Options for 1996

The Green Budget

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1 The 1996 Budget

The 1996 Budget may not be the last Budget before the general election, but it is clearly politically crucial. The economy has now been growing for three years, and public borrowing is falling. But support for the government is weak, confidence in the economy is low, and borrowing is higher than had been forecast.

The pressure on the Chancellor to produce a Budget that will enhance popularity while remaining prudent is intense. We expect that he will be able to present some small tax reductions within a package that will still meet reasonable tests of sound public finance. The Green Budget outlines the macroeconomic background, assesses the fiscal stance, and then considers a wide range of tax and spending issues that will be on Mr Clarke's pre-Budget agenda.

Economic Prospects

Mirroring developments in the rest of the world, GDP growth in the UK slowed to around a trend rate of 2-2.5% during the first half of 1995, largely as a result of a collapse in export volume growth since the end of last year. A further weakening in growth cannot be ruled out. Business surveys indicate that demand has been weaker than companies anticipated, leading to some involuntary accumulation of stocks. A period of destocking is therefore likely which, as the US experience this year has shown, can have a significant adverse impact on GDP growth for a quarter or two. During this period of sluggish growth, the Chancellor could easily come down in favour of a small easing in monetary policy for insurance purposes.

Once the stock adjustment is complete, there are a number of reasons for expecting a strong rebound in growth. First, growth in the world economy, led by the US, is likely to pick up to a 3% annualised rate during 1996 from under 2% at present. Second, the monetary aggregates are signalling stronger growth in 1996. Indeed on almost any measure, monetary policy seems stimulative. Third, fiscal policy is becoming less restrictive; consumer confidence and spending may be bolstered by the anticipation of tax cuts. Thus after a period of subdued growth during the second half of the year, the Goldman Sachs forecast is for GDP growth to increase from 2.7% in 1995 to around 3% in 1996, with the main contributors to growth next year being consumers' expenditure and investment.

Most measures of inflation clearly troughed during the second half of 1994 and have risen steadily during 1995. Underlying inflation is likely to remain on an upward trend until the middle of 1996, after which some modest easing seems probable in response to the slowdown in economic growth recorded this year. It is less clear whether the government will be successful in achieving its stated objective of reducing underlying retail price inflation to 2.5% or less over the next two years. This will depend, among other things, on the amount of spare capacity in the economy, the strength of economic growth, and the responsiveness of wages to the pick-up in headline inflation recorded over the past year. The margins of error in economic forecasts are sufficiently large that no one can be sure at this stage whether the Chancellor's objective will be hit, although very few forecasters, including Goldman Sachs, believe that this will be the case by the end of next year.

The Cyclical Position of the Economy

Policy decisions, of both a monetary and fiscal nature, often need to be made when there is a great deal of uncertainty about the underlying state of the economy. Interest rates need to be set with the aim of achieving a specific inflation objective over a time horizon of 18 months to two years, given the long lags that exist between interest rate changes and their impact on inflation. The 'cost' of making a monetary policy mistake depends to a large extent on the cyclical position of the economy. If there is plenty of slack in the economy, then there would be little inflationary risk if the economy were to resume growth at an above-trend rate. On the other hand, if there is little or no slack, then a period of below-trend growth might well be needed to bring inflation back down again towards the government's target of '2.5% or less'. Similar considerations apply to fiscal policy. Fiscal decisions need to be taken in order to achieve a 'sustainable' level of public sector borrowing when the economy is operating at full potential. The more slack there is the economy, the greater the scope for the PSBR to fall by the time the economy gets back to trend. In setting policy, the Chancellor must therefore take a view on where the economy is relative to potential.

Despite its importance, there is no consensus about the amount of slack that exists in the economy. The main difficulty is that the output gap is unobservable; at any point in time, it is impossible to know with certainty the economy's potential level of GDP. On the most optimistic view, which extrapolates past trends, the output gap is still around 3%. However, there are reasons for taking a more cautious view. First, capacity utilisation is running at well above mid-cycle readings in both manufacturing and services, in part reflecting the anaemic recovery in investment over the past three years. Second, on a wide range of measures, the labour market is exhibiting characteristics that were last seen in early 1987, just before wage inflation began to pick up in earnest. This suggests that the labour market may now be reasonably close to equilibrium. If this interpretation is correct, the output gap may be a lot smaller than is commonly believed. In particular, the simple extrapolation of historic trends may give an over-optimistic assessment of trend output. If so, the scope for a further period of above-trend growth may be limited. It is possible that the equilibrium level of unemployment has fallen in response to the labour market reforms introduced during the 1980s, in which case a more optimistic assessment might be possible. Alternatively, a burst of labour-saving investment would increase the available amount of physical capacity and free up labour, thereby increasing the sustainable rate of growth for a time. However, in setting monetary and fiscal policy, a relatively cautious assessment of the amount of spare capacity in the economy at the current time would seem appropriate.

PSBR Projections

We expect the out-turn for the PSBR in 1995-96 to be just under £27bn, and the PSBR on unchanged policies in 1996-97 to be £16bn. The 1995-96 out-turn is worse than that forecast in the PSBR last year, and also worse than forecast in the Summer Economic Forecast. The two main causes of this are slower growth in GDP and a lower-than-expected growth rate of tax revenue. Although worse than forecast, the 1995-96 out-turn still represents some fiscal tightening from year to year, as would an out-turn for 1996-97 of £16bn.

As to whether a PSBR of around £16bn is acceptable, the rules of thumb we have advanced in recent years, on debt sustainability and the golden rule, are all at least met, provided the economy does not pass its trend level before 1996-97, which seems unlikely.

Given these considerations, we expect a Budget that contains some £2-3bn of 'headline' tax reductions, funded partly by small and obscure tax increases, partly by some small real cuts in planned public expenditure, and possibly even by some small increase in the PSBR over the no change forecast. Such a Budget would not offend against the principles of sound public finance we have advocated in the past.

Further, we believe the medium-term picture may provide some scope for more significant loosening if the economy proves to hit trend later than expected. We might hit trend each year from 1996-97 onward, when PSBR is expected to be 2.1% of GDP. This level is appropriate to ensure a sustainable level of government debt and about right to meet the golden rule. If, however, the economy hits trend later, there will be considerably more room for manoeuvre and a possibility that subsequent Budgets could fund substantial fiscal loosening whilst running a prudent fiscal strategy.

Taxation Issues

Income tax

The Conservatives have used three methods of reducing income tax since 1979 - cutting rates, increasing the real level of allowances and introducing and expanding the lower-rate band of tax. We show again that the most progressive form of cutting income tax is to increase the tax-free allowance, and that cutting rates is the least progressive. We also examine the effects of a more radical reform that would seek to achieve a 20% basic rate of income tax in this Budget by reducing the value of the personal allowance for basic- and higher-rate taxpayers, whilst significantly extending the lower rate of tax.

We study possible reforms of tax-privileged remuneration in view of the spotlight on executive share options over the summer and conclude that while care must be taken when reducing the scope of these reliefs, there is a strong case to end the temporary tax-privileged status of profit-related pay schemes set up by Nigel Lawson in the 1986 Budget.

Finally, we examine the difficult issue of income tax and family formation which has been a thorn in the side of Chancellors since 1979. Whilst we reject the notion that the tax system has been a major player in the rise of divorce and single-parent families, we recognise there are legitimate arguments that can be advanced for treating the couple as a tax unit. In light of this, we model the effects of two schemes that allow couples to transfer tax allowance between spouses. Both schemes cost under £4bn and target this tax reduction on single-earner couples. Alternatively, the family could be promoted by removing tax allowances given for marriage and targetting help on families with children via child benefit.

Company taxation

We begin by showing how corporate tax revenues are now much more closely related to changes in net corporate profitability, which implies we can expect significant increases in corporation tax revenues over the next two years. But we do not believe tax revenues from companies should be boosted further by a windfall tax on the utility companies, despite the companies' ability to pay this charge and the evident popularity of this move. We strongly believe that a windfall tax is an inappropriate response to past mistakes in privatisation or regulation of the utilities. It would be borne not by those who profited from the windfall gains, but in part by present shareholders, and quite possibly by consumers in the form of higher prices or lower service standards. We believe there is a case for taxing excess corporate profits, but any change in the tax base should be applied to all firms, and the best solution to monopoly abuses by the utility companies would be tighter regulation rather than the government appropriating these monopoly profits through taxation.

We look at a number of issues regarding dividends. The bias in the UK tax system against retained profits could increase the cost of investment funds for firms. Solutions to this bias could involve reducing the rate of advance corporation tax to zero, matched by a reduction in the corporate tax rate, or more ambitiously the definition of the tax base could be redefined to eliminate the present fiscal drag on corporate investment.

Indirect taxation

The main area for debate here is the scope for raising more revenue from higher taxes on alcoholic drinks, where the role of cross-border shopping has created substantial interest. We show that the rates of excise duty on wine and spirits are close to the revenue-maximising level, but that there is still scope to raise more revenue from raising tax rates on beer.

Environmental issues

Motoring taxes of one sort or another are likely to be the principal forms of any environmental discussion in the Budget. It is possible that some realignment of differentials in motor fuels will be considered, as may be some restructuring of vehicle excise duties. Road and congestion charging are still distant prospects, while we can expect more details on the landfill levy.

Savings, assets and inheritance

The main question here is whether the Chancellor might be persuaded to use the tax system to attempt to alleviate the problem of negative equity. We doubt the macroeconomic wisdom of any attempt to boost the housing market, and while considering a range of options affecting both MIRAS and stamp duty, are sceptical of the benefits of further tax interventions.

Capital gains tax (CGT) and inheritance tax (IHT) are often linked, although are in fact very different taxes. Some moves to lighten the burden of IHT seem quite possible in the Budget, and such moves are mainly of political interest. Moves to lighten CGT have far greater potential impact on the economy. Any substantial change to CGT seems unlikely.

Long-term care has attracted much recent attention. There are two very separate issues here: first, the short-term question of the impact of the current capital rules in the social security system; and second, the possibility of private provision in the longer term. The first problem may well find a response in changes to the social security system, the second in a change to the tax rules for private pensions, allowing long-term care insurance to be provided within the pension tax regime.

Public Spending

The control of public spending is crucial to the ability of the government to meet its public finance objectives and allow room for tax reductions in the run-up to the general election. The Chancellor has claimed that the November 1993 Budget represented a new milestone in the control of public spending. We assess this claim by comparing current public spending out-turns since November 1993 with patterns of spending in the past, and by comparing current spending plans with plans in the two Autumn Statements before the November 1993 Budget.

Government expenditure as a share of GDP has fallen in the last two years but this is not unusual at a time of economic growth. In fact, the growth of real government spending is similar to that in the years 1982-84 when the economy was at the same stage in the cycle. But spending plans for the future have indeed become tighter.

The plans only reflect tighter spending control if they are achieved, and evidence so far is mixed. The planned 1.3% real *cut* for control total spending in 1994-95 turned into a 1.4% real *rise* in spending, and we have considerable doubts that the real plans for 1995-96 will be met. The jury is still out on whether the tight spending plans for the future will be realised, whether plans will be relaxed in the run-up to the election, or whether cash plans will be tightened to account for small overshoots in 1994-95 and 1995-96.

This Budget will also show the government's hand on certain spending commitments and pressures. The areas of greatest spending pressures are health, where an increase in cash plans is needed fully to meet Conservative manifesto commitments, and education, where there is considerable spending pressure from increasing pupil numbers, the failure fully to fund last year's pay settlement and increasing class sizes. To meet some of these pressures, the government holds a contingency reserve that can be allocated to departments or withheld to reduce cash spending plans. In addition, we expect reductions in government capital expenditure as a further tranche of new capital projects are funded from the private finance initiative. This initiative does appear to have had an impact in terms of new infrastructure projects, although the main motivation behind the process appears to be a circumvention of the rules governing the definition of the PSBR.

2 The Economic Forecast

2.1 The World Economy

Real GDP has slowed sharply in the major industrialised countries over the past year. Most, if not all, of this has been due to the stock cycle. In the middle of last year when GDP in the major industrialised countries was growing at an annualised rate of around 4% for a short period, roughly half of this came from the inventory contribution. By 1995Q2, when growth in the G7 had slowed to just under 2%, the contribution from stocks had dropped to around -0.8%. Thus growth in the major economies fell by two percentage points between mid-1994 and mid-1995 and this was more than accounted for by the downturn in stocks.

Although the drag from stocks on global GDP growth has been quite severe, there does not appear to be a significant mismatch between stocks and final sales in any of the UK's major trading partners at the current time. This is particularly the case when compared with the periods just before the onset of recession in previous cycles. In most economies, companies appear to have built up inventories during 1994 in anticipation of a strong acceleration in final demand for consumer and investment goods. In the event, this did not occur, though for the G7 as a whole, final demand does not seem to have decelerated very much either. While there has been some modest slowdown in consumers' expenditure growth this year, this has been offset by firmer growth in capital spending, leaving final demand growth roughly unchanged.

Until the global inventory correction is complete, growth in the major economies may remain sluggish and this will act as a depressing influence on UK exports. On Goldman Sachs's latest forecasts, GDP for the G7 as a whole is expected to grow at an annualised rate of only 1.5-2% in 1995Q3, strengthening to 2-2.5% in Q4. Thus G7 growth, while almost past its low point, will remain below trend during the second half of the year. In this period, there is unlikely to be a tightening in monetary policy by any of the major overseas central banks, and expectations of further monetary easing could easily arise in the money markets of the US, Germany and Japan. Reflecting this more subdued pattern of growth, UK export markets, which grew by 10% last year, are likely to expand by only around 6% in 1995.

Looking beyond the current year, monetary conditions do not seem tight enough to prevent G7 growth in final demand from continuing at or above its trend rate. Real interest rates are at much lower levels than prevailed on average during the 1980s and monetary growth has picked up in many economies. With the drag from stocks likely to end before the end of the year, a reacceleration of global economic activity to at least a trend rate should become apparent early in 1996. The Goldman Sachs forecast shows GDP growth for the G7, excluding the UK, picking up from 2.2% in 1995 to 2.6% in 1996. This is unlikely to pose any serious threat to inflation. Recent running rates for consumer price inflation in the G7 countries have remained broadly stable at around 2.5% and there is little sign of rising labour cost pressure. Growth is unlikely to pick up strongly enough to change this picture much. Although commodity price pressures may increase in response to stronger economic activity, consumer price inflation for the G7 as a whole should remain in a 2.5-3% range over the next year.

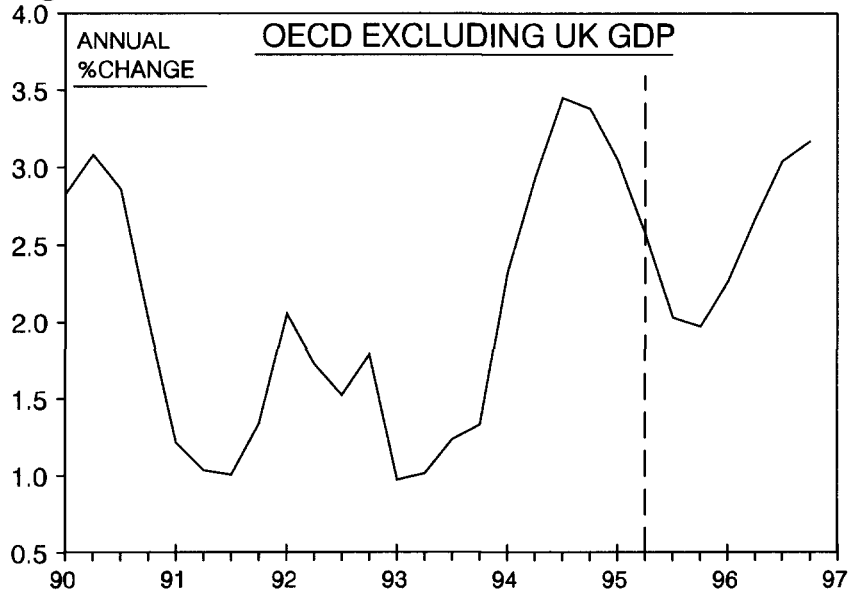
Table 2.1. Forecasts for the world economy

(% change from previous year)	1994	1995	1996
OECD real GDP			
HMT	3.0	2.5	2.5
OECD	2.9	2.7	2.7
Goldman Sachs	3.1	2.5	2.8
OECD consumer prices			
HMT	2.3	2.8	2.8
OECD	2.3	3.3	3.3
Goldman Sachs	2.3	2.5	2.8
UK export markets			
HMT	10.0	7.8	7.5
OECD	10.5	9.9	7.8

Notes: Goldman Sachs and HMT figures for GDP and inflation relate to G7 only. HMT figures for inflation relate to Q4. OECD inflation forecasts relate to consumers' expenditure deflators and exclude Turkey. HMT and OECD figures for UK export markets relate to manufactures only.

Sources: HMT - HM Treasury, Summer Economic Forecast, June 1995.
OECD - *Economic Outlook*, June 1995.
Goldman Sachs - *International Economics Analyst*, September 1995.

Figure 2.1.

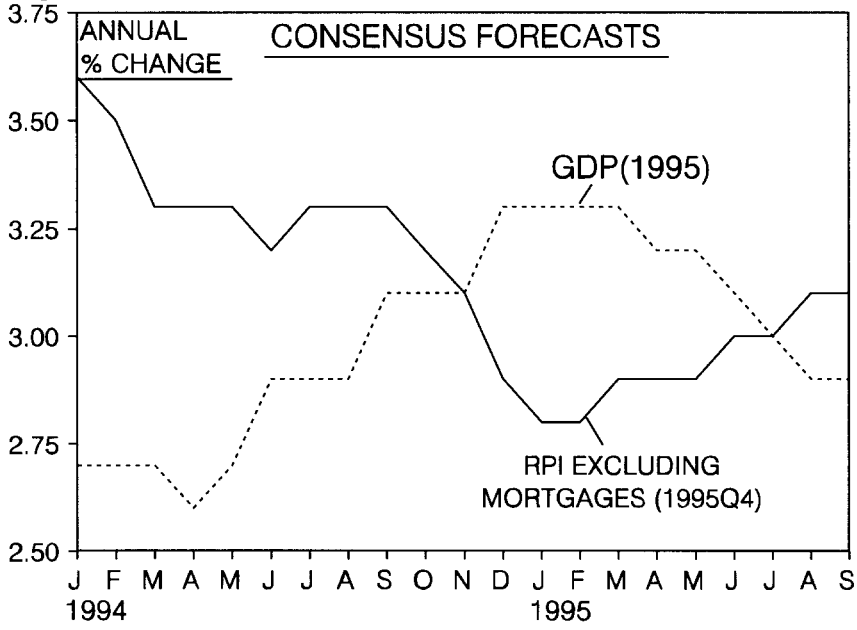


2.2 The Domestic Economy

Mirroring developments in the rest of the world, growth in the UK has slowed over the past year. The quarterly rate of growth in non-oil GDP peaked at an annualised rate of 5.3% in 1994Q2 and eased to an annualised rate of 2.3% in the first half of 1995. Total GDP growth has slowed by a little more but this is due to erratic movements in North Sea oil output. Developments overseas can largely account for the slowdown in the domestic economy. After rising strongly through much of 1994, non-oil export volume appears to have stagnated since last autumn. Although import volume growth has also remained fairly subdued, the contribution from net trade to GDP growth - approximately zero in the first half of 1995 - has declined at a broadly similar rate to the deceleration in GDP growth.

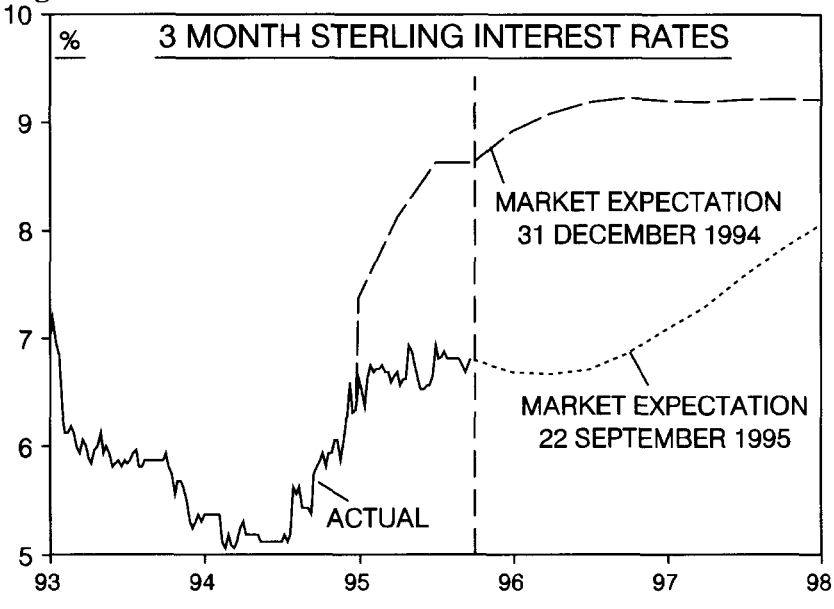
The slowdown in economic activity has been a little greater than generally expected, leading to a gradual downward revision in the consensus forecast for GDP growth this year. The consensus of all City forecasts monitored by the Treasury for GDP growth in 1995 has come down from 3.3% earlier this year to 2.9% in September. At the same time, there has been a gradual upward revision in expectations for underlying retail price inflation (RPIX). The consensus forecast for RPIX in 1995Q4 is now at 3.1%, up from a low of 2.8% in February. This pattern of forecast revisions - down for growth and up for inflation - is in marked contrast to the previous two years when revisions were generally in a favourable direction for both variables.

Figure 2.2.



Interest rate expectations have improved substantially on the back of slower economic growth. At the beginning of 1995, the futures market in UK interest rates was pricing in a rise in three-month interest rates to 9% by the end of 1995 and a further rise to 9.3% by the end of 1996. By the end of September, these expectations had fallen to 6.6% and 7.1% respectively. Increasingly, there is speculation that the next move in base rates will be down. Although the Governor of the Bank of England has recently tried to dampen such speculation, the Chancellor could easily come down in favour of a small easing in monetary policy, for insurance purposes, if he felt that there was any further evidence of a slowing in economic growth. While not wishing to take risks with inflation, the Chancellor will equally not want to take any risks with the recovery with the general election only about 18 months away.

Figure 2.3.

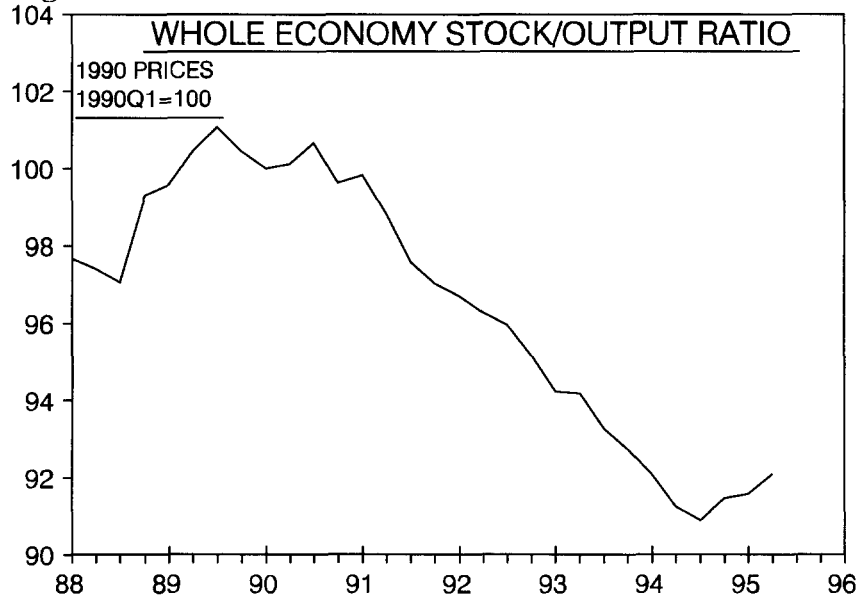


An Inventory Correction?

A further weakening in GDP growth cannot be ruled out. Even though the slowest period of growth may now have been seen in the world economy, the likelihood of continued below-trend growth in the G7 during the second half of 1995 may continue to act as a dampener on Britain's export performance. However, the greatest threat to growth probably comes not from exports, but from stocks. According to the CSO, there has been a sharp build-up in stocks in recent quarters - up by 3.7% over the past year compared with a rise in GDP of only 2.8%. As a result, the ratio of stocks to GDP, which had been on a declining trend, has picked up from a low of 90.9 in 1994Q3 (1990Q1=100) to 92.1 in 1995Q2. If the rise in the stock/output ratio has been involuntary, reflecting weaker-than-expected demand, then there is clearly a risk that firms will cut back production for a time in order to meet demand out of existing stocks. This is broadly what

has happened in the US and other countries this year. Moreover, the US experience shows that stock adjustments, even of a relatively minor nature, can have a significant impact on GDP growth for a quarter or two.

Figure 2.4.



The extent to which firms cut back stocks in the coming months will depend to a large extent on whether the rise in stocks in recent quarters has been voluntary or involuntary. There is no easy way of assessing this although business surveys suggest that there may have been a slight involuntary build-up in stocks since the spring. This would be consistent with some modest destocking during the second half of the year. As a minimum, a smaller build-up in stocks is likely in the next few quarters. The severity of the stock cycle will depend on two further factors: (i) the time it takes companies to act; and (ii) developments in final demand. These two factors are obviously closely linked. If the growth in final demand remains on a slower path and it takes another couple of quarters for companies to realise this, then there is clearly a risk of a much sharper stock adjustment during 1996. In this scenario, 1996 could turn out to be a very poor year for growth. This is not the central forecast of Goldman Sachs. While it is likely that stockbuilding will act as a drag on GDP growth in the next two or three quarters, perhaps curbing annual GDP growth by around 1% between mid-1995 and mid-1996, it should still be possible for growth to be maintained at around the 2% annualised rate recorded in the second quarter.

Forces for Stronger Growth

There are several reasons for believing this. First, part of the correction in stocks is likely to be felt in lower demand for imports. Coupled with the likelihood of a modest strengthening in export growth as the world economy recovers, net exports could begin to make a positive contribution to growth again. Second, fiscal policy is moving from being sharply contractionary to a more neutral stance. All of the tax increases are now firmly in place and consumers may be beginning to anticipate tax cuts. Third, and most importantly, the stance of monetary policy still seems quite stimulative on any measure. Monetary growth has clearly picked up in recent months: M0 remains well above its 0-4% monitoring range while M4 has moved from near the bottom to close to the top of its 3-9% monitoring range in the space of six months. The exchange rate, despite rallying recently on the back of a recovery in the US dollar, has depreciated by around 5% on a trade-weighted basis since the end of last year. Real short-term interest rates and the shape of the yield curve also suggest that monetary policy is stimulative, though less so than in 1994. Finally, while base rates have increased by 1.5 percentage points since September 1994, the rise in the average mortgage rate has been limited to about 0.2 percentage points. With monetary policy remaining stimulative, overseas demand beginning to recover and the fiscal tightening now fully in place, it is likely on current policy settings that after a period of modest growth during the second half of the year, GDP will pick up again to an above-trend rate during the course of 1996. The Goldman Sachs forecast is for GDP growth to increase from 2.7% in 1995 to around 3% in 1996 with the main contributors to growth next year being consumers' expenditure and investment.

After increasing by 3% in 1994, consumers' expenditure grew at a more modest rate of 2.2% in the year to 1995H1 which was broadly in line with the growth of real personal disposable income (RPDI). Personal disposable income is likely to be boosted in the next few quarters by continued gains in employment and wages; if tax cuts are announced in the Budget, these will help from next spring. Although part of the gain will be eroded by slightly higher inflation, RPDI is likely to grow by around 2.5% in 1996 from 2.2% in 1995. Continued take-over activity among building societies and the maturing of £15bn in TESSA accounts from next January are also likely to be helpful factors for consumer spending.

One of the greatest uncertainties relates to the housing market and how this will affect consumers' expenditure. The housing market has turned down again in recent months: house prices have fallen by 2.5% since the end of last year according to the Halifax Building Society, and mortgage lending increased at a seasonally adjusted annualised rate of just 3.7% in the three months to July. However, the impact of these developments on consumption is far from clear since the role of housing in most equations for consumer spending is very poorly determined. Research at the National Institute of Economic and Social Research suggests that the main transmission mechanism is through people's willingness to extract equity from the housing market, i.e. borrowing more than is needed to finance a house purchase and using the remainder to finance consumer spending. People's ability to do this is clearly limited in an environment of declining house prices, especially when one million or so homeowners actually have 'negative equity'. Not surprisingly, equity withdrawal has already fallen to unusually low levels. But a further

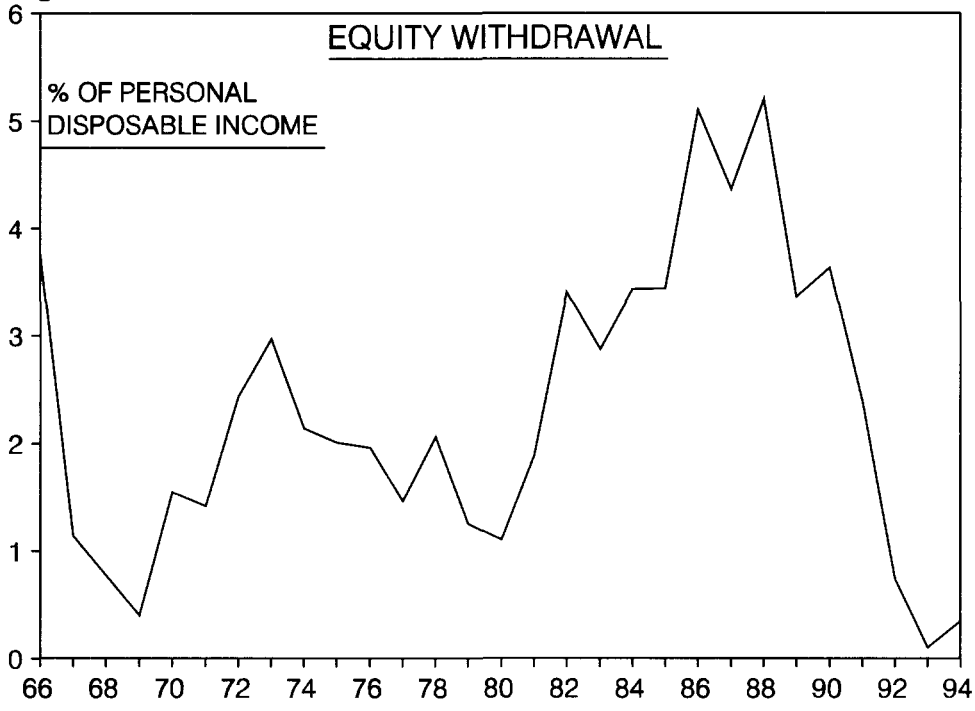
Table 2.2. Demand prospects

(Annual % change, volume)	1994	1995	1996
Private consumption			
HMT		2.0	3.0
Goldman Sachs	3.0	2.3	3.0
Consensus		1.8	2.5
Total fixed investment			
HMT		3.0	5.3
Goldman Sachs	3.7	3.9	5.5
Consensus		3.4	6.1
Exports of goods and services			
HMT		7.5	6.8
Goldman Sachs	8.2	4.7	4.8
Consensus		6.5	5.9
Imports of goods and services			
HMT		4.0	6.3
Goldman Sachs	6.1	3.2	4.0
Consensus		3.2	5.5
Real GDP			
HMT		3.0	2.8
Goldman Sachs	3.9	2.7	2.9
Consensus		2.9	2.8

Note: HMT figures for 1995 are for first half only.
Sources: HMT as Table 2.1.
Goldman Sachs - *UK Economics Analyst*, October 1995.
Consensus - 'Forecasts for the UK Economy', HM Treasury, September 1995.

fall only seems likely if house prices decline significantly from here. Indeed, given the intensity of competition among building societies to encourage existing borrowers to switch lenders, it is possible that equity withdrawal could actually increase modestly over the next year. If so, the housing market, while remaining depressed, could actually give a small boost to consumption over the next 12 to 18 months. On the more conservative assumption that the housing market exerts a relatively benign influence on consumer spending, there is little reason to expect a marked move in the personal savings ratio in either direction. This would be consistent with growth in consumer spending of around 2.3% in 1995, strengthening to 3% in 1996.

Figure 2.5.

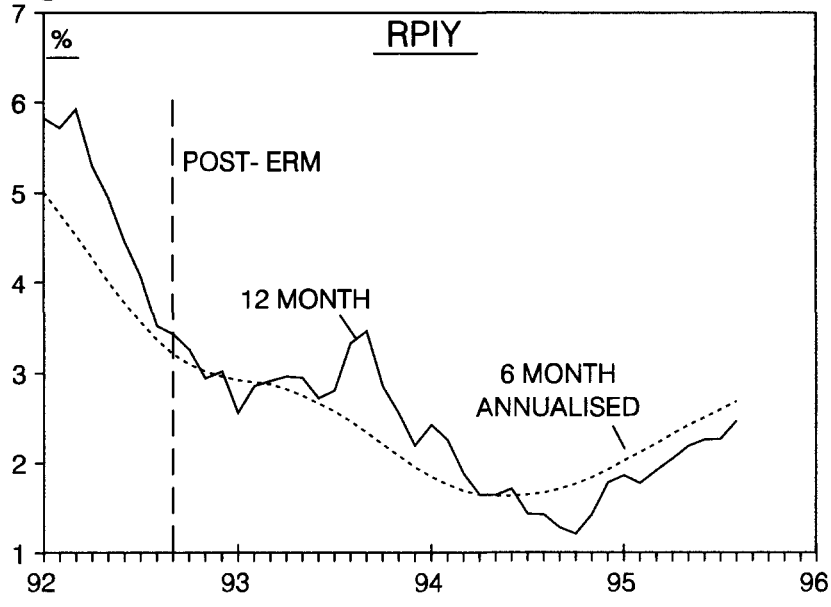


Investment has recovered surprisingly slowly during this recovery, rising by just 5.3% since the start of the recovery in 1992Q1. This compares with a rise of 21.3% at the comparable stage of the recovery in the early 1980s. Encouragingly, business surveys point to a strengthening in investment intentions in both manufacturing and services, and with capacity utilisation running at high levels in both sectors, investment is likely to grow strongly in the next few quarters. There is already some evidence of this in the manufacturing sector: in the year to 1995Q2, investment was up by 11%. The recovery in business investment should become more broadly based over the next year. Offsetting this, private housing investment is likely to remain sluggish, while general government investment seems certain to fall. Taken together, fixed investment growth may pick up from around 4% in 1995 to 5.5% in 1996.

Inflation

Most measures of inflation clearly troughed during the second half of 1994. The government's targeted measure of underlying retail price inflation (retail prices excluding mortgage interest payments), RPIX, has risen from a low of 2.0% in October 1994 to 2.9% in July 1995. Excluding the impact of indirect tax changes, underlying inflation has risen from 1.2% to 2.5% over this period. An upward trend in RPIX is likely to be maintained until the middle of next year, reflecting the lagged effects of the sharp rise in producer output price inflation over the past year, continued high levels of capacity utilisation and the impact of this year's 5% depreciation in sterling.

Figure 2.6.



Provided there is no further sharp depreciation in sterling, RPIX is likely to remain within the 1-4% target range set by the government during 1996. However, the stated objective of policy is to reduce inflation to below 2.5% by the end of the current Parliament and to maintain it there. Whether or not the government is successful in achieving this depends, among other things, on the amount of spare capacity in the economy, the strength of economic growth and the responsiveness of wages to the pick-up in headline inflation recorded over the past year. The margins of error in economic forecasts are sufficiently large that no one can be sure at this stage whether the Chancellor's objective will be hit, although very few forecasters believe that this will be the case by the end of next year.

The greatest concern relates to whether there is sufficient slack in the labour market to prevent an increase in wage inflation. Given the remarkable stability in underlying average earnings growth over the past couple of years - up from a low of 3% in late 1993 to just 3.25% in July 1995 - the answer to this question may seem obvious. However, it is worth recalling that underlying average earnings growth was stable in a range of 7.5-7.75% throughout the period from mid-1983 to mid-1987, but this did not prevent an increase in average earnings growth for the next three years.

Some measures of the supply/demand balance in the labour market are beginning to flash warning signals. Unemployment has fallen steadily since the beginning of 1993 from a peak of almost 3m to just under 2.3m - a level only achieved in the last economic upswing in mid-1988. Vacancies have risen steadily to within 5,000 of their long-term average level; the ratio of vacancies to short-term unemployment is running at levels last seen in

mid-1987. The number of people who are not actively seeking work because they believe that no jobs exist has fallen to levels seen in 1987-88. Labour shortages have also picked up although these are not yet reported to be at dangerous levels.

Thus on a wide range of measures, the labour market is exhibiting characteristics that were last seen in early 1987, just before wage inflation began to pick up in earnest. If this interpretation is correct, it suggests that unless the economy remains on a more moderate growth path, there is a genuine risk that the rise in underlying inflation triggered by commodity prices, higher capacity utilisation and the depreciation in sterling will become permanently embedded in higher wage increases during the 1996 pay round. Pay settlements have already increased from a low of 2% in late 1993 to around 3.5% and, on the Goldman Sachs forecast, they are likely to edge above 4% during the first half of 1996. With overtime working and bonuses contributing to higher wage drift, average earnings growth may increase to around 5-5.5% during the course of 1996. This would still be consistent with underlying retail price inflation remaining within the 1-4% target range, but would mean hopes of a drop to the lower half of this range were unlikely to be realised.

Table 2.3. Other key indicators

	1994Q4	1995Q4	1996Q2	1996Q4
Price inflation (%)[a]				
HMT		3.0	-	2.5
Goldman Sachs	2.3	3.2	3.0	3.5
Consensus		3.1	-	3.3
	1994Q4	1995Q4	1996Q2	1996Q4
Unemployment (million)				
Goldman Sachs	2.47	2.31	2.28	2.15
Consensus	-	2.27	-	2.11
	1993	1994	1995	1996
Current account (£ billion)				
HMT			-2.0	-1.0
Goldman Sachs	-11.0	-1.7	-7.5	-4.8
Consensus			-1.6	-1.2

[a] RPI excluding mortgage interest payments.
Sources: As Table 2.2.

External Trade

Widespread concerns last year about the balance of payments have proved unfounded. Between 1993 and 1994, the current account deficit improved from £11.0bn to £1.7bn, although the deficit increased again to £7.4bn at an annual rate during the first half of

1995. Within the total, the non-oil trade balance has remained broadly stable, improving by around £1bn between 1993 and 1994 but then worsening by a similar magnitude (at an annual rate) during the first half of 1995.

Much of the recent widening in the visible trade deficit has been due to a worsening in the terms of trade (the ratio of export prices to import prices). After deteriorating by 1.5% in 1994, the terms of trade declined by 3.7% in the year to 1995H1 on the back of this year's decline in sterling. More recently, a weakening in export volume in response to sluggish overseas economic activity has also contributed to an adverse movement in the trade balance. Although recent developments in trade have been disappointing, the Goldman Sachs forecast is for export volume growth to outstrip the growth in import volume in both 1995 and 1996. This should limit the extent of any further deterioration in the visible trade balance.

