children's tax credit
Payment based on:	Recent net family income	Net family income in last seven weeks	Annual gross individual income
Award period	Week Backward adjustments to award possible	Six months No adjustments to award	Annual through PAYE system
Paid to:	Claimant Paid directly	Parent elected by the couple Paid through pay-packet or directly	Taxpayer Paid through pay-packet
Frequency of payments	Weekly	As wages or monthly	Through PAYE
Capital limits	Apply	Apply	Do not apply
Administered by:	DSS	Inland Revenue	Inland Revenue

Note: For more details, see M. Brewer, M. Myck and H. Reed, *Financial Support for Families with Children: Options for the New Integrated Child Credit*, IFS, London, 2001.

The government has said that 'a benchmark level of support provided by the employment tax credit for families with children and working people without children will be the adult credits in the working families' tax credit'.[10] The adult credit is worth £54 per week from April 2001, with an extra credit of £11.45 if people work 30 hours or more. IFS's January 2000 Green Budget showed that an employment tax credit for all working individuals without children would cost the government around £4.5 billion per year.[11] Young single adults, most of whom live with their parents, would be the main beneficiaries. In the 2000 Budget, the government argued that low pay for the young is likely to be transitory and less likely to be associated with poverty. It also argued that part-time employment – as well as low wages – influenced poverty amongst working families without children. It therefore suggested that it might be appropriate to target resources on older age-groups and to support only families with someone in full-time work. Table 7.2 shows the cost of different designs of the employment tax credit and the number of families affected in each case. The costs are shown with and without the capital limits that currently restrict WFTC entitlement to those with savings below £8,000.

[10] HM Treasury, *Tackling Poverty and Making Work Pay: Tax Credits for the 21st Century*, The Modernisation of Britain's Tax and Benefit System no. 6, HM Treasury, London, 2000.

[11] L. Chennells, A. Dilnot and C. Emmerson (eds), *The IFS Green Budget: January 2000*, Commentary no. 80, IFS, London, 2000.

Table 7.2. Cost and caseload of the employment tax credit for families without children

Eligibility conditions	**(As for WFTC)**				
Minimum age limit	18	25	25	40	40
Only available to full-time earners (i.e. at least 30 hours a week)?	No	No	Yes	No	Yes
With capital limits					
Cost	£4.4bn	£2.3bn	£1.0bn	£1.5bn	£0.5bn
No. of families affected	2.7m	1.5m	0.85m	0.84m	0.39m
% of single people among recipients	87%	80%	79%	69%	64%
No capital limits					
Cost	£4.6bn	£2.5bn	£1.1bn	£1.6bn	£0.6bn
No. of families affected	2.8m	1.6m	0.90m	0.94m	0.43m
% of single people among recipients	89%	81%	81%	72%	67%

Note: Calculations assume that singles and couples are eligible for the same amount of employment tax credit – £54 per week. For those options where part-time workers are eligible, full-time workers receive a premium of £11.45 per week for working 30 or more hours a week.
Source: IFS tax and benefit model.

The bench-mark scenario is shown in the first column and uses the same eligibility conditions as WFTC. The other columns restrict eligibility by setting minimum age or hours of work criteria. These restrictions reduce the cost and the caseload. For example, if the credit were limited to full-time workers aged over 25, it would cost around £1.1 billion and would affect around 900,000 families (with no capital limits). Raising the minimum age condition to 40 would lower the cost further to £600 million per year.

The government has considered introducing an employment tax credit with a reduced rate for single people.[12] In our models, single people represent around 80% of the predicted caseload and expenditure, so lowering the rate for single adults without children could reduce the cost substantially. For example, the government estimates that an employment tax credit for households with someone over 25 working at least 30 hours a week, with a lower rate for singles than for couples would cost around £300 million and benefit 300,000–400,000 families[13] – considerably lower than our estimate of around £1 billion with no discounted rate for single people.

The pension credit

In the 2000 Budget, the government announced plans to introduce a 'pension credit' during the next parliament, 'designed not only to lift the poorest out of poverty, but also to do more for those with modest occupational pensions and

[12] WFTC is paid at the same rate per family to lone parents and couples with children.

[13] HM Treasury, *Tackling Poverty and Making Work Pay: Tax Credits for the 21st Century*, The Modernisation of Britain's Tax and Benefit System no. 6, HM Treasury, London, 2000.

savings who should not be penalised for having worked hard all their lives and saved for their retirement'.[14]

The current system of support for pensioners is twofold. Pensioners with sufficient past National Insurance contributions receive the flat-rate basic state pension, which is taxed but not means-tested. This is supplemented by a means-tested benefit known as the minimum income guarantee (MIG), which tops income up to £92.15 for single people over 60 and to £120.65 for couples over 60 from April 2001.

The MIG is a pure 'safety-net' benefit in that any income from the basic state pension or from other sources, such as savings, is withdrawn pound for pound from the MIG entitlement, meaning that net income for a pensioner with small amounts of savings is no greater than that for a pensioner with no savings. This system has been criticised because it gives no incentive for working-age people who expect to retire on a low income to save for their retirement. This, in turn, may increase the social security bill by increasing the number of pensioners with little or no savings, who will then require assistance from the MIG.

The pension credit was outlined in greater detail by the government in November 2000,[15] but is not scheduled for introduction until April 2003. It is designed to alleviate the incentive problem by allowing pensioners to benefit from modest amounts of savings. The pension credit will operate as follows:

- There will be a new guaranteed minimum income level (£100 per week for a single pensioner, £154 for a couple from April 2003). Pensioners with full basic state pension entitlement (£77 per week for a single pensioner, £123 for a couple from April 2003) and no other income will receive the difference (£23 or £31 respectively) through the pension credit.
- Pensioners with incomes below the guaranteed minimum level will receive a 60p pension credit 'top-up' for each pound of income received over and above that provided by a full state pension. So, for example, a single pensioner with full basic state pension entitlement and £10 per week of other income would have a net income of £106: the guaranteed income of £100 per week (£77 state pension, £10 other income, £13 income top-up) plus £6 in pension credit.
- For those with incomes above the guaranteed minimum level, each pound of income received reduces pension credit entitlement by 40p.

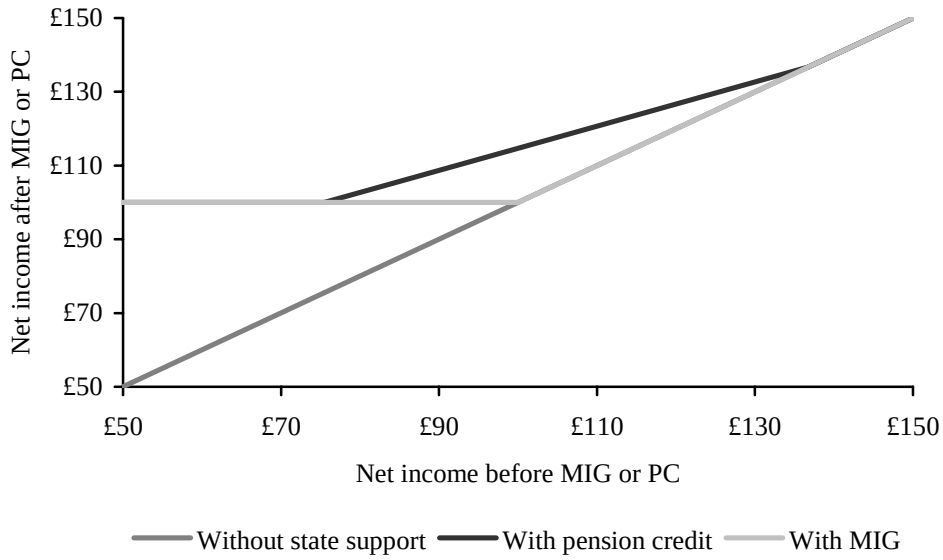
In practice, for anyone with income other than the basic state pension and claiming the pension credit, possession of an extra pound of private income leaves a pensioner 60p better off than they would have been without it, so the effective marginal tax rate implied by the pension credit will be 40% rather than the 100% rate that the MIG currently produces. Figure 7.5 shows how the budget constraint of a single pensioner will change under the proposed structure of the pension credit. The transfer will be completely withdrawn for

[14] Chancellor of the Exchequer, Budget Speech, 21 March 2000.

[15] Department of Social Security, *The Pension Credit: A Consultation Paper*, DSS, London, November 2000.

a single pensioner when net income before the credit reaches about £135 per week.

Figure 7.5. Budget constraint of a single pensioner before and after introduction of the pension credit (PC)



The estimated cost of the reform – both the increase of the guaranteed minimum and the 'top-up' for extra income – will be in the region of £2 billion, although the final cost will depend on the specific details of the credit's design.[16] Around half of all pensioner families will be entitled to some help through the pension credit, around 1.5 million more than will be entitled to the MIG in 2001–02.