Most of the improvement in the current account in 1994 was due to a sharp increase in the invisibles surplus. In particular, net investment income surged from £1.9bn to £10.5bn between 1993 and 1994. This is a very erratic component of the current account and on the evidence so far this year, it seems unlikely that all of this improvement will be sustained. The invisibles surplus is projected by Goldman Sachs to fall from £9bn in 1994 to around £5bn in 1995 and £7bn in 1996. On these projections, the current account of the balance of payments would worsen from a deficit of £1.7bn in 1994 to around £7.5bn this year and then improve again to around £5bn in 1996. Given the margins of error involved and the modest size of these deficits relative to GDP, it is unlikely that the current account will act as a serious impediment to growth over the next two years.

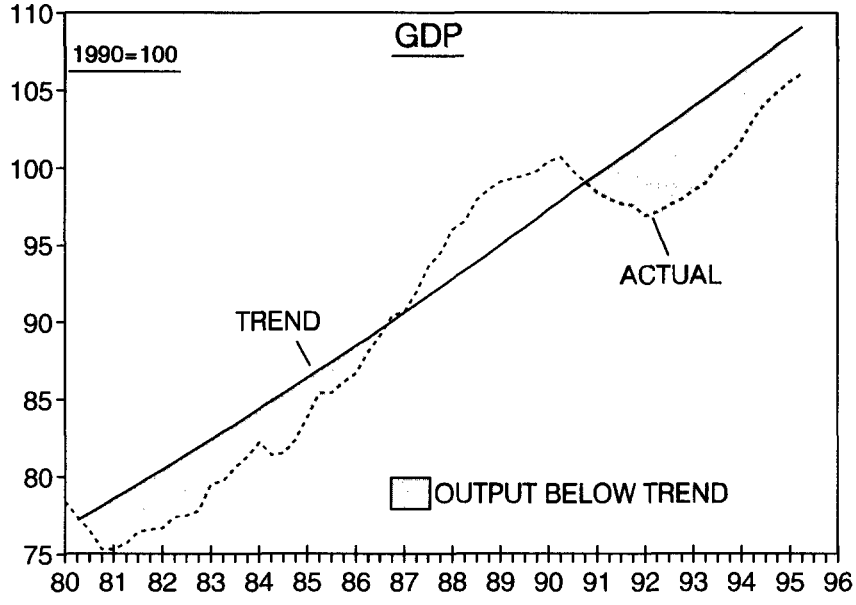
3 The Cyclical Position of the Economy

Policy decisions, of both a monetary and fiscal nature, often need to be made when there is a great deal of uncertainty about the underlying state of the economy. For instance, interest rates need to be set with the aim of achieving a specific inflation objective over a time horizon of 18 months to two years, given the long lags that exist between interest rate changes and their impact on inflation. Thus the success or otherwise of any monetary policy decision is not known until some considerable time later. The 'cost' of making a monetary policy mistake depends to a large extent on the cyclical position of the economy. If there is plenty of slack in the economy, then there would be little inflationary risk if the economy were to grow at an above-trend rate. On the other hand, if there is little or no slack, then a period of below-trend growth might well be needed to bring inflation back down again towards the government's target of '2.5% or less'.

Similar considerations apply to fiscal policy. Fiscal decisions need to be taken in order to achieve a 'sustainable' level of public sector borrowing when the economy is operating at full potential. In setting policy, the Chancellor must therefore take a view on where the economy is relative to potential. Recent research conducted by HM Treasury has emphasised the cyclicality of the public finances ('Public finances and the cycle', Treasury Occasional Paper no. 4, September 1995). Specifically, if output was to increase by 1% relative to trend, this is estimated to reduce the PSBR by about 0.8% of GDP after two years. Whether or not taxes have been raised by enough to reduce the PSBR to a sustainable level once the economy gets back to potential is clearly crucially dependent on the estimated size of the output gap. If the output gap is presently 3%, then the PSBR might be expected to fall to around 1.5% of GDP by the time the economy gets back to trend (from close to 4% of GDP in 1995-96). However, if the output gap has already been eliminated, then taxes might not yet have been raised sufficiently to put the PSBR on a sustainable footing.

Despite its importance, there is no consensus about the amount of slack that exists in the economy. The main difficulty is that the output gap is unobservable since at any point in time it is impossible to know with certainty the economy's potential level of GDP. Estimates of the output gap are crucially dependent on the way in which potential GDP is calculated. One common approach to estimating potential GDP starts from the proposition that over long periods of time, the economy seems to attain a steady average growth rate. Over the last economic cycle, the economy grew at an average annual rate of 2.3%, whether measured from peak to peak or trough to trough. If a constant 2.3% growth rate is projected from the last time the economy was at trend, which the CSO estimates was in 1990Q4, then the gap between this and actual GDP is around 3% at the current time. On this reasoning, the economy could grow at a rate of 3% for the next four years before the output gap is eliminated and inflationary pressure is encountered.

Figure 3.1.



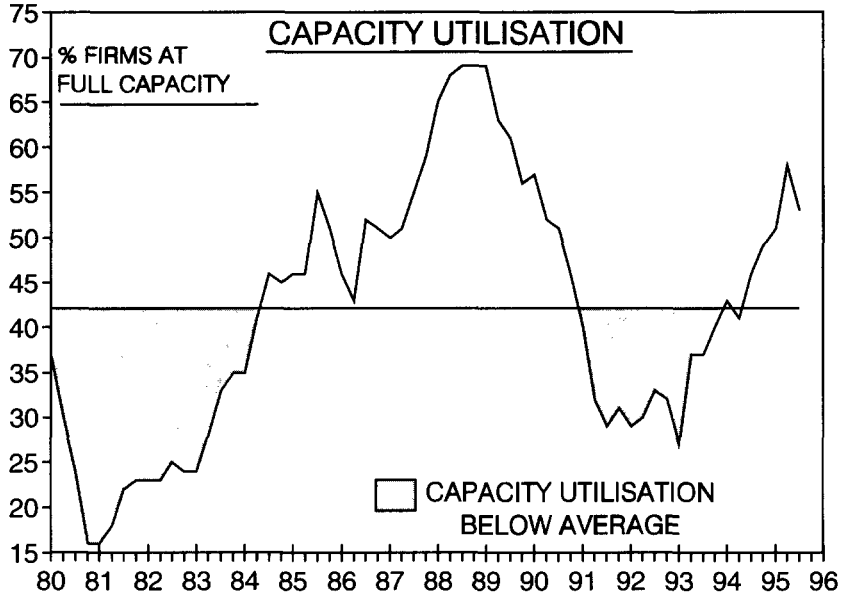
The problem with this approach is that it is entirely mechanical. It is not axiomatic that growth will average 2.3% over the current cycle; the Chancellor hopes that it will be higher but it could conceivably be lower. Much will depend on the rate of growth in the inputs to the productive process - capital and labour - and the productivity of these inputs. The average rate of growth will also depend on how highly utilised these resources are. An examination of the latter offers an alternative approach to measuring the size of the output gap.

Capacity Utilisation

There is no direct way of measuring capacity utilisation but there are a number of different sources of survey information. The most well known of these are the CBI Industrial Trends Survey, covering the manufacturing sector, and the British Chambers of Commerce Survey which contains information about the manufacturing and service sectors. According to these two surveys, there has been a sharp increase in capacity utilisation in both the manufacturing and services sectors over the past two years to levels well above mid-cycle readings.

One argument put forward by the Treasury in its Summer Economic Forecast is that manufacturers may now be able to manage their capacity more effectively to relieve potential bottlenecks as a result of more efficient and flexible working practices. The problem with this argument, as the Treasury recognised, is that high rates of capacity utilisation have gone hand-in-hand with a large proportion of firms citing a shortage of capacity as a potential constraint on output and as inadequate to meet demand. An alternative explanation is simply that investment has been much weaker in this recovery compared with previous recoveries. Since the trough in GDP in 1992Q1, business fixed investment has risen by only 5.3%. This compares with a rise of 23.7% during the comparable stage of the recovery of the early 1980s.

Figure 3.2.

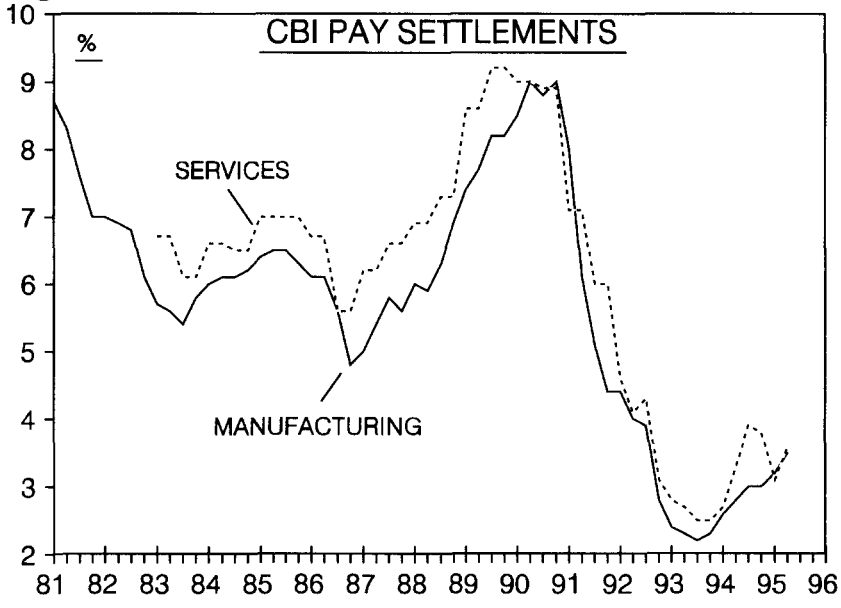


The Labour Market

Ultimately, the greatest potential long-term inflationary threat stems not from a lack of physical capacity, since any shortfall is likely to be met through higher investment, but from the labour market. In particular, is there sufficient slack in the labour market to prevent an increase in wage inflation? Given the remarkable stability in average earnings growth over the past couple of years - up from a low of 3% in late 1993 to just 3.25% in July - the answer to this question may seem obvious. However, it is worth remembering that underlying average earnings growth was stable in a range of 7.5-7.75% throughout the period from mid-1983 to mid-1987, but this did not prevent average earnings growth from increasing for the next three years.

Part of the stability in average earnings growth is due to a sharp narrowing in wage drift - the gap between pay settlements and average earnings which is determined by bonus payments, overtime and so on. There are clear signs of an upward creep in basic pay settlements. According to the IRS Pay Databank, the median pay increase has picked up from a low of 2.0% in late 1993 to 3.0% in the three months ending August 1995. An upward drift in pay increases has also been recorded by Income Data Services. In 1995Q2, three-quarters of pay settlements were at 3% or higher; a year ago, this proportion was running at 42%. The CBI Pay Databank Survey reported wage settlements in manufacturing running at 3.4% in the three months ending July; in services, the increase was 3.7%. This compares with a low of 2.2% in manufacturing and 2.5% in services. If wage drift were to return to more normal levels in coming months, these levels of pay settlements would be associated with average earnings growth of around 4.5%. This would still be consistent with the maintenance of inflation within the government's 1-4% target range, but any further pick-up in average earnings beyond this would be more problematic.

Figure 3.3.



At the current time, some measures of the supply/demand balance in the labour market are flashing warning signals. One way of examining this is to look at the behaviour of vacancies and unemployment relative to their respective trends. When vacancies are above trend, this is an indication that labour demand is strong. Likewise, when unemployment is below trend (a suitable proxy might be the five-year average), this is an indication that labour supply is becoming tight. On every occasion since 1970 when vacancies have been above trend and *simultaneously* unemployment has been below trend - 1973, 1974, 1987, 1988 and 1989 - inflation has always been rising. In August, unemployment was 250,000 below its five-year average while vacancies were 5,000 below their historical average. This suggests that the labour market is reasonably close to equilibrium which would be consistent with broadly stable wage inflation. Nevertheless, the outlook could deteriorate quite quickly if economic growth were to pick up to an above-trend rate and the labour market tightened further. Most empirical studies suggest that short-term unemployment has the most important influence on wage settlements; this has also declined sharply over the past couple of years. The ratio of vacancies to short-term unemployment is running at levels last seen in mid-1987, again suggesting that the labour market is close to equilibrium.

It has been argued that the fall in the unemployment rate over the past two years may give a misleading indication of the speed with which the UK is approaching its 'natural' rate of unemployment (that is, the rate below which inflation might be expected to rise). This is because the percentage of people aged 16 and over who are neither employed nor actively seeking work (the inactivity rate) only peaked last winter, according to the Labour Force Survey (LFS). One implication of this is that there may still be a large pool of potential workers who could be drawn back into employment. There are two reasons to doubt this. First, it is not clear that the inactivity rate is any higher than normal. Between spring 1979 and spring 1987, the inactivity rate fluctuated in a range of 37.2-38.7%; this compares with an inactivity rate of 37.3% in spring 1995. Economic inactivity only fell during the later stages of the boom. The aggregate

Figure 3.4.

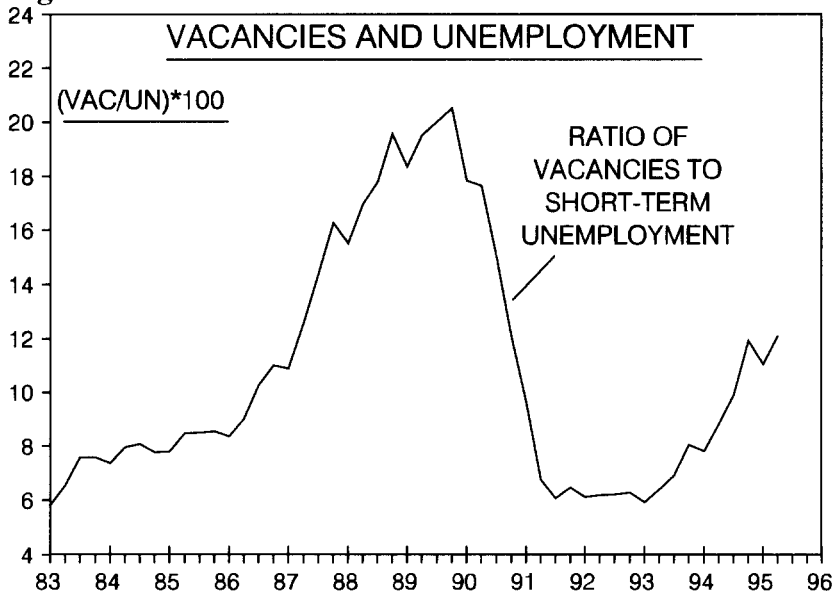


figure masks different developments among men and women. Over the past 16 years, there has been a fairly steady rise of 6-7 percentage points in the inactivity rate of men which has been matched by a broadly equivalent fall for women. The rise in female participation is probably set to continue; it is less clear whether the trend decline in male participation will reverse. Second, the number of 'discouraged workers' (defined as people not in a job who would like work but who are not seeking employment because they believe that no jobs are available) is running at levels seen in 1987-88.

Why, then, has unemployment fallen so much relative to the experience of the early 1980s? There are two main reasons. First, the recovery has been stronger. In 1995Q2, non-oil GDP was 4.6% above its previous peak; at the same stage of the early 1980s recovery, non-oil GDP had only just reattained its previous peak. Second, demographic factors have played a key role. In the first three years of the 1980s recovery, the population aged over 16 increased by 736,000. This compares with a rise of 223,000 during the latest recovery. In other words, if the same demographic trends had been in place during the early 1990s as in the early 1980s, unemployment would still be running at over 2.8m. It follows that there is less slack in the labour market to be absorbed now than there was at the comparable stage of the last recovery.

Another argument frequently heard is that constraints in the labour market can be avoided if some of the vast number of part-time jobs created in recent years are converted into full-time jobs. This argument is only true if people are being forced to take part-time work because they cannot find full-time jobs. There is only limited evidence of this. In particular, the LFS shows that there has been a recovery in the number of weekly hours worked per employee from a low of 32.7 in spring 1992 to 33.5 in spring 1995. This is in line with the average number of hours worked between spring 1984 and spring 1987. Average hours worked increased further during the boom of the late 1980s but this was clearly unsustainable.

Figure 3.5.

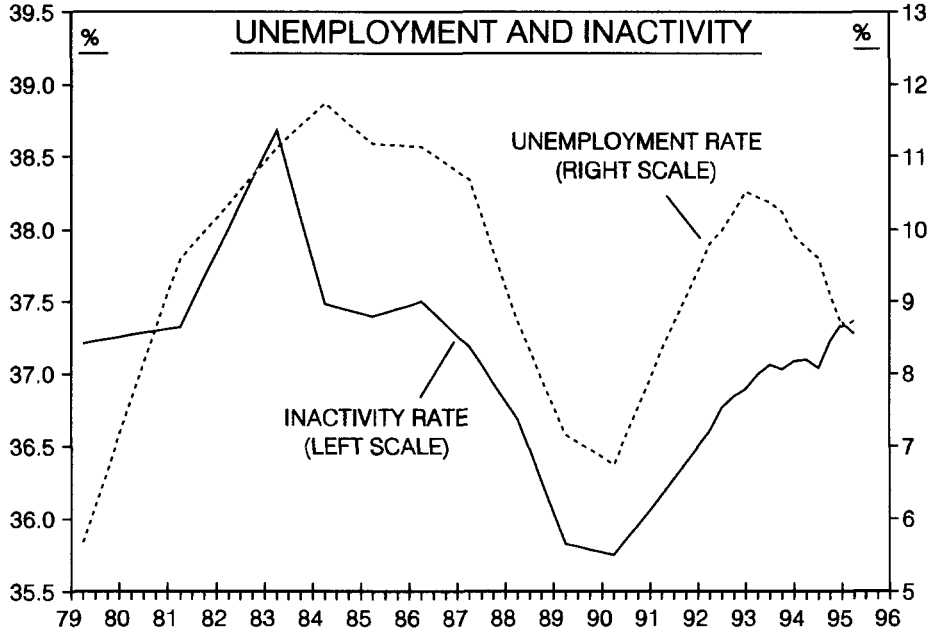
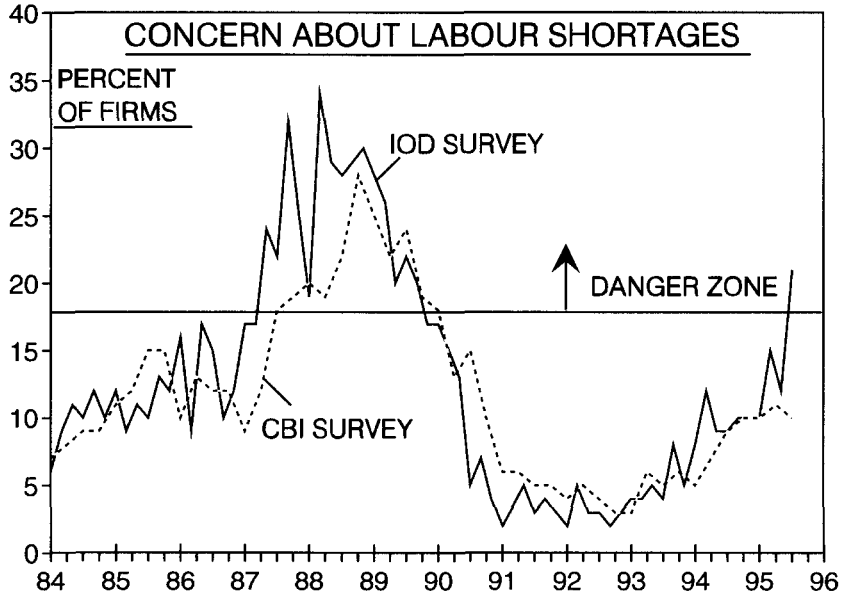


Figure 3.6.



The acid test of labour market tightness is whether employers are encountering difficulties in recruiting people. A number of business surveys contain information on labour shortages. The CBI Industrial Trends Survey has recorded an increase in the percentage of firms citing shortages of skilled labour as a constraint on output from a low of 3% in January 1993 to 10% in July 1995. By historical standards, this is not

yet a troubling increase. According to the British Chambers of Commerce Survey, 51% of firms in manufacturing and 44% in services experienced difficulties in recruiting labour in 1995Q2, up from 48% and 43% respectively in Q1. Although these are still well below the levels seen at the height of the boom, it would be of concern if they were to pick up further. Finally, the latest Institute of Directors Survey showed a more troubling increase in labour shortages. The percentage of firms citing a shortage of skilled labour as a major business concern increased from 12% to 21% between June and August. In the last economic upswing, a level of skilled labour shortages this high was not recorded until mid-1987.

Conclusion

On a wide range of measures, the labour market is exhibiting characteristics that were last seen in early 1987, just before wage inflation began to pick up in earnest. This suggests that the labour market may be reasonably close to equilibrium. If this interpretation is correct, the output gap may be a lot smaller than is commonly believed. In particular, the simple extrapolation of historic trends may give an over-optimistic assessment of trend output. If so, the scope for a further period of above-trend growth may be limited. It is possible that the equilibrium level of unemployment has fallen in response to the labour market reforms introduced during the 1980s, in which case a more optimistic assessment might be possible. Alternatively, a burst of labour-saving investment would increase the available amount of physical capacity and free up labour, thereby increasing the sustainable rate of growth for a time. However, in setting monetary and fiscal policy, a relatively cautious assessment of the amount of spare capacity in the economy would seem appropriate.

4 Fiscal Strategy

In this chapter, we analyse the objectives of fiscal strategy in the medium term and the more immediate issues facing the government given its other economic objectives. We present our forecast for the PSBR under a number of different scenarios and examine the implications of these forecasts for this financial year and the key electoral year of 1996-97. Finally, we ask whether the medium-term fiscal outlook provides any scope for this government, or a future government, substantially to loosen the fiscal stance.

4.1 The Objectives of Fiscal Strategy

Ever since 1980, the UK government has framed its fiscal strategy mainly in the context of a medium-term plan intended to deliver low inflation and a sustainable out-turn for the public accounts. Although the specific fiscal objectives expressed in the medium-term financial strategy have changed slightly from one year to the next, the common theme in the past decade or so has been that any deviation in the PSBR away from zero - either upwards or downwards - tends to be eliminated over the medium-term planning horizon. This approach has been maintained throughout the present Chancellor's tenure of office.

Two years ago, the Chancellor said that 'the task of my first Budget has been to set the government's finances on a sustainable path for the rest of the decade ... In my opinion, the Budget must sort out the problem of public borrowing once and for all'. Following the substantial tax increases announced in March and November 1993, Mr Clarke was able to publish a medium-term plan that showed the PSBR being eliminated by 1999-2000.

Last year, the FSBR said that 'the role of fiscal policy is to ensure sound public finances. The government's fiscal objective is to bring the PSBR back to balance over the medium-term'. The FSBR added that aiming for budget balance is 'a prudent objective, given the considerable uncertainties about medium-term prospects. It allows some safety margin against unfavourable developments and ensures that the ratio of public sector debt to GDP, and hence the burden of debt service, will fall over time'.

The 1994 FSBR mentioned three separate 'milestones' that would be passed as the public finances continued to improve over time. First, the ratio of general government borrowing to GDP would by 1996-97 fall below the reference level of 3% set out in the Maastricht Treaty. Second, the public sector deficit on current account would be eliminated by 1997-98. Third, the PSBR itself would disappear by 1998-99. This date for the elimination of the PSBR was one year earlier than had been planned in the November 1993 Budget.

In the last three Green Budgets (January and October 1993, and October 1994), we have set out a framework for assessing whether the government's budget plans were 'appropriate', in the sense that they would achieve debt sustainability, and an acceptable ratio of public debt/GDP, over the medium term. But the ultimate fiscal objective that we recommended was slightly different from that contained in successive versions of the FSBR.

Instead of aiming to eliminate the PSBR completely at some arbitrary date in the future, we recommended that the objectives of the budget framework should be the following. First, we argued that public borrowing should be 'sustainable', in the sense that it would produce a stable public debt/GDP ratio in steady state. With a long-term inflation target of 2.5% a year, and a stable debt/GDP ratio of 50%, we calculated that the sustainable PSBR would be around 2.5% per year. (With a 4% inflation objective, the sustainable PSBR would be just over 3% of GDP - see last year's Green Budget for an explanation.)

Clearly, the actual PSBR could vary around this 'sustainable' level in the course of the economic cycle, but when GDP is at normal or mid-cycle levels, the government accounts should be set so that this level of public borrowing is achieved.

Second, we argued that the government needs to pay attention to what is happening to its net worth over the medium term, so it needs to think about the behaviour of its assets as well as its liabilities. In order to leave net worth unchanged over time, the government should aim to restrict its borrowing to no more than the amount it is 'investing' in fixed assets each year. This so called 'golden rule' of public finance indicates that the PSBR should be no more than 2% of GDP in steady state, which is roughly the amount by which government assets are increasing each year. (The government's direct expenditure on net capital formation, a slightly narrower definition of the same concept, is planned to run at 1.5% of GDP over the next two years, followed by 1.25% of GDP thereafter.)

Applying these concepts, successive Green Budgets have recommended that the PSBR should be brought down to levels that would ensure debt sustainability and the achievement of the golden rule by the time the economy is next at normal capacity working. Prior to the tax increases announced in March and November 1993, these objectives were most unlikely to be achieved. However, following the 1993 tightening in fiscal policy, the situation changed. Our estimates suggested that, provided the government actually hit its public spending targets, fiscal policy had been tightened sufficiently to achieve our recommended fiscal objectives.

Furthermore, nothing much changed after the 1994 Budget, since the public expenditure 'cuts' that were introduced in that package, and the lower PSBR that resulted, were largely the consequence of changes in underlying economic projections (with both real GDP and inflation projections improving sharply). Since the resulting changes in the government accounts were autonomously driven by changes in the economic forecast, there was no significant alteration in our assessment of the appropriateness of medium-term fiscal settings.

In the past few months, however, the PSBR has substantially overshot previous government objectives, and this naturally raises questions about whether the fiscal settings remain appropriate. In this chapter, we will re-examine the likely path for the public finances, based on our latest projections for the economy in the medium term. The aim will be to assess whether the likely out-turn for the PSBR still looks likely to achieve our recommended fiscal objectives in the year when the economy returns to normal capacity working.

Our basic answer will be that, allowing for the large margins of error inherent in these calculations, the fiscal stance still appears broadly acceptable from the point of view of medium-term debt sustainability and the golden rule. Although there has been some slippage in the likely path for the PSBR since last year's Budget, this seems insufficient to have changed the underlying situation in a fundamental way. Essentially, the path for real public spending that was announced by the Chancellor in the 1994 Budget was tough enough, relative to the growth in GDP, to put the PSBR in a sharply downward trend. Even though the path for government revenue now looks likely to be lower than expected a year ago, the resulting level of the PSBR for this year and next still seems to be tolerably close to our recommended objectives.

Looking further ahead, there is a real possibility that the continued tightening in the fiscal stance that is planned could lead to a position where borrowing would be lower than necessary to achieve debt sustainability and the golden rule. If public spending plans are met, and the economy does not reach trend until 1998-99 (both optimistic assumptions), there could be scope for significant relaxation in the last Budget of this Parliament and the early Budgets of the next.

4.2 PSBR Projections

Despite gloomy predictions extrapolated from recent tax receipt data, we expect the path of the PSBR to continue on its downward path. Continued economic growth, tight public expenditure control and the tax increases of the 1993 Budgets suggest a falling PSBR into the medium term. But the speed of the fall of the PSBR is likely to be slower than predicted this time last year, reflecting slower economic growth and lower tax revenues for a given amount of growth. For greater detail of our forecasts, see Chapter 6 for spending analysis and Appendix 1 for our methods of forecasting the PSBR and an analysis of the revenue responsiveness of different taxes.

The PSBR in the Short Term

We expect the PSBR in **1995-96** to be £26.6bn. Table 4.1 shows this is considerably greater than the Budget forecast from last November, and £3bn higher than the Summer Economic Forecast, but it is lower than many current forecasts in the City.

As usual, there have been significant changes since the 1994 Budget, both in the underlying development of the economy and in the behaviour of government spending and government revenue. As explained in Appendix 1, the PSBR figures published so far in 1995-96 are suggesting that a large overrun in public borrowing is now taking place. In fact, in the early part of the current financial year, the monthly pattern for the PSBR has been no better than last year, when the eventual out-turn was £36bn (5.3% of GDP). So far this year, public spending has been roughly on target, but a serious shortfall has developed in most areas of government revenue, which at present is running at an annual rate of about £8-9bn below Budget expectations. Some of this seems to be due to timing peculiarities affecting corporation tax and excise duties, which should be reversed in the remainder of this year. But this could still leave an eventual shortfall in receipts of about £6bn.

Why has this happened? Much of the revenue shortfall is the result of a 1 percentage point drop in inflation, compared with the rate assumed by the Treasury last November. Meanwhile, real GDP now looks like coming in around 0.5% lower than expected in last year's Budget, producing an overall shortfall in nominal GDP of some 1.5%. This explains around £4bn of the shortfall in tax receipts, leaving a further £2bn to be explained by a decline in the tax take per unit of nominal GDP.

With lower-than-expected inflation forecast, the government will find it easier to stick to its nominal public spending plans for 1995-96. But sticking to its nominal plans would mean that rather than achieving its planned real cut in the control total of 0.8%, it would increase real spending by 0.5%.[1] If the government were to stick to the real plans outlined

[1] Chapter 6 explains the basis for our spending forecasts in greater detail.

Table 4.1. The public finances, 1995-96 and 1996-97

(£ billion)	FSBR (Post-mini-Budget)	1995-96 Summer Economic Forecast	IFS forecast	1996-97
Income tax	70.1	68.9	68.3	74.4
Corporation tax	26.4	26.1	25.0	28.5
Petroleum revenue tax	0.7	0.9	0.9	0.9
Capital gains tax	0.8	0.9	0.9	1.0
Inheritance tax	1.5	1.5	1.5	1.5
Stamp duties	2.0	2	1.8	1.9
Total Inland Revenue	**101.5**	**100.4**	**98.4**	**108.2**
VAT	48.1	45.4	44.9	48.2
Petrol	16.0	15.8	15.5	17.5
Tobacco	7.2	7.3	7.0	7.5
Alcohol	5.6	5.8	5.8	6.4
Betting and gaming	1.2	1.7	1.8	1.9
Customs duties	2.1	2.3	2.3	2.4
Agricultural levies	0.2	0.1	0.1	0.1
Air passenger duty	0.3	0.3	0.3	0.3
Insurance premium tax	0.7	0.6	0.6	0.6
Total Customs and Excise	**81.4**	**79.4**	**78.4**	**84.9**
Vehicle excise duties	4.0	4.1	4.1	4.2
Oil royalties	0.5	0.6	0.6	0.6
Business rates	13.8	13.6	13.6	14.6
Other taxes and royalties	5.8	6.2	6.2	6.4
Total taxes and royalties	**207.0**	**204.2**	**201.3**	**219.0**
National Insurance contributions	44.6	44.3	43.1	45.9
Council tax	9.2	9.2	9.2	9.5
Interest and dividends	4.6	4.9	4.9	5.1
Gross trading surplus and rent	5.7	5.1	5.1	5.2
Other receipts	7.6	8.7	8.7	9.0
General government receipts	**278.7**	**276.4**	**272.3**	**293.7**
Control total	**255.4**	**255.5**	**253.8**	**263.7**
Cyclical social security	14.0	13.6	13.3	12.9
Central government debt interest	20.3	20.7	20.7	22.6
Accounting adjustments	9.5	9.7	9.7	9.7
GGE (X)	**299.2**	**299.5**	**297.4**	**308.9**
Privatisation	-3.0	-3.0	-3.0	-4.0
Other adjustments	5.5	5.4	5.4	6.4
General government expenditure	**301.7**	**301.9**	**299.8**	**311.3**
General government borrowing requirement	23.1	25.5	27.6	17.6
Public corporations borrowing requirement	-1.6	-1.9	-1.0	-1.5
Public sector borrowing requirement	**21.5**	**23.6**	**26.6**	**16.1**

last November, it would have to reduce control total spending in 1995-96 by £3.3bn. This cut in the nominal control total for 1995-96 would account for a combination of lower inflation and a consolidation of the 1994-95 control total underspend into future spending plans. As we explain in Chapter 6, we believe it is unlikely that the 1994-95 underspend will be consolidated but the real growth over previous plans will be met, so we expect a £253.8bn control total in 1995-96, £1.6bn lower than planned last year. This lower level of nominal spending will mitigate the tax revenue shortfall but will also imply the government has failed to meet its real spending plans for the second year in a row.

For **1996-97**, we expect the PSBR to fall to £16bn, £3bn higher than forecast at the last Budget but matching the level outlined in the Summer Economic Forecast. This improvement of the PSBR relative to the Summer Economic Forecast derives from rapid increases in nominal GDP growth and in particular from our higher forecast of the GDP deflator. But a higher GDP deflator also implies that the government would have to breach its nominal public spending plans by £0.9bn, to achieve the real path of public spending outlined in the last Budget. Such a breach in the cash spending plans is included in our baseline forecast to indicate the likely level of the PSBR on an *unchanged* policy scenario. If the government wanted to stick to its cash spending plans, this would mean tighter real public expenditure control in an election year than previously planned - something that would be very rare.

The PSBR in the Medium Term

Forecasting the PSBR in the medium term requires a medium-term forecast of the economy. This year, we present two alternative medium-term paths for the economy, our baseline forecast which sees inflation rise above the government's target, and a forecast assuming the government were to stick to its inflation target. Key economic variables from each are shown in Table 4.2. Of course, these scenarios are only two possible paths for the economy, but are indicative of some of the main options facing the Chancellor.

Table 4.2. Alternative macroeconomic working assumptions

(% growth)		1995-96	1996-97	1997-98	1998-99	1999-2000
GDP	Baseline	2.5	3.0	2.5	2.5	2.5
	Inflation control	2.2	2.2	2.5	2.5	2.5
GDP deflator	Baseline	2.5	3.5	3.2	3.2	3.2
	Inflation control	2.5	3.0	2.5	2.5	2.5
Employment	Baseline	0.8	0.9	0.7	0.6	0.6
	Inflation control	0.4	0.2	0.7	0.6	0.6

Under our baseline scenario, GDP growth rises again to 3% in 1996-97 and subsequently settles at 2.5% into the medium term. Inflation, measured by the GDP deflator, and employment also peak in 1996-97 before stabilising. On the inflation target scenario, the government meets its inflation target by tightening monetary policy. This causes it to suffer lower GDP and employment growth this year and in 1996-97.

The PSBR implications of these two scenarios are shown in Table 4.3. In each case, we assume control total spending to follow the real path as outlined in the last Budget. The table shows that by tightening policy to meet its inflation target, the knock on deleterious effect on the tax base and on tax revenues exceeds the lower nominal public expenditure possible from lower inflation. Consequently the PSBR would fall considerably more slowly.

Table 4.3. The PSBR in the medium term for both growth scenarios

		1995-96	1996-97	1997-98	1998-99	1999-2000
Baseline	PSBR (£ billion)	26.6	16.1	8.4	2.5	-7.2
	PSBR (% of GDP)	3.7	2.1	1.0	0.3	-0.8
Inflation control	PSBR (£ billion)	26.6	19.2	13.8	9.9	2.7
	PSBR (% of GDP)	3.7	2.6	1.8	1.2	0.3

The assumption that control total spending follows the real path outlined in the last Budget reflects a no policy change scenario. But just as the real path of planned spending has been changed in all previous Budgets and Autumn Statements (see Chapter 6), we might believe the government will alter spending projections this time. Table 4.4 shows the PSBR as a percentage of GDP for two alternative spending scenarios and our baseline economic forecast.

Table 4.4. Comparison of trends in PSBR as a % of GDP with different spending scenarios

		1995-96	1996-97	1997-98	1998-99	1999-2000
PSBR	Baseline	3.7	2.1	1.0	0.3	-0.8
(% of GDP)	Tight control	3.7	1.4	-0.1	-0.9	-2.1
	Spending boom	3.7	2.5	1.8	1.1	0.0

The 'tight control' scenario assumes the government tightens the real path of public expenditure by not allocating any of the remaining contingency reserve in 1996-97 or 1997-98. This would permanently reduce annual control total spending by 1997-98 by £9bn. Under this scenario, the PSBR returns to balance in 1997-98, a year earlier than under our baseline scenario, but public spending growth would have been restricted in an unprecedented manner.

Our second alternative spending scenario assumes spending slippage at the time of the election. We assume a 1.5% real increase in control total spending in 1996-97 and a 2% real increase in 1997-98. These modest slippages in spending plans reflect spending patterns around past general elections, but this scenario still keeps underlying spending growth much more tightly controlled than at the last general election. Under this scenario, spending is increased by almost 1% of GDP by the end of the period.

Both the economic and the spending scenarios show how large potential errors in medium-term PSBR forecasts can be, and how important public spending policy and the macroeconomic performance of the economy are for the public finances. We now move

on to analyse whether the Chancellor can find room to loosen the fiscal stance in this Budget, given these PSBR projections, and whether there may be more scope in the medium term for fiscal loosening.

4.3 Short-Term Fiscal Strategy

If the final out-turn for the PSBR this year is indeed £26.6bn, then there will have been some easing in the underlying fiscal stance, *compared with that intended a year ago.* Since the shortfall in real GDP of 0.5% relative to last year's Budget assumption is insufficient to explain the full overshoot in the PSBR, the cyclically adjusted fiscal stance is also likely to be easier than planned a year ago.

However, the *change* in the *fiscal stance* between 1994-95 and 1995-96 will still involve a significant tightening in policy. Despite the overrun in the PSBR this year, the final out-turn should still be around 1.6% of GDP lower than it was last year. If the underlying fiscal stance had been genuinely neutral this year, the PSBR should have declined by only 0.8% of GDP. This implies that the underlying fiscal stance will actually tighten by 0.8% of GDP during the current fiscal year. Hence, although the fiscal stance in 1995-96 will turn out to be easier than planned last year, it will nevertheless tighten between last year and this.

The same pattern may very well be repeated in 1996-97. According to the Treasury's 1995 Summer Economic Forecast, a £5bn shortfall in tax receipts is expected to continue next year, while our own estimates, shown in Table 4.5, suggest that the tax shortfall would be slightly lower, at £4bn. This is despite the fact that, by 1996-97, both real and nominal GDP are assumed in our projections to have bounced back to the levels contained in the 1994 Budget arithmetic. With both prices and output likely to be approximately unchanged from the original Budget assumptions, any increase in the PSBR above the levels planned for next year (£13bn) would, of course, once again amount to an easier underlying fiscal stance than was intended a year ago - though once again the change from this year's out-turn could involve some tightening.