There are a number of potential problems and important features of the pension credit that remain to be worked out. These include:

Interaction of the pension credit with other benefits. How should the pension credit interact with other benefits, which many pensioners are entitled to, such as housing benefit (HB) and council tax benefit (CTB)? If the HB and CTB tapers are applied in addition to the pension credit taper, then many pensioners would face marginal deduction rates of over 90%.[17] An alternative would be to 'passport' any pensioners with pension credit entitlement to full HB entitlement, as currently happens with income support. Without changing the HB rules, though, this could produce the anomaly that a pensioner with even a small pension credit entitlement would receive a higher income than a pensioner with slightly higher savings income and no pension credit entitlement.

[16] Estimate based on the IFS tax and benefit model. Details of the reform will be discussed in a forthcoming IFS Briefing Note.

[17] A marginal deduction rate is the proportion of income that is lost in extra taxes paid and benefits withdrawn as income rises by £1.

Treatment of pensioners not entitled to full state pension. Pensioners who have not paid enough National Insurance contributions to be entitled to the full basic state pension would see no benefit from the savings 'top-up' part of the pension credit unless their partial basic state pension entitlement plus other income was greater than the full state pension level. This feature of the system is open to the criticism that people anticipating retiring with less than the full state pension entitlement would still have little incentive to save; these people are likely to be among the poorest pensioners.

Administrative and assessment issues. The government has announced that it will end the weekly means test for pensioners currently on income support when it introduces the pension credit, although the details of how this would work remain to be revealed. The government also intends to abolish the capital limits for eligibility to all means-tested benefits for pensioners; instead, the means test for the pension credit, housing benefit and council tax benefit would include interest income from savings.

Conclusions

April 2001 will see the introduction of the second major personal tax and benefit reform in this parliament. Following the implementation of the working families' tax credit in October 1999, the children's tax credit will replace the former married couple's allowance, abolished in April 2000. We have shown that, while WFTC is received by a large proportion of families at the lower end of the income distribution, the children's tax credit benefits mainly families in the middle deciles. This is because it is only received by families paying income tax and is withdrawn for families where the highest earner is a higher-rate taxpayer. Three more reforms are due to be implemented in April 2003: the integrated child credit, the employment tax credit and the pension credit. These are all most likely to benefit people at the lower end of the income distribution, but their distributional impact will depend on the precise details of implementation.

7.2 Common trends to the government's tax and benefit reforms

The most important common trends in the government's tax and benefit reforms are:

- a blurring of the distinction between tax and benefit systems, with an extension of what might have been called means testing but in a form that is more like traditional income tax calculations; in some cases, this represents true integration of the tax and benefit system;
- a large increase in the generosity of government transfers, with a corresponding increase in the number of families receiving help from means-tested instruments;
- an increase in the use of the family rather than the individual as the unit of assessment.

Integration of the tax and benefit system

The government has stated a desire 'to take tax and benefit integration further, applying the same principles in reform of both the tax and benefit systems'.[18] Taxes and benefits have traditionally been seen as having different objectives – the funding of government expenditure and the relief of need – and have been administered by different government departments (the Inland Revenue and the Department of Social Security). A complete integration of taxes and benefits would integrate the structures of different taxes and benefits, merge the two systems of administration and move to a common method of means assessment so that families are assessed once and receive one single transfer (or one single tax demand). But if taxes and benefits do have the different objectives mentioned above, it may be an advantage to have a system where people could potentially both pay tax and receive benefits. This would enable governments to award benefits on a basis that discriminates more carefully between different types of households than is appropriate for taxes.

Some of the reforms announced by the government to date have blurred the traditional dichotomy between taxes and benefits outlined above, and others represent true integration. For example, the government's view is that the working families' tax credit is now part of the tax system, as it is administered by the Inland Revenue and most recipients are paid through the pay-packet. But it is assessed on the basis of a short-term 'snapshot' income measure and is reassessed every six months. In these respects, it looks identical to its predecessor – family credit, a means-tested benefit – and has different rules and a separate structure from income tax.

The pension credit has been announced as further contributing to the integration of taxes and benefits. In reality, it is more like an extension of a means-tested benefit, albeit with an infrequent means assessment, perhaps with a very different feel to the weekly means test that it replaces. The only aspect of true tax and benefit integration in the pension credit is the announcement that the age-related personal allowances in income tax will be increased to limit the number of individuals facing the pension credit withdrawal rate and also subject to income taxation.[19]

Despite these minor changes in design, WFTC and the pension credit therefore both look set to remain administratively separate from income tax, at least in the short term. In contrast, the integrated child credit represents a genuine integration of elements of the tax and benefit systems, as it will combine elements of means-tested benefits (income support), in-work benefits (WFTC) and the Pay-As-You-Earn income tax system (the children's tax credit).

The government has stated that its programme of tax and benefit integration has been informed by several objectives:[20]

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[18] Department of Social Security, *The Pension Credit: A Consultation Paper*, DSS, London, November 2000.

[19] The proposals appear to make the overlap between the two systems very limited, at least for single people. The issue is complicated for couples because benefit assessment is on joint income but tax assessment is individual.

[20] Department of Social Security, *The Pension Credit: A Consultation Paper*, DSS, London, November 2000.

- to tackle poverty;
- to promote incentives to work and save;
- to maximise take-up;
- to ensure that support is targeted at those who need it most;
- to improve customer service and increase efficiency in administration.

But integration of taxes and benefits may not be the best way to achieve these objectives. Poverty is probably better tackled through increasing the generosity of transfer payments, regardless of their form. Ensuring support is targeted to those who need it most is achieved by accurate targeting of transfer payments, again regardless of the form of the transfer. The three elements that are most likely to be achieved by closer integration are improved service and efficiency, maximised take-up, and promotion of incentives to work and save. These points are outlined in Box 7.1.

Extending means testing up the income distribution

The government's reforms have increased the number of families eligible for extra transfer payments, by introducing new transfers and making existing transfers more generous. For example, the working families' tax credit is worth more than its predecessor, family credit, because the awards are higher and because it is withdrawn at a lower rate; this has increased the number of families claiming it by around 300,000. The pension credit will be available to around half of all pensioner households, perhaps 1.5 million more than will be eligible for income support in 2001. Integrating financial support for families with children in the integrated child credit could mean that nearly all the 7 million families with children could be eligible for a means-tested payment, around 3 million more than are currently means-tested through income support or WFTC. Also, the government plans to introduce the employment tax credit for those without children, perhaps affecting 850,000 families.[21]

It is argued that this extension of means testing is undesirable for a number of reasons. Compared with universal benefits, means-tested benefits can be costly to administer and could increase opportunities for fraud. Certainly, one economic disadvantage of extending means-tested benefits is that it tends to increase marginal deduction rates for newly entitled families. Opponents of means testing also portray it as an infringement of personal liberty and argue that it places too much power in the hands of government agencies. But this viewpoint may rest on the particular form of means testing used in the UK, under which claimants have to fill in long questionnaires to claim support and may have to report any change in circumstances to the Benefits Agency every week. The abolition of the weekly means test and the capital limits for the pension credit might, therefore, reduce these objections to means-tested

[21] Some families newly entitled to the means-tested benefits described above may already be receiving means-tested help through housing benefit or council tax benefit. Estimates from the House of Commons Library are that 29% of non-pensioner families and 56–59% of pensioner families will be receiving income-related benefits in 2003, compared with 21% and 37% respectively in 1998–99 (quoted in Nicholas Timmins, 'Means testing "a step backwards"', *Financial Times*, 4 December 2000).

benefits, by making the means-testing process seem more like the process of tax assessment. In addition, as we mentioned above, a greater coverage of means testing might reduce the stigma associated with claiming government support, and so increase take-up and public support.

Box 7.1. Possible advantages of integrating taxes and benefits

Increasing take-up

Reduction of 'hassle', improvement of customer service and increased efficiency in administration: In a fully integrated tax and benefit system, there could be a single agency collecting information on individuals, both assessing tax liabilities and entitlement to receipt of transfer payments. This could significantly reduce the amount of information that individuals need to supply to the government and improve the service that the government can offer individuals.

Reduced stigma: The name of a transfer and its form of payment may have consequences for take-up. The WFTC reform aimed to reduce the stigma associated with claiming it, to increase take-up and to strengthen the link between work and the transfer by paying WFTC through the pay-packet. On the other hand, having WFTC paid through the pay-packet could increase stigma as it is now more transparent to employers which of their employees are receiving in-work benefits. Stigma may also depend on the proportion of the population that are eligible for the transfer. Both the pension credit and the integrated child credit may therefore reduce stigma (and increase public support for means-tested benefits) as the majority of pensioners and families with children will be entitled to some payment.

Promoting incentives to work and save

In the current system, the effective marginal tax rates faced by some individuals on low incomes can be very high because of the interaction of income tax, National Insurance contributions and the withdrawal of means-tested benefits. Integrating taxes and benefits could make marginal tax rates more transparent and could help remove unwanted interactions between taxes and benefits. But it is not obvious that tax and benefit integration is necessary here: in principle, the government could remove unwanted interactions within a non-integrated system. Moreover, the government has had more impact upon marginal deduction rates in recent years by changing the parameters of WFTC than it has through any genuine tax and benefit integration. One area where integrating taxes and benefits could promote work incentives is if it could provide more certainty and security of cash flow to people leaving out-of-work benefits to enter work.