Table 4.5. Changes to government finances since November 1993

	Real government expenditure (1993-94 prices)		General government expenditure (nominal prices)		General government revenue		PSBR	
	1994 Budget	Latest estimate	1994 Budget	Latest estimate	1994 Budget	Latest estimate	1994 Budget	Latest estimate
1994-95	289	289	295	294	253	249	34	36
1995-96	290	289	305	303	279	272	22	27
1996-97	293	291	316	315	298	294	13	16
1997-98	295	293	325	327	316	315	5	8
1998-99	296	295	333	340	332	336	-1	3
1999-2000	299	296	343	352	349	358	-9	-7

Note: General government expenditure excludes privatisation receipts and is on 1994 definitions. Latest estimates are the central forecasts contained in this publication.

Since we expect revenue to drop by £4bn below previous targets next year, it follows that the Treasury would need to shave the same amount of public spending in order to leave the PSBR unchanged. Is that feasible? In the 1994 Budget, the Treasury managed to cut public spending in the year ahead by £8bn, so on the face of it a £4bn reduction does not look out of court. But the main reason for lower public spending last year was a simultaneous large improvement in both real GDP and inflation - a windfall that meant public spending could be reduced without any real pain being felt by those who rely on the public services. This year, a large cut in the spending target will be much harder to achieve, since the underlying behaviour of the economy has not changed in such an advantageous way.

The Chancellor is therefore faced with the following tricky dilemma. He is probably being told by his officials that revenue could undershoot previous plans by around £4-5bn next year. In order to hit the original PSBR target, the Treasury therefore needs to rule out tax cuts altogether *and* also to reduce the nominal level of general government expenditure by £4bn compared with last year's plans. The Chancellor would be aided by lower cyclical social security payments, but would have to find £3bn further savings without any help coming from an advantageous shift in the behaviour of real GDP or price inflation.

Against this background, would the Chancellor be justified in reducing tax rates at all in the Budget? The case against tax cuts is that the out-turn for the PSBR next year now looks likely to be around £3bn higher than expected a year ago, despite the fact that underlying economic assumptions are the same. Furthermore, the date at which the PSBR would be entirely eliminated would probably be delayed from 1998-99 to sometime in 1999-2000. But would this really be so bad? It is important to recall that, while the fiscal stance may be easier both this year and next than was intended a year ago, the baseline against which we are comparing the new projections is a very tough one indeed. In fact, in the baseline forecast, the fiscal stance would have been tightened by around 1% of GDP each year, largely because of tough control over public spending.

Thus, if the Chancellor decides to relax last year's PSBR guidelines a little, this will not mean that the fiscal stance is easing from one year to the next. Although there is a case for arguing that, from the standpoint of macroeconomic demand management, a further significant tightening in the fiscal stance might be appropriate next year, this case seems less compelling than it did some months ago, in view of the slowdown in economic activity during the summer and the consequent slight decline in prospective inflation pressure during 1996-97.

This implies that a PSBR of £16bn would be acceptable in this Budget, and that it would even be possible to allow this to slip a little. A Budget in November that funded some £2-3bn of reductions in taxation through a combination of some small increase in borrowing beyond the no policy change figure of £16bn, some small and obscure tax increases and some additional real public spending control would not offend against the principles of sound public finances that we have advanced in the past. The element of this package that would be hardest to achieve would be any additional reduction in real public spending, but since the government is unlikely to be willing to publish higher nominal spending plans than last year, it seems very likely that it will claim such tight control, even if it may be unrealistic. Tax reductions of this scale would have relatively little impact on the global level of tax revenue, but might still have a substantial political impact, as well as an effect on confidence.

4.4 Medium-Term Fiscal Strategy

The last section has argued that a minor tax cut of the order of £3bn would still have little effect on the current fiscal stance, particularly if tax cuts were matched by compensatory spending cuts or tax increases elsewhere. It would be hard to argue strongly that such a fiscal change would be clearly inappropriate or irresponsible from the point of view of short-term economic management. But what about the other objectives of fiscal policy, i.e. debt sustainability and the golden rule of public finance? Remember that we argued earlier that, in order to achieve debt sustainability, the PSBR would need to be reduced to around 2.5% of GDP by the time the economy next returned to normal capacity working. Furthermore, in order to hit the golden rule, the PSBR would probably need to be in the range of 1.5-2% of GDP, unless there were a simultaneous shift in the pattern of government spending away from current spending and towards capital spending. The question for this section is whether these objectives still look likely to be achieved when the economy is next at normal capacity.

Unfortunately, there is no simple answer to this question, since the definition of 'normal capacity working' is ambiguous. The simplest, and probably still the most common, way of defining 'normal' capacity is to extrapolate a trendline for GDP, using the long-term trend growth rate, and starting from the point in the last cycle at which the actual level of GDP was roughly at trend. According to the CSO cyclical indicators, the economy was at trend in 1990Q4, so this date can be used as a bench-mark. The trend growth rate in the economy since the early 1950s has been approximately 2.25% per annum, and this is also the trend growth rate that was achieved from 1979 to 1990 (i.e. the whole of the last major cycle). It may therefore seem reasonable to extrapolate this growth rate from 1990Q4 onwards to estimate the current level of trend GDP.

When this is done, we find that the present level of GDP is around 3% below 'trend', and on the medium-term growth projections contained in this publication, GDP would not return to trend until about 1998-99. At that time, the PSBR is estimated to be about 0.5% of GDP - obviously a long way below the 1.5-2.5% range that would be needed to achieve debt sustainability and to attain the golden rule. Even if there are legitimate doubts about whether the government can actually hit its tight public expenditure targets over such a prolonged period, there would appear to be a comfortable margin for error in these projections.

However, the simple extrapolation of historic trends may give a misleading, and over-optimistic, interpretation of trend output. Since the trough of the last recession, the growth in both the labour force and the capital stock seems to have been less than the average for previous upswings, so the underlying growth of capacity may have been less than suggested by historic trends. Several independent factors - the slight rise in inflation, the behaviour of unemployment and vacancies, and the level of capacity utilisation - suggest that GDP may already be at or close to normal capacity. If so, the 'trend' rate of growth in the economy may have been considerably lower than 2.25% per annum from 1990 to 1995. On the other hand, it is also possible that the equilibrium level of unemployment is still dropping in response to the labour market reforms of the past 15 years. If this is the case, then the potential growth rate in the future may be higher than earlier experience indicates, at least for as long as unemployment can be brought back down to its equilibrium rate.

Clearly, the setting of fiscal policy needs to take into account the fact that there is considerable uncertainty about the exact point at which GDP can be said to be 'at trend'. If the optimists are right, then this date may be as late as 1998-99, but if the pessimists are right it might be as early as 1996-97. The present setting of fiscal policy is quite comforting, in the sense that, even if the pessimists are right, the PSBR will be consistent with our recommended medium-term criteria. If, on the other hand, the optimists are right, then the government's medium-term plans are tighter than is strictly necessary, and some easing in spending targets, or a reduction in tax rates, will become possible in the next few years, while still sticking to our recommended framework.

In Table 4.6, we illustrate the extent to which this uncertainty could affect room for manoeuvre in the medium term. The first column gives our central estimates of the PSBR on unchanged policies, the second the PSBR targets from the 1994 Budget, and the third the PSBR at 2.5% of GDP. If the pessimists are right and GDP is at trend in 1996-97, the PSBR path on unchanged policy is consistent with a 2.5% recommendation. But if the economy is not at trend until 1998-99, the current projected path for the PSBR would give a fiscal stance some £18bn tighter than we would think strictly necessary, providing scope for loosening between now and then both by this government and the next government.

Table 4.6. Scope for fiscal relaxation under Conservatives and Labour

(£ billion)	PSBR on unchanged policy	PSBR	
		1994 Budget[a]	2.5% of GDP[b]
1995-96	27	21.5	18
1996-97	16	13.0	19
1997-98	8	5.0	20
1998-99	3	-1.0	21

[a] PSBR targets in 1994 Budget.
[b] Assumes the PSBR should be at 2.5% of GDP when the economy is approximately working at normal capacity.

Given the substantial uncertainty about where the economy is relative to trend, and the need for caution, it seems unlikely that any prudent Chancellor would choose to take advantage of all of the room suggested by these numbers, but clearly some loosening in the medium term could be defended on this basis.

All this suggests that Mr Clarke may have gone further in committing the government to stringency in public finances in the medium term than is necessary from a purely economic point of view, which might lead to relaxation in both tax and spending plans in the final Budget of this Parliament next year, not least so as to make life as difficult as possible for a Labour government if the Conservatives were to lose the election.

5 Issues in Taxation

In this chapter of the Green Budget, we look in detail at the various parts of the UK tax system. We aim to identify both areas that may see change in the November Budget and issues for longer-term reform.

We begin with a discussion of the direct taxation of individuals, considering options for income tax cuts, the use of tax regimes to encourage specific types of remunerations, the employers' National Insurance system and finally the vexed issue of the taxation of families. We then move on to discuss company tax issues, including the recent and likely future growth rates of corporation tax revenue, the debate over a windfall tax on utilities, the role of capital gains tax for companies, a number of issues in the tax treatment of dividends, the case for an R&D tax credit, and some international issues.

Next, we discuss indirect taxes, focusing on the debate over levels of excise duties and their relationship to overall tax receipts, before looking at issues in VAT and moving on to a discussion of the use of taxation in environmental policy.

Finally in this chapter, we consider the taxation of savings, assets and inheritance with special reference to the PEP and TESSA regimes, the housing market and capital gains tax. We also discuss the recent debates over the future of inheritance tax and the costs of long-term care.

5.1 Direct Taxation

This section looks at a number of issues surrounding the direct tax system in the UK. If the Chancellor decides to ease the fiscal stance, it is most likely that he will attempt to cut direct tax in this Budget. The bulk of this section is concerned with how such cuts could be implemented. We look not only at the revenue costs of such moves, but also at their distributional effects and at whether such changes might be used to bring about other desirable results in addition to a reduction in the tax burden.

We begin by comparing the effects of the four different ways of reducing income tax, three of which have been used by the Conservatives since 1979. We then examine a number of other areas in which some reform may be desirable. The first is the income tax rate structure. The second issue relates to tax-privileged forms of remuneration and we consider the taxation of share options and profit-related pay. The third is the structure of employers' National Insurance contributions, where discrete jumps in the amount of employers' liability distort the labour market.

Finally in this section, we consider the issues surrounding the current debate on the family and the tax system. A number of proposals have recently been made, including the introduction of a 'fidelity allowance' for couples celebrating their tenth wedding anniversary, which are based on the supposed interaction between the tax system and family formation. We suggest that the tax system is likely to have had little effect on individuals' decisions as to whether to marry, and that substantial problems face any attempt to use the tax system to change behaviour in this area.

We note that the current debate is, in part, merely a continuation of the discussion as to the most suitable form of taxation for couples, a problem which has faced successive governments since 1979. We look at the history of this debate, and examine the effects of two alternative solutions. The first is to move back towards joint taxation by introducing transferable personal allowances, while the second is to move to a fully independent system by abolishing the married couple's allowance.

Cutting Income Tax

If the Chancellor decides to reduce taxation for 1996-97, then the income tax system is by far the most likely place for the cuts to occur. Given the present structure of the tax system, there are three main ways in which Mr Clarke can cut income tax:

- lowering tax rates;
- widening tax bands;
- extending tax allowances.

We examine these in turn, and also consider a more radical reform which seeks to achieve a 20% basic rate of income tax in this Budget.

The first three of these methods of reducing income tax revenues have been employed by the Conservatives since 1979. During the earlier part of the 1980s, cuts in income tax were mainly implemented by real increases in tax allowances. However, since 1986, attention turned to reducing tax rates, with the basic rate of income tax falling from 30% in 1985-86 to 25% now. In addition, in 1992, the then Chancellor, Mr Lamont, introduced a 20% lower rate tax band on £2,000 of taxable income, which has since been extended to £3,200.

We have examined three options, each of which involves a reduction in the tax burden of £3bn. They are a reduction in the basic rate of income tax by 1.5 percentage points to 23.5%, a widening of the lower-rate band by £3,050 to £6,250 or an increase in personal allowances of £450. The rates, bands and allowances in the 1995-96 income tax system are shown in Tables 5.1 and 5.2.

Table 5.1. Income tax rates and bands: 1995-96

	Band of taxable income	Rate
Lower-rate band	Under £3,200	20%
Basic-rate band	£3,200 - £24,300	25%
Higher-rate band	Above £24,300	40%

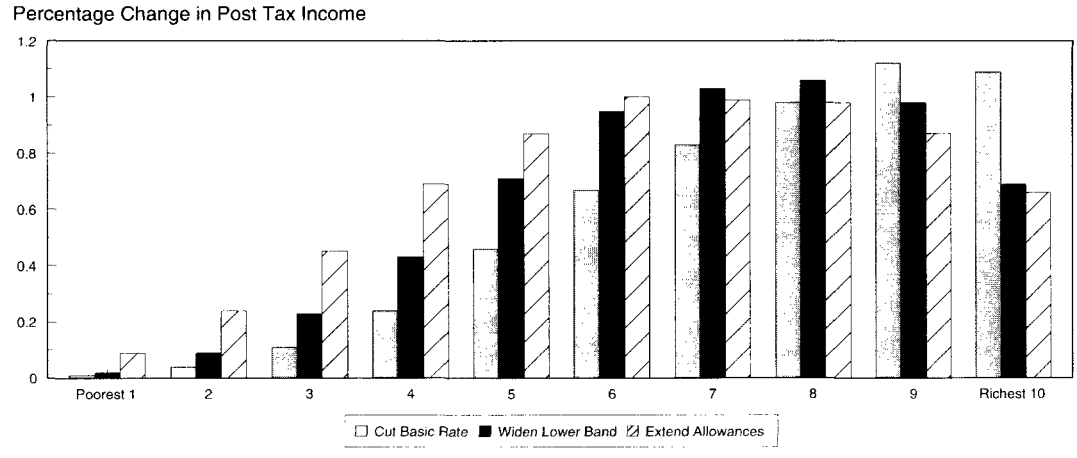
Table 5.2. Income tax allowances: 1995-96

	Aged under 65	Aged 65 to 74	Aged over 75
Personal allowance	£3,525	£4,630	£4,800
Married couple's allowance	£1,720	£2,995	£3,035

Note: Married couple's allowance restricted to 15%.

Figure 5.1 compares the distributional impact of these three reforms. It shows the average percentage gain in household post-tax income, broken down by equivalent income decile. Equivalent income deciles are formed by dividing the population into tenths according to income adjusted to take account of family size. Those in the bottom decile are the poorest 10% of the population while those in the top decile are the richest.

Figure 5.1. Distributional effects of income tax reforms



Source: IFS tax and benefit model, using Family Expenditure Survey data for 1993.

As would be expected, the three reforms spread the benefits of the tax reduction quite differently across the income distribution. All cuts in income tax tend to benefit richer households, as poorer households are less likely to be paying direct tax.

Cut the basic rate

A cut in the basic rate focuses the benefits of the cut on an even narrower group - those who have sufficient income to pay tax at the basic rate. Additionally, the financial benefit of such a move increases with the level of income until the higher-rate tax threshold. A single person on £40,000 would gain £316.50 per annum from the basic rate cut, while a person on £10,000 would gain only £49.13 per annum. As is clear from Figure 5.1, the percentage gains from a cut in the basic rate increase as we move up the income distribution, apart from a small fall for the tenth decile relative to the ninth. The fall at the very top reflects the fact that all higher-rate taxpayers gain the same money amount, which is a smaller percentage change as income rises.

Widen the lower-rate band

A widening of the 20% band also only helps those who already pay tax at the basic rate. Gains do not depend as strongly on income as for a cut in the basic rate. Indeed, every basic-rate taxpayer after the reform would gain £152.50 per annum. So, the two individuals on £10,000 and on £40,000 would gain the same amount in cash terms. Widening the 20% band to £6,250 would move about 4.5m people from paying basic rate to lower rate tax. This would mean that slightly less than 10m people, about 40% of all income taxpayers, would pay at the 20% lower rate.

Extend the personal allowance

The extension of tax allowances helps those on low incomes most efficiently, as all income taxpayers gain from the change. The cash gain to a person is related to their marginal rate of income tax, with a single person on £40,000 gaining £180 as a higher-rate taxpayer, while someone on £10,000, who pays at the basic rate, gains £112.50 per annum. As can be seen from Figure 5.1, of our three reforms, the extension of the personal allowance provides the greatest boost to the incomes of those at the

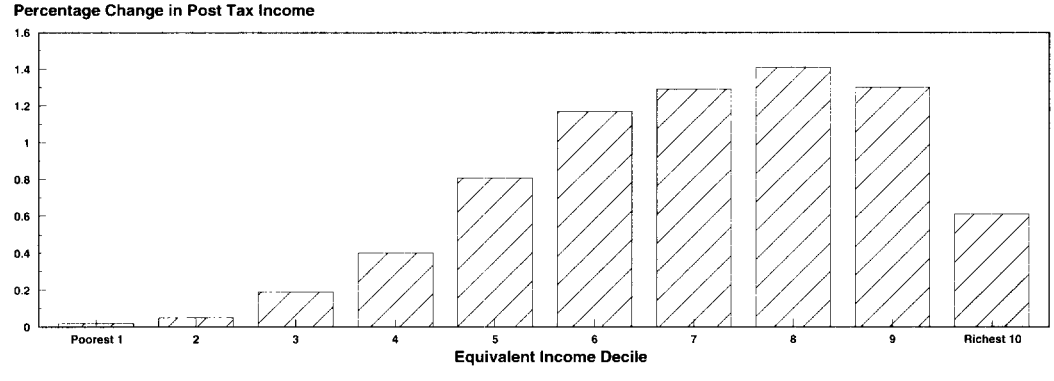
bottom of the income distribution. This reform also has the added benefit of moving 900,000 people out of income tax altogether, 750,000 from paying at the basic rate to the lower rate and over 100,000 from higher-rate tax to the basic rate.

While the first two measures considered here could be presented as a step on the way to a 20% basic rate of income tax, this is not true of the final option. But extending allowances is the reform that provides the most help for those on low pay, and is the only reform that could be expected to yield administrative savings as it reduces the total number of taxpayers.

'Achieve' a 20% basic rate of income tax

If the Chancellor wanted to be more radical and find a way of achieving the Conservative aim of a 20% basic rate of income tax, he could adopt this more dramatic reform. First, he would restrict the personal allowance to 20% which would raise significant revenue from current basic- and higher-rate taxpayers. This revenue could then be used to fund a large extension in the 20% tax band up to the point where more taxpayers would face a marginal tax rate of 20% than would pay at 25%. Using the IFS tax and benefit model, we calculate this would involve increasing the 20% band width to £11,225. He would also need to increase the higher-rate threshold to £26,325 to avoid higher-rate taxpayers losing from the reform. Given that the majority of non-higher-rate taxpayers would face the 20% tax rate, the Chancellor could rename the 20% rate the basic rate and have achieved this new basic rate in one Budget. The net cost of this reform would be £3.3bn, which is only a little more than that of the other three reforms. The distributional effects shown in Figure 5.2 are similar to widening the 20% band, and no losers would be created as a result of the increased higher-rate threshold.

Figure 5.2. Distributional effects of 20% basic rate reform



Source: IFS tax and benefit model, using Family Expenditure Survey data for 1993.

Reforming the Direct Tax System

Higher-rate taxpayers

One area of the income tax system that has attracted attention recently is the number of people who now pay tax at the higher rate. Table 5.3 shows the number of higher-rate taxpayers for the period 1979-80 to 1995-96. Recently, the level has risen from 1.5m in 1989-90 to a projected 2.2m in 1995-96. As tax thresholds are normally increased in line with prices rather than earnings, we would expect the number of higher-rate taxpayers to increase over time, as earnings rise faster than prices. But this effect has been compounded in recent years by the failure to index the higher-rate threshold against inflation during the period from 1991-92 to 1994-95 and by the restriction in the rate at which mortgage tax relief and the married couple's allowance can be claimed.

Table 5.3. Number of higher-rate taxpayers, 1979-80 to 1995-96

Year	Higher-rate taxpayers (thousands)
1979-80	675
1984-85	930
1989-90	1,500
1993-94	1,740
1994-95[a]	2,100
1995-96[a]	2,200

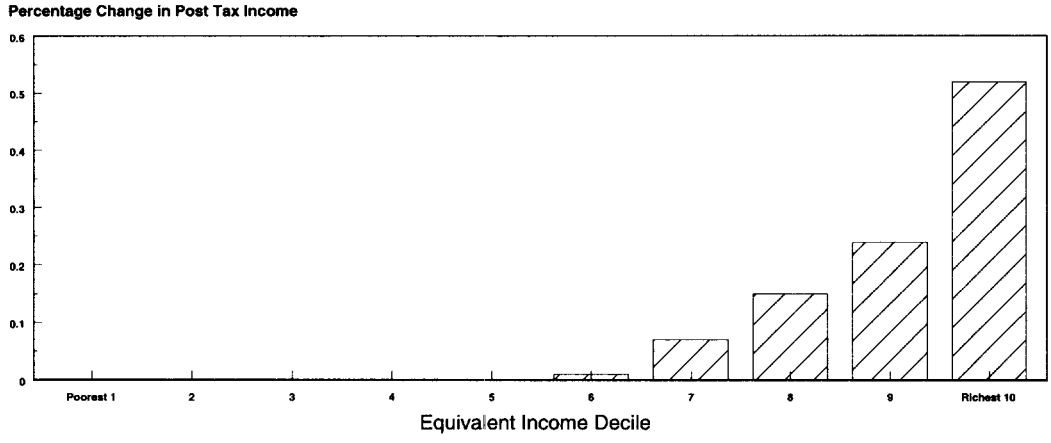
[a] Provisional.
Source: *Inland Revenue Statistics 1995.*

As we have seen, increasing personal allowances would reduce the number of people paying higher-rate tax. But an increase in the personal allowance reduces the tax bills of all taxpayers making this an extremely expensive way to reduce the number of higher-rate taxpayers. For a loss in tax revenue of £3bn, the number of higher-rate taxpayers is reduced by only 100,000.

A more direct way to reduce the number of higher-rate taxpayers would be to increase the higher-rate threshold in real terms. Not surprisingly, the distributional impact of such a change is concentrated almost exclusively at the top of the income distribution. Figure 5.3 shows the impact of an increase in the threshold of £2,200 to £26,500. As can be seen, the poorest 50% of the population gain nothing from such a change. The cost of this change would be £750m and its effect would be to reduce the number of higher-rate taxpayers by almost 500,000.

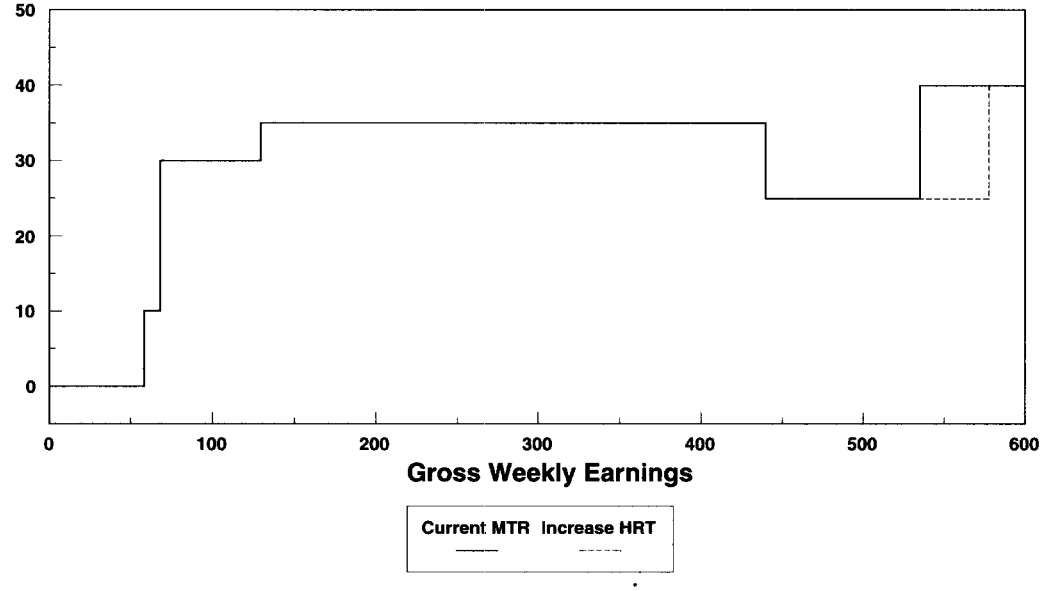
One consequence of raising the higher-rate threshold would be to widen a well-known oddity in the UK tax system. As Figure 5.4 shows, the effective marginal direct tax rate faced by workers as a result of income tax and employees' National Insurance contributions dips from 35% below the upper earnings limit (£440 per week) to 25% above it. It then jumps back up to 40% when income crosses the higher-rate threshold. One of the main problems encountered when considering how to remove this anomaly is the number of losers that would be produced if the 35% marginal tax rate continued up to the higher-rate threshold. Raising the higher-rate income tax threshold increases the number of people in this position.

Figure 5.3. Distributional impact of raising higher-rate threshold



Source: IFS tax and benefit model, using Family Expenditure Survey data for 1993.

Figure 5.4. Marginal tax rate of single earner



Tax-Privileged Remuneration

Share options

The tax treatment of shares, or more accurately the tax treatment of share options, has been in the spotlight recently. Over the summer, the Chancellor decided to withdraw the preferential tax treatment given to approved 'executive' share option schemes, and encouraged firms to look more carefully at other employee-wide alternatives, such as profit-sharing schemes, to increase employees' involvement in the performance of their firms.

Approved 'executive' share option schemes were introduced in 1984, 'to motivate risk-taking and enterprising management', according to Kenneth Clarke earlier this year. The schemes allowed companies to grant share options to employees at their discretion (hence the 'executive' tag), which would qualify for income tax relief if certain conditions were met.[1] When the option to buy a share through an approved scheme was exercised (i.e. when the shares were bought), no income tax would be charged on the difference between the amount the employee had to pay for the shares and the amount they were currently worth according to the Stock Market. So if a company granted an employee the option to buy 100 shares at £1 per share, and the employee did not exercise that option until the shares were worth £2 each, the employee was effectively £100 better off than before, but this £100 would not be taxed as income. Prior to this scheme, and from 17 July this year, that difference would normally be thought of as 'profit from employment' and taxed as income in the same way as an extra £100 in a pay-packet would be taxed.

Once the shares were sold, the employee would have to pay capital gains tax on the difference between the amount paid for the shares and the amount they were eventually sold for. In this example, if the employee sold the shares immediately after buying them, capital gains tax would be paid on the gain of £100.[2] The advantage of having that £100 taxed as a capital gain rather than as income lies in the extra tax-free allowance for capital gains, which is currently £6,000 a year. So this employee could make a capital gain of £6,000 in a year without paying any tax on that at all, compared with between £1,500 and £2,400 in income tax which would be payable on an extra £6,000 of income, depending on whether the employee is a basic- or higher-rate taxpayer.

Of course, this is an extreme example, since some individuals who were offered share option schemes will already have been using up their capital gains tax allowances each year, and so gained very little from the different treatment under this scheme.[3] However, it is clear that those people who did not usually make any capital gain would have been worse off once the options returned to being taxed under income tax rules. This was the reason that the Chancellor backtracked and decided only to impose the new rules on new schemes, i.e. those schemes entered into after he announced the change in tax

[1] For example, the value of the options could not be greater than £100,000 or four times the employee's salary, and the options had to be held for between three and 10 years to qualify for relief.

[2] Ignoring the complications added by indexation issues here.

[3] There is an advantage in paying capital gains tax rather than income tax which arises from the ability to defer the payment of tax until the shares are sold, rather than having to pay the tax when they were purchased. This deferral of the tax is not likely to be very significant in this case, since most of the options were sold immediately after they were exercised, in order to help pay for the share purchase.

treatment. The episode made it very clear quite how difficult it is to remove a tax privilege once it has been established, even though the need to give share option schemes a boost to their popularity had evidently passed.

Profit-related pay

During this summer's confusion over the taxation of 'executive' share option schemes, the Chancellor exhorted companies to look to other tax-favoured methods of remunerating their workers, such as Save-As-You-Earn share option schemes and profit-sharing schemes, rather than using 'executive' share option schemes. He did not mention one of the most expensive forms of income tax relief for employee remuneration, profit-related pay. This is a tax relief that may have outlived its usefulness.

Save-As-You-Earn (SAYE) share option schemes were introduced in 1980, profit-sharing schemes a year earlier, and by 1993-94 each scheme involved about one million employees. Under the SAYE scheme, employees are given the right, or option, to buy shares at some point in the future. Employees then save between £10 and £250 a month into an SAYE account, usually for five years. After five years, they get a tax-free bonus related to the size of their monthly payment, and can exercise the option (i.e. buy the shares) with the money in the account. The employee does not have to buy the shares, and can take out the savings (including the bonus) tax-free. If the shares are bought at the bonus date, the only tax payable is capital gains tax when the shares are eventually sold. Capital gains tax is levied on the real difference between the purchase market value and the sale value of the shares. Unlike 'executive' option schemes, SAYE schemes have to be open to all employees who have worked in the company for at least five years. The cost of the income tax relief was about £120m in 1994-95, and is expected to increase to £150m for 1995-96.

Profit-sharing schemes also have to be open to all employees, but unlike SAYE schemes, they do not involve granting an option to buy shares. Instead, the employer puts money from its profits into a trust, and the trust buys shares in the company. The trust then allocates shares to each employee, up to a certain value per year. The shares are held in trust for the employees for five years, and after that are given to the employees for nothing and are not liable to income tax. Again, the only tax payable will be capital gains tax on the real gain in market value when the shares are sold, provided they were kept in the trust for the full five years. The cost of this income tax relief was about £90m in 1994-95, and is expected to increase to £100m for 1995-96.

Profit-related pay (PRP) was first given tax relief in 1987, and by the end of March this year, 2.5m employees were registered in PRP schemes. Unlike the two share-based schemes outlined above, the rationale behind the relief was not to encourage wider share ownership, but to encourage firms to change the way that they paid their employees, by introducing an element of their pay that related directly to the level of profits earned by the firm in that year. Employees would still have a basic salary, but would also have an extra slice of their salary that changed according to the profits made that year. The theory was that in highly profitable years, employees would receive a large profit-related pay increase, and in less profitable years, employees' PRP would be lower. PRP was meant to increase the flexibility of wages, improving the working of the labour market.

The tax relief for PRP schemes was first introduced in March 1987, with the intention of giving companies encouragement to get such schemes started. Announcing a consultation process for the design of PRP schemes in his Budget Speech of 1986, Nigel Lawson pointed out that 'there is considerable inertia to overcome, so it might make sense to offer some temporary measure of tax relief to the employees concerned'. Once the schemes had caught on, the tax relief could then be withdrawn. In fact, take-up was quite slow, despite changes in the rules which made the schemes much less complicated to operate, so the relief was in fact doubled in 1991. Profit-related pay is now exempt from income tax, up to a limit of £4,000 (or 20% of total pay, whichever is lower). This effectively means that firms can give their employees an increase in net pay of up to £1,000 a year for basic-rate taxpayers (which increases to £1,600 for top-rate taxpayers) without changing gross pay, simply by shifting £4,000 of their salary into a PRP scheme.

The cost to companies of doing this is the cost of setting up the scheme, which fell significantly after the rules were simplified in 1991. The cost to the Treasury is the loss of income tax on pay which is transferred into PRP schemes, income tax relief which was estimated at £550m in 1994-95, and is expected to increase to £800m in 1995-96. There is little evidence to suggest that profit-related pay actually fluctuates with the profits of the companies running the schemes; in fact, there is some evidence to the contrary. Research carried out for the Inland Revenue has shown that firms adopting PRP did not find that pay flexibility increased, and that the pool of profits used to calculate the level of PRP in each year is manipulated 'to produce reasonably stable levels of PRP'.[4] Of the companies that had no PRP scheme before the tax relief was set up, 62% said they would not have introduced PRP without the tax relief, and 50% said they would not continue if the tax relief were withdrawn.

It is clear from this research that PRP is not allowing firms generally to be more flexible in their payments to employees, and that many firms simply turned their existing bonus schemes into PRP schemes in order to achieve a tax saving. Firms can use these schemes to give pay rises at little additional cost to themselves, but it is not at all clear why the government should subsidise this. The initial intention, that the tax relief should be reversed after a period of years, seems appropriate. This would leave firms in a position to decide whether the benefits of increased productivity and employee involvement arising from PRP outweigh the costs of running such a scheme, free from any tax considerations.

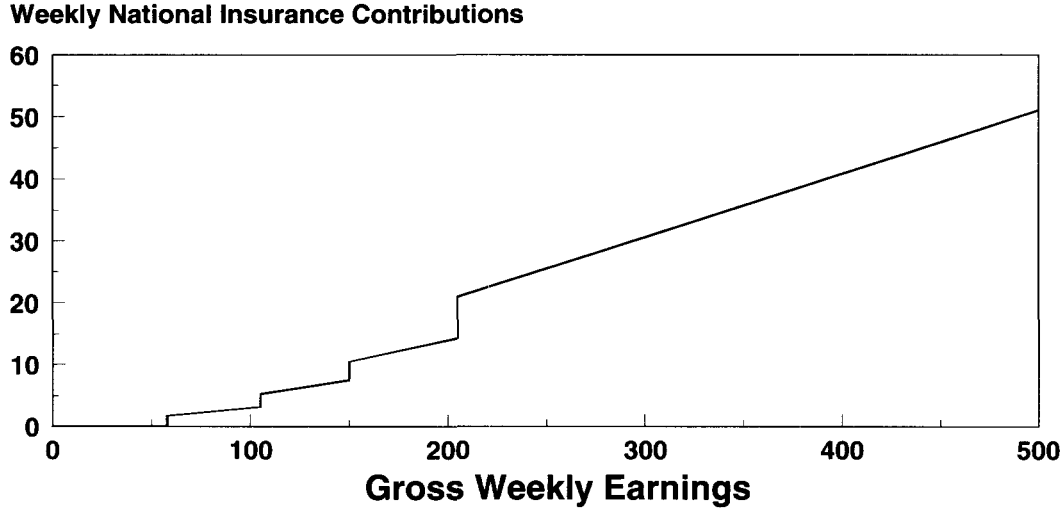
Employers' National Insurance Contributions

One of the areas of the tax system that is most in need of reform is employers' National Insurance contributions (NICs). This system produces no fewer than four points in the earnings schedule where the employer's NICs increase by several pounds if the employee is paid an extra 1p of income. This results from four steps in the employer NIC rate payable on *all* earnings. The steps occur at £58, £105, £150 and £205 gross income per week. For example, if an employee is paid £104.99 per week, the NIC rate is 5% and the employer's liability is £5.25 (£104.99 x 0.05). If the pay increases by

[4] See 'Profit Related Pay: an employer survey', Inland Revenue Economics Paper no. 2, 1995.

1p to £105 per week, the NIC rate becomes 7% and the NIC liability increases to £7.35 (£105 x 0.07). Figure 5.5 shows the amount of NICs paid for a non-contracted-out worker.

Figure 5.5. Employer National Insurance contributions (in SERPS)



These jumps can introduce rigidities into the labour market, particularly for the lower-paid. That there is a noticeable clustering in the distribution of earnings just below the first step at £58 per week provides evidence of the effect of employer NICs on the labour market. Employers will be reluctant to pay workers slightly higher hourly wages or increase their hours, as the extra production of the worker is more than offset by the increased NICs liability.

In both the November 1994 and 1995 Budgets, Mr Clarke cut the rates of employer NICs. However, while rate cuts reduce the size of the jumps in the NIC schedule, only a fundamental reform of the system could remove the problem. In 1989, the government reformed employee NICs, almost completely removing the step structure in favour of a uniform rate on earnings between the lower earnings limit (LEL) and the upper earnings limit (UEL) with an 'entry fee' of only 2% of earnings at the LEL. The cost of implementing such a change in employer NICs without creating losers would be very high. Removing the first jump in employer NICs by having a zero rate on all earnings below the LEL would cost about £5bn.

Such a reform would probably represent too significant a reduction in the tax burden for the public finances. But to finance the change, it would be possible to raise the standard rate of employer NICs from 10.2% to 12%. The effect of this change would be to reduce the employer NICs paid with respect to any employee whose weekly earnings were below £386, but to raise the amount for those who earn above this level.

In the long run, while the formal incidence of employer NICs is on the employer, we would expect much of the gain from their reduction to pass to employees. This is because the change in the NIC liability does not affect the productivity of the workers. It is productivity which should ultimately determine how much an employer is willing to pay to employ a worker, so this too would be unchanged. The amount that workers take home is the amount the employer is willing to pay less any income tax and NICs, whether these are formally imposed on the employer or the worker. This abstracts from the effects on labour supply which might ultimately affect the producer price of labour.

Taxation and the Family

'There now seems to be agreement that the way couples are taxed in the United Kingdom is totally unsuited to the late twentieth century.' This quote, from a previous IFS Commentary,[5] refers not to our current system of taxation, but the system of joint taxation that operated in the UK up to 1990. In 1990, a new system of independent taxation was introduced to remove much of the sexual discrimination and inequality inherent in the old system.

Yet only five years on, many commentators are again focusing on perceived problems with the taxation of couples and its effects on family formation and work incentives. It is suggested that the tax system should be used as an instrument of family policy, encouraging couples to remain together, and even that the tax system has been a cause of the decline of the family witnessed over the last 30 years.

We start by taking a critical look at arguments that relate changing family structure with the structure of the income tax system. We then move on to the more substantive issues that the interrelationship between the tax system and the family raises. We place the current debate in the context of the long history of changes and proposed reforms of the system in response to the changing social world in which it operates.

We examine the effects of two proposed reforms in this area. The first is the introduction of transferable tax allowances, a reform designed to address the perceived unfairness in their tax treatment between single-earner and two-earner couples. The second reform examined is an extension of child benefit funded by the removal of the married couple's allowance. These reforms can be seen as representing two different approaches to the taxation of the family. The first places the emphasis on the couple as the unit of taxation, while the second regards each individual as incurring a separate tax liability, regardless of their family status.

The tax system as home-wrecker?

One of the main accusations recently levelled against the tax system is that it has become less favourable to married couples, contributing to the decline of marriage witnessed over the past 30 years. Given the massive socio-economic changes that have occurred during this period, the tax system seems a rather odd choice as a major contributory factor in the breakdown of the traditional family unit. As *Inland Revenue Statistics* clearly show, the value of tax allowances as a proportion of male average earnings, while falling during the period 1950-75, has remained fairly constant over the past 20 years for both couples and single people.

[5] C. N. Morris and G. K. Stark, *The Reform of Personal Taxation*, IFS Commentary, 1986.

Indeed, if we examine the incentives present in the current tax system, we will find that these actually favour marriage albeit slightly, though there must be serious doubt as to whether these incentives have a significant effect on individual behaviour.

For a couple without children, getting married allows them to receive the married couple's allowance (MCA). If the MCA enters a couple's decision-making about marriage at all, we would expect it to be a very minor issue relative to other more obvious and important considerations. The existence of the MCA will only cause a change in the couple's decision if these other considerations are so finely balanced as to make them almost indifferent between marrying and not marrying. The only effect of the tax system is to encourage people who for other reasons would not have married to do so, for the sake of gaining an additional tax allowance. It must be doubtful whether this distortion of people's incentives should be welcomed but it seems unlikely to be very powerful. The institution of marriage might well be weakened if people entered into it for purely fiscal reasons.

The other side of this point is whether the tax system provides a couple with an incentive to divorce. Clearly, for those without children, the loss of the MCA will act as a small disincentive to divorce. For a couple with children, the partner with custody will become entitled to the additional personal allowance (APA) which is equal to the MCA. In most cases, the partner with custody will not be the main earner in the household. Thus the personal income of a main earner, net of tax, will fall if they do not retain custody of a child. However, the weight placed on the loss of the MCA is likely to be small compared with the other financial considerations involved in divorce.

Does the tax system encourage single people to have children? Having a child will entitle a single person to the APA, reducing their tax bill by £258 per annum. However, only 25% of single parents gain from the existence of the APA since so few are taxpayers, and having a child is likely to impose large childcare costs or diminish the parent's employment prospects if they take time out of their career to care for the child. Clearly, for someone who is almost indifferent between having a child and not, the existence of the APA might swing their decision in favour of having the child, though in reality this effect is probably negligible.

Overall, it is difficult to see how the structure of the tax system has been a major player in the rise of divorce and of single-parent families. Indeed, the tax system still acts at the margin to encourage people to marry and to stay together. However, while rejecting the idea that the tax system has caused the social change witnessed over the last 30 years, one may still be concerned that the tax system does not take enough account of the family responsibilities of the taxpayer. In particular, it might be argued that the reduction in the value of the MCA since 1990 has signalled a reduction in the government's view of the importance and value of marriage.

The move to independent taxation

Underlying the debate about taxation and the family is the question of the appropriate form of taxation for couples. Essentially we could follow one of two principles. The first is to treat the couple as a single unit for tax purposes - joint taxation. The other is to treat each partner as an individual taxpayer - independent taxation. There has been a long debate on this subject, of which the current preoccupation with the tax system and the family is merely the latest instalment.

When taxation on income was first introduced, at the very end of the eighteenth century, it was based on the assumption that the husband was the financial supporter of his wife and children. Thus the unit of taxation was taken to be the couple, with any income accruing to the wife being regarded for tax purposes as that of the husband. Specific account was taken of a husband's financial responsibility for his wife in 1918, when the married man's allowance was introduced.

The joint tax system was also based on the assumption that married women did not do paid work. During the Second World War, as in the First World War, there was a large influx of women into the labour market. In response to this, the wife's earned income allowance was introduced in 1942, allowing a wife to earn up to the value of this allowance without paying tax. Any earnings above this level would be taxed at her husband's marginal tax rate. Prior to this, her first £1 of earnings would have been subject to tax.

In 1977, child tax allowances were abolished, and the revenue generated was used to increase child benefit. The reason for this change was that tax allowances only benefited those who paid tax and were worth more to those with higher incomes. Child benefit, on the other hand, goes to all families with children and is paid at the same amount, regardless of income. The Callaghan Government intended to make more fundamental changes to the tax system and prepared a Green Paper on the subject, but this was never published due to Labour's defeat in the 1979 general election.

In 1980, the Conservative Government published a Green Paper which considered a number of alternatives to the joint tax system, but concluded that, given the political and administrative problems of reforming the system, the *status quo* should remain. By 1986, the government had accepted the need for change, and a new Green Paper was introduced which proposed a move to a system of fully transferable personal tax allowances. But following substantial criticism of these proposals, the government did not act on them. The government's actual reforms were announced in the 1988 Budget, which involved the introduction of a system of independent taxation with an additional transferable tax allowance for married couples, the married couple's allowance (MCA).

This independent tax system was introduced in 1990 and resolved a number of major problems in the pre-1990 system. First, it abolished the need, for tax purposes, to treat a married woman's income as that of her husband. As well as embodying an outdated attitude to women's role in society, this had meant that in most cases women lacked any privacy from their husband in their tax affairs.

The move also resolved a distinction between couples with one male earner and those with one female earner. Prior to 1990, the former received only the married man's allowance, whereas the later were additionally entitled to the wife's earned income allowance. From 1990, both groups were entitled to a personal allowance and the MCA, although certain transitional arrangements were brought into force to prevent couples with one female earner at the time of the change from losing out.

Finally, the change removed the disadvantage that second earners faced compared with their single peers. Under independent taxation, a wife became entitled to her own tax bands, which meant that she no longer paid tax at her husband's marginal rate on any income that exceeded the value of her tax allowance. For second-earner husbands under joint taxation, the first £1 of income increased the couple's tax bill, as all the

couple's possible tax allowances were already being used by the wife. Again, under independent taxation, the husband became entitled to a personal allowance which could be set against his income.

In 1990, the UK did not move to a fully independent tax system. Two allowances are available which can be transferred between the partners in a couple. The first is the married couple's allowance (MCA), to which all married couples are entitled. The second is the additional personal allowance (APA), which is available to cohabiting couples with children and to single parents.

The level of these allowances was initially set at £1,720, the difference between the value of the married man's allowance and the single personal allowance had joint taxation continued. Since 1990, the MCA and APA have been frozen in nominal terms, and in April 1994 their value was restricted to 20%, and in April 1995 further restricted to 15%. The value of the MCA and APA (in terms of how much they reduce a couple's or single parent's tax bill) is now £258 for all taxpayers, compared with £505 for basic-rate and £810 for higher-rate taxpayers had the allowance been unrestricted and indexed in line with the personal allowance. The clear thrust of government policy since 1990 has been to erode the value of these allowances and move to a pure system of independent taxation.

Transferable personal tax allowances

Many recent contributions to the debate on taxation and the family have taken the view that the move to independent taxation has gone too far, and the present system does not make sufficient allowance for taxpayers' family circumstances. One area which has received particular attention is the treatment of single-earner couples, often regarded as the 'traditional family unit'. Both the pre-1990 and post-1990 systems have been biased in favour of two-earner as compared with single-earner couples. Two-earner couples are currently entitled to two personal allowances and the married couple's allowance, which can potentially reduce a couple's tax bill by £2,020.50 in 1995-96 if both earners are basic-rate taxpayers. However, a single-earner couple with the same total pre-tax income does not get a second personal allowance, which means they receive allowances worth only £1,139.25.

The situation is compounded by the fact that under independent taxation, each partner is entitled to his or her own tax bands. This means that a single-earner couple is allowed £3,200 of income to be taxed at 20% and £21,100 at 25%, with remaining income being taxed at 40%. As each partner under independent taxation is entitled to his or her own tax bands, a two-earner couple could potentially have £6,400 of income taxed at 20% and £42,200 at 25%.

One proposal aimed at reducing the tax burden of single-earner couples is to allow the personal tax allowance of one partner to be used by the other. The aim of this proposal is to equalise the tax treatment of single- and two-earner couples, and to provide a means of reducing the tax burden on the 'traditional family unit'. The most obvious way to implement this proposal would be to make personal allowances fully transferable, so that the couple could choose to have all their allowances used by the partner for whom it would be most tax advantageous. However, this creates other problems.

As personal allowances are unrestricted, their value is greater to those who pay at a higher marginal rate. For a couple where the main earner earns £20,000 while the second earner earns £5,000, the gain to the couple from transferring the whole of the second earner's tax allowance to the main earner would be £86.25 per annum. However, this disguises a large redistribution of income between the main and secondary earner. The main earner's personal net income increases by £881.25 while the second earner's net income falls by £795. This is shown in Table 5.4. Making the personal tax allowance fully transferable would place over 2.5m working women, along with about 150,000 men, in a position where they would have to make a trade-off between a rise in the couple's combined income and a sharp fall in their own personal income.

Table 5.4. Example tax payments with transferable allowances

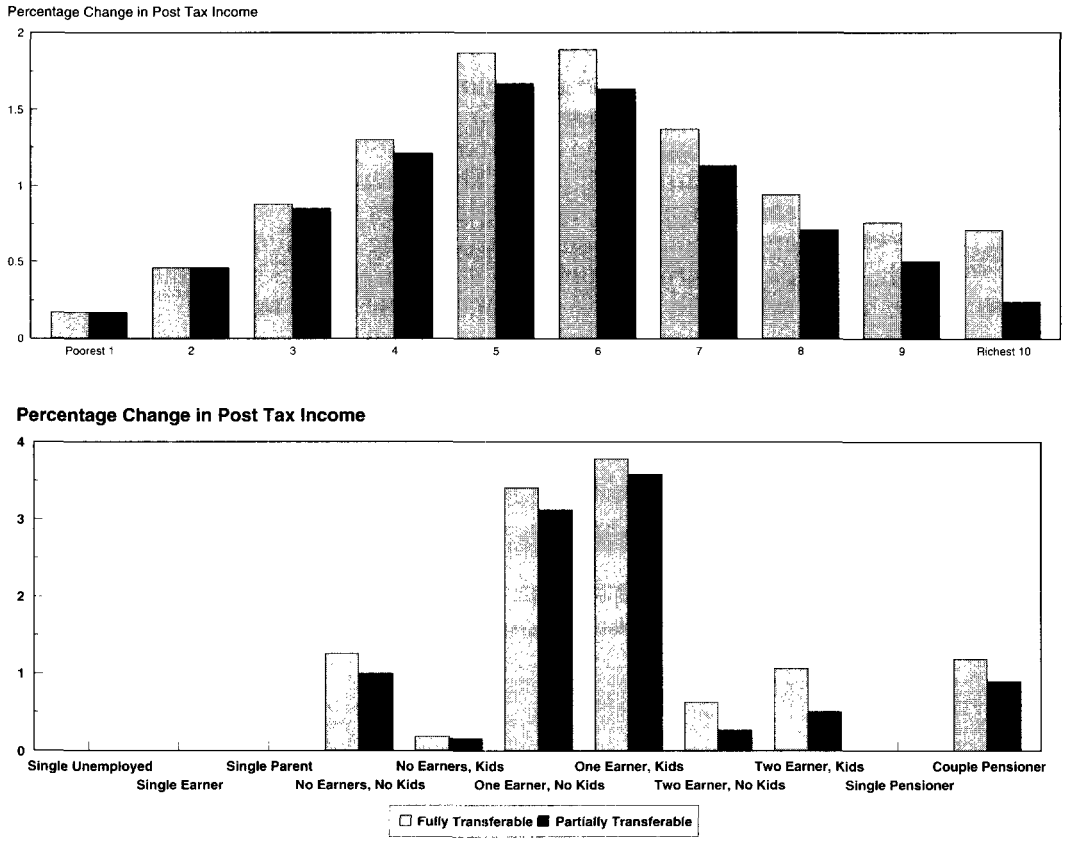
	Main earner (£ p.a.)	Secondary earner (£ p.a.)	Total (£ p.a.)
Earnings	20,000.00	5,000.00	25,000.00
Tax payment under:			
Current tax system	3,700.75	295.00	3,995.75
Fully transferable allowances	2,819.50	1,090.00	3,909.50
Partially transferable allowances	3,700.75	295.00	3,995.75
Change in tax payments (full)	-881.25	795.00	-86.25
Change in tax payments (partial)	0.00	0.00	0.00

An alternative that avoids this problem would be for allowances to be transferable to a spouse only if the person cannot use them - partially transferable allowances. This would prevent the allowances being transferred if one partner faced a higher marginal rate. Under such a system, those who gain would be couples where one partner is paying income tax and the other partner has income of less than £3,525, the level of the personal allowance. The gain to a basic-rate taxpayer whose spouse was not working would be £881.25 a year. This would rise to £1,410 for a higher-rate taxpayer. In the example in Table 5.4, the couple would be unaffected from the current tax system, because both individuals were already taxpayers.

Figure 5.6 shows the distributional impact of the introduction of transferable personal allowances. The top part shows the impact by equivalent income decile, while the lower part shows the impact by family type. In terms of family type, the bulk of the gains go, not surprisingly, to single-earner couples. Single people, including single parents, do not gain at all from this tax change.

From Figure 5.6, it can be seen that both partially and jointly transferable allowances benefit those in the middle of the income distribution proportionately the most. This is because those at the bottom of the income distribution are unlikely to be taxpayers, while at the upper end there is a greater concentration of two-earner couples. The overall cost of making personal allowances partially transferable would be just under £3bn, while fully transferable allowances would cost the exchequer an additional £1bn.

Figure 5.6. Distributional effects of transferable allowances



Source: IFS tax and benefit model, using Family Expenditure Survey data for 1993.

The additional cost of fully transferable allowances is concentrated at the middle and upper end of the income distribution. As would be expected from such a reform, the bulk of the gains go to single-earner couples, both with and without children.

There are a number of issues raised by the administration of transferable allowances. Fully transferable allowances could be operated in much the same way as the MCA. Under this system, couples could elect to transfer their personal allowance to a spouse at the beginning of the year of assessment. At the end of the year, any unused allowance would be transferred to the other spouse. However, given that it would be tax-advantageous to transfer their allowance, many second earners whose earnings are currently below their personal allowance would become taxpayers. This would add a considerable burden to the Inland Revenue.

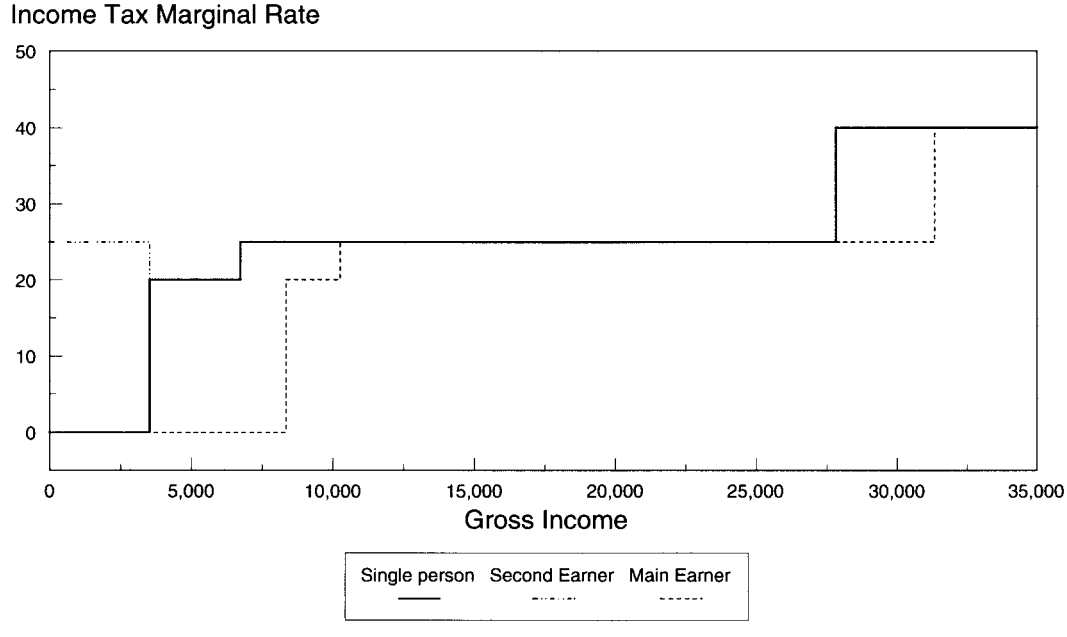
For partially transferable allowances, the administrative problems are larger. A spouse would not be able to transfer any allowance that they could have used during the year of assessment. If one partner were allowed to transfer their personal allowance at the start of the tax year, and then earned some taxable income during the year, it would be necessary to impose a large end-of-year adjustment. One spouse would receive an additional tax demand, up to £881.25 for a basic-rate taxpayer, while the other spouse

would receive a tax refund. Another option would be only to allow unused allowances to be transferred at the end of the tax year, so that couples would receive the benefit of the change in a lump sum at the end of the tax year.

Is the introduction of transferable allowances a sensible reform of the tax system? There are a number of reasons for thinking that it is not. First, care must be taken in the transition from observations about tax units' net income to conclusions about their relative living standards. While the tax system's structure of allowances and rates favours two-earner over single-earner couples where the gross income of the couple is the same, any statement about relative living standards should take into account the fact that the single-earner couple has access to the labour of the non-working partner in the home, while the two-earner couple may incur large costs as a consequence of the decision to work - not least, childcare costs.

Second, transferable allowances are a rather inefficient means of boosting family incomes. The gains from such a move are highly concentrated on single-earner households, almost 50% of which have no children. Out of over 7m families with children in the UK, only 1.8m are single-earner couples.

Figure 5.7. Marginal income tax rates under partially transferable personal allowances



Finally, a move to transferable allowances would affect the marginal tax rates faced by second earners. Under partially transferable allowances, a second earner would face a marginal income tax rate on income below the value of the personal allowance equal to the highest tax rate paid by their spouse. Every extra £1 earned by the second earner would result in £1 of their personal allowance being clawed back from their spouse. While the second earner pays no tax on the £1 earned, the main earner now has £1 more taxable income on which tax must be paid at their marginal rate.

Figure 5.7 shows the marginal income tax rates faced by three different people under a system of partially transferable allowances - a single person, a second earner whose spouse is a basic-rate taxpayer, and the earner in a single-earner couple.

One of the main motivations behind the initial move to independent taxation was to equalise the tax treatment of second earners with that of their single peers. The effect of introducing transferable allowances would be to introduce once again a distinction between the tax rates faced by second earners and those faced by single people. Such a move would mark a significant reversal in the direction of tax policy in the UK.

Moving to fully independent taxation

As noted above, UK tax policy has been moving toward a system of pure independent taxation. The value of the only remaining element of joint taxation, the MCA (and APA for cohabiting couples with children), has been reduced since 1990, with the latest decrease occurring in April 1995 when the allowance was restricted to 15%. Under independent taxation, the role of the tax system is merely to raise revenue in proportion to an individual's income. It is not intended to take account of other circumstances of the taxpayer. The main advantage of such a system is that it ensures that post-tax income is the same for all taxpayers with equal pre-tax income. Thus decisions about participation in the labour market would not be distorted by the tax system providing different after-tax returns to different groups.

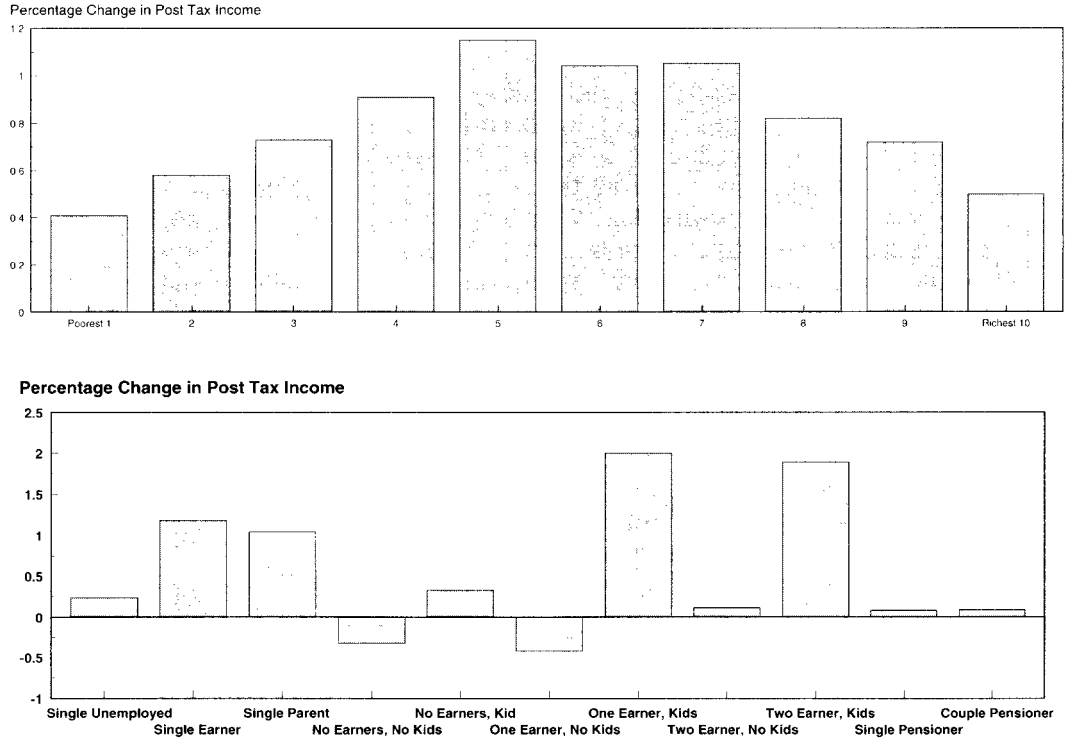
This is not to say that the state must be blind to individuals' family circumstances but the income tax system is unlikely to be the most effective means of compensating for them. In particular, if specific groups are to be targetted for help, the social security system has many appropriate tools. One frequently advocated way of boosting the incomes of those with children is child benefit, which might seem a natural alternative to the MCA if our aim were to help support children.

Such a boost in child benefit could be financed by the removal of the MCA for under-65s, thereby allowing the UK tax system to move to a fully independent tax system for those of working age. The main drawback of this proposal is that it would redistribute from childless couples to families with children, producing numerous losers. The measure could therefore be combined with one of the reductions in the income tax burden examined above to minimise this problem.

We consider one reform along these lines here. Under this reform we would remove the MCA from those under pension age, allowing child benefit to be increased by £5 a week for each child without changing the level of government borrowing. As the MCA reduces a couple's tax bill by at most £4.96 a week, no couple with children would lose out as a result of the shift to child benefit. However, all married couples without children who pay tax would lose under this scheme. To mitigate this loss that might be thought undesirable, the reform could, for example, be combined with an extension of the personal allowance to those under 65 costing £3bn. The overall result would be that a basic-rate taxpayer with one child would gain £2.44 a week, and those with more children would gain more. However, even with the extension of personal allowances, over 2m tax units, mainly childless single-earner couples, would lose more than £1 per week, while nearly 13m tax units would gain over £1 per week.

Figure 5.8 shows the distributional effects of such a reform. The gains are spread across the income distribution in much the same way as for transferable allowances. However, there is a marked difference in the distribution among family types. The gains go mainly to those with children and to single people in employment. The latter group gains through the extension of tax allowances and is unaffected either by the abolition of the MCA or the increase in child benefit. The two groups that lose out through this reform are single-earner and no-earner couples that do not have children.

Figure 5.8. Distributional effects of extension of child benefit



Source: IFS tax and benefit model, using Family Expenditure Survey data for 1993.

5.2 Issues in the Taxation of Companies

In this section, we discuss several issues that have arisen in the taxation of companies over the past year. These issues include:

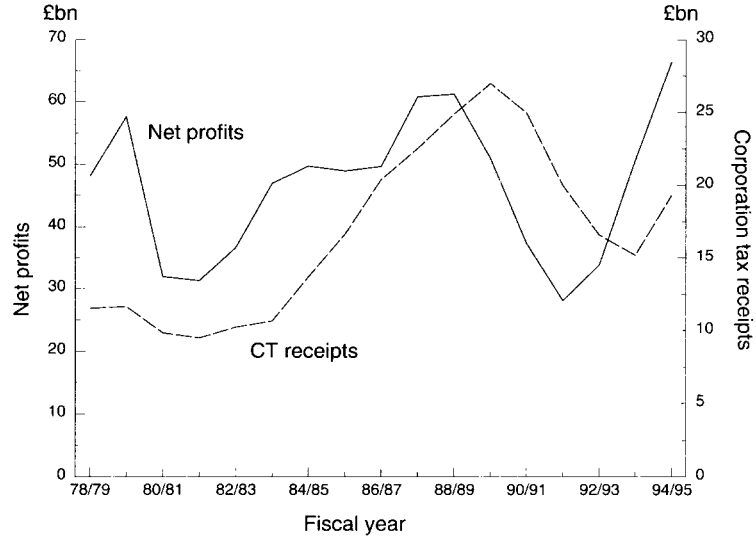
- the growth in corporation tax revenues;
- the idea of a 'windfall' tax on privatised utility companies;
- the case for reducing capital gains tax on long-term holdings, or abolishing this tax altogether;
- the tax treatment of company dividends, focusing on surplus advance corporation tax and the new foreign income dividend scheme, the taxation of share repurchases and special dividends, and the tax advantages of some company take-overs;

- the possibility of further tax incentives to encourage business research and development;
- the future of UK company taxation in an international context.

Corporation Tax Revenues

Corporation tax revenue is officially forecast to increase from £19.3bn in 1994-95 to £26.1bn in 1995-96. This principally reflects the increase in company profitability that has already occurred during 1994-95. Corporation tax (CT) revenue now follows the cycle in net company profits quite closely, with a payment lag of about one year, as shown in Figure 5.9.

Figure 5.9. Corporation tax receipts and net company profits
£ billion, 1994-95 prices



Note: Net profits are given by gross trading profits plus rents, minus interest and depreciation, for companies and financial institutions. Corporation tax receipts include payments of advance corporation tax (ACT).

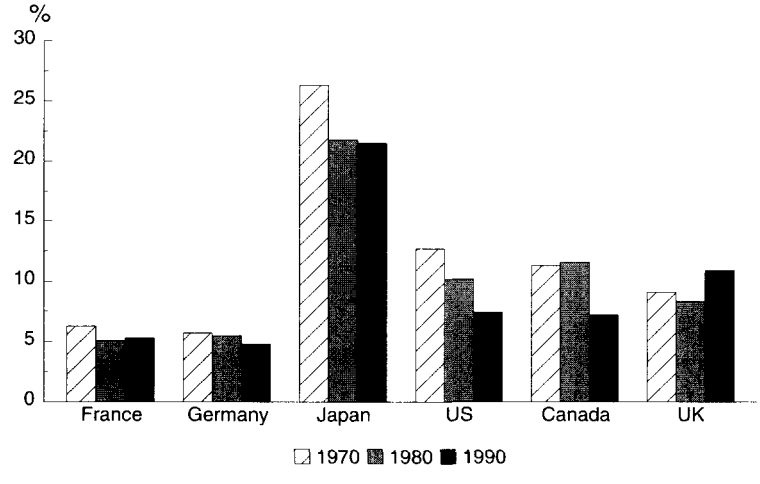
Source: *Economic Trends Annual Supplement* (1995) and *Inland Revenue Statistics* (1994).

Corporation tax revenue is now more sensitive to fluctuations in company profits than used to be the case in the 1970s and early 1980s. The reform of corporation tax introduced in 1984 brought the corporation tax base more closely into line with accounting profits than had previously been the case. Corporation tax is now basically assessed on company profits net of interest and an allowance for depreciation (capital allowances). The value of capital allowances is largely determined by past investment spending, and varies relatively little with the current economic cycle. In contrast, before 1984 much of company investment could be deducted immediately in calculating the corporation tax base, and capital allowances reflecting depreciation of past investment were much less significant. The pro-cyclical nature of investment spending tended to offset fluctuations in gross company profits, and made the corporation tax base less sensitive to the economic cycle. The predetermined nature of capital allowances under the current system has the effect of aligning the tax base more closely with net company profits and making the tax base more sensitive to the state of the cycle.

The decline in corporation tax revenue during the last recession was even stronger than usual, for two principal reasons. First, the rate of corporation tax was itself reduced from 35% to 33% in the March 1991 Budget. Second, the period of time over which trading losses could be carried back to set against corporation tax liabilities was extended from one year to three years in 1991. This resulted in a one-off decrease in mainstream corporation tax payments, as more losses were offset than would previously have been the case. This is now estimated to have cost the government around £1bn in forgone corporation tax revenue, rather than the initially projected cost of £250m. However, this is primarily a timing effect. As there are correspondingly fewer losses being carried forward to set against future corporation tax liabilities, there should also be a stronger increase in corporation tax revenue when the affected firms move back into a taxpaying position.

The growth in corporation tax revenue experienced in the UK over the last 16 years has been quite striking. Corporation tax revenue has increased fivefold, from £3.9bn in 1978-79 to £19.3bn in 1994-95, with only a fourfold increase in GDP over the same period. Corporation tax receipts have increased from about 6% to 8% of total government revenue since 1978-79, and this increase is unusual compared with most other major economies. Corporate tax revenue as a share of total tax revenue has been static in Europe, and declining sharply in North America (Figure 5.10). Indeed, there is some question about the sustainability of the present yield from corporation tax in the longer term, given the increased international mobility of company activities and company profits. None the less, in the short term, corporation tax revenue seems likely to grow further.

Figure 5.10. Taxes on corporate income as a share of total tax revenue



Source: *Revenue Statistics of OECD Member Countries* (1994).

Taxing Utility Profits

The high levels of profits that have been earned by some of the privatised utility companies have prompted calls for additional tax revenue to be taken from these

companies. Perhaps surprisingly, these calls have come not only from Gordon Brown and the Labour Party, but also from some City analysts, from *The Times* newspaper[6] and most recently from some senior Conservative back-benchers.

In discussing the appropriate taxation of utility profits, it is important to distinguish between a one-off 'windfall' profits tax, that might be charged today on the basis of higher-than-intended profits earned by these firms since their privatisation, and a recurring 'excess' profits tax, that might be applied to these companies if it is anticipated that they will continue to earn very high profits in the future. It is important to ask whether the objective is to punish investors who happen to have got lucky or to help utility customers. It is also important to bear in mind that these firms already pay corporation tax on their profits.

A windfall profits tax

The Labour Party has proposed a one-off windfall tax on the utilities. This would probably raise about £2.5-3bn from the regional electricity and water companies.

There is no doubt that these companies have the funds to pay such a tax. Some analysts have estimated that they could pay up to £10bn and still remain viable. But these calculations are hardly relevant. How much firms could pay without actually going bankrupt is not a criterion on which any sensible company tax should be based.

The windfall tax patently fails to achieve a number of possible objectives. It does nothing to help utility consumers. Part of the burden of the tax may actually be borne by consumers, as we explain below. Also, by increasing uncertainty about future tax rules, an allegedly one-off windfall tax may well make regulation of these companies more difficult. A one-off source of revenue clearly does not provide a coherent strategy for financing long-term training and employment programmes. Nor, by the same token, does it provide a coherent strategy for financing tax cuts.

What the windfall tax does achieve is to exploit the current unpopularity of the utility companies to increase taxes in an apparently popular way. This may well be good politics, but there are some serious economic objections to the idea of retrospective windfall taxation.

The argument for a one-off windfall profits tax rests partly on the view that these firms were privatised at too low a value, conferring a windfall capital gain on the initial investors, and partly on the view that the regulation of these firms has been too lax in the past, allowing them to charge too high prices and therefore generate too high profits. These views are closely linked - one reason why the market value of the utilities may now be higher than was thought at the time of the privatisations is that the regulatory environment has turned out to be more lax than was initially anticipated.

Whilst both of these claims may be true, there are still major problems with the idea that a windfall tax would *now* be an appropriate response to these *past* mistakes. We must ask who will actually pay the windfall tax. It is a fallacy to think that companies pay taxes - companies only pay taxes on behalf of people. What matters is which people will be made worse off by the imposition of this tax. In this case, there are two main groups that could be affected - shareholders and customers. If regulation works well,

[6] Leading article, Monday 18 September.

the burden of the tax will fall on the shareholders. If regulation does not work so well, some of this burden will be passed on to utility consumers, in the form of either higher prices or lower standards of service.

To the extent that the burden does fall on shareholders, we must also ask which shareholders will be affected. The answer is those who were unlucky enough to be holding shares when the prospect of a windfall tax first hit the market, and those who happen to be holding shares if and when the likelihood of this tax being imposed increases. Since company shares change hands all the time, this is something of a lottery. What is fairly sure is that large numbers of investors who have benefited from windfall profits in the past, but sold their shares some time ago, will *not* be affected by the windfall tax at all. The argument that the windfall tax is 'fair' is seriously flawed, and sits uneasily alongside Labour's claim to be the party of fair taxation.

Even if the tax did fall on those investors who had actually enjoyed windfall gains, there are still objections in principle to changing tax rules retrospectively. This is not completely without precedent - a one-off Special Tax on Bank Deposits was levied by Sir Geoffrey Howe in 1981, ostensibly because bank profits had benefited from his high interest rate policy. But 1981 was a time of deep economic crisis. In normal circumstances, retrospective taxes have been viewed as an abuse of government powers. Investors who have purchased utility shares have no possibility of reversing those decisions, even though they might have made other investments if they had known about the introduction of such a tax. No other seller can come back to the market several years after the event and demand a huge price for the assets it has sold.

For the present government, there are further problems associated with a windfall tax on utilities. It was the one that decided to privatise these firms, determined the terms on which they were sold and designed the regulatory regimes under which they have operated. Imposing a 'windfall' tax now would amount to an admission of past incompetence. Moreover, this government is still hoping to raise large sums from further privatisations of railtrack and nuclear power. The claim that a windfall tax on companies privatised in the past is a one-off event not to be repeated would naturally be received with a certain amount of scepticism, and this would certainly affect the proceeds from any future privatisations. It therefore seems very unlikely that the present government would want to impose such a windfall tax.

An excess profits tax

The case for introducing a new 'excess' profits tax to apply to the regulated utilities only is little more persuasive. There is a meaningful concept of excess profits, which has often been proposed as an ideal tax base, and which it would be quite feasible to tax. The problem with this proposal is why such a tax should be considered for the utility companies alone.

Excess profits can be meaningfully defined to be any profits earned over and above the minimum return needed to attract investment into a venture. Economists variously call these supernormal profits, monopoly profits, pure profits or economic rents. In many ways, such excess profits are an ideal tax base, since by definition they can be taxed without deterring investment in the company. Many economists have argued

that company taxes should be based on pure profits rather than conventionally measured profits, and company tax schemes that do fall only on excess profits have been formulated.[7]

A proposal to replace the existing distortionary UK corporation tax with a tax based on pure profits would therefore have considerable merits. To introduce such a tax in addition to corporation tax, and for a small group of companies only, is much less compelling.

So long as the present corporation tax is retained for the vast majority of firms, one has to ask what the rationale is for treating the utility companies differently. One answer is that these firms have monopoly positions, whilst most firms do not. However, these firms are also subject to regulation, the purpose of which is to prevent them from earning supernormal profits by exploiting their monopoly power.

Disillusion with recent regulatory experience does not alter the basic issues here. If regulation prevents these firms from earning monopoly profits, then there will be no excess profits to tax. If it does not, then why would it be better to let firms continue to earn monopoly profits and tax away part of them, rather than requiring firms to charge lower prices to consumers? A proper excess profits tax would, by its nature, not distort firms' investment and output decisions. Undesirable monopoly behaviour would not be corrected by the introduction of such a tax. Evidence that firms would be paying tax under an excess profits tax arrangement could better be used to justify tighter regulation. This would not only prevent firms earning monopoly profits in the long run; it would also lead to more efficient outcomes in the utility markets.

The revenue that could be collected from an annual excess profits tax on utilities is also modest, and arguably would become smaller if regulation were made more effective. These firms already pay corporation tax, on a base which is certainly broader than any measure of excess profit. In the last year, we estimate that the regulated utilities as a whole[8] paid about £2bn in corporation tax, around 10% of total corporation tax revenue. British Telecom alone accounted for nearly half of this, and the electricity distributors paid about £0.5bn. An excess profits tax on the regional electricity companies would not make much of a dent on the PSBR. The water companies are a different case, since they currently pay very little corporation tax. This reflects a deliberate decision which was taken in recognition of the heavy investment requirements in the water industry needed to meet European standards, after decades of underinvestment in the public sector. Clearly there is a possibility of raising more tax from the water companies, although this would amount to a reversal of that decision.

Capital Gains Tax and Company Investment Horizons

Concerns over the low level of company investment in the UK have recently focused on the possible effects of capital gains taxation in contributing to the alleged short-term horizons of investors in UK companies. In considering these issues, it is important to distinguish between the concerns facing large, mature, stock-market listed companies

[7] See, *inter alia, The Structure and Reform of Direct Taxation*, Report of a Committee chaired by Professor J. E. Meade, 1978; and *Setting Savings Free*, Summary of the Final Report of the IFS Capital Taxes Group, 1994.

[8] Including British Telecom, British Gas and the electricity generators in addition to the regional electricity companies and water companies.

- whose shares are likely to be widely-held and where institutional investors now play a major role - and those facing smaller and newer companies where the founders are still likely to be holding major stakes.

Large companies

For the quoted company sector, this concern is largely misplaced. Well over half the equity in stock-market listed companies is now held by financial institutions, and the most important of these - pension funds, and insurance companies in respect of their pension assets - do not pay capital gains tax (CGT). If these companies do suffer from 'short-term' investment horizons, it simply cannot be attributed to the effect of capital gains tax on these shareholders. The suggestion of remedying short-termism by tapering the rates of capital gains tax (i.e. charging a lower rate of tax on gains where assets have been held for a long period, and a higher rate of tax on gains where assets have been held for a short period) is most unlikely to have any significant impact on these companies. Conversely, the suggestion that the company sector could be revitalised by abolishing capital gains tax is equally misplaced.

It should be noted that capital gains tax currently raises less than £1bn from individual investors, and is only paid by around 85,000 people. We continue to have capital gains tax primarily as an anti-avoidance measure. Many wealthy individuals, including company directors, could relatively easily convert part of their income into capital gains, and would have a strong incentive to do so if capital gains taxation were abolished or the rate lowered. The existence of capital gains tax prevents this incentive from being too great, and therefore protects the income tax base. The implications of abolishing capital gains tax, both for government tax revenues and for the distribution of post-tax incomes, are much greater than would appear to be the case from the small amount of revenue that this tax raises.

Some evidence that 'short-termism' is a problem facing large UK companies comes from the unusually high dividend pay-out ratios and levels of take-over activity (particularly hostile take-over activity) found in Britain compared with other developed economies. Action using the tax system to deal with these concerns would require either bold measures to correct the bias in favour of dividend income currently facing tax-exempt institutional investors - as discussed above - or to limit the ease with which hostile take-over bids can be made, rather than largely irrelevant changes to capital gains tax legislation.

Small companies

Small companies, rather than being largely owned by institutional investors, are often entirely owned by their original founders or close family members. The existence of capital gains tax raises two sets of issues for this type of company. The first is whether or not the existence of CGT discourages individuals from leaving full-time employment to set up in business by themselves. The second is whether or not CGT discourages individuals from realising the gain on past investment and using the funds in more lucrative areas.

Currently, capital gains tax is charged at the same rate as income tax, for any real capital gain made over £6,000 each year (effectively £12,000 for married couples). In the past, there have been potentially large differences between the rate of tax on income and the rate of tax on capital gains. This provided a tax incentive for individuals to take the risk of setting up in business by themselves, given the existence of opportunities

for taking cash out of a business in the form of a capital gain rather than as income. However, since 1988 this incentive has been significantly reduced, now that the marginal rate of tax on capital gains is set at the individual's marginal income tax rate. It has been argued that lowering the rate of CGT, i.e. restoring this differential between the treatment of income and capital gains, would provide a helpful incentive to entrepreneurs to establish new, riskier ventures. But even if we accept the case for trying to encourage people to take more risks, the alternative of providing specifically targeted schemes, such as the Enterprise Investment Scheme (EIS) and Venture Capital Trusts (VCTs), seems a more sensible response to this problem.