Extending joint taxation and joint assessment

From 1990 until 2001, the UK tax system has been based on individual assessment: an individual's tax liability depended on his or her own income only; the financial position of his or her partner was immaterial. The system retained one distinction from that of purely independent tax – the married couple's allowance. This offered a tax discount to those who informed the

Inland Revenue that they were married. This was abolished from April 2000 (except for those couples where one person in the couple was born before 1935), seemingly completing the transition to a fully independent tax system.

In contrast to income tax, entitlement to means-tested benefits has always been assessed against joint family income. The main role of means-tested benefits is alleviation of poverty and responsiveness to needs. Entitlement to these benefits on the basis of family income reflects the recognition that members of a family share their income within the family to some extent. Prevention of poverty should thus focus on family rather than individual incomes.

There has therefore been a clear dichotomy in the UK tax and benefit system. Taxpaying individuals, usually at the middle or top of the income distribution, have been subject only to individual income assessment, but those claiming extra help from benefits have been subject to joint family assessment. Table 7.3 shows a range of possible tax systems, from fully independent progressing through to fully joint assessment.

Table 7.3. A range of possible tax treatments of the family

Tax type		Information Revenue requires on taxpayer's partner	Example
Fully independent		None	Post-2000/01 tax system for childless families
Independent with universally available transferable allowance		Whether married or have children	1990–99 married couple's allowance
Independent with selectively available transferable allowance	1.	Marginal tax rate	Post-2001 children's tax credit
	2.	Whether engaged in unpaid caring	Semi-transferable personal allowance (1997 Conservative Party manifesto)
Fully joint		Income	Pre-1988

Three developments in the last few years have shifted this balance between individual and joint assessment. First, as a result of the increased generosity of WFTC, more families with children are now subject to joint assessment. Second, the children's tax credit represents a move towards joint taxation, as it is withdrawn from couples where either partner is a higher-rate taxpayer. Third, the integrated child credit, the employment tax credit and the pension credit will extend the principle of joint assessment to even more families, just as they extend means testing.

The advantages and disadvantages of joint assessment partly rest on the implicit view about how couples share their income. Individual assessment would be more appropriate if governments were concerned with individuals' own income, but joint assessment would be more appropriate if governments believed that the combined income of a couple bore more relation to their standard of living. One concern with some forms of joint assessment is that

they can lead to poorer incentives to work for the second earner in a couple than for the first earner.[22] In addition, joint assessment means that families have to provide government agencies with details of their relationships and be prepared to have these investigated. It also means that individuals in a couple have to share information on their incomes with each other.

Conclusions

The welfare reforms since 1997 have blurred the distinction between taxes and benefits. This trend has taken place alongside increases in generosity of means-tested transfers and an increasing use of the family as the unit of assessment. The increases in generosity have undoubtedly meant that extra resources have been targeted at the less well-off. The other reforms may improve the incentives to work and increase take-up of the transfers. But this could come at a cost of subjecting more individuals and families to a means test, the inconvenience of having to claim support and the need to provide detailed information to the authorities about their private lives.

Mike Brewer, Tom Clark, Michal Myck,
Howard Reed and Matthew Wakefield

[22] This is the case if a transfer is assessed on joint income but there is some form of tax allowance: the first earner will typically use the allowance to reduce the amount of his or her income that reduces the transfer, whereas the second earner will have all of her or his income taken into account. This is one of the implications of the WFTC – see R. Blundell, A. Duncan, J. McCrae and C. Meghir, 'The labour market impact of the working families' tax credit', *Fiscal Studies*, vol. 21, pp. 75–103, 2000.

Appendix A. Forecasting public finances

This appendix describes the techniques used for our public finance forecasts. It starts by comparing the forecasts made for borrowing in 1999–2000 in last year's Green Budget and the November 1999 Pre-Budget Report with the eventual out-turn. It then goes on to explain in more detail our forecasts for the macro-economy and for possible tax changes.

A.1 The accuracy of our previous forecasts

The out-turn for 1999–2000 was far more favourable for the public finances than either the Treasury in the November 1999 Pre-Budget Report or the IFS / Goldman Sachs January 2000 Green Budget forecast. 1999–2000 saw a PSNB repayment of £16.1 billion,[1] a surplus for the government that was considerably higher than either the £3.5 billion predicted by the Treasury or the Green Budget estimate of £6.8 billion. Table A.1 presents the out-turn estimated at the time of the November 2000 PBR, which shows that this high surplus was the result of both underestimating government revenues and overestimating government expenditure. While the error in forecasting public borrowing may seem extremely large, it should be noted that both the Treasury and the IFS / Goldman Sachs forecasts of total government revenues and total government spending were within 2½% of the eventual out-turn.

Table A.1. A comparison of last year's IFS / Goldman Sachs Green Budget forecast and the Treasury November 1999 Pre-Budget Report forecast with the estimated out-turn for 1999–2000 from the November 2000 Pre-Budget Report (£ billion)

	HM Treasury Pre-Budget Report forecast, November 1999	IFS / Goldman Sachs Green Budget, January 2000	Estimate, Pre-Budget Report, November 2000
Current receipts	352.1	351.7	357.1
Total managed expenditure	349.9	346.3	341.5
Of which:			
Departmental expenditure limits	179.9	179.9	176.8
Annually managed expenditure	170.0	166.4	164.7
PSNB[a]	–3.5	–6.8	–16.4

[a] PSNB excludes spending financed by the windfall tax.

A closer examination of both the Treasury and the IFS / Goldman Sachs underestimate of government revenues in 1999–2000 is presented in Table

[1] The November 2000 PBR estimated that PSNB in 1999–2000 was £16.4 billion. The latest estimate is £16.1 billion (source: ONS Press Release, *Public Sector Accounts: 3rd Quarter 2000*, 21 December 2000).

A.2. It shows that the underestimate of receipts was caused by too pessimistic forecasts of revenues for virtually all of the main taxes. In particular, the Pre-Budget Report forecast for income tax revenues was some £2.2 billion too low, compared with an underestimate of just £0.4 billion in the IFS / Goldman Sachs forecast. By contrast, the Treasury forecast for corporation tax receipts underestimated revenues by just £0.7 billion compared with a £2.2 billion underestimate in the IFS / Goldman Sachs forecast.

Table A.2. IFS / Goldman Sachs Green Budget and Treasury main errors in forecasting tax receipts, 1999–2000 (£ billion)

	Pre-Budget Report forecast, November 1999	IFS / Goldman Sachs Green Budget forecast, January 2000
Income tax[a]	–2.2	–0.4
Corporation tax	–0.7	–2.2
Value added tax	–0.7	–0.9
Fuel duties	0.0	0.5
Social security contributions	–0.2	–0.4
Council tax	–0.2	–0.2
Other	–1.0	–1.8
Total	–5.0	–5.4

[a] Net of tax credits.

Source: Out-turn figures for 1999–2000 from HM Treasury, *Pre-Budget Report, November 2000*, Cm. 4917, 2000.

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 November 2000 Pre-Budget Report, we use information from the revenues implied by a current receipts method, and the IFS / Goldman Sachs modelled approach.[2]

1. **Information from current receipts.** This uses the information on the receipts received in the current financial year compared with that received up to the same point in the last financial year. An estimate for the current years receipts is then provided using the following formula:

$$\textit{2000–01 forecast} = \frac{\textit{Receipts received so far this year}}{\textit{Receipts received to the same point last year}} \times \textit{1999–2000 receipts}$$

   While this is useful when forecasting revenues in the current financial year, it cannot provide projections for borrowing in future years. Caution should also be used when revenues are cyclical or changes have been made that may affect the timing of payments – for example, the effect of changing the date at which tobacco duties are increased on the incentives for forestalling.

2. **The IFS / Goldman Sachs modelled receipts approach.** This estimates growth in each of the taxes using forecasts for the growth in the relevant tax base, combined with an estimate of the elasticity of revenue with

[2] For a more detailed explanation of both these techniques, see C. Giles and J. Hall, 'Forecasting the PSBR: the IFS perspective', *Fiscal Studies*, vol. 19, no. 1, pp. 83–100, 1998.

respect to 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:

2000–01 forecast = (1999–2000 receipts × Tax-base change × Elasticity) + Tax changes

This technique enables forecasts to be made for future years. 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 also 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.[3] Elasticities for beer, spirits, wine and tobacco duties are taken from the median elasticity found in a range of UK studies.[4]

A.3 Forecasts for 2000–01

The Green Budget forecast is a judgement based on the Treasury's latest forecast contained in the November 2000 Pre-Budget Report, the current receipts and the IFS / Goldman Sachs modelled approach. Each of these is presented in Table A.3. Overall, we forecast a very similar pattern of receipts to the Treasury, which is not surprising, given that very little additional information has become available since that forecast was made.

Inland Revenue receipts

For **income tax**, we forecast £100.0 billion, which is higher than the £98.9 billion (net of tax credits) forecast by the Treasury. This is due to current receipts forecasting even higher receipts of £100.4 billion (assuming £3 billion of capital gains tax receipts). Our forecast for **corporation tax** is £32.2 billion, in line with the Treasury's prediction. The changes to the corporation tax payment structure announced in the March 1998 Budget mean that very little information is contained in either the current receipts or the modelled receipts forecasts.

Customs and Excise taxes

We forecast **VAT** receipts to equal £59.2 billion, which is the figure obtained from our modelled receipts methodology and is identical to the Treasury's forecast. It is also very close to the £59.3 billion implied by the current

[3] L. Blow and I. Crawford, *The Distributional Effects of Taxes on Private Motoring*, Commentary no. 65, IFS, London, 1997.

[4] M. Chambers, 'Consumers' demand and excise duty receipts equations for alcohol, tobacco, petrol and derv', Government Economic Service, Working Paper no. 138, August 1999.

Table A.3. Forecasts for government borrowing in 2000–01 (£ billion)

	Pre-Budget Report, Nov. 2000	Current receipts	IFS / GS forecasting model	IFS / GS forecast judgement
Inland Revenue				
Income tax[a]	98.9	103.4[i]	98.4	100.0
Corporation tax[b]	32.2	32.3	35.6	32.2
Petroleum revenue tax	2.0	2.5	0.9	2.0
Capital gains tax	3.0	n/a	2.5	3.0
Inheritance tax	2.3	2.3	2.0	2.3
Stamp duties	8.3	9.3	7.7	8.3
Total Inland Revenue (net of tax credits)	**146.7**	**149.9**	**147.0**	**147.8**
Customs and Excise				
Value added tax (VAT)	59.2	59.3	59.2	59.2
Fuel duties	23.2	23.5	23.7	23.5
Tobacco duties	7.4	7.4[j]	6.1	7.4
Spirit duties	1.8	1.8	2.1	1.8
Wine duties	1.7	1.9	1.9	1.7
Beer and cider duties	3.0	3.0	3.1	3.0
Betting and gaming duties	1.5	1.5	1.6	1.5
Air passenger duty	1.0	1.0	0.9	1.0
Insurance premium tax	1.7	1.7	1.6	1.7
Landfill tax	0.5	0.4	0.5	0.5
Customs duties and levies	2.1	2.1	2.0	2.1
Total Customs and Excise	**103.0**	**103.6**	**102.6**	**103.4**
Vehicle excise duties	4.9	4.6	4.5	4.5
Oil royalties	0.6	0.6[j]	0.4	0.6
Business rates[c]	17.0	17.0[j]	15.0	17.0
Social security contributions	59.8	59.8	59.6	59.8
Council tax	13.9	13.9[j]	13.7	13.9
Other taxes and royalties[d]	8.8	8.8[j]	8.5	8.8
Total taxes & social security contribns[e]	**354.7**	**358.1**	**351.4**	**355.7**
Accruals adjustments on taxes	2.9	2.9	2.9	2.9
less Own resources contribution to EU	–6.6	–6.6	–6.6	–6.6
less PC corporation tax payments	–0.4	–0.4	–0.4	–0.4
Tax credits[f]	4.9	4.9	4.9	4.9
Interest and dividends	5.2	5.2	5.2	5.2
Other receipts	19.6	19.6	19.6	19.6
Current receipts	**380.3**	**383.7**	**377.0**	**381.3**
Current spending	**364.6**	**361.1**	**361.1**	**361.1**
Windfall tax and associated current sp.[g]	0.9	0.8	0.8	0.8
Current balance[h]	**16.6**	**23.5**	**16.7**	**21.1**
Net investment	7.0	6.0	6.0	6.0
Windfall tax and associated capital sp.[g]	0.5	0.9	0.9	0.9
Public sector net borrowing[h]	**–10.1**	**–18.3**	**–11.6**	**–15.9**

[a] Net of the children's tax credit and the working families' tax credit.
[b] Includes advance corporation tax (net of repayments). Also includes North Sea corporation tax after ACT set-off, and corporation tax on gains.
[c] Includes district council rates in Northern Ireland.
[d] Includes money paid into the National Lottery Distribution Fund.
[e] Includes VAT and 'traditional own resources' contributions to EU budget. Net of tax credits, cash basis.
[f] Excludes children's tax credit, which scores as a tax repayment in the National Accounts.
[g] Removes spending financed by the windfall tax.
[h] Excludes spending financed by the windfall tax.
[i] Includes capital gains tax.
[j] The number implied by current receipts has been replaced by the more realistic PBR number.
Source: Treasury forecasts from HM Treasury, *Pre-Budget Report*, Cm. 4917, November 2000; this table is equivalent to Table B11 (p. 180).

receipts forecast. For **fuel duties**, we use the figure of £23.5 billion, equal to the amount implied by the current level of receipts. This is slightly higher than the Treasury figure but lower than the £23.7 billion predicted by our forecasting model.

Other government receipts

For most other receipts, we take the Treasury's forecast. The exception to this is **vehicle excise duty**, where we expect receipts to be some £0.4 billion lower than the Treasury predicted, at £4.5 billion. This is entirely due to our treatment of the £365 million cost of the PBR announcement to reduce VED on lorries and to extend the small-car threshold. The PBR uses money from the AME margin to pay for these measures while they are under consultation, while we assume that they will remain in place and hence reduce VED receipts accordingly.

Government expenditure

We forecast current spending to equal £361.1 billion, which is £3.5 billion lower than the Treasury's forecast. We assume that the additional spending contained within the AME margin will not be used, and that there will be an underspend on current departmental spending of some £1 billion. This is due to evidence of underspending in recent years and the low growth in expenditure seen so far this year. We forecast that there will be £6 billion of net capital investment in 2000–01, an underspend of £1 billion on that contained in the PBR.

Government borrowing

As a result of both higher government revenues and lower government expenditure, we forecast that, in 2000–01, the surplus on **current budget** will be £21.1 billion. This is some £4.4 billion higher than the £16.6 billion forecast by the Treasury. We forecast that **public sector net borrowing** will be a repayment of £15.9 billion, which is £5.8 billion larger than the £10.1 billion forecast in the Pre-Budget Report.

A.4 Medium-term forecasts

Any assessment of the fiscal stance, and whether the Chancellor is going to be successful in meeting his two fiscal 'rules', should be judged over the economic cycle. Table A.4 presents the macroeconomic forecasts underlying the baseline IFS / Goldman Sachs forecast for government borrowing. We forecast GDP growth of 3% in 2000–01 and 2½% in 2001–02. This is slightly higher than that forecast in the Pre-Budget Report. Beyond 2001–02 our baseline forecast has the same cautious growth forecasts as the Treasury – with GDP growth at 2¼% a year until 2005–06. Our forecasts for employment and real wage growth follow a similar pattern to that of GDP growth.

Table A.4. Main macroeconomic assumptions used in the baseline forecast

% growth in variable	**2000-01**	**2001-02**	**2002-03**	**2003-04**	**2004-05**	**2005-06**
Gross domestic product (GDP)	3	2½	2¼	2¼	2¼	2¼
Real consumers' expenditure	3½	2¾	2	2	2	2
Corporate profits (lagged 1 year)	2	6¼	6	4	4	5
Employment (lagged 1 year)	¾	¼	¼	0	0	0
Real wage growth	¾	2¾	2	2	2	2
GDP deflator	2	2½	2½	2½	2½	2½

Our baseline forecast for the public finances in the medium term is presented in Table A.5. For 2001–02, we forecast a higher repayment of borrowing than the Treasury (£7.2 billion as opposed to £6 billion), due to our expectation of lower spending on both the current and capital budgets. As a result, we forecast lower levels of debt interest in subsequent years, leading to lower levels of overall spending in our forecast until 2003–04. For the last two years of the planning period, we assume that current spending will be increased by 2½% in real terms, while capital spending will be as forecast in the PBR. Together with an expectation of higher receipts starting from 2002–03, this means that we forecast lower borrowing than the Treasury for every year until 2005–06.

Table A.5. Medium-term public finances forecasts, based on cautious macroeconomic assumptions (£ billion)

IFS / Goldman Sachs forecasts	**2000-01**	**2001-02**	**2002-03**	**2003-04**	**2004-05**	**2005-06**
Current budget						
Current receipts	381.3	399.4	417.4	437.3	458.4	480.9
Current expenditure[a]	361.1	382.5	402.1	422.5	443.8	466.3
Windfall tax & ass. curr. sp.[b]	0.8	0.8	0.7	0	0	0
Surplus on current budget[c]	21.1	17.7	15.9	14.8	14.6	14.6
Capital budget						
Net investment	6.0	11.2	15.0	18.2	20.0	22.0
Windfall tax & ass. cap. sp.[b]	0.9	0.7	0.0	0	0	0
Public sector net borrowing[c]	–15.9	–7.2	–0.9	3.4	5.4	7.4

[a] In line with the National Accounts, depreciation has been included as current expenditure.
[b] Removes spending financed by the windfall tax.
[c] Excludes spending financed by the windfall tax.

A.5 Explaining discretionary tax increases

Table A.6 shows changes in tax as a result of Budget announcements for the current and last parliament. The effect that each Budget has on tax revenues, over and above measures already in place or announced, is shown in the column appropriate for the parliament in which it takes effect. For the last parliament, the effect shown is that on revenues in 1996–97, while for the current parliament, the effect on revenues in 2001–02 is given. The tax amounts raised are all per year and are converted into in 2001–02 prices using nominal GDP.