The second issue relates to companies already in existence. It is argued that capital gains tax locks individuals into holding on to an investment that they would prefer to sell, because of the tax that would have to be paid. In the case of the sale of business assets, however, it is often possible to postpone the payment of tax (thus reducing the present value of the tax), if the gain from the sale is reinvested in another form of business asset.

The principal reliefs from capital gains tax when the gains are reinvested include reinvestment relief, hold-over relief, roll-over relief and reliefs aimed at investments in particular types of companies. All have rules about the exact type of investment that qualifies for relief (usually in a qualified unquoted company), the amount of gain that can be postponed (up to £100,000 a year in some cases) and the length of time that the tax payment can be put off (often until the new asset is itself sold). Although there may be a case for some simplification in this area, these schemes are designed to reduce the problem of capital being 'locked in' to less profitable investments, or to encourage investment in riskier ventures, which addresses the two main objections to CGT from small companies.

In addition to the above reliefs for capital gains tax, individuals selling their business on retirement can get full exemption from CGT, for capital gains of up to £250,000, and partial exemption for any capital gain in excess of that.[9] This provides relief for investors in small businesses when they want to retire. The only certain way of avoiding capital gains tax is to die, which leads us to the question of inheritance tax and small companies.

Reliefs from inheritance tax (IHT) for business property also exist, subject to some rules. The amount of relief depends upon the type of asset being transferred. For example, shares held in an unincorporated business or a controlling share of an unquoted company are completely free from inheritance tax (i.e. they qualify for 100% relief), and have been since March 1992. On the other hand, shares giving a controlling interest in a quoted company are taxed on half their value (i.e. they qualify for 50% relief). The result is that the smallest companies do not have to meet large tax bills on the death of the owner.

There do not seem to be compelling reasons for the wholesale abolition of CGT and IHT arising from the small companies sector because the reliefs available already address the problems outlined.

[9] Full exemption is only given to individuals who have owned the business concerned for at least 10 years, and a proportionate relief is given where ownership is between one and 10 years.

The Taxation of Dividends

The tax treatment of dividends remains a controversial issue, for several reasons. The first is that a sharp rise in dividend pay-out ratios in the late 1980s caused concern that companies might find themselves short of internal funds to finance new investment projects. Since the tax system itself discriminates in favour of dividend payments for powerful groups of shareholders, it is possible that removing this discrimination could reduce pay-out ratios and benefit investment. In this section, we set out the nature of this bias in the tax system, and some of the arguments for removing it.

The second reason is that the operation of the current system gives rise to something called surplus advance corporation tax (or surplus ACT), which acts like an extra tax on profits generated within some companies when they pay out dividends. Its existence has been the cause of many representations to the Treasury over the past several years, and led to the introduction in July 1994 of two new schemes, the foreign income dividend (FID) scheme and the international headquarter companies (IHC) scheme. In this section, we also describe briefly the issue of surplus ACT, and consider whether the FID and IHC schemes have provided sufficient relief from this particular tax problem.

The UK operates an imputation system for the taxation of companies and shareholders. Companies pay a tax called advance corporation tax (ACT) when they pay out a dividend. Although it is called advance *corporation* tax, it is much more like an advance payment of *income* tax, since it represents the income tax on dividend income that a basic- or lower-rate taxpayer would pay. Companies pay corporation tax of 33% on their UK taxable profits. If some of those profits have been distributed to shareholders in the form of dividends, the Inland Revenue accepts the ACT already paid as a part payment of this corporation tax due on their profits. This means that companies can normally subtract the ACT already paid from their corporation tax liability. The tax due after ACT has been offset is known as mainstream corporation tax (MCT). In some circumstances, companies are not able to offset the full amount of their ACT. These companies find themselves in a surplus ACT position, a problem which is discussed in more detail below.

Shareholders receiving a dividend will then have to top up the tax paid on their behalf if they are higher-rate taxpayers, or will receive a refund from the Inland Revenue if they are exempt from paying income tax. For example, if a shareholder receives a dividend of £1, ACT of 25p will already have been paid by the company. This represents 20% of the *grossed-up* dividend, i.e. the dividend plus the ACT payment. Since the rate of tax on dividend income is 20% for lower- and basic-rate taxpayers, those shareholders will not owe any more tax. Higher-rate taxpayers will have to pay an extra 25p in tax (again, 20% of the grossed-up dividend), and tax-exempt shareholders will receive a refund of 25p. It is this last point that is very important, since it means that for every £1 paid by companies to non-taxpayers, they actually receive £1.25. This means that different shareholders have different tax preferences for company profits being distributed or retained.

The dividend debate

This method of avoiding the 'double taxation' of dividends may not seem unreasonable. The tax was paid by the firm, so why should it not be refunded to those who are not liable to income tax? Problems arise because retained profits are not treated in the same way. Corporation tax paid by the firm on retained profits is not refunded to non-taxpaying shareholders. The result is that these shareholders face a clear tax bias for distributed, rather than retained, profits. The proportion of company shares owned by tax-exempt institutions, such as pension funds and insurance companies, has risen steadily over the last 25 years, from 22% in 1969 to 52% in 1993, and this may have some bearing on the high level of dividend pay-outs now seen in the UK.[10]

Is it possible to remove this bias in the tax system? Norman Lamont took a step in this direction in March 1993. The rate of ACT and the rate of income tax on dividends for basic- and lower-rate taxpayers were reduced from 25% to 20%. This reduced the value of tax credits paid to pension funds and so reduced the tax bias for dividend income. It also raised some £1bn a year for the government, since the fall in these tax rates reduced the repayment of tax credits to non-taxpaying shareholders, and increased the dividend income tax received from higher-rate shareholders.

Further reductions in the rates of ACT and dividend income tax for basic- and lower-rate taxpayers could reduce or eliminate the tax bias for distributed profits facing non-taxpaying shareholders. This would leave a tax bias against dividends affecting higher-rate shareholders, which could be largely eliminated by introducing a generous annual exemption for dividend income in income tax.

Changes such as these could largely remove tax considerations from company decisions to retain or distribute profits, and eliminate many of the surplus ACT problems that we describe below. However, they would also create some problems. Paradoxically, companies would find themselves under pressure to increase cash dividends, to compensate institutional investors for the loss of tax credits. Alternatively, companies could find themselves facing higher contributions to pension funds, to compensate for the funds' lower investment income. Either way, company cash flows would deteriorate, share prices would fall and the impact on investment would not be favourable.

The source of these problems is transparent. Eliminating the current dividend tax distortions in this way would result in a big increase in government tax revenue from shareholders. Most of the problems outlined could be avoided by returning this revenue to companies in a revenue-neutral package. Most simply, this could be done by cutting the corporation tax rate. More ambitiously, this revenue could be used to finance reforms to the corporation tax base that could eliminate the present fiscal drag on corporate investment. The scope for such reforms has been outlined by the IFS Capital Taxes Group.[11] In this way, tax biases against retentions and investment could both be removed.

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[10] Only the pension business of insurance companies is tax-exempt. For ownership figures, see *Share Ownership 1994*, HMSO, 1994.

[11] *Setting Savings Free*, Summary of the Final Report of the IFS Capital Taxes Group, 1994.

Surplus ACT

The way in which firms deduct their payment of ACT from their corporation tax bill was described above. *Surplus* ACT arises when firms are not able to offset the full amount. This problem comes about when firms have a low level of UK taxable profits relative to the size of their dividend payment, so that they cannot deduct all of their ACT payments. The amount of ACT that can be deducted in each year is limited to the ACT that would have been paid on a gross dividend equal to the firm's UK taxable profits. For example, if a firm earns £100m in taxable profits, the maximum amount of ACT that can be offset against this is £20m. If for some reason a firm wants to pay out a dividend of greater than £80m (which would have an ACT payment of more than £20m associated with it), it will not be able to subtract the full amount of ACT from its corporate tax liability. ACT that cannot be deducted this year can be carried back for up to six years and offset against previous corporation tax, and carried forward indefinitely.

There are two reasons why surplus ACT might arise; one is a temporary issue while the other is a more persistent problem. If a firm suffers a temporary fall in its taxable profits, but does not correspondingly reduce its dividend payments, there will be a temporary mismatch between the amount of profits a firm is making and the amount of dividends it is paying out. This type of firm may find itself in a *temporary* surplus ACT position. This affected many companies during the late 1970s and early 1980s, when profits were depressed by the recession and generous investment allowances led to low taxable profits for many UK companies. It is also common during recessions when firms do not want to reduce their dividends because of the adverse signal that a dividend fall implies for future profitability.

More seriously, a firm that earns a large proportion of its profits abroad may have a persistently low level of UK taxable profits, relative to the dividend that it wants to pay. This is because double tax treaty provisions generally allow tax paid on profits earned abroad to be offset against UK corporation tax. This can leave firms with a low, or zero, corporation tax liability in the UK. The carry-back and carry-forward rules do not help companies in this position.

Surplus ACT results in a higher overall tax charge for those companies affected. It can also introduce serious distortions in company behaviour, as firms seek to minimise the extent to which they are affected by surplus ACT. It encourages companies to shift their costs overseas to increase UK taxable profits (for example, R&D laboratories) and to carry out tax-efficient take-overs, and discourages UK companies from investing overseas and foreign firms from locating their headquarters in the UK.

Foreign income dividends

Two Budgets ago, the Chancellor announced the introduction of two schemes designed to give relief to firms in a surplus ACT position - foreign income dividend (FID) and international headquarter companies (IHC) schemes.

Under the FID scheme, companies pay a dividend that they declare has come out of foreign source profits. They pay ACT but the dividend bears no tax credit. The income from the dividend is treated as having borne tax at the rate of 20%, so lower- and basic-rate shareholders do not owe any additional income tax. When the company pays

its corporation tax, and if the Inland Revenue agrees that the FID had been paid out of foreign source profits, then the ACT is refunded to the company. The IHC scheme allows companies to pay a FID without paying ACT.

For taxpaying shareholders, this is just like an ordinary dividend. Tax-exempt shareholders do not receive a tax refund when a FID is paid and consequently a FID is less attractive to pension funds and other tax-exempt shareholders than an ordinary dividend of the same cash value. But paying a FID leaves surplus ACT companies with more cash, which they can decide either to pay out as a higher dividend or to retain.

The FID scheme came into operation in July 1994. Since then, only about 50 companies have declared FIDs, many of which have been very small.[12] It is too early to be sure what the eventual impact of the FID scheme will be, but it seems likely that FIDs will provide only a partial solution to the surplus ACT problem. The original exchequer costs given in the November 1993 Budget are correspondingly small and have not been officially revised. They were fairly negligible, with a revenue yield of £30m in 1994-95, zero in 1995-96 and a cost of £100m in 1996-97.

Share repurchases and special dividends

In the course of the last year, a number of companies have chosen to distribute unusually large amounts of cash to their shareholders. These distributions have taken the form either of one-off share repurchases or special dividend payments. These hand-outs have attracted particular attention in the regulated utilities sectors, but have not been confined to these privatised firms. For example, Great Universal Stores paid out a special dividend, whilst Barclays Bank and Boots have repurchased shares.

The tax advantages of these payments have attracted comment, and there has been some confusion about the relative tax merits of buy-backs compared with special dividends. These pay-outs are normally taxed in the same way as ordinary dividends, and do therefore have a tax advantage, compared with retained profits, for tax-exempt shareholders including pension funds. Repurchasing shares from these investors *only* is tax-efficient relative to paying special dividends, because the cash distribution can be targetted on those shareholders who enjoy this tax advantage.

As explained above, dividend payments of £1 per share are worth £1.25 per share after tax to tax-exempt shareholders, who can claim back the corresponding tax credit from the Inland Revenue. Special dividends are normally taxed in the same way, so there is no tax reason to pay special dividends rather than ordinary dividends.[13] Nor is there any reason why there should be. Whilst for pension funds and other tax-exempt shareholders, there is a clear tax advantage for company profits to be distributed rather

[12] This could be due to cascading, which occurs when one firm is paid a FID by another firm and then has to pay this on as a FID to its own shareholders, since the payment has not borne ACT.

[13] Companies use the term 'special dividends' for large, one-off cash distributions to make clear that these payments will not be repeated in subsequent years.

than retained, this is a consequence of the way dividend payments are generally taxed. For so long as the government continues to treat ordinary dividends in this way, it would be bizarre not to accord special dividends the same tax treatment.[14]

The same logic would appear to extend to share repurchases, which also involve a distribution of cash from the company to its shareholders. However, there is one important difference. Distributed profits are tax-efficient for pension funds and other non-taxpaying investors, but not for taxpaying shareholders. Whilst dividends (special and ordinary) are paid on a per share basis to every shareholder, shares can be bought back selectively from certain shareholders only. In particular, by repurchasing shares from tax-exempt investors only, companies can target all of the cash distribution to shareholders for whom this is tax-advantageous, whilst minimising the cash distributed to taxpaying shareholders.

It might appear that this favours those shareholders who receive the cash from the company relative to those who do not, but this impression is false. The shareholders who receive the cash also give up some of their shares. The key point is that, abstracting from tax considerations, cash distributions from the company do not increase shareholders' wealth. Rather, they reallocate shareholders' portfolios from equity in the company and into cash (although this may, of course, subsequently be reinvested elsewhere). This is clear when shares are literally given up in exchange for cash, but also applies to ordinary dividend distributions, when the *ex-dividend* value of the shares falls.

In the absence of tax, this is basically a zero-sum game. It is the earning of profits by a company that increases its owners' wealth, not the distribution of those profits. But shareholders' post-tax wealth can be affected by tax considerations. If, like pension funds, they pay less tax on distributed profits than on retained profits, they will be made better off if the firm distributes more cash. Conversely if, like higher-rate taxpayers, they pay more tax on distributed profits, they will be made worse off. Repurchasing shares from tax-exempt investors only exploits their tax advantage, whilst avoiding imposing an unnecessary tax charge on higher-rate shareholders. As a result, it is straightforward to show that both taxpaying and tax-exempt shareholders can be made better off by distributing cash via a selective share repurchase, rather than via a special (or ordinary) dividend payment.

This presupposes that the cash distributed by buying back shares will be taxed in the same way as a dividend distribution. Formally, this remains at the discretion of the Inland Revenue: the Revenue could decide to tax them as capital gains, which would be less advantageous for tax-exempt investors. Currently, there does not seem to be much danger of this provision being applied, although it remains to be seen how frequently firms will be able to repeat such special payments.

The principle that cash distributed by repurchasing shares should be taxed in the same way as cash distributed as dividends does not seem to be objectionable. If the result - that less tax is paid to the government when cash is distributed in this way - is perceived to be a problem, it is important to recognise that the source of this problem is that different types of shareholders face different tax preferences between distributed

[14] It would also be ineffective. If special dividends were taxed less favourably than ordinary dividends, we would certainly see fewer special dividends being paid.

profits and retained profits. Specifically, tax-exempt shareholders pay less tax when profits are distributed, and share repurchases are simply a particularly efficient way in which firms and shareholders can exploit this anomaly. The only coherent response would be to reform the way in which both dividends and other profit distributions are taxed, but this seems unlikely to be on the Chancellor's current agenda.

Tax-efficient take-overs

A further consequence of the UK imputation system of dividend taxation is that firms with surplus ACT have a substantial tax incentive to acquire or merge with firms generating high UK taxable profits. The advantage is that the combined firm can offset more of its total ACT payment than the two firms could offset as separate entities.

Consider the example of the recent take-over of Eastern Electricity by Hanson Group. Hanson is a multinational company that earns a substantial proportion of its profits abroad. Its payments of dividends and ACT are therefore high in relation to its UK taxable profits, and it is in a persistent surplus ACT position. Eastern is a profitable company that earns most of its profits in the UK. Although it pays high dividends, it could pay substantially higher dividends before encountering any surplus ACT difficulty. In 1993-94, we estimate that Eastern could have offset about an additional £15m of ACT payments against its UK taxable profits, if it had paid out a higher dividend and therefore paid higher ACT.[15] By acquiring Eastern, a surplus ACT company like Hanson is therefore able to recover about £15m a year more of its ACT payments than it would otherwise be able to do.[16]

How pervasive this tax saving is as a primary motive for take-overs is difficult to assess. This is another company tax issue that has attracted comment in the last year as a result of developments among the privatised utilities - regional electricity companies, which appear to generate relatively safe streams of relatively high UK profits, are ideal targets for surplus ACT firms. However, all firms with UK taxable profits in excess of their grossed-up dividends would offer a similar tax advantage to a surplus ACT acquirer. To the extent that take-overs are induced that would not have taken place without this tax benefit, the result must be a less efficient organisation of company activities. It is hard to see any policy aim that is served by this distortion.

Fiscal Incentives for Research and Development

There has been much discussion in the UK recently about whether we should introduce a research and development (R&D) tax credit to subsidise business-conducted R&D. Most measures (the ratio of R&D to GDP, for example) indicate that the UK does less R&D than its G7 partners. However, it does not necessarily follow that we do too little R&D. It is possible that everyone else does too much, or that we do enough R&D but it does not get used appropriately or spread around the economy quickly enough. If the world-wide trend toward more R&D indicates that industrial production is becoming more science-based, and we are falling behind, then this could be a problem.

[15] There is no suggestion that Eastern's actual dividend policy was inefficient. On its own, Eastern would not necessarily have gained anything by both paying and recovering more ACT.

[16] In fact, in the first year Eastern is worth more to Hanson than this, to the extent that Hanson's surplus ACT can also be carried back and set against Eastern's previous UK taxable profits.

Assuming that we are doing too little R&D, it is only sensible to use the tax system to encourage more R&D if we believe that the market is failing to give firms the correct incentives, *and* we also think that the tax system can counteract this effectively. It remains an open question whether or not this is the case and if so, what the market failures are we are trying to redress.

The most commonly cited justification for government intervention is the positive externalities associated with R&D. Take the invention of a new life-saving drug, for example. It is not only the firm that develops the drug that benefits. Other firms may be able to produce similar drugs without large R&D expenditures. The patients who use the drug may receive greater benefits than are reflected in the price of the drug. Workers in the firm may share in some of the profits. The point is that the return to society as a whole may be greater than the private return earned by the firm. A tax subsidy could help to bring the marginal private rate of return up to the marginal social rate of return[17] and ensure that more R&D is performed.

Liquidity constraints are another common rationalisation for tax credits. R&D relies heavily on internal funding and there are many reasons why markets may not be working to provide adequate financing. Tax measures that increase a firm's cash flow may therefore increase R&D investment. However, other policy measures, such as removing the tax bias in favour of distributions as discussed earlier, may be more effective.

Tax incentives are only one way in which the government can affect the amount of R&D undertaken and its impact. Technology policies that encourage the diffusion of innovation, increase the level of private reward through patenting arrangements and provide easier access to finance through low-interest or government secured loans may all affect the level, location and type of R&D that is carried out. These may be more effective policy tools than the tax system. Failures occurring in other markets, for example the supply of skilled workers, could also have an impact on how R&D is used. Tax credits aimed at encouraging more R&D will have no effect if this is the problem.

A tax credit may also have other aims than that of simply boosting the total amount of R&D. It may be geared towards changing the distribution of R&D. If we think that having a large number of firms doing a little bit of R&D will increase our ability to use R&D done by others, then we may want to provide a credit targetted at encouraging R&D in small firms. A tax credit may also be geared towards relocating R&D to particular regions. The impact of a tax credit may be to encourage firms to relocate their R&D to the UK, rather than to increase the total amount of R&D they do.

Assuming that we wanted to introduce a tax credit to increase the amount of R&D done in the UK, then there are several issues about design and implementation that need to be addressed. Below, we consider three different types of credits that are broadly modelled on those found in the US, France and Australia. These examples are given to illustrate some of the difficulties that can arise in the design and implementation of a tax credit and are not meant as recommendations for any particular credit. It should

[17] A problem with this is that it is very difficult to determine exactly what the appropriate marginal social rate of return is. Providing a subsidy to bring R&D up to the wrong level will not necessarily make things better.

also be emphasised that the revenue figures are based on a subset of firms and are only meant to give an indication of the relative magnitudes of the cost and impact of each credit. The methodology used in calculating these numbers is given in Appendix 3.

Credit 1
A tax credit of 20% is given on incremental R&D expenditure. The incremental increase is defined as the amount of R&D spending above the average of the last three years. The base cannot be less than half of current R&D expenditure.

Credit 2
A tax credit of 50% is given on incremental R&D expenditure with a maximum credit of £4.5m.

Credit 3
A credit of 20% is given on total R&D spending.

	Credit 1	Credit 2	Credit 3
Proportion of firms:			
Eligible for credit	70%	72%	100%
Receiving full credit	54%	54%	70%
Concentration (proportion of credit accounted for by top five credit recipients)	65%	15%	49%
Revenue cost	£187m	£126m	£892m
New R&D spending	£186m	£59m	£657m

Credits 1 and 2 are similar in terms of the number of firms eligible for and receiving a credit and in terms of the revenue cost. However, Credit 1 goes mainly to large firms, while Credit 2 benefits smaller firms, as shown by the concentration measure. The amount of new R&D spending generated by Credit 1 is roughly equal to its cost, while both Credits 2 and 3 generated less R&D than their revenue cost. Credit 3 is, however, significantly more expensive and does not generate a correspondingly larger amount of new spending.

The three main features of the design that influence the impact of the credit are: (i) the definition of the base (e.g. whether the credit is on incremental or total spending), (ii) whether there is any maximum limit on the credit and how this is defined, and (iii) the rate of the credit.

The key factor to defining the base is whether the credit is given on incremental or total spending. The revenue costs of a credit on total spending are much greater without generating a correspondingly large increase in R&D expenditure. However, if the credit is on incremental spending, then the definition of base can have a strong, and often perverse, effect. In the case of Credit 1, firms can face a negative effective credit rate

due to the nature of a moving-average base (i.e. an increase in R&D spending this year reduces the credit available next year). In fact, this feature led the US to revise the way it defined the base. It now uses the ratio of R&D to sales at a fixed period in time.

Whether or not the amount of credit an individual firm receives is capped has a large influence on the concentration of the credit, i.e. the proportion of the total credit that is paid to the top five companies that receive the credit. Two examples of capping are considered here. Credit 1 has a cap on the growth rate of R&D expenditure. This has little effect on the concentration level. Credit 2 has a cap on the absolute amount, which has the effect of significantly reducing the concentration. This is more beneficial to small firms. Which of these is preferable depends on the relative R&D productivity of small and large firms and how knowledge is diffused around the economy. Note that the calculated behavioural response here assumes that small and large firms respond in the same way. If they did not, this would lead to larger differences between Credits 1 and 2.

The rate is obviously influential, though not as influential as the base. For example, increasing the rates by 10 percentage points leads to an increase in revenue cost to £279m for Credit 1, £141m for Credit 2 and £1,172 for Credit 3.

Other important factors include the level of tax exhaustion, whether the tax credit applies to nominal or real increases in R&D, and whether the tax credit applies to R&D conducted in the UK or world-wide. When companies are tax-exhausted, the credit becomes of little value. This may be a particular problem for new companies that have not yet begun to earn profits but have incurred R&D expenditures. To overcome this problem, some countries refund the full amount of the credit, whether or not the firm has tax liability against which it can be offset; schemes of this kind have been advocated by some in the UK.

Before instituting a tax credit, we would need to be clear that encouraging more R&D has real economic justification and that tax incentives are the best method of achieving this. Knowledge of the causes of underinvestment in R&D is still primitive and more needs to be done to establish the causal mechanisms. Many countries now have R&D tax credits of one sort or another, and the recent US evidence suggests that there may be substantial increases in private sector R&D due to such credits. However, implementation is far from straightforward, as the experience of other countries has shown. Tax credits might be a feasible and attractive option. But increasing competition between governments may not be the optimal strategy, and international co-ordination may be more profitable in the long run.

Corporate Tax in an International Context

The interaction of the UK tax system with other tax systems has become more important and unilateral policymaking more difficult. Competition between governments for tax revenue and capital investment is increasing. It is questionable whether the UK can sustain the high level of revenue it gains from corporation tax.

A good example of the problems that arise from the increasing integration of world markets, but lack of co-ordination of national tax systems, is the way different personal and corporation tax systems are integrated. This is done in basically three different ways throughout the world. The system of taxation of dividends in the UK is called an imputation system. Classical tax systems (for example, in the US) tax dividends

twice, once as profits at the corporate level and again as income at the personal level. Other countries (for example, Germany) have two corporate tax rates, one for retained profits, the other for distributed profits. When firms operate across national boundaries, profits are often taxed under one system but distributed to shareholders under another. Problems then arise because of the different ways these systems work.

Until recently, issues about how cross-border investments should be taxed have been primarily addressed bilaterally through tax treaties. With the advent of the EU and increasing economic integration, more agreements are now being made at the supranational level (e.g. at the OECD).

A recent example highlighting the problem of incomplete integration within the EU is that Hoechst, a German company, has challenged the UK system of taxing dividends in the European courts. The key point at issue is whether subsidiaries of foreign firms have to pay ACT on dividend payments to the parent company. UK firms, and subsidiaries with parents in countries where the double tax treaty with the UK provides for reciprocal arrangements, do not have to pay ACT. Hoechst claims that this discriminates against subsidiaries of German companies operating in the UK and that this is not allowable under the EU Treaty. The UK Inland Revenue's argument is basically that bilaterally negotiated double taxation treaties supersede the EU Treaty. The court judgement is anxiously awaited and could have profound implications for the UK corporate tax system.

This comes down to a jurisdictional issue, an issue which becomes increasingly important as firms spread their operations across the globe. Who is entitled to revenue from corporate activity? Should taxation be based on the source of production or the residence of the firm? These issues have been highlighted in debates over the past few years on transfer pricing legislation. Transfer pricing is the charge that related parts of a multinational company make for the transfer of goods and services. Companies can manipulate these internal prices in order to relocate profits to low-tax jurisdictions. The US has complex legislation and enforcement procedures to ensure that profits earned in the US do not escape the US tax authorities. Up to now, other countries have not paid as much attention to this issue, but recently, several have increased their legislative and enforcement powers to deal with examples of transfer pricing. This struggle over the corporate tax base will only become more pronounced in future years.

Some companies are probably content to exploit the intricacies of international tax law to avoid paying tax, while others complain that the lack of integration of tax systems means that they are taxed twice on the same profits. This is not an area where the UK government can act unilaterally, but these international issues are likely to assume increasing importance in future discussions of corporate tax policy.

5.3 Indirect Taxation

In the area of indirect taxation, the most controversial issue facing the Chancellor this year is the level of excise duties on alcohol; we begin our consideration of indirect taxes by examining this debate. Currently, duties on beer, wine and spirits generate over £5bn per annum for the Treasury. But there is growing debate over the sustainability of this level of revenue in the face of cross-border shopping, and the drinks industry has been lobbying hard for duties to be cut. In this section, we assess the nature of the problem the Chancellor faces. High duties on tobacco may also have

encouraged UK consumers to shop across the border, but the government's commitment to reducing smoking makes anything less than the pre-announced increase in duty of at least 3% seem unlikely.

We move from alcoholic drinks to a discussion of VAT. In the past, the Chancellor has indicated that he would like to see a shift in the burden of taxation away from direct taxes and towards indirect taxes. In terms of revenue yield, the most important of these taxes is VAT, which raised £41.8bn in 1994-95. We look at some of the issues the Chancellor would have to consider if he decided to raise more revenue from VAT to enable him to reduce the burden of direct taxes. Consideration of petrol duties is left until Section 5.4.

Alcohol Taxes and the Single Market

The completion of the Single Market has led to renewed protests from the drinks industry over the relatively high rates of excise duty levied in the UK. Since 1 January 1993, UK consumers have been free to import alcohol for their personal consumption from neighbouring European Union countries where duties are generally lower. As a result, domestic sales have been lower than they otherwise would have been. The government too has been losing out; HM Customs and Excise estimates that £200m tax revenue was lost in the first year of the Single Market from additional cross-border shopping in alcohol and tobacco. Last November, the Chancellor announced that excise duties on alcohol would be frozen. Ten days later, however, faced with the need to raise more revenue after the second stage of VAT on domestic fuel was defeated, he announced a package of measures which included increases in the rates of duty on beer, wine and spirits by, on average, 4%.

For the drinks industry, the case for cutting duties is clear cut. Lower duties would mean higher domestic demand and each extra unit sold would generate more sales revenue. But for the Chancellor, trying to recoup lost excise duty revenue requires a delicate balancing act. If he were to cut the real level of excise duties - and this would include freezing the current nominal rates since duties are set as specific rates per unit - the real revenue yield per unit sold would be lower. This effect would have to be more than offset by an increase in revenue from higher demand for total revenue to rise.

Price and duty differentials

Excise duties in the UK are currently among the highest in the EU. Only Ireland has higher duty rates on beer, wine and spirits, and raises a higher proportion of total government revenue from this source. The duty differentials between the UK and close neighbouring countries create a financial incentive for domestic consumers to shop across the border if reflected in differences in retail prices. But, even if there were no differences in the levels of duty between the UK and France, there would still be a financial incentive for cross-border shopping because of differences in underlying pre-tax prices between the two countries. In Table 5.5, we show typical retail prices for beer, wine and spirits in July 1994. Knowing the rates of excise duty and VAT that applied at the time, we can calculate the pre-tax price from these figures. This will enable us to determine what percentage of the retail price differential is due to differences in the tax rates and what percentage is due to differences in the underlying pre-tax prices. For wine, we find that all of the retail price differential can be explained by the difference in excise duty. For spirits, the figure falls to 77%; and for beer, the

figure is 63%. Even if the Chancellor were to reduce the level of duties in the UK to that in France, there would still be a financial incentive for consumers to shop across the border.

Table 5.5. Breakdown of retail prices, France and UK

(£)	France	UK
Beer (24x25cl Stella Artois)		
Retail price	4.49	9.99
Tax (VAT and excise duty)	1.16	4.63
Pre-tax price	3.33	5.36
Wine (average bottle at 75cl)		
Retail price	1.75	2.95
Tax (VAT and excise duty)	0.29	1.45
Pre-tax price	1.46	1.50
Spirits (bottle of Smirnoff at 70cl)		
Retail price	6.68	10.50
Tax (VAT and excise duty)	4.15	7.11
Pre-tax price	2.53	3.39

Source: Typical retail prices from London Economics, July 1994.

The size of the problem

HM Customs and Excise estimated that the retail value of all alcohol imported from the EU for personal consumption in the 12 months to June 1994 totalled £765m. This figure included £340m in spirits, £330m in wine and £95m in beer. Trade estimates of the scale of the problem tend to be higher. The Brewers and Licensed Retailers Association, for example, estimated that lost retail sales in 1994 totalled £405m from beer alone. This figure includes an estimate of the volume of bootleg trade.

What matters to the Chancellor, however, is not simply the volume of imported alcohol but how much domestic sales are suffering as a result. The two are not necessarily the same. They will differ to the extent that cross-border purchases represent additional consumption rather than substitutes for home sales. HM Customs and Excise estimates that approximately half of all alcohol bought across the border is new consumption. Obviously, the smaller the proportion of displaced expenditure, the smaller the impact of cross-border shopping on domestic sales.

The Chancellor may feel under particular pressure this year to yield to the drinks lobby because the receipts of excise duties for alcohol in the first quarter of 1995-96 were slightly lower than expected. On an annualised basis, alcohol receipts were running £270m or 4.6% below Treasury expectations. This does not lend justification to a drinks lobby argument for generally lower excise duties because the shortfall was almost entirely accounted for by lower spirits receipts. Even for spirits, the July receipts indicate an acceleration over the first three months. Aggregate excise duty receipts for August indicate a further acceleration. Hence we believe the overall out-turn for alcohol receipts will be slightly higher than the figure in the Summer Economic Forecast.

Excise duties and indirect tax revenues

Ideally the Chancellor might like to be at the point of revenue maximisation where the per unit revenue effect of an increase in duty is exactly offset by the revenue effects of falling demand. He is certainly unlikely to wish to be beyond that point unless he sees advantages in reducing consumption of alcohol. What he needs to know, therefore, is which side of the maximum he is currently on. If tax rates are too high, he could please everyone by cutting taxes and increasing revenue. If the current tax rates are below the revenue-maximising level, however, cutting excise duties would cause revenue to fall.

Suppose that we are currently at the maximum and further increases in the tax rate would cause revenue to fall. How large would the reduction in demand have to be to outweigh the per unit revenue effect, and is it plausible, given current estimates of demand elasticities? One thing to note is that the higher the current tax rate, the smaller the demand response necessary for revenues to fall. Doubling the tax rate from 1% to 2% will, in the absence of any demand response, cause revenue to double. Demand must fall by half to keep revenue constant. Introducing a 1 percentage point increase if the tax rate is 98%, however, will have a far smaller proportional effect on revenue. Demand will only have to fall by just over 1% to leave revenue unchanged.

The current tax rate (VAT and excise duty) on beer is 31% of the sale price.[18] For this to be revenue-maximising, the own price elasticity of demand would have to be (absolutely) greater than -3. This means that a 1% increase in the price of beer would have to cause a 3% reduction in demand. Most empirical work shows that the demand for beer is inelastic, i.e. a 1% increase in the price of beer causes demand to fall by less than 1%. If the rate of duty on beer is raised, the per unit revenue effect is likely to outweigh any further reduction in domestic demand and total revenue receipts will rise.

At present, the tax on wine is roughly half the purchase price. For this to be revenue-maximising, the own price elasticity of demand would have to be (absolutely) just less than -2. This is still a large response, but empirical work has shown that demand for wine has become more elastic following the completion of the Single Market and a demand response of this size is not totally implausible. Since most wine is drunk at home, wine bought in French hypermarkets is a good substitute for domestic purchases. So there is probably little scope for raising much more tax revenue by increasing the rate of duty on wine.

Taxes on spirits are two-thirds of the final price. For this to be the maximum, demand need only respond by 1.5% to a 1% tax increase. This degree of price sensitivity is entirely plausible, given recent estimates of the demand elasticity for spirits. If taxes on spirits were cut, and other taxes unchanged, the demand response might well outweigh the per unit revenue effect, causing revenue to rise.

[18] We take the pub sale price as the norm since most beer is sold on licence rather than off licence. Tax on off-licence sales of lager is just less than half the purchase price. For this to be revenue-maximising, the elasticity of demand would have to be (absolutely) greater than -2.

As last year's mini-Budget showed, the Chancellor still sees real increases in excise duties as a way of raising money. Taxes on beer could be raised further without fear of duty receipts falling, as beer is currently more lightly taxed than wine or spirits and its demand is the least sensitive to price changes. The Chancellor might find that the taxes on wine and spirits are now at or near their respective revenue-maximising levels. But if all alcohol duties were raised together, then the actual demand response may be lower (and revenues higher) than our estimates because to some extent they will reflect the substitutability between different forms of alcohol. If this is the case, the Chancellor need worry even less about increasing excise duties on alcohol.

Excise duties and total tax revenues

Duties on beer could be raised without fear of duty receipts falling, but there might be a wider impact on income tax and corporation tax receipts as consumers switch their expenditure from the UK to foreign suppliers. To the extent that domestic brewers are able to sell their output across the border, the effect of cross-border shopping on the revenue from production will be mitigated. But any switch in expenditure from the UK across the border will have an effect on the domestic retail industry or pub industry. It has been argued that the current high rates of duty in the UK have reduced domestic demand to such an extent that cutting taxes will now have a positive effect on total tax revenues because of the impact that a reduction in cross-border shopping demand will have on income tax and corporation tax receipts on top of the more direct effect on excise duty revenue.

It is possible to calculate what the minimum amount of revenue from income tax and corporation tax would have to be per unit of beer sold in order for a further increase in the excise duty rate to cause total government revenue to fall. The method for calculating this is given in Appendix 4. Clearly the size of the price sensitivity of demand will determine the amount of other taxes per unit required. For a given duty increase, the larger the demand response, the smaller the loss of income tax and corporation tax per unit required for the total tax effect to be negative. An example will show this.

Assume that the current quantity of beer demanded is 1,000 pints and the current tax rate is 10p per pint. A 1p increase in tax on each pint of beer is proposed. Assume that as a result, demand falls to 990 pints. Revenue from indirect taxes will increase by 890p. In order for total revenue to be unchanged, other tax revenue must fall by 890p. The minimum amount of other tax per pint required for a 1p duty increase to have a negative effect on total tax revenues is, therefore, 89p. If demand falls to 980 pints as a result of the higher duty, however, the required minimum amount of other tax per pint falls to 39p. If demand falls to 970 pints, the required amount per pint is only 22p. Note that if the current duty rates are above their own revenue-maximising levels, the required amounts of other tax revenue will be negative.

Using the method given in Appendix 4, we calculate the required amount of revenue from other taxes per pint of beer for an increase in duty on beer to cause total revenue to fall. We use the typical pub prices for a pint of bitter, typical strength 3.9%, given by HM Customs and Excise: retail price £1.49 per pint, total indirect tax 46.2p per pint. Using these prices, we find that the revenue from associated taxes would have to be greater than £1.77 per pint for a further increase in excise duties to cause total government revenue to fall. This figure - more than the price of the pint itself - seems completely implausible.

Table 5.6. Rates of excise duty on alcohol

	Specific duty	Implied duty per litre of pure alcohol
Beer (3.9% alcohol)	£0.24[a]	£10.82
Wine (12% alcohol)	£1.05[b]	£11.70
Spirits (40% alcohol)	£5.77[c]	£20.60

Notes: Duties from 1 January 1995.
[a] Duty per pint.
[b] Duty per 75cl bottle.
[c] Duty per 70cl bottle.

Source: HM Customs and Excise.

Table 5.7. The price effects of excise duty revalorisation

	Beer	Wine	Spirits	Tobacco
Current				
Duty (p)	24.00	105.30	577.00	115.30
VAT (p)	22.19	43.35	166.43	40.22
Ad valorem (p)				54.00
Price (p)	148.99	291.05	1117.43	270.02
Uprating 3.6% nominal, in line with inflation				
Duty (p)	24.86	109.09	597.77	122.91
VAT (p)	22.34	44.01	170.06	41.96
Ad valorem (p)				56.34
Price change (p)	1.01	4.45	24.40	11.69
Uprating 5% nominal				
Duty (p)	25.20	110.57	605.85	124.52
VAT (p)	22.40	44.27	171.47	42.32
Ad valorem (p)				56.84
Price change (p)	1.41	6.19	33.89	14.16
Uprating 10% nominal				
Duty (p)	26.40	115.83	634.70	130.29
VAT (p)	22.61	45.19	176.52	43.64
Ad valorem (p)				58.61
Price change (p)	2.82	12.37	67.79	23.02

Notes: The units are: 1 pint of beer (3.9% alcohol), 75cl bottle of table wine (12% alcohol), 70 cl bottle of whisky (40% alcohol) and 20 cigarettes. Assumes additional increases of 3 percentage points on tobacco.