Table A.6. Discretionary tax increases over the previous parliament and the current parliament (£ billion)

Announcement	Last parliament to 1996–97	Current parliament to 2001–02
	Effect over and above any effect on previous parliament	
Conservative Budgets from 1987–92 parliament affecting revenues		
Spring 1991 Budget	2.3	n/a
Spring 1992 Budget	–4.0	n/a
Budget measures from 1987–92 parliament affecting revenues	–1.8	n/a
Conservative Budgets after the 1992 election		
Spring 1993 Budget	16.9	3.6
Autumn 1993 Budget	7.9	3.9
Autumn 1994 Budget	–0.9	0.4
Autumn 1995 Budget	–4.3	–1.3
Autumn 1996 Budget	n/a	0.8
Total Conservative Budgets during 1992–97 parliament	19.6	7.4
Labour Budgets after the 1997 election		
Summer 1997 Budget	n/a	5.6
Spring 1998 Budget	n/a	3.8
Spring 1999 Budget	n/a	–2.5
Autumn 1999 Pre-Budget Report	n/a	–4.0
Spring 2000 Budget	n/a	–0.6
Autumn 2000 Pre-Budget Report[a]	n/a	–0.6
Total Labour Budgets during current parliament	n/a	1.7
Total effect of Budget changes on taxes over parliament	**17.9**	**9.0**
Actual change in revenues over parliament	**–11.7**	**24.8**

[a] November 2000 Pre-Budget Report only includes those measures introduced without further consultation.

Notes: Increases are over and above the effect that any measure may have had on revenues in the preceding parliament. Measures announced in the March 2001 Budget may affect the figures for this parliament. Figures stated are for the effect on revenues in 1996–97 and 2001–02 respectively. All figures have been uprated to 2001–02 prices using nominal GDP growth. Reductions to the generosity of mortgage interest relief that occurred in the Budgets in Spring 1993, Autumn 1993, Summer 1997 and Spring 1999 are not included since the relief counts as government expenditure rather than tax forgone in the National Accounts. The Spring 1993 numbers include the effect of a 3% fuel escalator on annual revenues in both parliaments, while the Autumn 1993 figures include the effect of increasing this fuel escalator to 5% and introducing a tobacco escalator at 3%. The Summer 1997 numbers include the effect of increasing these escalators to 6% and 5% respectively. Both escalators were subsequently abolished in the November 1999 PBR. Thus the –£4 billion effect of the PBR includes the fiscal implications of removing the automatic tobacco and fuel escalators in 2000–01 and 2001–02. Any further changes in excise duties are treated as one-off changes in the year they occurred. For more details, see Appendix A.

Sources: HM Treasury, *Financial Statement and Budget Report*, various years; authors' calculations.

The table shows that the Autumn 1993 Budget, for example, raised £7.9 billion in tax revenues in 1996–97 in 2001–02 prices, while the measures it included were also forecast to raise revenues in 2001–02 by an additional £3.9 billion. Budget announcements during the last parliament raised taxes during that parliament by £19.6 billion, while they also introduced measures that were to raise taxes in this parliament by an additional £7.4 billion. Measures announced in the current parliament increased taxation by £1.7 billion over and above the £7.4 billion, giving a total increase resulting

from Budget announcements of £9.0 billion (numbers do not sum to total due to rounding).

The increases announced over the current parliament may appear relatively small. This is largely due to the fact that the November 1999 Pre-Budget Report abolished the automatic escalators on tobacco and fuel, which the last Budget of the previous parliament had assumed would remain in place at least until 2001–02. In addition, this parliament has seen an increase in taxes from Budget announcements made at the start of the parliament, in particular in the July 1997 and March 1998 Budgets, while announcements made since have reduced tax revenues. In fact, up to 2000–01, tax revenues have been increased by Budget announcements by £5.8 billion. This falls to £1.7 billion in 2001–02 due to factors such as the introduction of the children's tax credit and an additional year without an automatic fuel or tobacco escalator.

Despite the effect of Budget announcements, actual tax revenues fell over the previous parliament by 1.2 percentage points of GDP, which is equivalent to £11.7 billion in 2001–02 terms. Over this parliament, tax receipts have grown by more than the £9.0 billion from Budget announcements; in total, they have increased by 2.5 percentage points of GDP, which is equivalent to £24.8 billion.

It is, of course, impossible to tell what the Conservatives would have done if they had been re-elected in May 1997. In addition, the current government could, if it had wanted, have chosen to end the automatic escalators on fuel and tobacco earlier than it did, or to have offset these tax increases with reductions elsewhere. It could have implemented policies so as to leave the proportion of national income taken in tax constant or, indeed, to reduce it. But lower taxes would not have been possible without lower levels of public spending or higher levels of government borrowing.

Appendix B: How to classify the government's credits

Chapter 7 discussed the government proposals in the area of welfare reform. These include five policies that the government has labelled as credits:

- working families' tax credit (WFTC);
- children's tax credit;
- integrated child credit;
- employment tax credit;
- pension credit.

Here, we analyse the treatment of these credits in the public finances. There has been a degree of confusion as to whether the cost of these government policies should be treated as tax cuts or as increases in government expenditure. This is an issue of a pure accounting nature and it is unlikely to affect the economic decisions that individuals make in response to the policies. Whether these credits are treated as spending or forgone income will, though, affect the measure of the proportion of taxation in GDP.

Box B.1. International standards of public finance accounts

1. **European System of Accounts 1995** – government transfers are classified as forgone revenue if:

a) the benefit to the individual taxpayer does not exceed the amount of tax paid by them;

b) payment is made as a matter of economic policy; and

c) the allowance is an integral part of the tax system.

Source: Cited in *The Burden of Taxation*, House of Commons Library Research Paper no. 00/65, 2000.

2. **Government Finance Manual 1986 (IMF)** – government transfers are classified as government expenditure if they are paid to 'taxpayers in excess of previous tax payments, whether referred to as tax refunds, tax credits or by any other term'.

Source: Cited in *Introducing the European System of Accounts 1995 in the United Kingdom*, Office for National Statistics, London, 1998.

Box B.1 presents a summary of two international standards of public finance calculation on the treatment of tax allowances and credits (see Annex to this appendix for definition of allowances and credits in the tax system). The basic condition for tax credits to be treated as forgone revenue rather than expenditure is that the payments ought to be integral parts of the tax system

and their values should not exceed individuals' tax liabilities. Under such definitions, the values of refundable credits over and above the annual tax liability count as government expenditure. The example of the earned income tax credit (EITC) in the US gives an insight into these definitions. The EITC is an integral part of the US tax system in that the amount received by families is based on their annual income together with an assessment of their tax liability. According to the definitions above, EITC payments that offset tax payments count as forgone government income, but awards in excess of that would count as government spending.

In the UK, the children's tax credit qualifies for treatment as forgone income. It is an integral part of the tax system, in that its value depends on the annual level of tax paid by the individual or couple, and it is a non-refundable credit so no net payments are made to the taxpayer. In the case of the working families' tax credit, around 80% of expenditure is net payments to families over and above their tax liability, and thus does not count as forgone government revenue on these definitions. The remaining 20% could also arguably be classified as government spending as WFTC might not be seen as an integral part of the tax system. Therefore WFTC might be seen to fail both criteria that would qualify it as forgone government revenue, and by international standards should all count as government expenditure. This was the way the predecessor of WFTC, family credit, was treated in government accounts. Because the administration of WFTC has been moved to the Inland Revenue, and because some of the transfer has been paid through the pay-packet, the government has treated WFTC as forgone revenue in its calculation of net taxes and social security contributions as a share of national income. The resulting difference from excluding the WFTC is 0.5 of a percentage point of GDP in 2001–02.

Table B.1. Current and future credits in public finances: the system in 2001–02 and a possible reformed system

	Cost of current and future 'credits'	Amount that is or could be offset against tax payments	Net government transfer
Current system			
WFTC	£3.8bn	£0.7bn	£3.1bn
Children's tax credit	£1.8bn	£1.8bn	£0
Total	£5.6bn	£2.5bn	£3.1bn
Reformed system			
Integrated child credit (ICC)	£9.5bn	For ICC and ETC jointly:	
Employment tax credit (ETC) (if introduced only for families with children)	£1.3bn	£2.3bn	£8.5bn
Total	£10.8bn	£2.3bn	£8.5bn

Note: See Chapter 7 for the details of the integrated child credit design.
Source: Based on calculations in the IFS tax and benefit model, TAXBEN.

Different standards of accounting will also have implications for the transfers that the government has announced. Table B.1 outlines some estimates of the cost of the credits (although the precise structure and administration of the proposed schemes are uncertain). Even if the employment tax credit is not

introduced for those without children, the total cost of the introduction of the integrated child credit will increase the cost of personal transfers labelled as credits from £5.6 billion to £10.8 billion. At the same time, the value of the credits that could be offset against tax payments would change by little. Currently, some 70% of WFTC recipients pay income tax and about £700 million of WFTC expenditure could be offset against these tax payments. Together with the children's tax credit, this gives a figure of £2.5 billion that could be treated as forgone income if WFTC were an integral part of the tax system. Under one of possible options for the integrated child credit, the amount of transfers that could be offset against income tax would be £2.3 billion.

The level of tax as a share of national income is unlikely on its own to influence the economic choices made by individuals and their welfare. But some administrative elements of the tax and benefit system that may influence economic decisions do affect the way transfers are treated in the National Accounts. For example, whether payments are made on annual basis (like the children's tax credit) or whether they respond more quickly to changes in circumstances (like income support) may affect economic decisions. In changing the design of the tax and benefit system, it would seem sensible to give priority to the way in which the administration of payments affects individuals' and families' welfare over the implications for the level of taxes as a share of GDP as presented in the National Accounts.

Annex: Tax allowances and tax credits – some consistent definitions

The UK personal tax system is defined in terms of tax rates applying in specified income bands. These are complemented by tax allowances and tax credits.

Tax credits are simply reductions in tax liability. The final tax liability of individuals who receive tax credits is equal to their initial tax liability reduced by the amount of the credit. Tax credits can take one of two forms. They can be either non-refundable, in which case taxpayers receive no additional benefit if the value of the tax credit is greater than their initial tax bill, or refundable, if any such excess is paid to the taxpayer. Both refundable and non-refundable credits can be withdrawn at certain levels of income – this is a way of improving the targeting of these instruments on the relatively worse off.

Tax credits are different from tax allowances in the following way. Tax allowances are normally characterised by a restriction rate and an amount. Taxpayers can offset income up to the specified amount against the allowance. If the rate of tax on the offset income is less than or equal to the restriction rate, no tax is paid on the offset income. If the rate of tax is greater than the restriction rate, the offset income is taxed at the difference between the rate of tax and the restriction rate.[1] The UK personal allowance has a specified

[1] For more details, see J. McCrae, 'Simplifying the formal structure of UK income tax', *Fiscal Studies*, vol. 18, no. 3, pp. 319–34, 1997.

amount, but there is no restriction rate on it, so any income can be offset against it.

Figures B.1 and B.2 demonstrate the operation of non-refundable and refundable tax credits in a simplified system with a flat tax rate applying on all levels of income and with a tax allowance.

Figure B.1. A non-refundable tax credit

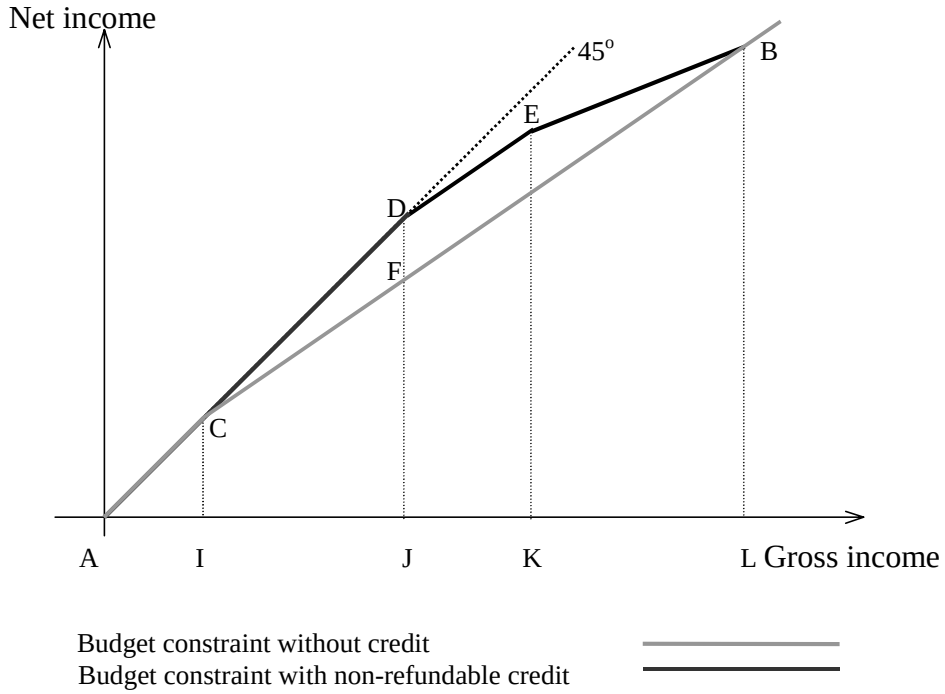
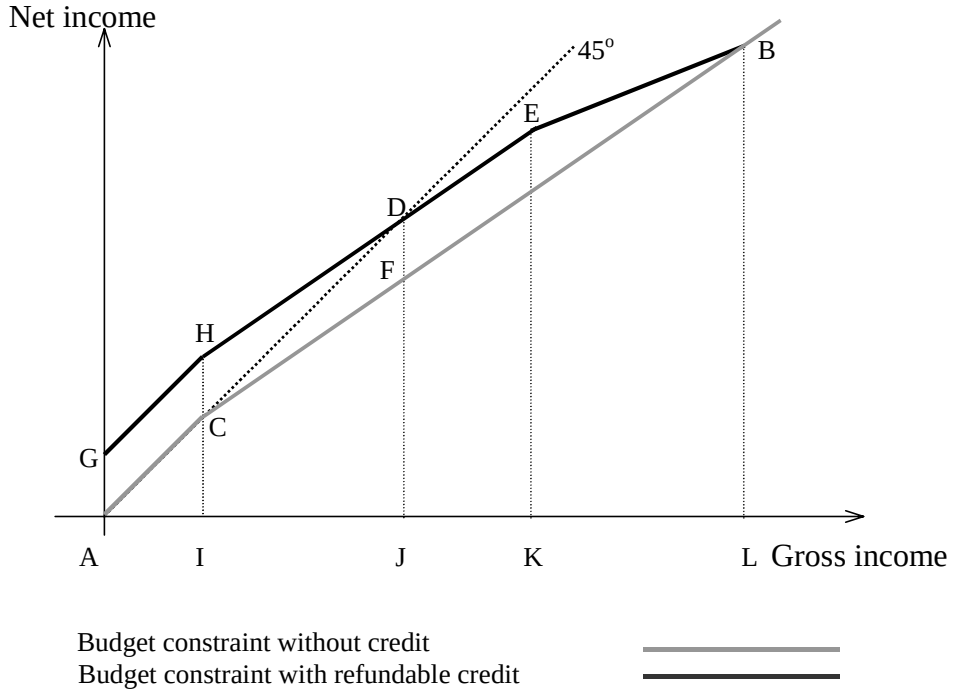


Figure B.2. A refundable tax credit



The tax liability before the credit is shown as the difference between the 45^{o} line and the grey line ACB. The amount of the allowance is equal to AI and its restriction rate is equal to the flat tax rate. Up to the point when income is offset against the whole amount of the allowance, the initial (pre-credit) tax liability is zero. If an individual receives a credit of value DF that is withdrawn once income reaches level AK, then the final tax liability will be different from the original liability up to the point when the whole of the credit is withdrawn (at income level AL). If the credit is non-refundable, as in Figure B.1, up to the income level AJ its value will be limited to the pre-credit tax liability. The individual's budget constraint with a non-refundable credit is ADEB.

If the credit is refundable, though, the full amount of the credit will apply even when the individual's pre-credit tax liability is zero, so post-tax income will be higher than pre-tax income up to the income level AJ. The budget constraint with a refundable credit is shown in Figure B.2 by the black line GHEB. When the pre-credit tax liability reaches the value of the credit (at income level AJ), the final post-tax income will be the same under refundable and non-refundable credits.

Appendix C: Budgets since 1979

This appendix summarises the main tax measures introduced in each Budget since 1979. Statutory indexation of thresholds and limits is not included.

1979 Budget, Geoffrey Howe

Income tax	Basic rate cut from 33% to 30%.
	Top rate cut from 83% to 60% on earned income and from 98% to 75% on unearned income.
VAT	Two-tier rates of 8% and 12.5% replaced by single 15% rate.
Excise duties	Alcohol and tobacco duties reduced; petrol duty increased.
Company taxes	Petroleum revenue tax rate increased from 45% to 60%.

1980 Budget, Geoffrey Howe

Income tax	Reduced rate of 25% abolished.
National Insurance	Employee rate increased from 6.5% to 6.75% (contracted in).
	Employer rate increased from 10% to 10.2% (contracted in).
Capital taxes	Stamp duty threshold on property increased from £15,000 to £20,000.
	Capital transfer tax threshold doubled from £25,000 to £50,000.
Company taxes	Petroleum revenue tax rate increased from 60% to 70%.

1981 Budget, Geoffrey Howe

Income tax	Personal allowances frozen in cash terms, implying a cut in real terms.
National Insurance	Employee rate increased from 6.75% to 7.75% (contracted in).
Excise duties	Sharp increases (beer and petrol up 24%, cigarettes up 16%).

1982 Budget, Geoffrey Howe

Income tax	Personal allowances increased in real terms.
National Insurance	Employee rate increased from 7.75% to 8.75% (contracted in).
	Employer National Insurance surcharge reduced from 3.5% to 2%, and to 1.5% from April 1983.
Capital taxes	Indexation provisions introduced for capital gains tax.
	Stamp duty threshold on property increased from £20,000 to £25,000.
Company taxes	Petroleum revenue tax rate increased from 70% to 75%.