There is, therefore, no convincing revenue case for cutting taxes on beer. The case for freezing duties on wine and spirits is more plausible. This is particularly so in the case of spirits, which are currently taxed nearly twice as heavily as beer and wine, as Table 5.6 shows. There is no obvious economic reason for this tax bias. Additional taxes on alcohol are usually thought of as correcting for the 'externalities' of alcohol consumption, i.e. the social costs of drinking such as drink-driving and drunken

violence, which are not reflected in the pre-tax price. Since it is the quantity of pure alcohol that does the harm, a uniform tax on alcoholic content across all types of drink would best reflect the social cost of consumption. This would also seem sensible since different types of drink are substitutes for each other.

If the Chancellor does decide to increase duties, what will matter to the consumer is the effect on final prices once the additional effect on VAT has been included. This is shown in Table 5.7. Uprating rates of duty in line with the current rate of inflation, for example, would add just over 1p to the price of a pint of beer, 4.5p to the cost of a bottle of wine, over 24p to the price of a bottle of spirits and nearly 12p to a packet of cigarettes.

Value Added Tax

The Chancellor has in the past indicated a desire to shift the burden of taxation from direct to indirect taxes. His experiences with VAT on domestic fuel make any further increase in either the rate or coverage of VAT seem unlikely in this Budget, but for a Chancellor desperate to cut income tax, increases in VAT would be an option. In this section, we present the effects of raising the rate of VAT or extending the base, should he decide to increase VAT revenues.

Raising the standard rate of VAT

Changes in the standard rate of VAT have in the past been few and far between. VAT was introduced in April 1973 and since that time there have been only three changes to the standard rate. A year after its introduction, the standard rate was reduced from 10% to 8%. In June 1979, it was increased from 8% to 15%, and in April 1991, it was raised again to the current rate of 17.5%.[19] In August this year, the French government introduced a 2 percentage point increase in their standard rate of indirect taxation from 18.6% to 20.6%. Might the Chancellor be tempted to do the same?

By European standards, the current standard rate of VAT levied in the UK is quite low. Four countries - Belgium, Denmark, Ireland and now France - have indirect tax rates above 20% and the average across 12 EU member countries[20] is 18.51%. The VAT rates for these EU countries are given in Table 5.8.

Most European countries apply reduced rates of VAT to some goods. Most commonly these include books and newspapers, medicines, food and water services. In the UK, domestic fuel is now taxed at a reduced rate following the defeat of the government's attempt to impose the full standard rate. Belgium, Denmark, Italy, Ireland and the UK also apply a zero rate of VAT. In Belgium and Denmark, however, this applies only to newspapers, while in Italy it applies only to some supplies of land and metals. Only in Ireland and the UK is a significant proportion of consumers' expenditure zero-rated.

[19] There have been additional changes to the higher rate of VAT which used to apply to 'luxury' goods. This was introduced in November 1974 at a rate of 25%. Originally applying only to petrol, the range of goods covered by the higher rate was extended in 1975 to include many household durables, furs and jewellery, and pleasure boats and aircraft. The rate was reduced from 25% to 12.5% in 1976 before being abolished completely in June 1979.

[20] Excluding the three new members.

Table 5.8. Rates of value added tax

EU member country	Standard rate (%)	Reduced rate (%)
Denmark	25	-
Ireland	21	2.5,12.5
France	20.6	2.1,5.5
Belgium	20.5	1,6,12
Italy	19	4,9,13
Greece	18	4,8
Netherlands	17.5	6
UK	**17.5**	8
Portugal	17	5
Spain	16	4,7
Germany	15	7
Luxemburg	15	3,6,12

Source: HM Customs and Excise.

A 1 percentage point increase in the standard rate of VAT would still put the UK only just below the new EU average and would raise over £2.5bn for the government (see Table 5.9). But would a move from direct to indirect taxation make economic sense? One reason often cited in support of a shift in the burden of taxation from direct to indirect taxes is that indirect taxes do not affect the incentive to work. High marginal rates of income tax, it is argued, reduce the incentive to work additional hours; with indirect taxes, the income from working hard is not taxed until after it is spent. But the primary financial consideration for people in deciding whether or not to work an extra hour is the purchasing power of the money they will earn, not just its nominal value. The purchasing power is as much affected by indirect taxes, which change the prices of goods and services, as by direct taxes, which affect the amount of money left to spend. Unless the average worker is suffering from a severe case of money illusion, both indirect and direct taxes will affect people's behaviour, since both affect the amount of goods and services that can be bought with the money earned from an extra hour's work.

Table 5.9. The revenue effects of an increase in VAT

(£ million)	1996-97	1997-98
1 percentage point on the standard VAT rate	£2,540	£2,675

Note: Assumes implementation on Budget Day.
Source: HM Treasury.

A shift from direct to indirect taxation, however, would have a direct effect on the RPI. The standard rate of VAT applies to roughly 60% of consumers' total expenditure. A 1 percentage point rise in the rate of VAT would translate into a one-off addition to the inflation rate of 0.6 percentage points. But, assuming no further increases in the standard rate of VAT, the inflation rate would remain at this higher level only for a year.

At present, the government's inflation targets are set in terms of annual percentage increases in 'underlying inflation' defined by the RPIX - the retail price index excluding mortgage interest payments. The Bank of England now publishes an additional measure of inflation - the RPIY - which excludes not only mortgage interest payments, but also all local authority and indirect taxes. If the government were to define its inflation targets in terms of the RPIY rather than the RPIX, increases in the rate of VAT and excise duties could be introduced without fear of overshooting the inflation target. It would also be clearer whether changes in the rate of inflation were long-term trends in prices rather than year-long blips caused by tax changes. However, one thing that inflation might also seek to measure is changes in consumers' cost of living, and this is affected by all price changes, whether one-off or part of a long-term trend.

Expanding the VAT base

The main alternative to an increase in the standard rate of VAT is to extend the range of goods and services on which VAT is levied. At present, consumers pay VAT on roughly 60% of their expenditure. The remaining 40% is on goods and services that are zero-rated (e.g. food and children's clothing) or exempt (e.g. rents and health services).

The key principle behind VAT is to tax only commodities that are consumed. In calculating their VAT liability, therefore, firms may deduct any VAT paid on inputs. In the case of zero-rating, goods are entirely untaxed; there is no tax to pay on outputs and firms may claim back the tax they have paid on inputs. For goods that are exempt, no VAT is charged on outputs, but producers cannot claim back VAT paid on their inputs. There is, therefore, an element of VAT to pay in the final price faced by consumers. This is usually between 4% and 7% depending on the cost structure of the firm. The Chancellor could raise more revenue by levying VAT on goods that are zero-rated or exempt. Below, we consider some of the likely consequences should he choose to do so.

Zero-rated goods

As the furore surrounding VAT on domestic fuel showed, zero-rating can be a politically sensitive area. The list of goods that are currently zero-rated has been determined to a large extent by distributional considerations. The share of food out of total expenditure, for example, falls as income rises; an indirect tax on food would be regressive since poorer households would pay a larger share of their incomes in tax than richer households. Zero-rating goods that form a larger share of the budgets of poorer households helps keep the VAT system progressive.

But VAT is only one part of the broader system of taxes and benefits for raising revenue and redistributing income between households and, in comparison with income tax and social security benefits, VAT is a very blunt instrument for achieving redistribution. Poorer households could be compensated for the imposition of VAT on food if the revenue raised were redistributed via the tax and benefit system. It is not essential that every part of the system is progressive; equity considerations demand only that the tax and benefit system taken as a whole is progressive.

The efficiency arguments in favour of a more uniform system of indirect taxes are well known. Taxing goods at different rates distorts consumer decision-making and encourages switching of expenditure in favour of untaxed or more lightly taxed goods.

This argument also implies that if the Chancellor wishes to raise more money from VAT, extending the base is preferable to raising the standard rate, which will only exacerbate the current distortions.

If the Chancellor decides to end zero-rating, the potential revenue gains are large. Table 5.10 shows the estimated revenues forgone from zero-rating in the previous and current financial years. However, against the revenue gains must be set the inflationary cost of imposing the standard rate of VAT on goods that are currently zero-rated (see Table 5.11). Clearly, the greater the potential revenue gain for each good, the higher the cost in terms of percentage point addition to the RPI.

Table 5.10. Estimated revenues forgone: zero-rating

(£ million)	1994-95	1995-96
Food	7,300	7,550
Construction of new dwellings	1,750	1,800
Domestic passenger transport	1,300	1,350
International passenger transport	1,100	1,150
Books, etc.	1,150	1,200
Children's clothing	750	750
Water and sewerage services	850	900
Medicines on prescription	600	650
Supplies to charities	200	200
Ships and aircraft	450	450
Supplies to disabled	150	150
Domestic fuel	1,450	1,500
All	**17,050**	**17,650**

Note: The figures for domestic fuel relate to the difference between the standard rate of VAT and the current rate of 8%.
Source: HM Treasury.

Table 5.11. Ending zero-rating: impact on the RPI for selected goods

Zero-rating of:	Percentage point addition to RPI
Food	2.43
Passenger transport	0.43
Books, etc.	0.33
Children's clothing	0.21
Water and sewerage services	0.19
Drugs and medicines on prescription	0.03

In the end, however, political considerations are likely to dominate economic ones as the Chancellor considers whether to impose VAT on zero-rated goods. As we have already argued, ending zero-rating need not be a regressive step provided poorer households are adequately compensated by a range of income tax and social security measures targetted at those who stand to lose most. In practice, however, the main problem, as was clearly shown in the case of domestic fuel, is to design a compensation

package that will satisfy all interest groups. Following defeat over VAT on domestic fuel less than a year ago, the Chancellor is unlikely to risk a second battle over such an emotive issue.

Exempt goods: the case of financial services

The current system of exempting some goods from VAT is inefficient. The fact that producers of VAT-exempt goods cannot claim back the tax they pay on inputs violates the basic principle of VAT of taxing only final consumption. This creates several distortions. First, the supply of inputs of non-exempt goods to exempt firms is discouraged since exempt firms cannot claim back the VAT they have to pay on non-exempt goods. Second, the supply of exempt goods to non-exempt companies is overtaxed since the final price will, implicitly, include an element of VAT which cannot be claimed back. This element of VAT in the price of inputs of exempt goods will subsequently be included in the price of goods produced by non-exempt companies. If these in turn form the inputs for another company, the VAT element will be passed on again. This problem is known as cascading. Finally, the supply of exempt goods to households is undertaxed in comparison with the supply of non-exempt goods which carry the standard rate of VAT.

A switch to zero-rating would allow firms to claim back the tax they pay on inputs of goods that are currently exempt, and would end the problem of cascading. But it would only exacerbate the current distortion to household spending decisions and it is probably not an option the Chancellor would favour. In the case of most currently exempt goods, there are few persuasive equity arguments to make the revenue loss politically palatable. A better solution would be to impose the standard rate of VAT. But in the case of financial services in particular, this is easier said than done.

For most goods, the VAT base is measured by turnover minus purchased inputs. In the financial sector, however, the only recorded sales income derives from bank charges and commissions. For financial intermediation, banks charge implicitly by lending out at a rate above the base rate and paying depositors a rate below the money market rate. This makes it very difficult to know on what exactly VAT should be charged.

In theory, interest payments could be broken down into three elements: a price paid by the borrower for access to credit, a charge to cover the risk taken on by the bank and a charge for the service of financial intermediation that the bank provides. OECD National Accountants have now agreed in principle to a new system of accounting which breaks down interest into these three components. If it proves workable, there is no reason why it could not be adopted as the basis for a system of VAT with tax levied on the last of these three components. In practice, however, defining the 'pure rate' could prove very difficult since the cost of risk to a bank varies from one type of investment to another.

An alternative, currently being considered by the European Commission, is the cash-flow method originally proposed in the Meade Committee Report.[21] Under this method, all cash inflows involving financial institutions are defined as taxable sales and all cash outflows as inputs that can be used to offset VAT liability. Banks would be liable for tax on receipts of deposits, loan repayments and interest payments on

[21] *The Structure and Reform of Direct Taxation*, Report of a Committee chaired by Professor J. E. Meade, 1978.

loans, but their liability would be reduced by the amount of loans they made and by the amount of interest paid to depositors. Similarly, companies would pay tax on loans from the bank, but their liability would be offset by payments of interest to the bank.

The details of how the EC might intend the cash-flow method to operate in practice are yet to emerge. However, there are several areas where problems might be encountered. First, there could be high compliance costs. Separate accounts would have to be maintained for VAT-registered companies to ensure that credits and debits were taxed at the same rate in the event of tax rate changes. This would also apply to the introduction of the tax. Second, tax avoidance might be a problem. If the supply of financial services to non-residents were treated in the same way as exports and not subject to VAT, this would encourage a growth in offshore banking. Tax avoidance would be made easier still if cash flows between non-financial institutions are excluded. Third, in the short run at least, the Chancellor would presumably be very unwilling to impose VAT on mortgage interest payments.

A further complication might derive from the introduction of insurance premium tax (IPT) on 1 October 1994. IPT is a tax on gross premiums, levied at a rate of 2.5%, not a form of VAT on insurance. A tax based on premiums only, which does not take account of the claims that are made against life insurance companies, does not fully take account of the service of risk-pooling that insurance companies provide. At present, the fact that insurance policies are subject to IPT while other savings instruments provided by banks and building societies are not creates a distortion to household savings decisions. This distortion could be removed by introducing a tax on all financial services, but IPT would have to be abolished and the government would face an estimated annual revenue loss of £750m.

The revenue effects of imposing VAT on goods that are at present exempt are complicated by the fact that some revenue will be lost once companies could claim back the tax they currently pay on inputs. In particular, this explains why levying VAT at the standard rate on finance and insurance might raise very little net revenue. Some estimates of the cost of exemption in terms of revenue forgone are given in Table 5.12.

Table 5.12. Estimated revenues forgone: VAT exemption

(£ million)	1994-95	1995-96
Rents	2,750	2,900
Private education	850	900
Health services	300	350
Postal services	400	400
Burial and cremation	100	150
Betting and gaming and lottery	650	700
Small traders	100	100
Finance and insurance	n/a	250
All	**5,150**	**5,750**

Source: HM Treasury.

5.4 Environmental Taxes

In the UK, taxation for environmental purposes has become an emerging theme of recent Budgets. Reducing carbon dioxide emissions was one of the justifications that the government put forward for the controversial introduction of VAT on domestic fuel and heating, and the Chancellor also announced plans for a new landfill levy in his Budget Speech in November 1994. In spite of this increasingly 'green' tinge to tax policy, there is still scope for further reforms. This section briefly looks at the issues involved in using taxes to secure environmental objectives[22] and a number of specific policy proposals are also suggested.

The Role of Environmental Taxation

Ordinarily, economists concerned with tax policy advocate the principle of 'fiscal neutrality'. This, however, is an inappropriate objective for environmental tax policy, largely due to the existence of externalities - the costs of certain production or consumption activities imposed upon society, over and above private costs. Instead, environmental taxes have a corrective rather than a distortionary role: they can seek to correct the distortion in the economy that arises from the failure of the market to place a proper price on use of the environment.

When firms and individuals do not take into account the costs of their activities on others, this can lead to an inefficient allocation of resources. Improvements in welfare can be achieved by reducing pollution to the point where the costs of producing another unit of pollution are exactly equal to the benefits. At this level of pollution, any particular individual or firm will have allocated resources in the most efficient way possible, and any deviation from this optimal level of pollution will lead to an overall reduction in welfare.

Taxing each unit of pollution increases polluters' costs and creates an incentive for individuals and firms to curb pollution. However, for environmental tax policies to be successful, policymakers need to set tax rates at the appropriate level. Setting rates too high will lead to reductions in polluting activities where the benefits of doing so are less than the costs, but setting them too low means that it would still be possible to improve welfare by cutting pollution still further. The difficult problem that policymakers need to solve is how to set tax rates that balance the costs and benefits of pollution control.

In principle, there is no reason why the optimal level of pollution could not be achieved through a regulation-based approach. The government could simply set maximum emission standards on a firm-by-firm basis. In practice, however, economists have generally advocated use of taxes or other market-based policies in preference to regulatory measures. Taxes not only encourage those polluters facing lower costs of pollution abatement to reduce their levels of emissions by more than those polluters who face relatively high pollution abatement costs, but they also provide an ongoing

[22] A more extensive discussion of the role of tax reform in environmental policy can be found in *Options for 1995: The Green Budget*, 1995.

incentive for polluters to develop and invest in pollution-abating technologies. Regulation-based measures, on the other hand, merely encourage compliance with the minimum standards.

Although environmental tax theory provides some clear-cut policy guidelines, pollution taxes can often be somewhat challenging to implement in practice. A fundamental problem is that it may not always be possible to levy taxes on the basis of measured emissions. If pollution is not emitted from a single and well-defined source, then its measurement may entail unacceptably high costs.

But even where direct measurement of emissions is not possible, tax reform can still contribute to environmental policy through the restructuring of the existing tax system. In the absence of the best policy of measured emission taxes, the adoption of pre-existing tax bases that are closely correlated with patterns of pollution across different activities can provide a suitable solution. Alternatively, the tax system could be used to encourage the take-up of more environmentally-friendly forms of technology through the use of rebates and concessions.

Environmental tax revenues

Some have suggested that it is appropriate for revenues from environmental taxes to be earmarked for spending on environmental projects. In general, there are few reasons to believe that this is desirable. Linking expenditure to tax revenues leads to the danger that the setting of tax rates will be determined by revenue-raising rather than environmental considerations. Moreover, the optimal level of spending on environmental improvements should be independent of the level of any taxes that might be raised.

In the past, a slightly different rationale has been used to justify the linking of tax revenues and expenditure. This has sometimes been confused with hypothecation, but in fact relies on the separate principle of 'benefit' taxation. If, for example, the Chancellor wanted to raise revenue for expenditure on motorways, then, given that only around half of all drivers use them, it might be appropriate only to tax those who use them to fund further expenditures on the motorway-building programme. In these circumstances, taxation takes on the role of a charging scheme and, if no externalities are assumed, will make no contribution to environmental policy.

A perhaps more appealing use of the extra revenues raised from new environmental taxes is for the financing of tax cuts in more distortionary forms of taxation (particularly on labour). It has been argued that a reduction in direct taxation accompanied by an increase in green taxation yields a 'double dividend'. Not only is there an improvement in resource allocation arising from the reduction in pollution levels occurring in response to the taxes, but there is also some welfare improvement because of the switch to less distortionary types of taxation.

Unfortunately, although environmental taxes certainly can have an effect in limiting pollution emissions, it is not quite so clear that the second benefit exists. Increases in indirect taxes are also likely to have distortionary effects through changes in the real wage. Furthermore, revenues accruing from environmental taxes are likely to diminish, once polluters have had time to change their behaviour in response to the tax. This will mean that, at some point, other taxes (including possibly those on labour) will be likely to rise if the government wishes to maintain revenues, leading to a clawback of some of the welfare improvements that occurred originally.

Specific Policy Proposals

The publication of the 1990 White Paper, *This Common Inheritance*, highlighted the present government's commitment to taxation as a means of achieving environmental goals. The document presented a review of all aspects of UK environmental policy and also detailed a series of targets that the government wished to achieve in the future. Five years on from the White Paper's publication, there are a number of areas that still remain untouched by tax policy, as well as those where more tax measures are required if the government is to meet its targets.

Motoring taxation

Last November, the Chancellor announced his intention to increase petrol and derv duties by at least 5% in real terms each year, to help the UK meet its target to stabilise carbon dioxide emissions at 1990 levels by the year 2000. In 1996-97, the pure duty effect of this measure would be a 1.8p increase in duties per litre of leaded petrol and a 1.5 p increase per litre of unleaded petrol or diesel. In this Budget, there appears to be no reason why the Chancellor should renounce this pledge, and indeed, on environmental grounds,[23] he could justify a much larger increase than this.

A long-term benefit of increasing fuel duties is that it encourages the development of a more fuel-efficient stock of vehicles. Correspondingly, increases in fuel efficiency reduce the cost per mile of driving, thus encouraging drivers to use their vehicles more. This suggests that although higher fuel duties are likely to have a positive effect on atmospheric pollution, their impact on vehicle usage is likely to be weakened over time if duty increases also stimulate increases in fuel efficiency.

A further concern which may act as a disincentive against introducing more extreme duty increases will be the impact that changes will have on the overall tax burden, unless offset by other compensatory measures. Figures from the National Travel Survey show that, on average, car-owning households purchase 45 litres of fuel per week and so a 5% real increase in motoring fuel duties would increase motoring taxes paid by approximately £1.30 per week.[24]

Unleaded petrol

The Chancellor could also address the tax differential between leaded and unleaded petrol, first introduced in April 1987. Since then, successive Budgets up until 1993 have seen the widening of the differential. It was hoped that this policy would encourage car owners to convert their vehicles so that they could use unleaded petrol, reducing the levels of damaging lead emissions in the atmosphere. Over time, the policy would also encourage drivers to purchase cars using unleaded petrol in preference to those using leaded petrol and, if the relative increase in the price of leaded petrol made old cars more expensive to run, could increase the rate at which old cars using only leaded petrol were scrapped.

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[23] For an estimate of the externalities involved in road use, see D. Newbery, 'The Royal Commission report on transport and the environment: economic effects of recommendations', *Economic Journal*, no. 105, pp. 1258-72, 1995.

[24] These estimates do not make the distinction between private fuel consumption and company-provided fuel. Taking this into account may lead to a reduction in the figure quoted for weekly fuel consumption for households.

In 1995, the tax differential between leaded and unleaded petrol stands at 5p per litre. There are two reasons why the Chancellor should be cautious about extending this further. The first is that although there was initially a large response to the introduction of the tax differential, the number of people converting their vehicles more recently has tailed off. One reason for this might be that the great bulk of the vehicles that could be converted relatively cheaply to using unleaded petrol have already been converted. Now most of the remaining stock of leaded petrol vehicles could only be converted at a high cost (if at all) and so a very large tax differential would have to be introduced to have any effect.

The second reason is that evidence brought to public attention by the Transport Committee, and more recently by the influential Royal Commission on Transport and the Environment, has pointed out that use of unleaded petrol in cars without catalytic converters[25] can lead to greater emissions of aromatics (for example, benzene, which is carcinogenic) into the atmosphere. This suggests that unless complementary tax incentives are introduced to encourage the installation of catalytic converters, the preferential tax treatment of unleaded petrol may well be counter-productive. Further concerns were also expressed about the use of super unleaded petrol which is used in those cars that are unable to use premium unleaded. Although this has been marketed as a more environmentally-friendly type of fuel, recent evidence has shown it contains a greater proportion of aromatics than premium unleaded fuel, leading to demands for a complete ban of its sale.

Diesel

Another tax differential that has recently been called into question has been between diesel and petrol. Until last year, diesel was taxed at a lower rate than both leaded and unleaded petrol, although changes at the last Budget to excise duties on derv brought its duty levels into line with those on unleaded petrol. For many years, use of diesel had been largely confined to commercial vehicles, but this has recently changed. Now some 4% of the existing vehicle stock comprises diesel-powered cars and around 20% of all new car sales are also diesel. On the one hand, diesel-powered vehicles tend to be more fuel-efficient than equivalent petrol cars and so the increasing proportion of diesel cars in the total stock is not wholly undesirable. On the other hand, this fuel efficiency advantage can be outweighed by diesel vehicles' tendency to emit particulates which are believed to lead to increased incidence of asthma.[26] Given this evidence, the Chancellor might wish to reconsider whether the continued preferential tax treatment of diesel over leaded petrol is appropriate.

Vehicle excise duty

The Chancellor is also likely to increase vehicle excise duty (VED), paid by all private and commercial vehicle owners. Since 1991, the Chancellor has progressively increased the real level of VED paid by owners of private vehicles by around 25%; in 1995-96, the duty paid on cars, light goods vehicles, vans and taxis was £135, which,

[25] Since the start of 1993, all new cars have to have catalytic converters, suggesting that this is only likely to be a problem for older vehicles.

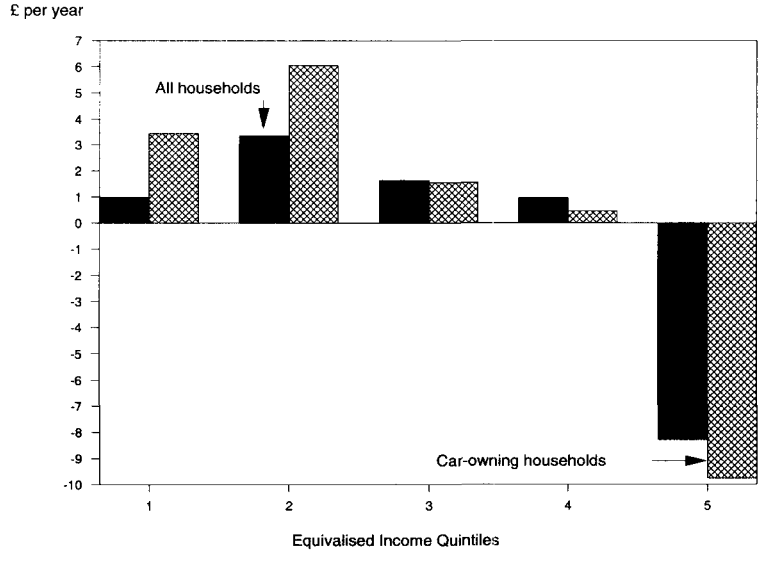
[26] See Transport Committee, *Transport-Related Air Pollution in London*, House of Commons Paper no. 506-I, 1994.

on average, formed 15% of motoring taxes paid by drivers. No changes were made to the duties paid by heavy goods vehicles (HGVs) since this would have had an impact on the competitive position of the UK haulage industry relative to European operators.

Under existing arrangements, owners of HGVs pay differing rates of VED according to the number of axles that the vehicle has, so that greater levels of duty are paid on heavier, more damaging vehicles. For private cars, there is no such variation. One option that the Chancellor could consider is varying VED for private cars by engine size, or according to the level of emissions produced, or by vehicles' fuel efficiency. The main advantage of introducing measures such as these is that it would create an incentive for car users to purchase smaller, 'cleaner' or more fuel-efficient vehicles, and would also bring the UK into line with the rest of the EU where similar policies have already been adopted.

As an illustration of the potential distributional impacts, Figure 5.11 shows the changes in annual registration taxes paid if VED were to be differentiated by engine capacity. Under the revenue-neutral reform illustrated, simulated using data from the 1989-91 National Travel Survey, £75 per year would be payable for vehicles with an engine size of 1,000cc or less, £110 per year for those with engine capacity falling between 1,000cc and 1,500cc, £160 per year for cars with engines in the 1,500-2,000cc range, and £235 per year (£100 more than at present) would be due for all private vehicles with engines greater than 2,000cc. The figure shows the gains and losses incurred across income quintiles for all households and also for the car-owning population. Broadly speaking, across both the car-owning population and the population as a whole, lower-income households would gain from the reform whereas households towards the upper end of the income distribution would, on average, tend to be worse off.

Figure 5.11. The distributional effects of restructuring VED



In terms of influencing ownership decisions, the Chancellor could also consider reintroducing a car sales tax, abolished in November 1992. However, whilst it would discourage the purchase of new cars, it might also result in consumers keeping older, less technologically clean vehicles for a longer time, thus increasing the potential for emissions. One way of limiting this problem could be by also introducing measures to encourage drivers to scrap their existing vehicles - for example, varying annual ownership taxes according to the age of vehicle.

A final area where the Chancellor could reform the existing tax system for environmental purposes is the treatment of company cars. Around one-eighth of all cars on the road are company cars and nearly half of people with company-provided cars also receive free fuel. Prior to April 1994, tax liability for company cars was calculated on the basis of fixed bands that varied according to engine size and purchase price of the vehicle. Although significant reforms have been introduced whereby basic tax liability is now calculated as 35% of the manufacturer's list price, company cars may still represent an undertaxed benefit in kind. One reason for this is that tax paid is reduced by one-third if annual business mileage is more than 2,500 miles and by two-thirds if it is more than 18,000 miles. This unfortunately creates an incentive for drivers just below the threshold to increase their mileage to secure the reduction in their tax bills. One simple measure that the Chancellor could introduce would be to change the mileage requirement by introducing more threshold bands. More appropriately, he could award discounts to those with private mileages below certain thresholds. Reforms to the provision of free fuel could also be introduced; currently, fuel is not taxed according to value but at a flat rate depending upon engine size of the car. This, like the tax treatment of company cars, encourages employers to give income in the form of benefits in kind rather than income and wages.

Congestion charging

Both the government and the Royal Commission on Transport have emphasised the use of high and increasing levels of fuel duties as a way of tackling the environmental problems associated with road transport. Whilst this strategy has a number of merits, one significant shortfall is that it fails to address the growing and important problem of congestion. Traffic levels have been increasing rapidly. Statistics provided by the Department of Transport show that total motor traffic grew by 2% relative to 1993, goods traffic by 4% and traffic of the heaviest articulated goods vehicles by 11%. The increases over the past year have been part of a rising trend; over the period 1984-94, growth in goods vehicle traffic was 31%, while articulated lorry traffic grew by 49%.

It would be very difficult to accommodate this increase in traffic by increasing the road-building programme (and indeed this would have severe environmental implications). One possible response to this growth in traffic would be road pricing. This would be the most effective way of deterring drivers from using overcrowded roads, particularly if charges vary according to time of day and location.

Over the past five years, the government has started to consider charging for the use of roads, both for inter-urban routes and for road traffic in cities. In the consultation paper, *Paying for Better Motorways*, published in May 1993, three options for road pricing on inter-urban routes were proposed, ranging from the relatively straightforward tolls and permits, to the considerably more technologically complex

electronic tolls. Although both tolls and permits have been dismissed as impractical,[27] the government has continued to take an interest in the third option. In August of this year, the Transport Minister announced the setting-up of a pioneer trial site on the M3 between Junctions 6 and 7 near Basingstoke. Starting in summer 1996 and lasting for around two years, eight consortia will participate in the programme to test three different types of motorway tolling technology. Normal traffic travelling on that stretch of the M3 will not be involved.

The level of charges to be introduced, though not yet confirmed, is likely to be in the region of 1.5p per mile for cars and 4.5p per mile for commercial vehicles, but it is unlikely that any widespread charging will occur much before the start of the next century. Here, as with most other environmental policies, there appears to be a conflict between revenue-raising and environmental objectives. The level of charges chosen (with apparently little reference to the estimated costs of congestion) suggests that it is revenue-raising criteria that have dominated the debate thus far.

Since 1991, the government has also been looking into the possible implications of introducing congestion charging in cities. A three-year study examining the feasibility of charging for road use in London has recently been conducted, and the Department of Transport has also been considering the implications of congestion charges in Cambridge.

It seems unlikely that the Chancellor will announce any major initiatives in the Budget. Despite the many arguments in favour of road pricing, the government has so far proved to be somewhat cautious. One drawback with any type of inter-urban charging is that it could lead to significant diversion effects if drivers choose to avoid paying charges by travelling on smaller, more rural roads. Reservations have also been expressed about the reliability of the pioneering technology that would have to be adopted in order to operate new electronic toll schemes. As yet, no time-scale has been put on the possible introduction of electronic charges, and it is generally regarded as being 'someway in the future, if at all' (Brian Mawhinney, 26 March 1995). Proposals for inner-city congestion charging are even less concrete; the government has, at the moment, no specific plans to introduce congestion charging in London, or anywhere else, nor does it intend to bring forward the primary legislative changes that would be required if motorists were to be charged for driving in congested areas. Despite the pressing problems arising because of increased traffic levels in city centres, urban road pricing is only currently being considered as a long-term proposal.

Short of urban charging, the government may look towards other measures for combating inner-city congestion. One issue that has been attracting a great deal of attention has been the taxation of free car-parking spaces provided by employers. Some 85% of company cars used for commuting in London get free parking and this not only represents a considerable tax-free perk but also leads to further congestion and loss of time. Subjecting either the company responsible for provision of free parking to workers or the recipient to taxation might lead to some relief in inner-city congestion.

[27] See Department of Transport Press Release, 2 December 1993.

Household waste and recycling

Households, on average, produce around two-thirds of a tonne of waste per annum. The disposal of waste can have various environmental effects and, in particular, landfilled waste that is not properly treated contributes to emissions of carbon dioxide and methane and can also contaminate soil and water supplies.

In response to the problems associated with waste production and disposal, in his last Budget, the Chancellor announced plans to introduce a new environmental tax, a landfill levy, to be adopted in October 1996. A recent consultation document produced by the Department of the Environment provided some information on the proposals, but it is expected that the Chancellor will shed greater light on the specific details in November.

The tax is to be levied on all waste disposed of in landfill sites and will be collected by HM Customs and Excise. The levy will be imposed on a per tonne basis rather than, as originally proposed, on an *ad valorem* basis. The introduction of the landfill levy will increase the costs of landfill relative to other methods of waste disposal such as incineration and recycling, and so should induce waste-producers to switch to these less environmentally damaging methods.

Crucially, the success of the policy relies on the government choosing an appropriate tax rate that adequately reflects the costs of landfill. In general, the social costs of landfill will depend upon the nature of the waste. Inert waste such as building rubble will result in little environmental degradation relative to toxic substances. Externalities will also vary with location of the landfill site. Waste deposited in urban landfill sites need not be transported as far as waste generated in rural areas and so the social costs of rural landfill generally tend to be higher than those of urban landfill. Externalities associated with landfill without energy recovery[28] have been estimated by the Centre for Social and Economic Research on the Global Environment (CSERGE) as being around £3.50 per tonne in urban areas and £4.00 in rural areas, although these figures should be interpreted with caution since they do not include other significant impacts on the community such as noise, odour, unsightliness, etc. Although it would be appropriate for tax rates to capture differences in externalities, this is likely to increase both administration and compliance costs. In view of this, the Chancellor is expected to announce two rates, a lower one for inert waste and a higher one for more environmentally damaging waste. It is likely that the higher rate will be at least £4 per tonne if it is to reflect the external effects of landfill.

In the discussions leading up to the introduction of the tax, two further aspects of the proposals have been highlighted. The first is that the Chancellor is planning to lessen the burden imposed on industry of the tax by lowering employer National Insurance contributions (NICs). The tax, imposed at a rate of £3-5 per tonne, would raise in the region of £300-500m per annum, permitting a reduction in the main rate of employer NICs of 0.2 percentage points or a larger cut in the lower rate of employer NICs. Presumably, the use of revenues from the landfill levy to reduce employment taxes is an application of the 'double dividend' arguments discussed earlier. However, this initiative must largely be seen as cosmetic. Piecemeal changes are likely to have little impact overall (particularly since in this case even a tax rate of £5 per tonne,

[28] Some landfill sites have the facilities to recover methane from deposited waste.

approximately 50% of current average landfill prices, will only lead to small reductions in NICs). Indeed, this measure raises the question of why the Chancellor has decided to use revenues from the landfill levy in this way when there would be much more scope to reduce direct taxes by using the revenues from other 'green' tax measures such as petrol taxes or VAT on domestic fuel and heating. Furthermore, although reductions in NICs are likely to be welcomed by industry across the board, the measure will not, in many instances, be particularly beneficial to those industries likely to bear the largest burden resulting from the tax since many of these (particularly steel-making and electricity generation) tend to be capital- rather than labour-intensive.

A second feature of the government's proposals is that landfill businesses are to receive tax rebates on money they pay into environmental trusts, approved by government, involved in the restoration of closed landfill sites or research and development into sustainable waste management practices. It is envisaged that rebates on payments would never be more than 90%. This should ensure that firms will have an incentive to check that their payments are being used carefully. Although the waste disposal industry has broadly welcomed the idea of environmental trusts, the measure can be interpreted as a move towards hypothecation, albeit under a different name, and over the long term, these rebates may also be a somewhat unsustainable practice. From an environmental perspective, the main purpose of the tax is to reduce the amount of waste going to landfill, but at the same time the rebates are to be used to promote long-term objectives such as research and development and restoration of old landfill sites. However, it is expected that revenues from the tax should dwindle over time as firms adopt alternative measures for waste disposal, and so this will undoubtedly constrain the government's ability to fund future rebate payments. Furthermore, since it is essentially the private sector rather than government that will be responsible for the trusts' activities, these new environmental expenditures will not appear in the public finances.

In addition to increasing the tax burden on industry, the proposed levy will also have a significant impact upon local authorities that are responsible for the collection and disposal of all household waste and some commercial waste. IFS estimates for England suggest that local authorities' total waste disposal costs will increase by approximately £87m. Of this, around £40m will be paid purely on the collection of domestic waste. Assuming that there will be no corresponding increase in grants from central to local government to help ease the burden of the levy, and that increases in costs occurring from the collection of domestic waste will be purely borne by households and not businesses, then a tax of £5 per tonne will, on average, lead to an increase in Band D council taxes of around £3.80 per year.

By itself, the landfill levy is unlikely to have a significant impact upon the amount of waste generated. Whilst the current system of charging for domestic refuse disposal is incorporated into council tax bills, there will be no incentive for households to reduce waste. Consequently, if the government is to reach its target of stabilising the production of household waste at its 1995 level, it will be necessary to introduce further measures.

One option the Chancellor could consider is introducing a system of volumetric charging for domestic refuse - for example, a charge levied per bag of waste collected. Such a policy, however, would require careful monitoring since one problem that has

been encountered in other countries is that 'pay-by-the-bag' schemes encourage households to avoid the tax by fly-tipping or illegal dumping and also to compress waste so that it fits into the smallest number of bags possible.

Another way of encouraging households and firms to use products that can be recycled is through the imposition of a *raw materials tax*. This aims to correct for the fact that the market fails to include the collection and disposal costs of certain materials in its prices. By taxing new materials, this would make their use relatively more expensive compared with that of recycled products and thus should lead to some reduction in municipal waste. Moreover, there would be some scope to adjust taxes so that they reflected the disposal costs of different types of materials.

As with other environmental taxes, the introduction of a raw materials tax would require careful consideration and would require a set of complementary measures to be introduced at the same time. Imposition of this type of tax would not necessarily encourage more recycling of glass bottles if the recycling facilities were not readily available to consumers. Second, a new materials tax would raise a number of problems for the treatment of imports. How would the tax authorities assess the proportion of raw materials used in goods not manufactured in the UK?

A further option that the Chancellor could consider is an extension of the Recycling Credits Scheme introduced in 1992. The scheme attempts to correct for the undervaluing of recycling activities by the market. The idea behind it is that when refuse is recycled rather than disposed of, this saves the disposal agency the costs of disposal which can be paid to the individual or firm that is involved in the recycling. At the moment, nearly all recycling credits are payments by local government Waste Disposal Authorities (WDAs) to Waste Collection Authorities (WCAs). Payments are usually in the region of around £6 per tonne, with very little participation in the scheme by third parties, although this was originally one of the objectives of the policy. One option for the government would be to encourage more payments to non-local-authority organisations. If this were successful, this would permit a further extension of the scheme to encompass waste collection credits, since when a third party recycles, this generates savings in collection costs by WCAs, which could then be paid out to the recyclers. Given that collection costs are often substantially higher than disposal costs (typically £30 per tonne), a Waste Collection Credit Scheme has significant potential.

5.5 Taxation of Saving, Assets and Inheritance

In this section, we examine the taxation of savings. First, we describe a framework for the taxation of savings, before going on to look at three areas of current concern: the overall level of savings, the housing market and capital gains tax. This is followed by a discussion of two issues surrounding inheritance that have recently been widely debated: the possible reform of inheritance tax and the cost of long-term care for the very elderly.

Savings

The principal aim of any tax system is to raise revenue for the government. Subject to this, an ideal tax system would seek to minimise distortion of individual and company behaviour except where it is intentional. The minimising of these distortionary effects is embodied in the principle of fiscal neutrality.

But what fiscal neutrality implies in this area depends on how savings are viewed. If it is assumed that individuals save in order to consume at some future date, then ideally the tax system should not affect decisions as to whether to consume now or later; the tax system should be neutral between current and future consumption. This equal treatment would result in equality of pre- and post-tax rates of return on savings. An alternative view treats saving as a commodity in its own right, consumed for its own sake. This second view requires equality of tax treatment between current consumption and saving and implies that the post-tax rate of return on saving will be below the pre-tax rate of return.

The first view corresponds to a system where the rate of return on saving is not taxed, a so-called expenditure tax, the second to a system where the rate of return on saving is taxed, a so-called comprehensive income tax. Rather confusingly (although in common with much of the world) in the UK, our main direct tax is called an income tax, but as it relates to saving is far closer to an expenditure tax, since most saving goes into forms taxed at least as generously as the expenditure tax implies. For this practical reason, and because the balance of argument points strongly to neutrality in taxation of current and future consumption, we describe as tax-privileged an asset with a post-tax rate of return higher than the pre-tax rate of return, and as disadvantaged an asset with a post-tax rate below the pre-tax rate.[29]

The Level of Savings

Concern is often expressed, with a variety of justifications, about the UK's apparently low level of savings. The first argument is that an insufficient level of savings reduces the amount of economic investment that can be undertaken and thus constrains economic growth. Intervention to boost savings is also argued for on the grounds of paternalism: that individuals left to their own accord will not undertake a level of savings that is optimal for, say, retirement provision, long-term care or spells out of the labour market. The final reason suggested for encouraging savings is that of 'popular capitalism', in that if more people have a 'stake' in the performance of the economy, then motivation and economic performance would be enhanced.

The suggested link between national savings and investment seems rather outdated. While at the aggregate level world investment must be constrained to be equal to world saving, for a small open economy with access to global capital markets, it seems unlikely that the level of national investment should be constrained to be equal to national saving. As to paternalism, there may be some evidence of poor decision-making in certain areas, but the correct response is not necessarily more and more subsidised schemes. Better education, or simplification, or regulations may be just as, or more, effective. And the paternalism argument would always need to be restricted to a particular and tightly defined area. On 'popular capitalism', the debate seems mainly to be about the form of saving rather than absolute amounts.

[29] For further discussion, see *Setting Savings Free*, Summary of the Final Report of the IFS Capital Taxes Group, 1994.

Sceptical though we might therefore be about the need for a higher level of saving, it seems sensible to ask whether the tax regime might be capable of increasing the overall level of saving. Here, the experience of tax-exempt special savings accounts (TESSAs) and personal equity plans (PEPs) is instructive.

TESSAs were introduced in 1991 and allow taxpayers to receive interest on bank and building society deposits tax-free subject to conditions. A maximum of £3,000 may be saved in the first year and up to £1,800 a year thereafter until the overall limit of £9,000 is reached. When the account matures after five years, up to £9,000 of the capital may be deposited in a new TESSA. In March 1995, there was a total of 4.3m live accounts with a total amount invested of £25.6bn (*Inland Revenue Statistics 1995*).

PEPs (introduced in 1987) allow tax relief on dividends and other income earned on shares and unit trusts held in a 'general' plan. PEPs also offer relief from capital gains tax on increases in value. The total amount that an individual can invest in a general PEP is £6,000 per year, although an additional £3,000 may be invested in a single company PEP. By 1994-95, there were 6.4m PEPs with a total amount invested of £22bn (*Inland Revenue Statistics 1995*).

Despite the generous tax treatment accorded to these savings instruments and their apparent success in attracting funds, we would not necessarily expect them to have increased overall savings. Since the underlying asset - interest-bearing accounts in the case of TESSAs and equity products in the case of PEPs - was available prior to the tax reform, but with a less attractive tax treatment, we would expect much of any flow of funds into PEPs and TESSAs to be a switching of assets from other forms, reducing tax revenue, and therefore potentially even reducing national saving. Banks et al. provide evidence for both TESSAs and PEPs of very substantial switching.[30]

Given the starting-point for the taxation of savings in the UK, which is of a wide range of tax-relieved forms of saving, attracting the great bulk of savings flows, the scope for increasing saving through new preferential schemes seems small. This is not to say that further reform and simplification are undesirable, and we would advocate extension of the savings regime for PEPs and TESSAs, but the justification is in terms of efficiency and distribution rather than savings level. It is unsatisfactory to have many slightly different tax regimes each distorting savings allocation, when one would do, and it is unfair that the only common form of savings income taxed[31] is interest income, which is the main savings income of the least well-off.

The Chancellor might introduce further extensions of PEPs or TESSAs this year, but there seems little pressure on him to do so. The most likely move to restrict the current saving regime would seem to be some relatively high maximum total holding for PEPs. Such a move would seem inconsistent with the logic of the current tax system, or a theoretically pure expenditure tax based system, but might have political attraction.

[30] J. Banks, R. Blundell and A. Dilnot, 'Tax-based savings initiatives in the UK', OECD conference paper, May 1994.

[31] Taxed not just on the real return, but also effectively on inflation.

Housing

As with other assets, the taxation of housing can be considered within the framework set out at the beginning of this section. To achieve an expenditure tax treatment, like that enjoyed by PEPs and TESSAs, housing would be bought out of taxed income and then no further tax would be raised either on disposal of the property or as payment on the imputed return to owner-occupation. (This imputed return can be thought of as the value to an individual of the housing services enjoyed while living in an owner-occupied property and not needing to pay rent. It was in fact taxed under Schedule A of the income tax system until 1963.)

The current taxation of housing does not correspond to either an expenditure tax or to a comprehensive income tax treatment, but it is closer to the former. Abstracting from the council tax, which is a tax on occupation of housing rather than its ownership, the current tax treatment differs from an expenditure tax treatment in two rather limited ways. First, tax relief is available through mortgage interest tax-relief at source (MIRAS) at a rate of 15% on the interest payments on the first £30,000 of a mortgage. With interest rates at 7%, this tax relief is worth £315 per year to anybody with a mortgage at or above this level. On the other hand, stamp duty, an additional tax of 1% of the purchase price on properties costing over £60,000, is levied when a property is bought. For most properties, the benefit of MIRAS outweighs the cost of stamp duty. If we assume a discount rate of 7% and a 25-year interest-only mortgage, then the net present value of MIRAS at its current rate is around £3,670. Only on properties costing over £370,000 does the cost of stamp duty outweigh the value of MIRAS.

A movement towards an 'ideal' expenditure tax system would, then, involve the abolition of MIRAS and stamp duty. Already in the last five years, continually tighter restrictions on MIRAS and the raising of the threshold for stamp duty have moved in this direction. The abolition of MIRAS would raise approximately £2.6bn in any year, while abolishing stamp duty on residential property would cost the exchequer £0.5bn in 1995-96. But while there are good microeconomic arguments for saying that we should never have had either MIRAS or stamp duty in the first place, the distributional effects of abolishing them now might not be desirable in that the biggest losers would effectively be those home-owners with the lowest-value properties.

In particular, it is worth stressing that the question of who loses and gains from changes to the taxation of housing is complicated by the issue of capitalisation. One might not be too worried about losses from the abolition of MIRAS if those currently receiving MIRAS actually benefited from it. But it is probable that most of the value of MIRAS was capitalised into the price of houses when they were bought. As current MIRAS recipients did not benefit from its creation, to abolish it now *would* lead to a windfall loss to them.

Before examining specific options for increasing subsidies to home-owners in this Budget, we question the causes of the present depressed state of the housing market, the macroeconomic desirability of the government intervening to 'boost' the housing market and the incidence of any help the state might provide.

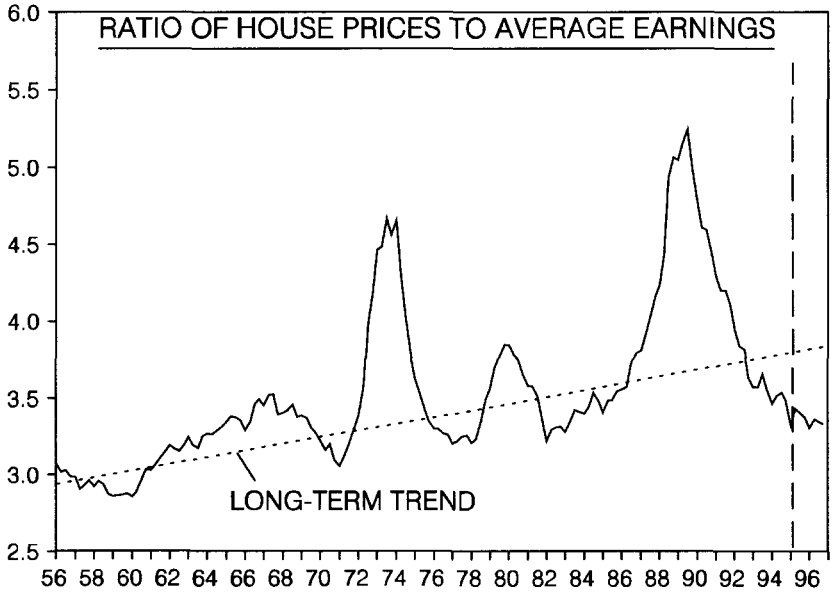
Is there a macroeconomic case for increased support for owner-occupied housing?

After a tentative recovery during 1993 and the first half of 1994, the housing market has weakened again over the past year. House prices fell by 2.4% in the year to August according to the Halifax Building Society and housing turnover is running around 10% lower than a year ago. Reflecting the recent decline in activity, housing starts began to fall towards the end of 1994 and are now down more than 10% on last year's level.

This weakening in activity across the housing market has increasingly prompted calls for some form of government intervention to boost the housing market. From a macroeconomic perspective, however, the case for stimulating housing activity and prices is not immediately clear. While a burst of house price inflation (or even a period of steadily increasing real house prices) might help ease negative equity and the structural problems faced by the housing industry, the overall macroeconomic consequences would probably be undesirable. Buoyant house prices have traditionally gone hand in hand with strong growth in private consumption. But with consumers' expenditure already rising at around the long-term trend rate of the economy, a boost to the housing market would give an unwelcome stimulus to demand and increase inflationary pressure. Rising real house prices would almost certainly necessitate higher base rates and perhaps higher taxes because of the associated boost to consumer spending.

The macroeconomic case for action to stimulate the housing market is therefore not at all obvious. Action can only be justified if there is a serious threat of the housing market pushing the economy back into recession, which does not seem to be the case. Nevertheless, there is strong political pressure on the Chancellor to do something and there has been no shortage of specific proposals to boost the housing market, some of which are considered below.

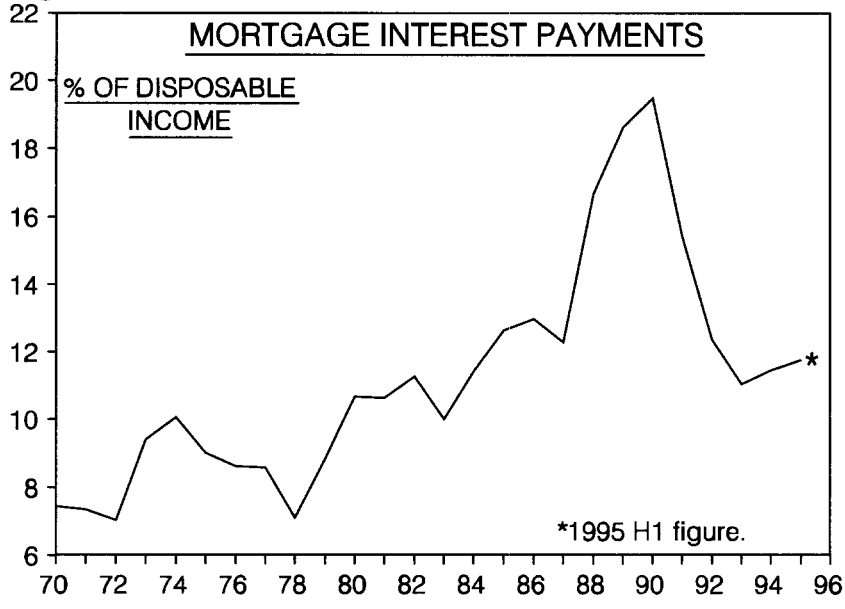
Figure 5.12



The efficacy of any moves to stimulate the housing market clearly depends on the source of the present weakness. Many different diagnoses have been offered - negative equity, low transactions and the associated 'absence' of first-time buyers, as well as fear of unemployment. To the extent that each of these is responsible, the best means of boosting activity varies.

Over long periods of time, the major determinant of house prices is almost certainly affordability. At present, this is not a problem. House prices are low in relation to average earnings and with average mortgage interest rates currently at 7.8% (up only 0.2 percentage points from their low), the share of household disposable income taken up by mortgage interest payments is, aside from the past two years, at its lowest level since 1984. While the successive restrictions in MIRAS to 15% over the past two years have raised the cost of mortgages, these changes have had only a small effect (raising interest payments by around 1% of disposable income) compared with the impact of the steep fall in interest rates over the preceding four years.

Figure 5.13



Although nominal affordability is not a problem at present, it is likely that the considerable falls in nominal house prices since 1989 have led to diminished expectations of future house price inflation and thereby of prospective capital gains from investing in residential property. Allowing for expectations of house price inflation in determining 'affordability' alters the outlook dramatically. In the past, the cost of servicing a mortgage was invariably offset by large capital gains on property which made the real cost of housing negative. If people expect the current low level of house price inflation to continue, then the 'real user cost of housing' is very high, although a little lower than in the early 1990s. The prospect of only limited capital gains raises this real cost of housing compared with historical experience. As long as expectations of house price inflation are low, housing will remain relatively expensive. However, it is not obvious what the government can do about this if it is determined to keep inflation generally in the economy at a low level.

A further factor that is often blamed for low house prices is perceptions of muted real income growth. Over the past three decades, there has been a fairly close relationship between real income growth and house price inflation. However, house price inflation has fallen by more than can be accounted for by growth in disposable incomes. Fear of unemployment could partly be responsible for this. At a regional level, there is a striking correlation between the size of the rise in unemployment during the recession and the fall in house prices from their peak. The best way to ensure that the fear of unemployment is reduced is for the economy to grow at a steady and sustainable rate.

The falls in house prices since 1989 have created a number of difficulties in the housing market, each of which has prompted calls for individual government attention. The phenomenon of 'negative equity', where the value of a property falls below the outstanding mortgage, is probably the most widely reported consequence. On current estimates, around 1.2m households are affected by negative equity, almost 11% of the total number of households with a mortgage. Relatively stable house prices over the past two years, combined with the ongoing principal repayments made by households with repayment mortgages and discretionary capital repayments, have enabled some households to clamber out of negative equity. However, these declines have made only small inroads into the total number of households affected. Negative equity is likely to depress activity in the housing market by restricting the ability of households to move. In addition to lowering housing turnover, consumption is probably also depressed. As house prices rise, removing more households from negative equity, the supply of property is likely to increase. Consequently, the large number of households facing negative equity may well serve to restrict house price inflation for some time to come. Fear of negative equity may also be contributing to the perception that housing is expensive, thereby raising the real cost of housing.

The widespread incidence of negative equity may be serving to limit the number of first-time buyers. Many commentators have remarked that these provide the 'lubrication' for the market without which activity stagnates. On this argument, taking steps to boost the number of first-time buyers would create a multiplier effect raising overall activity. Estimates from a simple model linking housing loans to first-time buyers and to existing owner-occupiers suggest that there may be a role for first-time buyers to boost overall activity.[32] If the number of mortgages taken out by first-time buyers were boosted by 1%, it is estimated that the cumulative increase in housing transactions would be 3-5% for both first-time buyers and existing owner-occupiers over the following two years. If the initial stimulus is to existing owner-occupiers, the effect on turnover is much less marked.

Thus there is support for the notion that if more first-time buyers could be tempted into the housing market, overall activity would receive a considerable impetus. But this might not necessarily stimulate house prices. The temporary abolition of stamp duty by the then Chancellor, Norman Lamont, in December 1991 until August 1992 served to stimulate activity without having any lasting impact on prices. However, this was against a background of a very weak economy, the effects of which swamped the effect of the abolition of stamp duty. Estimates from Goldman Sachs suggest that a 5% boost to transactions would increase house price inflation by around 2% after two years. In principle then, if measures were introduced that increased the number of

[32] M. Brookes, 'The bursting of the housing bubble', *UK Economics Analyst*, July/August 1995.

first-time buyers for a sustained period, it should be possible to raise both housing market activity and prices. But this might not address the fundamental difficulty faced by the housing market, namely that the perceived real cost of housing has increased markedly. To change this would probably require massive intervention with undesirable macroeconomic consequences.

Who has been affected by recent developments in the housing market?

If the macroeconomic case for intervention to boost the housing market is weak, is there a case for subsidising individuals who have lost out from the downturn in the housing market? For this, we need to examine who lost out from the downturn and who would be affected by schemes to help the housing market. The answer - current owner-occupiers - might seem obvious. But suppose there were a 10% increase in house prices. This would increase the value of all home-owners' equity. But those who had not yet bought would be worse off because it would be more expensive for them to buy a house. And even current owner-occupiers who wanted to 'trade up' to a more expensive property would be left worse off in a real sense. Suppose someone owns a house worth £50,000 and wants to move somewhere twice as expensive. A 10% increase in the price of all houses occurs, so although the house they occupy has risen in value by £5,000, the house they want to move to will have risen in cost by £10,000, leaving them worse off if they do trade up than they would have been before the price increase. Gainers would be those, generally older individuals, who intend to trade down in the future.

A similar argument can in fact be thought to apply to the question of negative equity. Suppose the same person had bought the house (with a 100% mortgage) for £50,000, but following a 20% fall in house prices its value had gone down to £40,000, leaving £10,000 of negative equity. Then moving to a house double the value would only require the spending of an extra £40,000 rather than £50,000. They might still be left with £10,000 negative equity, but in terms of their repayments they would be better off than if house prices had not fallen. The fact that they simply transferred their negative equity should also not present a problem for the lender. If lenders are making such transferral of negative equity difficult, then there might be a role for government in encouraging them to act in what would anyway appear to be a more 'rational' manner.

If those wishing to trade up are real gainers from the fall in house prices, those trading down or leaving the owner-occupied sector are the losers. Here, negative equity has caused a serious real problem for certain individuals. Unemployment often results in mounting mortgage arrears and individuals in this position may be forced out of owner-occupation. But the fall in house prices means they are unable to clear their debt by selling up. So if action is called for to help those affected by the downturn in the housing market, these individuals are most deserving of help.

Specific proposals

If the Chancellor does choose to do anything to give the housing market a general boost, it is likely to be for political reasons as much as for economic ones. And we have seen not everyone would gain from such policies. An important part of any boost is likely to involve some reduction in the overhang of negative equity. Here we look at just a few of the more plausible policy suggestions that have been put forward.

MIRAS

Prior to 1974, all interest payments on the value of a loan taken out for the purposes of purchasing a house were tax-relieved. A ceiling of £25,000 was put on the value of the loan on which tax relief was allowed in that year. That ceiling was raised only once in subsequent years, to its current £30,000 in 1983. Since 1988, when Chancellor Nigel Lawson ended 'double tax relief',[33] there have been a series of reductions in the value of MIRAS. In 1991, relief was restricted to the basic rate of 25%. This reduced its value to higher-rate taxpayers, who had previously been able to claim relief at 40%, making MIRAS more valuable to them than to basic-rate taxpayers. In 1994, the value was further restricted to 20%, and it reached its current 15% in April 1995.

Table 5.13 shows how the cost of MIRAS has changed over the 1990s. In 1995-96, it is forecast to be around £2.6bn. This is down from a peak of £7.7bn (in nominal terms) in 1990-91. The lower cost reflects not just the cuts in its value but also much lower interest rates. Since tax relief is provided on actual interest payments made, higher interest rates result in a higher cost of tax relief.

Table 5.13. Cost of MIRAS over the 1990s

Year	Cost (£ million)
1989-90	6,900
1990-91	7,700
1991-92	6,100
1992-93	5,200
1993-94	4,300
1994-95	3,500
1995-96	2,600[a]

[a] Estimate based on 1994-95 Red Book.

Following these consistent cuts, there have been numerous calls to make some sort of change to MIRAS as a means of boosting the flagging housing market. But given that it has only just been cut, the chances of an across-the-board increase, either in the ceiling or in the rate at which tax is relieved, are remote. Such an increase would also be expensive and poorly targetted. Some more limited and tightly defined change is more likely.

[33] This allowed each 'tax unit' - usually two unmarried people living together as a couple - to receive tax relief on £30,000. So if they had a mortgage of £60,000 between them, they would each be able to have tax relief on £30,000.

Increasing MIRAS for first-time buyers

The most popular calls for change have focused on helping first-time buyers, because of the evidence that increased numbers of first-time buyers could lubricate the whole market. Either the ceiling or the rate could be increased for people buying a property for the first time. What might the effects of such a change be? As the previous discussions of capitalisation suggest, the main effect should be to raise the price of those properties that first-time buyers generally purchase. Since such properties would not be the exclusive domain of first-time buyers, the increased generosity of MIRAS would not be fully capitalised into the price. Gainers from such a policy would be current owners of properties at the lower end of the market as well as, to some extent, first-time buyers themselves. Losers would be those competing with first-time buyers, perhaps older individuals 'trading down'.

This probable positive effect on house prices might actually be desired as a means of reducing levels of negative equity, but it would not necessarily be the best-targetted method of doing so.

Finally, as with most such changes aimed at boosting demand, most of the money spent would actually be going to people who would have bought somewhere anyway. So any such policy is likely to result in a large 'dead-weight loss'.

Capitalising MIRAS

Another policy that has been put forward which might deal in a much more direct way with the problem of negative equity would be to allow people to capitalise future MIRAS entitlements. Mortgagers would have the option of giving up all future entitlements to MIRAS in exchange for a lump-sum payment now. As suggested above, this might equate to just under £3,700 if a 25-year future flow of MIRAS payments were to be discounted to the present at 7% per annum. In practice, one might offer this option either just to those who can show they have negative equity or, more realistically, to those who bought their property between set dates - the start of 1987 to the start of 1992, say.

If the rate of exchange were set correctly, the long-term cost to the Treasury of such a policy ought to be nil. The current cost, which would appear in the PSBR, would be offset by future reductions in MIRAS payments. There were nearly 6.5m mortgage advances in the five-year period mentioned. If all these mortgages still existed (which they do not) and they were all for £30,000+ (which they were not) and everyone took up the option, this would result in a potential price tag of up to £24bn. If the option were restricted to just *first-time buyers* in 1987, 1988 and 1989, the potential numbers affected would be reduced to 1.5m, giving a potential maximum cost of £5.5bn. Again, the actual cost would be substantially less but we cannot say how much less.

Although not necessarily entirely unattractive from an economic point of view, this option would have two other disadvantages apart from very high initial costs.

The first is simply one of equity. If it were offered to just a select group of home-owners, those falling just outside its scope would be vocal in their irritation. The second is that it might be seen to tie the hands of government in the future. Although they might deny it in the run-up to an election, it is not unreasonable to suggest that whichever of the two major parties is in power over the next decade would be likely gradually to continue the phasing-out of MIRAS. Then those who took advantage of an offer to capitalise their future MIRAS entitlement would have done rather well relative to those who

were either not given the opportunity or who decided against it. Because of this risk, virtually all those offered the opportunity would probably be well-advised to take up any option to convert their future stream of MIRAS benefits into a lump sum.

Stamp duty

The last time the government introduced a series of policies aimed at reinvigorating the housing market, it abolished stamp duty on property transactions of below £250,000 between December 1991 and August 1992. This, time-limited, abolition was aimed at kick-starting the market by boosting short-run turnover. It did succeed in boosting turnover in the short run but the effect appears to have been purely one of timing, as turnover fell very sharply at the end of the period of suspension.

It is possible that with the economic cycle at a different point, the effects of repeating such a suspension now would be more substantial, but given the failure of the previous attempt, any such repeat is unlikely.

An alternative would be to abolish stamp duty on residential property, which raised some £0.5bn in 1993-94, altogether. In a sense, stamp duty is a tax with little obvious economic rationale, and this might be a plausible policy to follow. On the other hand, it could be viewed as a form of wealth tax. It is a rather odd wealth tax in that it is paid on the purchase of a property rather than sale, and its distributional effects, while likely to be broadly progressive, will also be somewhat arbitrary. But in the absence of other effective wealth taxes, it might play a useful role. Like changes to MIRAS, one might expect the long-term effect to be capitalised into house prices. But such a move would have little impact where, in current circumstances, it is probably most needed - at the bottom end of the market. Stamp duty is payable only where the price of a property exceeds £60,000.

A possible alternative would be to reform the structure of stamp duty such that instead of being charged on the full price of any property in excess of £60,000, it could be levied only on that part of the price in excess of £60,000 which would thus work as a tax-free allowance. This could lessen the incentive that must now exist to price properties at just below £60,000.

Allowing negative equity to be offset against income tax or capital gains tax

One other series of proposals that we look at briefly, if only to dismiss them, have involved the possibility of allowing people who realise negative equity to offset the loss against either capital gains tax (CGT) or income tax.

As we show in the next section, CGT is paid by very few people. The overlap between those with negative equity and those with CGT liability is likely to be extremely small.

Naturally most people with negative equity will have income tax liability. Presumably the idea behind the proposal is that when any negative equity is realised on sale of a property, taxable income should be reduced by the size of the negative equity. Distributionally this would favour high-income people. Higher-rate taxpayers would gain most. Lower-income people with high negative equity might not even have enough taxable income with which to offset the full loss. In any case, as we said above, those with negative equity who are trading up will actually have benefited from the house price slump. In all, this does not seem to be a sensible proposal.

Conclusions

There is little rationale for a substantial package to boost the housing market in this Budget, which inevitably would involve moving away from the 'ideal' expenditure tax treatment of housing. The evidence that increased tax breaks or incentives would have a marked effect on the housing market is weak and the mechanisms for boosting it often fail to help the intended groups because they are capitalised into house prices. We do not expect the Chancellor to be persuaded by calls for major help for the housing market. But a small, cheap package, possibly including the restructuring of stamp duty, is possible, although no one should be under any illusion that this would regenerate the housing market.

Capital Gains Tax

In 1994-95, some 80,000 people paid capital gains tax, raising £0.9bn for the exchequer (*Inland Revenue Statistics 1994*). After the Conservative Party leadership election, John Major stated his desire to see capital gains tax abolished, and this has placed this tax once again on the political agenda.

CGT is levied on the real gains that arise from the disposal of assets. Only non-inflationary gains that have arisen since March 1982 are subject to capital gains tax at the individual's marginal income tax rate. The tax also has various exemptions and reliefs, of which the most used is the annual untaxed exemption of the first £6,000 capital gain.

While it is true that CGT seems out of place in a system moving ever closer to not taxing the return of savings, its residual role seems likely to persist. Although paid by very few, its complete removal would open up possibilities for tax avoidance that are best left closed. In particular, schemes that artificially transform income into capital gains would generate large benefits in a CGT-free world, as they did when the top rate of income tax was 98% and the CGT rate 30%. The combination of roll-over relief, retirement relief, indexation and the annual allowance provides substantial mitigation of tax liabilities already, and while further piecemeal reform to this already extraordinarily complex tax is possible, not least because of the weight of lobbying, the purely economic case for abolition seems weak.

Inheritance Tax

At the same time as expressing his desire to abolish capital gains tax, John Major expressed a desire to abolish inheritance tax (IHT). This tax, levied on the value of an individual's estate at death or on assets transferred in the seven years before death, is forecast to raise £1.5bn in 1995-96. There are numerous exemptions and reliefs, the most important being the allowance of the first £154,000 of an estate, transfers of assets between spouses and gifts to charities. These reliefs mean that the vast majority of estates are not subject to IHT. For those who died in 1991-92, only 6.5% of the estates

notified for probate were subject to IHT,[34] and only 58% of estates with a net value greater than £200,000 were taxed. So, with only 16,500 estates subject to IHT in 1991-92, there might be more politically attractive ways of reducing taxation.

Inheritance tax is the only major UK tax on wealth, and as such it could be seen as a useful tool of government redistributive policy, ensuring that wealth and unearned influence associated with that wealth is not concentrated amongst the same families across generations. But inheritance tax does *not* fulfil this role very effectively. The structures in IHT ensure that there is no tax incentive to spread wealth amongst recipients, and the ease of avoidance of the tax means that those paying are often simply the wealthy but badly advised.

This Chancellor faces three options for the reform of IHT short of its abolition, two of which increase the generosity of reliefs, while the third has been suggested as a means of distributing wealth more widely.

Increase the threshold for inheritance tax

Raising the threshold from £154,000 would exempt more estates altogether and is a relatively cheap option. Only £231m was collected in 1991-92 from estates valued at under £300,000, although the eventual cost of such a policy would be higher as this figure only includes IHT assessed at death.

Exempt housing from inheritance tax

One of the objections to IHT often cited is that the family home has to be sold to meet the tax demand, which would be avoided if housing were exempted. UK residential building comprises 41% of an estate's value on average, so the cost of this measure would be in the region of £600m. This reform would create huge distortions because it would give strong incentives to people to maximise their wealth held in property, just at the time when trading down might be the most appropriate action for their needs. The corollary of this is, of course, that this would ensure an inefficient use of the UK housing stock.

Move towards a donee-based tax

If inheritance were taxed on the donee (with suitable allowances) rather than the donor's estate, the inheritance tax system would give an incentive for donors to spread their lifetime assets more widely, which could have desirable redistributional consequences. This policy would not contradict a 'cascade of wealth flowing down the generations' but must be viewed as highly unlikely.

Financing Long-Term Care

One of the consequences of the 1993 community care reforms has been a shift in emphasis away from universal provision of long-term care for the elderly that is free at the point of delivery, i.e. NHS long-stay hospital beds, and towards more selective provision in independent nursing and residential care homes based on a somewhat rigorous system of means-testing. Elderly care home residents are expected to use up

[34] Inheritance tax payments as a proportion of total deaths would be significantly lower, as the figure quoted excludes estates either so small or held in such a form as to make a report to the Capital Taxes Offices unnecessary. Source: *Inland Revenue Statistics 1995*.

all their income and any assets with a total value over £8,000 (including any owner-occupied property) to pay towards the costs of care, although housing assets are left intact if a spouse remains in the property.

This dual system of state-funded long-term care, with 'health' care provided free to all at the point of delivery and 'social' care liable to co-payment, has become of central concern for those who are, or may be, forced to use their savings and their assets to pay the crippling long-term care costs that might face them in old age.

The problem: long-term issues

In recent decades, trends in birth and migration rates combined with increasing life expectancy have given rise to an ageing of the population in all western economies, with a particularly large growth in the very elderly age-group (i.e. those aged 85 and above). This trend is expected to continue into the twenty-first century and is important because of the strong positive relationship that exists between age and disability/dependency and the consequent impact on demand for long-term care services. How the relationship between age and morbidity will change in the future is very much open to debate, however; there is substantial disagreement about the way in which age-specific morbidity is changing as overall life expectancy rises. Whilst much of the evidence suggests that we are moving towards a scenario of lengthening life but worsening health, some observers would argue that disability-free life expectancy is increasing.

Another aspect of demography that is causing concern is the availability of informal carers. Many factors will affect the future supply of unpaid carers, including the size of the 'traditional' caring age-group (45-64-year-old women), marriage and divorce rates, trends in childbearing, geographic mobility of family members and, perhaps most importantly, the preferences of the elderly themselves.

These various trends will have far-reaching consequences for the future cost of state-funded long-term care services. On the basis of official population projections for the UK, Laing predicts that, if age-specific utilisation rates remain constant and in the absence of any other long-run change likely to affect the cost of care, public sector resources for long-term care of the elderly will have to increase by 136% between 1991 and 2051.[35]

Some of the factors we have highlighted above might well result in costs rising faster than this. For example, any reduction in the future availability of informal carers will increase the pressure for formal care, as too will any increase in age-specific morbidity rates. Furthermore, any growth in demand might place upward pressure on prices; rising expectations with respect to quality of care on the part of service users and their families will have a similar effect. But there are factors working to reduce the share of total costs borne by the public sector in the future, such as the growth in pensioner incomes and the expansion of owner-occupation amongst the elderly, which will increase the scope for personal contributions to care costs. Finally, and importantly, the independent long-term care market is highly competitive, which provides incentives for cost efficiency.

[35] W. Laing, *Financing Long-Term Care: The Crucial Question*, Age Concern, 1993.

Issues for the 1995 Budget

Much concern has recently been expressed about the requirement to use up any available assets to pay towards the costs of long-term care in a residential or nursing home, where previously free hospital care may have been provided. The group most severely affected by this requirement is the income-poor asset-rich single elderly, particularly frail very elderly women who have outlived their spouses. Members of this group will be required to give up their family home to pay towards the costs of care, as there will be no spouse remaining and little chance of the elderly person moving out of residential care once admitted.

This phenomenon gives rise to a series of questions about equity, apart from the inevitable two-tier system that results. First, what is fair intergenerationally? On the one hand, individuals in need of care might argue that if they are to be forced to pay for that care, an implicit intergenerational contract has been broken. Such individuals have paid taxes and social security contributions during their working lifetimes which have partly been used to support prior generations, and therefore might feel that they have a right to 'free' care. The working-age population might reasonably counter-argue that the size of the elderly population has grown in recent decades, thus increasing the burden on taxpayers (amounting to an estimated £4.3bn in 1992), and that anyway the implicit contract was by no means clear. After all, residential and nursing home care has always been means-tested (although it is true to say that the boundary between health care and nursing home care is being redefined).

A second issue concerns intragenerational equity. Those who have saved and built up assets over their lifetime might object to being charged for care when they see others who have not saved receiving free care. But it could also be argued that the better-off can afford to pay for themselves so that there are greater resources available for those genuinely in need.

Given the problems with the current system of state funding of long-term care in the UK, what are the alternatives? Should we consider modification to the current system of means-tested provision, should we go for a full-blown social insurance scheme or should there be a greater role for the private sector? The various options are considered briefly below.

Policy options for the financing of long-term care

Since 1 April 1993, all residents who enter an independent care home can apply for income support under the normal rules of entitlement to help with payment of fees. However, for those who enter a care home permanently, no help is available with the housing costs on a former home, although residential allowance is payable for a limited period.

In the event of total income, including income support, falling short of total care home fees, residents can apply to the local authority for help with costs. If a claimant meets the means and needs assessment, the local authority is under obligation to provide and fund a 'suitable' care home place for them. The supported resident is then liable to a means-tested accommodation charge payable to the authority, the rules of which are very similar to income support regulations. For example, if the elderly resident has assets greater than £8,000 (including housing equity) then the full care home costs

must be paid.[36] This amounts to a 100% marginal tax rate on any capital between £8,000 and the value of total fee payments. Furthermore, any capital that is deliberately disposed of in order to claim or increase local authority support is included in the assessment. For very wealthy individuals, for whom the total value of their assets exceeds the total costs of care, the marginal rate of tax on capital is zero, as it is for the poorest elderly who have no housing wealth on which to draw.

The rules governing the treatment of assets in the payment of local authority charges differ from normal income support rules in a number of important respects. First, property up for sale is not disregarded; and second, property occupied by a spouse or a family member can be disregarded. Finally, if an individual cannot afford to pay the charges because capital is tied up in a property, then the authority can place a legal charge on the property and collect the debt when it is sold.

Short-run options

The political objective of any short-term policy change will inevitably be to pacify 'middle England' voters voicing concern at the prospect of having to meet their own care costs. There are three probable options open to the government.

Raise the £8,000 threshold

The problem with this option is that those who lose out most obviously from the current system, i.e. the single, income-poor, asset-rich elderly, would be little affected, as the marginal rate of tax on capital would still be 100% and the value of any housing equity will tend to be far greater than £8,000 so they would still be required to sell their home. For each £1,000 increase in the capital limit, the cost to government would be £1,000 per elderly long-term care resident who moves onto income support from being previously disqualified by the capital rules.

Taper the withdrawal of state support

This could be implemented quite easily by simply extending the 'tariff income' rule that currently applies to capital between £3,000 and £8,000. Under this rule, claimants are assumed to receive £1 per week for every £250 of capital within this range (any capital above £8,000 is used in full to pay care costs, as we have seen). This tariff income is then deducted from any state funding entitlement. Regardless of the cost to the government of this option in the form of reduced user charges, the problem for the elderly is the potential for poor exchange rates of capital for income. At an interest rate of 4% on savings, £250 will accrue less than 20p per week, but if savings are above the threshold, an individual would lose £1 entitlement to state benefits.

Disregard all housing equity

Again, this would be a costly option from the government's viewpoint, but there are a number of other difficulties with such an approach apart from reduced contributions to local authority fee payments. First, investment decisions would be distorted towards housing and away from other assets; and second, people would be discouraged from 'trading down' their property for more appropriate accommodation in old age. It might be more sensible to apply a higher threshold to housing assets, but this would require complicated rules to deal with the event of sale of the property.

[36] Housing capital is not means-tested for temporary home care residents.

Long-term solutions

One, somewhat ambitious, option is for the government to make a commitment to provide universal care, free at the point of delivery, to all elderly people in need of residential or nursing home care. This would overcome many of the problems highlighted above, but would be very expensive, requiring higher taxes. Such a system would give help regardless of need, and given the great uncertainty about the costs of providing long-term care in the future, its sustainability would be doubtful; a promise by a current government to provide 'free' care at some date in the distant future hardly constitutes a credible commitment.

There can be little doubt that while a state-funded system could in principle deal with the growing demands we face, the implied increases in public spending and therefore taxation make it unlikely that any government would make such a commitment. Solutions that include a greater input from the private sector must therefore be seriously considered. The options for private sector solutions can come through either the savings or insurance route. Because a small proportion of the elderly (around 6% on current estimates) ever actually need expensive care home services, long-term care lends itself well to insurance and risk-pooling, with a large number of individuals contributing to a fund that covers the extraordinary expenses of the minority. However, full development of the private long-term care insurance market is hindered in many ways, not least by the paucity of information that exists to inform the writing of insurance contracts. We simply know very little about the likely health status 20 years after retirement of someone now aged 30, and we know even less about the likely state and cost of medical technology at that future date. This makes the task of writing insurance contracts over very long periods difficult, especially if the benefit is to come in the form of a predefined standard of care, rather than a given sum of money.