1983 Budget, Geoffrey Howe

Income tax	Personal allowances increased in real terms.
	Mortgage interest relief ceiling raised from £25,000 to £30,000.
National Insurance	Employee rate increased from 8.75% to 9% (contracted in).
	Employer National Insurance surcharge cut from 1.5% to 1%.
Company taxes	Licence royalties abolished for all new oilfields.

1984 Budget, Nigel Lawson

Income tax	Personal allowances increased in real terms.
	Investment income surcharge abolished.
	Relief on life assurance premiums abolished for new policies.
National Insurance	Employer National Insurance surcharge abolished.
Excise duties	Duty on wine cut sharply; increases on beer and cigarettes.
Capital taxes	Stamp duty threshold on property increased from £25,000 to £30,000.
	Highest rate of stamp duty reduced from 2% to 1%.
	Top rate of capital transfer tax cut from 75% to 60%.
Company taxes	Corporation tax rate to be reduced from 52% in 1982–83 to 50% in 1983–84, 45% in 1984–85, 40% in 1985–86 and 35% in 1986–87.
	Stock relief abolished.
	First-year allowances to be phased out and replaced by 25% writing-down allowances.

1985 Budget, Nigel Lawson

Income tax	Personal allowances increased in real terms.
National Insurance	Employee and employer contributions restructured, with reduced rates for lower earners.
	Upper ceiling on employer contributions abolished.
Company taxes	Development land tax abolished.

1986 Budget, Nigel Lawson

Income tax	Basic rate reduced from 30% to 29%.
	Announcement of the introduction of tax relief for profit-related pay (PRP) schemes in 1987.
	Tax relief for Personal Equity Plans (PEPs) introduced.
Capital taxes	Capital transfer tax replaced with inheritance tax.
	Stamp duty for shares reduced from 1% to 0.5%.

1987 Budget, Nigel Lawson

Income tax	Basic rate reduced from 29% to 27%.
Excise duties	Duties held constant in cash terms, implying a real cut.
Capital taxes	Inheritance tax threshold increased from £71,000 to £90,000.
	Number of inheritance tax rates cut from seven to four.
	New arrangements to encourage personal pensions.

1988 Budget, Nigel Lawson

Income tax	Personal allowances increased in real terms.
	Basic rate reduced from 27% to 25%.
	All rates above 40% abolished.
	Announcement of separate taxation of husband and wife from 1990.
	Company car scale charges doubled.
Capital taxes	Capital gains accruing before 1982 written off for capital gains tax purposes.
	Capital gains tax rates changed to equal marginal income tax rates.
	Inheritance tax threshold increased from £90,000 to £110,000.
	Inheritance tax rates reduced to a single rate of 40%.

1989 Budget, Nigel Lawson

Income tax	Limit for higher age relief reduced to 75.
	Age allowance taper reduced to 50%.
	Pensioner ‘earnings rule’ abolished.
	PEPs extended.
National Insurance	Employee 5% and 7% bands abolished.
	Lower 2% rate for employees introduced on earnings below lower earnings limit.
Excise duties	Petrol duties adjusted to favour unleaded fuel.

1990 Budget, John Major

Income tax	Basic-rate limit frozen.
	Employer-provided work-place nurseries exempted from tax.
	Introduction of Tax-Exempt Special Savings Accounts (TESSAs).
	Abolition of composite rate of tax announced.
Capital taxes	Plans for abolition of stamp duty on shares announced.
Company taxes	Corporation tax rate cut from 35% to 34%.

1991 Budget, Norman Lamont

Income tax	Married couple’s allowance frozen.
	Mortgage interest relief restricted to the basic rate of tax.
	PEPs extended.
	Company car scale charges raised by 20%.
National Insurance	Employer contributions to be charged on company cars and free fuel from 1992–93.
VAT	Standard rate of VAT raised from 15% to 17.5%.
Company taxes	Corporation tax rate cut from 34% to 33%.

Local taxes	Community charge bills subsidised by £140 per adult.

1992 Budget, Norman Lamont

Income tax	Reduced rate of 20% introduced on first £2,000 of taxable income. Married couple's allowance frozen. Basic-rate limit frozen. PEPs limit on investment and unit trusts raised from £3,000 to the overall limit, £6,000.
Excise duties	Further widening in leaded–unleaded petrol duty differential. Car tax halved from 10% to 5% and abolished from November 1992.

1993 Spring Budget, Norman Lamont

Income tax	20% band widened to £3,000 by April 1994. Personal allowances and basic-rate limit frozen. Married couple's allowance and mortgage interest relief restricted to 20% from April 1994.
National Insurance	Contribution rates for employees and self-employed up 1 percentage point from April 1994.
VAT	Extended to domestic fuel at 8% from April 1994 and at 17.5% from April 1995.
Excise duties	Duties increased above inflation, except spirits (frozen). Announced commitment to increase duties on road fuel by at least 3% p.a. in real terms.
Capital taxes	Stamp duty threshold doubled to £60,000.
Company taxes	Advance corporation tax (ACT) rate reduced to 22.5% from April 1993 and to 20% from April 1994. Dividend 'tax credit' down to 20%. Basic rate of tax on dividends reduced to 20%.
Local taxes	Community charge abolished, council tax introduced.

1993 Autumn Budget, Kenneth Clarke

Income tax	Personal allowances and basic-rate limit frozen. Married couple's allowance and mortgage interest relief restricted to 15% from April 1995.
National Insurance	Main rate for employer contributions reduced by 0.2 percentage point to 10.2%. Lower rates of employer contributions reduced by 1 percentage point.
Excise duties	No increase on spirits and beer. Most other duties increased above indexation. Commitment to raise tobacco duties by at least 3% p.a. in real terms. Commitment to raise road fuel duties by at least 3% p.a. in real terms increased to 5% p.a. in real terms. Insurance premium tax and air passenger duty introduced.

1994 Budget, Kenneth Clarke

Income tax	All age-related personal allowances increased above inflation.
VAT	Abandonment of second stage of VAT on domestic fuel – rate to stay at 8%.
Excise duties	Alcohol duties raised by an average of 4%. Tobacco duties increased by more than inflation. Duties on road fuel increased above inflation; diesel duties brought in line with duties on unleaded petrol.
Other	Landfill tax planned for 1996 and businesses to be compensated through lower employer National Insurance contributions.

1995 Budget, Kenneth Clarke

Income tax	Basic rate of income tax reduced from 25% to 24%. Personal allowances increased above inflation. Lower-rate band and basic-rate limit increased by more than indexation. Tax on savings income cut from 25% to 20% for basic-rate taxpayers.
National Insurance	Tax relief on Class 4 National Insurance contributions withdrawn.

	Main rate for employers cut from 10.2% to 10% from April 1997.
	Rate of Class 4 contributions reduced from 7.3% to 6%.
Excise duties	Beer, wine and most cider duties frozen; spirits cut by 4%.
	Most tobacco duties up by 3% in real terms.
	Petrol and diesel tax (duty and VAT) raised by 3.5p per litre, or 5% real increase.
Capital taxes	Inheritance tax threshold raised to £200,000, £40,000 more than indexation.
Company taxes	Small companies' rate cut from 25% to 24%.
Other taxes	Landfill tax introduced at two rates of £2 and £7 per tonne.

1996 Budget, Kenneth Clarke

Income tax	Personal allowances increased by more than inflation.
	Basic-rate limit and married couple's allowance indexed.
	Basic rate cut to 23%.
	Tax relief for profit-related pay phased out from 1998–99.
Excise duties	Beer, wine and cider duties frozen; duty on spirits cut by 4%.
	Air passenger duty doubled, insurance premium tax up to 4%.
	Tobacco up by 5% in real terms, hand-rolling tobacco indexed.
	Petrol and diesel up by 5% in real terms.
Company taxes	Small companies' rate cut to 23%.
	Capital allowances cut for long-lived assets.
Local taxes	Transitional relief for small companies extended.

1997 Summer Budget, Gordon Brown

Income tax	Mortgage interest relief cut to 10% from April 1998.
VAT	Rate on domestic fuel cut from 8% to 5%.
Excise duties	Road fuel duties commitment raised from 5% p.a. to 6% p.a. real increase.
	Tobacco duty commitment raised from 3% p.a. to 5% p.a. real increase.
Capital taxes	Graduated stamp duty introduced: 1% for properties between £60,000 and £250,000; 1.5% between £250,000 and £500,000; 2% over £500,000.
Company taxes	Windfall tax on privatised utilities.
	Main corporation tax rate cut from 33% to 31% from April 1997.
	Small companies' rate cut from 23% to 21% from April 1997.
	Dividend tax credits for pension funds and other companies abolished immediately, for all others from April 1999.

1998 Spring Budget, Gordon Brown

Income tax	Working families' tax credit from October 1999.
	Allowances and bands indexed.
	Married couple's allowance restricted to 10% from April 1999.
	Individual Savings Accounts (ISAs) from April 1999.
	Tax on company cars increased.
National Insurance	'Entry fee' abolished for employees from April 1999.
Excise duties	Differential widened between diesel and unleaded petrol.
Capital taxes	Personal capital gains tax reformed: indexation abolished and taper introduced.
	Stamp duty raised to 2% on properties between £250,000 and £500,000, 3% on properties over £500,000.
Company taxes	ACT abolished from April 1999 and quarterly payments system introduced.
	Main rate cut to 30%, small companies' rate to 20% from April 1999.

1999 Budget, Gordon Brown

Income tax	Basic rate cut from 23% to 22% from April 2000.
	Most allowances indexed.
	New 10% starting rate from April 1999; 20% rate abolished.
	Married couple's allowance abolished from 2000 for under-65s.
	Children's tax credit announced from April 2001.
	Real increase in child benefit of 3% in April 2000.
	Mortgage interest relief abolished from April 2000.
	High mileage discounts for company cars reduced.

National Insurance	Starting-point for payment of employee National Insurance contributions aligned with income tax by April 2001. Upper earnings limit raised above inflation for next three years. Self-employed structure reformed from April 2000. Employer contributions on all benefits in kind. Employer rate cut by 0.5 percentage point from April 2001.
Capital taxes	Stamp duty raised to 2.5% on properties between £250,000 and £500,000, 3.5% on properties over £500,000.
Company taxes	Climate change levy from 2001–02.

2000 Budget, Gordon Brown

Income tax	Working families' tax credit, child premiums in income support and children's tax credit increased.
National Insurance	Employer rate to be cut by 0.3 percentage point from April 2001, instead of 0.5 percentage point, to reflect reduction in climate change levy.
Excise duties	Road fuel duty frozen in real terms. Cigarettes increased by 5% in real terms.
Capital taxes	Stamp duty raised to 3% on properties between £250,000 and £500,000, 4% on properties over £500,000.
Company taxes	Climate change levy cut by £0.7 billion from introduction in April 2001.

Appendix D: Headline tax rates and thresholds

	Current system 2000–01 level	Indexed 2001–02 level[a]
Income tax		
Personal allowance: under age 65	£4,385 p.a.	£4,535 p.a.
aged 65–74	£5,790 p.a.	£5,900 p.a.
aged 75 and over	£6,050 p.a.	£6,260 p.a.
Married couple's allowance restricted to 10%:		
aged 65–74 on 6 April 2000	£5,185 p.a.	£5,365 p.a.
aged 75 and over on 6 April 2000	£5,255 p.a.	£5,435 p.a.
Lower rate	10%	10%
Basic rate	22%	22%
Higher rate	40%	40%
Lower-rate limit	£1,520 p.a.	£1,580 p.a.
Basic-rate limit	£28,400 p.a.	£29,400 p.a.
Pension earnings cap	£91,800 p.a.	£94,900 p.a.
Tax rates on interest income	10%, 20%, 40%	10%, 20%, 40%
Tax rates on dividend income	10%, 32.5%	10%, 32.5%
Children's tax credit	n/a	£442 p.a.
National Insurance		
Lower earnings limit	£67 p.w.	£69 p.w.
Upper earnings limit (UEL)	£535 p.w.	£575 p.w.
Primary earnings threshold (employee)	£76 p.w.	£87 p.w.
Secondary earnings threshold (employer)	£84 p.w.	£87 p.w.
Class 1 contracted-in rate: employee	10%	10%
employer	12.2%	11.9%
Class 1 contracted-out rate: employee	8.4%	8.4%
employer – below UEL	9.2%	8.9%
employer – above UEL	12.2%	11.9%
Corporation tax		
Rates: lower rate	10%	10%
small companies' rate	20%	20%
standard rate	30%	30%
Capital gains tax		
Annual exemption limit: individuals	£7,200 p.a.	£7,500 p.a.
trusts	£3,600 p.a.	£3,750 p.a.
Tax rates (vary according to holding period)		
Non-business assets: top-rate taxpayers	24%–40%	24%–40%
basic-rate taxpayers	12%–20%	12%–20%
Business assets: top-rate taxpayers	10%–40%	10%–40%
basic-rate taxpayers	5%–20%	5%–20%
Inheritance tax		
Threshold	£234,000	£242,000
Rate for transfer at or near death	40%	40%
Value added tax		
Standard rate	17.5%	17.5%
Rate on domestic fuel	5%	5%

Continues

Continued

	Current system 2000-01 level	Indexed 2001–02 level[a]
Excise duties		
Beer (pint)	26p	27p
Wine (75cl bottle)	116p	120p
Spirits (70cl bottle)	548p	566p
20 cigarettes: specific duty	181p	188p
ad valorem (22% of retail price)	88p	91p
Lead replacement petrol (litre)	51p	49p[b]
Unleaded petrol (litre)	49p	49p
Ultra-low sulphur petrol (litre)	48p	46p[b]
Ultra-low sulphur diesel (litre)	49p	46p[b]
Air passenger duty		
Destinations within the EU: economy	£10	£5
club/first class	n/a	£10
Destinations outside the EU: economy	£20	£20
club/first class	n/a	£40
Betting and gaming duty		
General betting duty (applies only to off-course bookmakers)	6.75%	under review
Pool betting duty	17.5%	under review
Insurance premium tax		
Standard rate	5%	5%
Higher rate (for insurance sold accompanying certain goods and services)	17.5%	17.5%
Stamp duty		
Land and buildings: threshold	£60,000 p.a.	£60,000 p.a.
rate: up to £60,000	0%	0%
£60,000–£250,000	1%	1%
£250,000–£500,000	3%	3%
above £500,000	4%	4%
Stocks and shares: rate	0.5%	0.5%
Vehicle excise duty		
Graduated system for new cars from 1 March 2001	n/a	£90–£160
Standard rate	£155 p.a.	£160 p.a.
Small-car rate (engines up to 1,100cc)[b]	£100 p.a.	£105 p.a.
Heavy goods vehicles (varies according to vehicle type and weight)	£155–£9,250 p.a.	under consultation
Landfill levy		
Standard rate	£11 per tonne	£12 per tonne
Low rate (inactive waste only)	£2 per tonne	£2 per tonne
Local taxes[c]		
Average rate band D council tax: England	£847	n/a

[a] 2001–02 figures assume no discretionary changes apart from indexation and pre-announced measures.
[b] Subject to consultation.
[c] Figures for 1998.
Sources: Various HM Treasury, Inland Revenue and HM Customs and Excise Press Releases, March 2000; HM Customs and Excise, *Annual Report 1999–2000*; HM Treasury, *Tax Ready Reckoner and Tax Reliefs*, November 2000.

Appendix E: Tax revenues ready reckoner

Table E.1. Direct effects of illustrative changes in taxation to take effect April 2001

	Cost/yield (non-indexed base) 2001–02 (£m)
Income tax	
Rates	
Change starting rate by 1p[a]	410
Change basic rate by 1p[a]	2,800
Change higher rate by 1p	810
Change basic rate in Scotland by 1p[a]	230
Allowances	
Change personal allowance by £100	560
Starting-rate limit	
Increase starting-rate limit by £100	290
Basic-rate limit	
Change basic-rate limit by 1%	150
Change basic-rate limit by 10%:	
increase (cost)	1,350
decrease (yield)	1,650
Allowances and limits	
Change all main allowances, starting- and basic-rate limits:	
increase/decrease by 1%	500
increase by 10% (cost)	4,700
decrease by 10% (yield)	5,300
Working families' tax credit	
Change basic tax credit by £1	70
Change child tax credits by £1	130
Change 30-hour tax credit by £1	40
Change withdrawal threshold by £1	30
Change withdrawal threshold by 5%:	
increase	190
decrease	240

Continues

[a] Includes savings income taxable at the starting rate.

Continued

	Cost/yield (non-indexed base) 2001–02 (£m)
Corporation tax	
Change main rate by 1 percentage point	1,250
Change small companies' rate by 1 percentage point	180
Capital gains tax	
Increase annual exempt amount by £500 for individuals and £250 for trustees	15
Inheritance tax	
Change rate by 1 percentage point	60
Increase threshold by £5,000	45
Excise duties[a]	
Beer up 0.3p a pint	30
Wine up 1.4p a bottle (75cl)	15
Spirits up 6.4p a bottle (70cl)	5
Cigarettes up 3.2p a packet (20 king-size)	60
Petrol up 0.6p a litre	115
Derv up 0.6p a litre	100
Change insurance premium tax (both standard and higher rates) by 1 percentage point	255
VAT	
Change both standard and reduced rates by 1 percentage point	3,345
VAT coverage	
Extend VAT to:	**2000–01**
food	8,200
domestic and international passenger transport (UK portion)	1,850
construction of new homes	2,900
books, newspapers, etc.	1,500
water and sewerage services	1,000
children's clothing	1,050
prescriptions	650

[a] Figures are calculated given the price and tax charged on a typical item. All changes are assumed to be implemented in April 2001, except the change to the insurance premium tax (July 2001).

Note: The revenue effect is computed for changes to the 2001–02 tax system and relates to the full-year effect.

Source: HM Treasury, *Tax Ready Reckoner and Tax Reliefs*, November 2000.