Two specific problems, common to all insurance markets, that could hinder further development of the long-term care insurance market are moral hazard and adverse selection. Moral hazard refers to the change in behaviour that insurance coverage induces. An example is the tendency for subscribers to spend up to the limit of their insurance entitlement whether or not that level of care is required, or perhaps to use formal care services whereas before they might have drawn on informal support. This problem is particularly acute in relation to long-term care, given that different elderly individuals cope with different disabilities with varying degrees of ease (e.g. subject to availability of family support, extent of other disabilities, etc.). Adverse selection arises where the insurance company cannot identify the 'bad risks' amongst potential subscribers - those who think they are likely to need long-term care are more likely to seek insurance, which will lead insurers to set high premiums, which might make insurance unattractive to 'normal' risks. In terms of long-term care insurance, however, there is an additional element to the adverse selection problem; that is, that the insurance company cannot ascertain the preferences of the consumer for formal versus informal care and this is unlikely to become more transparent in the light of future research into service utilisation.

Both of these factors increase the risk to the insurance company, which might lead to the introduction of measures to screen out the potentially most costly individuals. The result is likely to be higher premiums that would be unaffordable to many elderly people. Rising pensioner incomes should reduce the affordability problem in the future, although it is probable that under current arrangements, long-term care insurance will even then be unaffordable to the majority of elderly people.

Given these difficulties, it seems unlikely that the market for long-term care insurance will develop rapidly in the UK without some change. While taxation is unlikely to be the principal barrier to growth now, there are tax issues to address, which are closely related to the current state of the market.

At present, if insurance pay-outs for long-term care are made direct to the recipient, they are taxable, while if paid directly to a provider of care, they are not. The untaxed route seems the correct one in theory (see the section on the taxation of savings), so this restriction is unwelcome and distorting. The natural means of achieving a tax system for long-term care which is correct in principle and likely to encourage growth in the market without distortion is to allow the purchase of long-term care using funds accumulated within a tax-approved pension scheme. One provider offered such a scheme in 1991, but had the scheme ruled out by the Inland Revenue. Change here seems both likely and desirable.

If the government does choose to follow this route, it will need to consider very carefully the case for compulsion. Compulsion already exists in the case of pensions, through SERPS and the contracting-out arrangements, and very similar arguments apply in the case of long-term care.

It is worth noting that, given the great uncertainty about future costs, insurance companies may far prefer to offer contracts that pay out specified levels of money contingent on a given degree of incapacity rather than attempting to specify given standards of care. While this seems sensible, it again emphasises that, over potentially very lengthy periods, subject to great uncertainty, it may be that the provider of last resort will continue to be the state.

6 Issues in Spending

This chapter considers the prospects for public spending. The first sections set out how the government plans its spending and how public expenditure is currently divided between the different spending programmes and departments. We then assess how well the government has managed to control its spending over recent years, by examining trends in public spending since 1978-79 and looking at how spending plans have compared with out-turns since 1991. Looking towards public spending into the future, we consider the areas of possible spending cuts and areas where pressures for spending increases are likely. In particular, we focus on the private finance initiative and the effects of increased central government control of local authorities in the form of local authority caps on expenditure. We conclude with an assessment of the prospects for public spending for the forthcoming year and over the planning horizon.

6.1 The Presentation of Spending Plans

At each Budget, the government sets out an estimate of what its spending out-turn will be in the current financial year and its plans for the three financial years that follow. These plans are based on its policy aims and its expectations of inflation and growth. This section explains the different spending targets that are used, the way in which these targets are affected by predictions of future inflation and growth, and the use of unallocated reserve expenditure to introduce some flexibility into the plans.

The Targets

Overall public spending, known as general government expenditure (GGE), is broken down into two parts. The main part is the control total, which takes up about 85% of GGE and accounts for spending which is relatively invariant to the economic cycle and which the government can therefore target directly. The remainder is made up of the most cyclical elements of spending, namely cyclical social security spending and interest payments on government debt, which vary with the state of the economy. For technical reasons, there are also some accounting adjustments which are included in GGE. In framing its spending plans, the government sets targets for control total spending and its plans for GGE are based on these targets. Although privatisation proceeds are officially counted as negative expenditure, spending plans for GGE are generally expressed excluding privatisation proceeds.

For the forthcoming Budget, the government has made some changes to the measure of GGE that it intends to target, by creating a new measure of overall spending, known as GGE(X). This measure is narrower than the old target, differing from it in two ways. First, it excludes spending that has been financed from the stake money of the National Lottery (but not that which is financed from betting and gaming duties raised from the National Lottery). In 1994-95, this amounted to about £0.5bn. So long as the spending from National Lottery receipts represents additional spending that would not have taken place otherwise (as has been promised by the government), then the amount spent from lottery funds should make no difference to the path of GGE(X). However, if over time the government begins to substitute its own departments' spending for lottery-financed spending, then this will make the path of GGE(X) lower.

The second adjustment is more significant, and regards the treatment of interest payments on government debt. The government does not just pay interest on its debt; it also receives dividends and interest payments on the assets it holds. Whereas previous expenditure targets have included the full amount of interest that the government pays

out on its debt, interest payments included in GGE(X) will be net of the interest and dividends that the government receives from its assets. In 1994-95, estimated interest payments net of receipts were £3.7bn less than gross interest payments.

These adjustments make no difference to the overall amount that the government spends and borrows, but the shift towards measuring interest payments net of interest receipts does lower considerably the amount that it presents in its spending plans. This allows the Chancellor to achieve his stated objective of reducing government spending to below 40% of GDP one year earlier than planned.

Table 6.1 shows the spending plans set out in last year's Budget (revised to take into account the changes made in the mini-Budget) and what the exact same spending plans would have looked like had they been presented in terms of the new GGE(X) measure. It also includes the out-turn for GGE(X) in 1994-95, published in this June's Summer Economic Forecast. The amount that the Chancellor would have estimated for GGE(X) in 1994-95 was £4.2bn lower than the estimated out-turn of GGE excluding privatisation proceeds, or 0.5% less of estimated GDP. His plans for GGE excluding privatisation proceeds to fall to 40.75% of GDP in 1997-98 are equivalent to the plan that GGE(X) should fall to 40% of GDP in that year.

Table 6.1. The new presentation of last Budget's spending plans

Financial year	GGE excluding privatisation proceeds (£ billion)	% of GDP	GGE(X) estimated last Budget (£ billion)	% of GDP	GGE(X)[a] Summer Economic Forecast (£ billion)	% of GDP
1994-95	295.2	43.5	291	43	288.7	42.75
1995-96	304.8	42.5	299.7	41.75	299.5	41.75
1996-97	315.4	41.75	309.6	41	308.6	40.75
1997-98	324.8	40.75	319	40	-	-

[a] Summer Economic Forecast figures can differ from those presented at the Budget if government forecasts for cyclical social security, debt interest or accounting adjustments change. The underlying new control total is constant.

Source: HM Treasury Press Notice 84/95 and Summer Economic Forecast, June 1995.

Inflation, Growth and Spending Plans

In each Budget, the government frames its plans in nominal (cash) terms. It also sets out the expected path of spending over time in real terms, and as a proportion of GDP. These depend on its forecasts for inflation and growth.

The 'cash-limited' system, where expenditure is planned in nominal rather than real terms, was introduced in the early 1980s in order to exert discipline over spending departments in periods of high inflation. The intention was that if inflation were to overshoot expectations, departments would not receive extra cash to meet the higher cost of resources, and so downward pressure would be placed on real spending.

If inflation undershoots expectations (as was the case in the last financial year, 1994-95), then the system of cash limits in fact makes it harder for the real value of spending to be controlled, since allocations agreed for particular departments are worth more in real terms than expected. When this happens, it can be expected that the government will try to reduce the amount of cash that departments can spend by withholding allocation of reserve funds. The use of the reserve is discussed further below.

The overall level of public spending also depends on economic growth. This is because some areas of spending depend on the economic cycle. The most important cyclical elements of spending are cyclical social security benefits, such as unemployment benefit (to be replaced by the jobseekers' allowance in April 1996), and also the amount of interest due on the nation's debt. Because of their cyclical nature, both of these are excluded from the control total spending target, but are included in GGE. They both tend to fall when the economy grows, and rise if the economy is shrinking. For example, the government saves about £350m in social security benefits to the unemployed for every 100,000 people who move from unemployment into work. If growth turns out to be higher than expected, then it is likely that GGE will come in below cash plans, whereas if growth is slower than predicted, it will be harder for original plans to be met.

Although the government sets its plans for spending targets in cash terms, it is the real terms equivalent of these cash plans that underlie its spending policy. For example, a planned cash freeze when prices are rising implies a government policy of spending cuts. Similarly, only planned cash increases over and above inflation can be said to constitute a policy of spending growth. In the analysis that follows, it is therefore the real path of spending implied by the government's cash plans, taken together with its forecasts for inflation, that is used as the basis for assessment of spending plans and out-turns.

The government's stated objective for the path of spending over time is not expressed in cash terms, or nominal terms, but instead in terms of the share that GGE takes up in overall GDP. Its objective is that government spending should fall as a proportion of national income over time. In the last financial year (1994-95), GGE(X) took up 42.75% of GDP. This is forecast to fall to 40.75% by 1996-97. These forecasts depend not just on plans for the level of spending, but also on the expected growth of the economy. Spending policy therefore depends on both real spending growth and the real growth of GDP.

The Reserve

When the government makes its spending plans, it sets out not just how much it intends to spend overall, but also how this amount will be shared out between the different spending departments. To allow some flexibility, included in the control total is an amount known as the reserve. This is not allocated to any particular spending department, but is held in reserve for unforeseen spending needs.

In order to understand how the reserve works, and how it can be used to change the path of spending over time, consider how the plans for spending in any one year are first set out and then later revised. Plans for spending in any one financial year are first made three years in advance, and are then revised at each Budget as the year in question approaches. The original spending plan made three years in advance contains an

unallocated reserve. At each Budget that follows, the amount being held in the reserve for that year is reduced. This reduction can either be allocated to the spending departments, or shed entirely from the spending plans. In some years, the reduction has been fully used up by the different spending departments, but in others it has not been allocated, and the new plans for total spending are made correspondingly lower.

For example, the latest financial year for which we know the public spending out-turn is 1994-95. The first spending plan for 1994-95 was originally set out in the 1991 Autumn Statement, when it was planned that GGE excluding privatisation proceeds would be £296.6bn. Most of this total was allocated to individual departments or functions (e.g. debt interest). A full £12bn of it was not allocated, but instead was set aside as reserve expenditure.

The first revision of this plan was made in the Autumn Statement of 1992. The amount held in the reserve for 1994-95 was reduced by £5bn to £7bn. Although most of this £5bn reduction was shed from the control total, it was added as additional funds to cyclical social security and central government debt interest. The next revision, in the November 1993 Budget, further reduced the reserve by £3.5bn, so that only £3.5bn of the control total remained unallocated. Most of the £3.5bn reduction in the reserve was shed from the spending plans altogether.

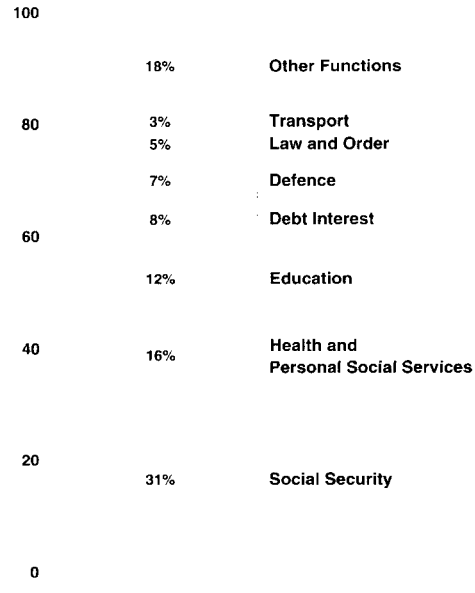
In the following Budget, in November 1994, the government announced its estimate of the out-turn for spending in 1994-95. Of the remaining £3.5bn of unallocated reserve, it was estimated that about £1.3bn would be cut from the control total, and £2.2bn would be allocated in additional funds to the departments. The actual out-turn for spending in 1994-95 was published by the Treasury this summer. It showed a considerable underspend compared with the November 1994 estimate. In fact, not £1.3bn but £2.8bn had been cut from the control total. This meant that only £0.7bn of the remaining reserve needed to be allocated to the spending departments.

If the Chancellor withholds reserve expenditure from the spending departments in one particular year, this may give him just a one-off cash saving, but it is likely that it could have a knock-on effect on the spending of the departments in future years. Withholding the reserve in one year could leave the spending plans for all other years unaffected. Alternatively, it could make it easier for the reserve to be withheld from the departments in other years. This is because, in general, the government plans how much it is willing to allocate to the departments in each year on the basis of how much they spent the year before, plus any real rise or real cut it wants to achieve. The withholding of extra money in one year may therefore feed through to future years' plans.

6.2 The Composition of Public Spending

The most important area of government spending in terms of its size is expenditure on social security. In 1994-95, social security, at an estimated £88.9bn, was planned to take up almost a third of GGE excluding privatisation proceeds. The next largest spending programmes are health and personal social services, at 16%, and education, at 12%, of the total. Figure 6.1 shows the estimated breakdown of spending in 1994-95 by government function. Using the new GGE(X) measure, the amount taken up by interest payments will be about 1 percentage point less than in this figure because these payments will now be measured net of receipts.

Figure 6.1. General government expenditure, excluding privatisation proceeds, by function (estimated 1994-95)



Source: Statistical Supplement to the Financial Statement and Budget Report 1995-96.

The amount spent by each department reveals a different breakdown from that by function, since how much a department spends does not always indicate the function that money actually goes towards. This is because some departments are responsible for spending on functions not apparent from their name. For example, the majority of education spending on schools is financed by local authorities that receive allocations for education from the Department of the Environment, and may also use funds from their own locally-raised taxes on education. Similarly, local authorities, not the Department of Health, are responsible for most spending on personal social services. Table 6.2 shows the amount allocated to each department for the financial year 1994-95, and the proportion of the total that this accounted for.

Another informative way of breaking down public expenditure is according to the economic function that the spending fulfils. Table 6.3 shows how GGE excluding privatisation proceeds in 1994-95 was estimated to be divided between nine different functions, pay (and pensions costs), current expenditure on goods and services, subsidies to producers, current and capital grants to the private sector (including social security benefits), capital spending, lending and debt interest. As can be seen from this table, current grants to the private sector make up the largest proportion of the total, at 34%. This is because included in this category are all social security benefits. Expenditure on pay makes up the next largest proportion of expenditure, accounting for almost a quarter of GGE excluding privatisation proceeds. This illustrates how sensitive government expenditure will be to pay settlements. The amount spent on new capital amounts to only 4% of the total.

Table 6.2. General government expenditure excluding privatisation proceeds, by department (estimated 1994-95)

Department	£ billion	Percentage of GGE excluding privatisation proceeds
Control total:		
Department of Social Security	70.8	24%
Department of the Environment	39.4	13%
Department of Health	31.8	11%
Ministry of Defence	22.2	7%
Scotland	14.2	5%
Department For Education	10.5	4%
Wales	6.6	2%
Northern Ireland	7.5	3%
Home Office	6.3	2%
Other departments	41.3	14%
Allowance for shortfall[a]	-1	
Control total	**249.6**	**85%**
Central government debt interest	22.1	7%
Cyclical social security	14.27	5%
Accounting adjustments	9.4	3%
GGE excluding privatisation proceeds	**295.4**	**100%**

[a] This adjustment makes the individual departments' planned allocations tally with the planned total.
Source: Statistical Supplement to the Financial Statement and Budget Report 1995-96.

One area of public spending that has attracted much attention is the amount that goes towards the running costs of government, with claims that £5bn or more could be cut from total expenditure by making 'efficiency gains', cutting down on the running costs of government. These running costs encompass the Civil Service pay bill and other administrative costs.

At present, the running costs of the central government departments (excluding the Ministry of Defence) amount to around £15bn, or about 5% of total expenditure. This is to support a central government Civil Service staff (excluding the MoD) of almost half a million full-time equivalent workers. In 1994-95, it was estimated that out of total running costs, £11.4bn would be spent on funding the Civil Service pay bill.[1]

[1] The operating costs of the Ministry of Defence are generally recorded separately from the running costs of the other departments, although the Civil Service pay bill figure quoted here includes the pay bill for 110,000 Civil Servants employed by the MoD.

Table 6.3. General government expenditure excluding privatisation proceeds, by economic function

Function	Percentage of GGE excluding privatisation proceeds
Pay	24%
Other current expenditure	20%
Subsidies	3%
Current grants	34%
Current transfers abroad	2%
Net capital expenditure	4%
Capital grants	3%
Lending	1%
Debt interest	7%
Accounting adjustments	3%
Total	100%

This is based on the out-turn for 1993-94, since the estimate for spending on pay is not available for 1994-95.
Source: Statistical Supplement to the Financial Statement and Budget Report 1995-96.

The department with the largest running costs is the Department of Social Security, reflecting its large size. In 1994-95, its running costs were estimated to come to £3.3bn, or about 4% of its total funds in 1994-95. More than half of this is to support a staff of about 88,000 Civil Servants. The other departments with large running costs bills are the Home Office and the Inland Revenue. Between these three departments, almost half of the running costs of central government (excluding the MoD) are accounted for.

6.3 The Control of Public Spending

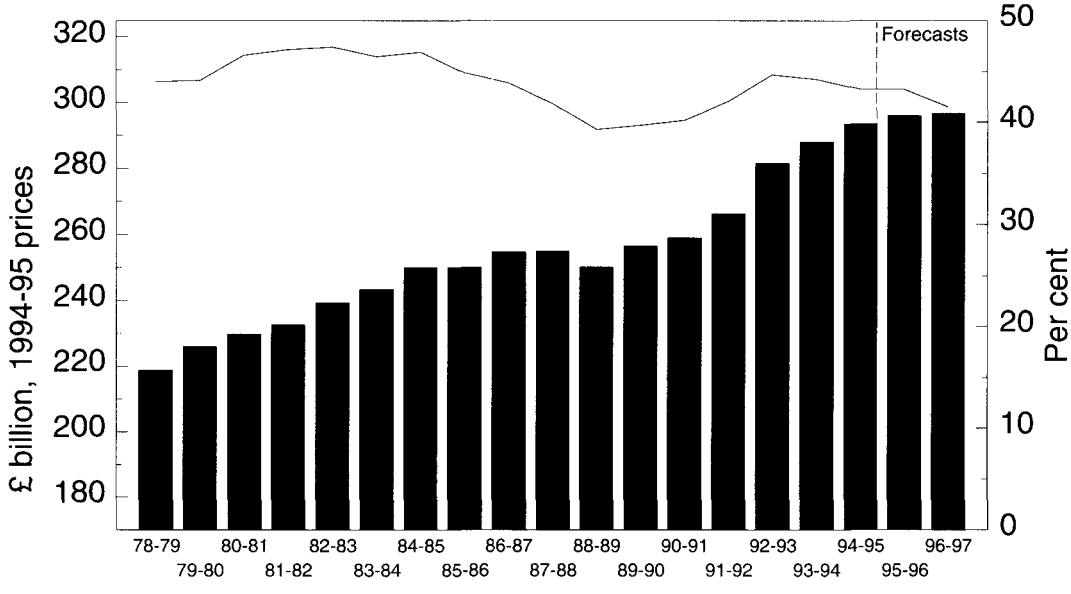
This section addresses the issue of whether the control of public spending has become tighter in recent years. In his Budget Speech last year, the Chancellor described the November 1993 Budget as 'a new milestone in the control of public spending', referring to the success of the new system of expenditure control that was introduced in 1992. This new system saw the replacement of the old public spending target, known as the planning total, with the control total, which is currently used to target the non-cyclical elements of government spending.

Two different approaches are used to assess the Chancellor's claim. The first approach is to consider the actual changes that have taken place in public spending since 1978-79, examining whether the growth in public spending has been lower in recent years. The second approach looks more closely at the government's spending plans in the Autumn Statements of 1991 and 1992, and the Budgets of November 1993 and 1994, examining (i) whether spending plans have become tighter, and (ii) whether they have been met more effectively, since the change in planning regime that took place in 1992.

Public Spending since 1978-79

This section looks at two aspects of the changes in public spending since 1978-79, by considering how spending has changed in real terms and as a proportion of GDP. Both are shown in Figure 6.2. The bars on this figure correspond to the left-hand scale, showing GGE excluding privatisation proceeds in real terms, expressed in 1994-95 prices. The line shows GGE excluding privatisation proceeds expressed as a percentage of GDP.

Figure 6.2. General government expenditure excluding privatisation proceeds, in real terms and as a proportion of GDP, 1978-79 to 1996-97



Note: The out-turn for 1994-95 and forecasts for 1995-96 and 1996-1997 are based on the Government's latest estimate, contained in the Summer Economic Forecast published in June.

Source: Financial Statement and Budget Report 1995-96 Revised Tables, and Summer Economic Forecast 1995.

The Chancellor's claim that 1993 represented a watershed in public spending control could appear to be supported by the fact that over the last two financial years, 1993-94 and 1994-95, public spending has fallen as a share of GDP. However, a falling share of public spending in GDP is not an exceptional outcome. As can be seen from Figure 6.2, from year to year, public spending as a share of GDP has both risen and fallen since 1978-79. In 1994-95, it took up about the same share of GDP as it did in 1978-79.

When GDP is growing, public expenditure may grow in real terms and still fall as a share of GDP, so long as the economy grows faster than public spending does. The turnaround in the share of spending in GDP in 1993-94 coincided almost exactly with the turnaround in GDP in early 1992. And the projection that spending should continue to fall as a share of GDP over time is based on a forecast of continuing GDP growth.

In order to assess whether expenditure is under better control, it is more informative to examine what has happened to spending in real terms. Public spending has grown in real terms in almost every year since 1978-79. In only one year has it actually fallen, 1988-89, when unemployment was falling rapidly. Table 6.4 shows the year-on-year percentage changes in GGE excluding privatisation proceeds since 1979-80. This table shows that the year when spending grew the fastest was 1992-93, when GGE excluding privatisation proceeds grew 5.7% in real terms on the previous year. This large rise in expenditure coincided with the April 1992 election, and for this reason one of the scenarios we consider when we look at the prospects for public spending over the next few years is that the government again allows large real increases in public spending in the run-up to the next election.

Table 6.4. Year-on-year changes in real general government expenditure excluding privatisation proceeds, and control total expenditure, 1979-80 to 1994-95

Year	GGE excluding privatisation proceeds	Control total
1979-80	3.4%	
1980-81	1.6%	
1981-82	1.3%	
1982-83	2.8%	
1983-84	1.7%	
1984-85	2.7%	
1985-86	0.0%	-2.5%
1986-87	1.9%	1.8%
1987-88	0.0%	3.7%
1988-89	-1.9%	-1.6%
1989-90	2.5%	4.9%
1990-91	1.0%	2.3%
1991-92	2.8%	3.4%
1992-93	5.7%	4.7%
1993-94	2.3%	1.2%
1994-95[a]	1.9%	1.0%

Deflated by GDP deflator.
[a] Based on the out-turn for 1994-95 published in the Summer Economic Forecast in June.
Source: Financial Statement and Budget Report 1995-96 Revised Tables, and Summer Economic Forecast 1995.

In 1993-94 and 1994-95, public spending has grown more slowly than it did in the election year, but compares similarly to other years' spending growth, particularly those years in the 1980s when the economy was at the same stage in the cycle, i.e. 1982-83 and 1983-84. Cyclical spending should in fact have been able to fall more quickly in the latest recovery compared with the recovery in the early 1980s, since unemployment started falling at a much earlier stage in this cycle as compared with the last one.

In order to strip out the effects of the economic cycle on public expenditure, and see what has happened to the core of spending that is relatively invariant to the cycle, Table 6.4 also shows the year-on-year changes in control total spending since 1984-85. The government did not actually target control total spending until the autumn of 1992, but the figures have been extended back to 1984-85 to be consistent with this measure.

Control total spending grew by nearly 5% in 1992-93, showing that the pre-election public spending rise was not just a result of recession, but involved a considerable discretionary spending increase over and above this. The control total has risen more slowly in real terms in 1993-94 and 1994-95 than it did in any of the four years preceding this, although we have yet to see any real cuts to compare to those that took place in 1985-86 and 1988-89.

Drawing together the evidence from this section, we have seen that public spending has fallen as a share of GDP over the last two financial years, both of which have been years of economic growth. In itself, this provides little indication that there has been a watershed in public spending control, since when the economy grows, the share of spending in GDP can be expected to fall. Real growth in GGE excluding privatisation proceeds has been lower in 1993-94 and 1994-95 than in the previous year, 1992-93. Again, this does not provide unambiguous evidence that public spending is now under more effective control than it used to be, since spending in 1992-93 was high due both to the recession and to the impending general election. As compared with spending in the same stage in the economic cycle 11 years previously, real growth has been roughly similar.

It is only when we look at control total spending, which strips out the immediate effects of recessions and booms on public spending, that it appears that real spending growth has been lower in recent years than in many other years over the 1980s and early 1990s. Clearly more time must elapse before it can be said that this represents a genuine turning-point in spending control.

Spending Plans and Out-Turns

How levels of public expenditure have changed in comparison with previous years is one aspect of the control of public spending. Another aspect is the plans that have been made for public spending, and whether these have been realised. This section compares spending plans made in 1991, 1992, 1993 and 1994, with the out-turns for public expenditure up to 1994-95.

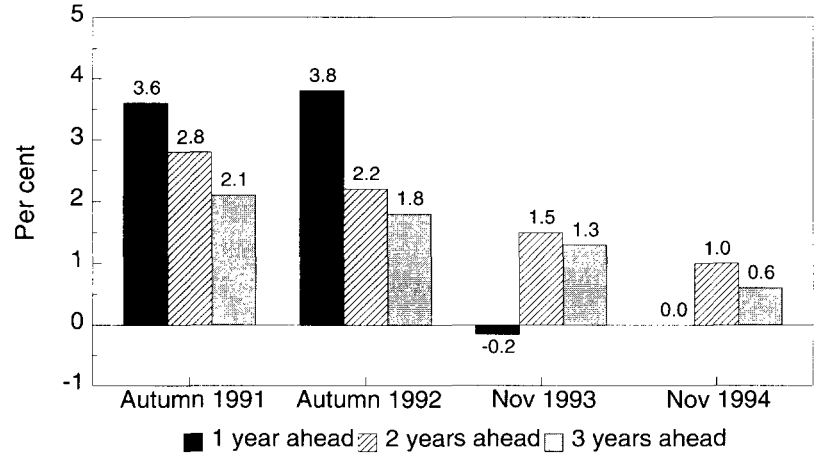
The plans that are compared are those made for GGE excluding privatisation proceeds, since the control total has only been used as a target from 1992 onwards. A further section below looks in some detail at the plans set out in the last Budget, and considers both GGE and control total spending.

The government's spending and taxation plans last year were announced in two stages: first in the main Budget in November, followed less than two weeks later by some revisions contained in the mini-Budget, provoked by the government's defeat on the imposition of the second stage of VAT on fuel. For this reason, in this section and the one that follows, we use the terms the 'last Budget' and 'November 1994' to refer to the combination of both these stages.

In examining the spending plans made in the last four planning years, we address two separate issues. The first issue concerns whether the plans have become tighter. By *tighter*, we mean that the plans that are set out are for lower real increases from year to year, or alternatively, bigger real cuts. The second issue concerns whether or not the plans that are set are being met more *effectively*. If spending meets or undershoots plans, this is taken to indicate more effective control than if plans are overshot.

Figure 6.3 shows the plans set out in 1991, 1992, 1993 and 1994 for real changes in GGE excluding privatisation proceeds for each of the three planning years ahead. As can be seen from this figure, the planned real increases set out in the November 1993 and 1994 Budgets were considerably lower than those set out in the Autumn Statements of the preceding two years.

Figure 6.3. Real plans for general government expenditure excluding privatisation proceeds
Autumn Statement 1991 to November 1994 Budget



Comparison of the plans set out in the last Budgets only with the 1991 and 1992 plans may be misleading, however. This is because the Autumn Statements of 1991 and 1992 contained plans for real spending increases that were unusually high. Figure 6.4 puts these changes into some context by showing the overall real increases in GGE excluding privatisation proceeds (compounded over the three planning years) from Autumn Statements back to 1986. This shows that the most recent planned real increases are lower than those planned in any year back to 1986.

Spending plans have indeed become tighter in recent years. But these plans mean little in terms of public expenditure control if they are not realised. Figure 6.5 shows how the real plans for GGE excluding privatisation proceeds made in each year since 1991 compare to the actual out-turn (shown by the bold line in this figure). The steeper paths for the autumn 1991 and autumn 1992 plans reflect the relatively high percentage increases planned in these years.

Figure 6.4. Real plans for general government expenditure excluding privatisation proceeds (compounded over all three planning years) Autumn Statement 1986 to November 1994 Budget

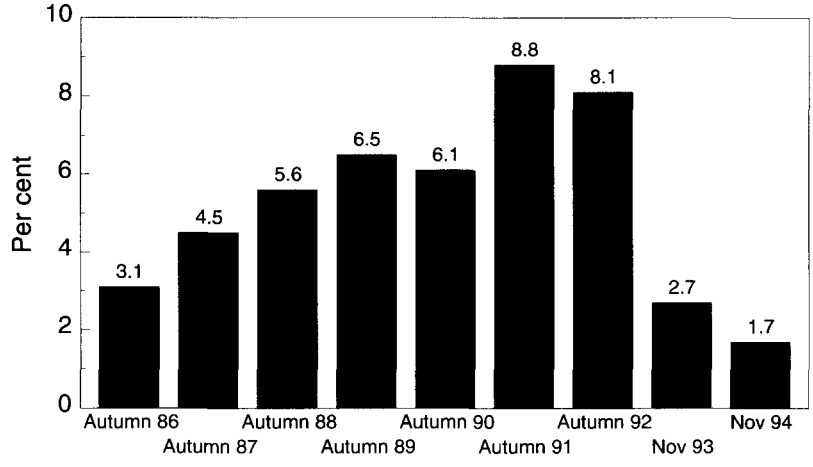
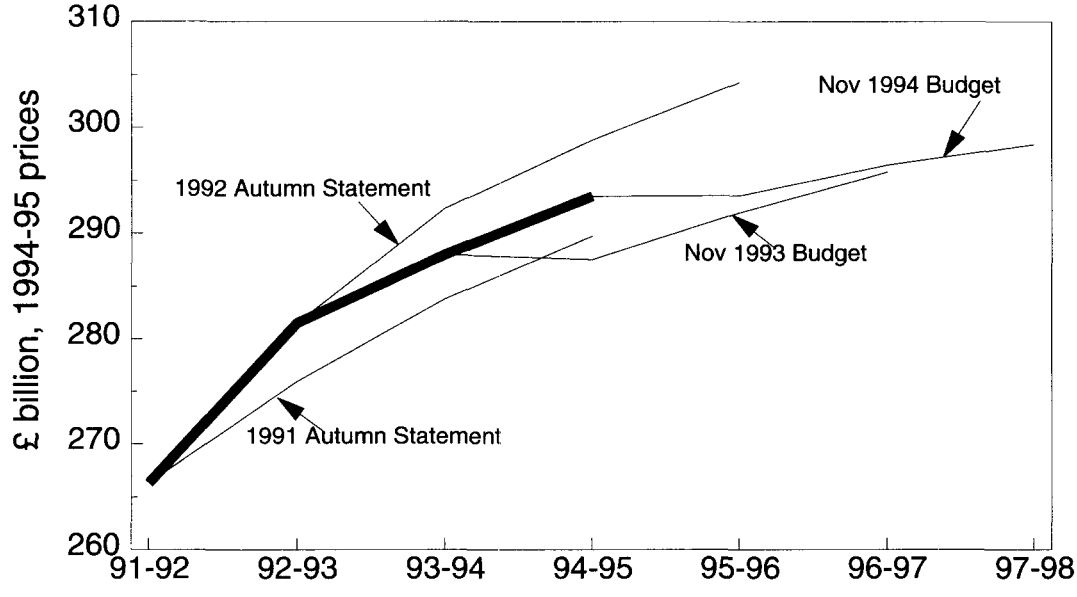


Figure 6.5. General government expenditure excluding privatisation proceeds in real terms: plans vs. out-turns Autumn Statement 1991 to November 1994 Budget



In some years, the real path of public expenditure has undershot plans, and in other years, plans have been overshot. Overall, these overspends and underspends have meant that in real terms, GGE excluding privatisation proceeds in 1994-95 (the latest year for which we know the spending out-turn), at £293.5bn, was considerably higher than was envisaged in the 1991 Autumn Statement, lower than that planned in the 1992 Autumn Statement, but again higher than the revised plans made in November 1993.

Looking at each of the planning years in more detail, it can be seen from Figure 6.5 that although large real increases in public spending were planned in the Autumn Statement of 1991, actual spending overshot this by some way. Referring back to Table 6.4, which shows the actual year-on-year growth in public spending, we see that in 1992-93, GGE excluding privatisation proceeds grew some 5.7% in real terms on the previous year, as opposed to the 3.6% that was set out in the 1991 Autumn Statement.

In the following year, 1993-94, spending grew by only 2.3% as compared with the 3.8% planned. This undershoot of real plans brought the real level of spending nearer, but still some way above, the plans set out in autumn 1991. The plans set out in the November 1993 Budget were intended to bring the real level of spending back to the autumn 1991 plans, but instead of the very small real cut in public spending of 0.2% that was planned, spending overshot in real terms, growing by 1.9%. The plans set out in last year's Budget attempt to compensate for this overshoot in real terms, bringing the real level of spending close to the levels set out in November 1993 by 1996-97. The plans made in the last Budget are examined more fully in the next section.

The Last Budget

In the November 1994 Budget, the Chancellor announced lower cash spending for the current financial year (1994-95) and each of the following financial years under revision. In so doing, he presented his new plans as a triumph for public spending control. In fact, despite these seemingly large downward revisions in nominal plans, the government fell wide of its aims to cut spending in real terms in 1994-95. Historically, public expenditure has proved very difficult to cut in real terms, and in 1994-95, a year when inflation came in considerably lower than expected and so cash allocations to departments were considerably more lax than had been intended, this goal indeed proved beyond the government's reach.

In order to make up for this, plans for real cuts in control total spending were rolled forward to the following year, 1995-96, and the planned real growth of GGE was lowered. The tighter control of spending in the years following 1994-95 that was announced in the main November Budget is not enough to restore the real level of spending to the lower levels planned in November 1993. However, spending reductions made possible from the mini-Budget revisions (savings came from the reserve) meant that the path of real public spending into the medium term remained similar to that planned in the Budget of the year before.

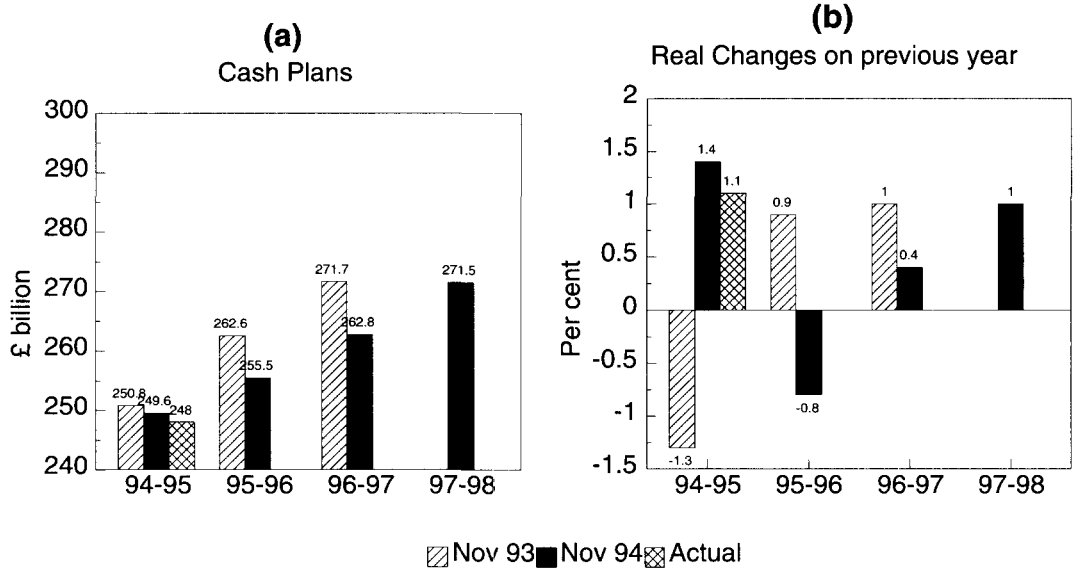
The following sections examine both the nominal and the real spending plans for the control total and GGE contained in the last Budget, comparing these with the plans made in the previous November and, where possible, with the actual out-turn in expenditure announced in the Treasury's Summer Economic Forecast published this June.

The control total

Cash plans for control total spending were revised downwards in the last Budget. Figure 6.6(a) shows how the government's estimate for control total spending in 1994-95 and its plans for spending in 1995-96 and 1996-97 compare with previous plans made in November 1993. It also shows new plans for the additional financial year, 1997-98. The estimate for spending in 1994-95 was £1.3bn below the previous November's plans, the plans for 1995-96 £7bn lower, and for 1996-97 £8.9bn lower.

The new plan to spend £271.5bn within the control total in 1997-98 was £9.5bn below the Treasury's projection (rather than plan) made the previous November. The combination of these revisions allowed the Chancellor to boast in his Budget Speech last year, 'Not 10, not 15, not 20, but another £24 billion off the control total over the next three years ...'. Had he known of his imminent defeat in Parliament over the introduction of VAT at the higher rate on domestic fuel, this figure would in fact have been more than £25bn.

Figure 6.6. The control total



Note: The November 1993 cash plans are adjusted to take into account classification changes between the two Budgets.

However, the picture of how the plans compare when they are adjusted to take inflation into account looks rather different. Figure 6.6(b) shows how the nominal plans announced translate into real plans, based on the government's own expectations of inflation in each financial year. The November 1993 plan for 1994-95 was to cut control total spending in 1994-95 by 1.3% in real terms. This was based on expected inflation, measured by the GDP deflator, of 4%. In fact, inflation came in considerably below this. By November 1994, the projection for the GDP deflator in 1994-95 had been reduced to 2%. With inflation as low as this, the estimate of control total spending in 1994-95 of £249.6bn represented a real *rise* in spending on the out-turn for 1993-94 of about 1.4%.

The provisional out-turn for expenditure and for inflation in 1994-95 was announced in the government's Summer Economic Forecast in June. This showed that, at £248bn, control total spending undershot the November 1994 estimate, but was still well above the real plans in the November 1993 Budget, growing by 1.1% in real terms on spending a year earlier.

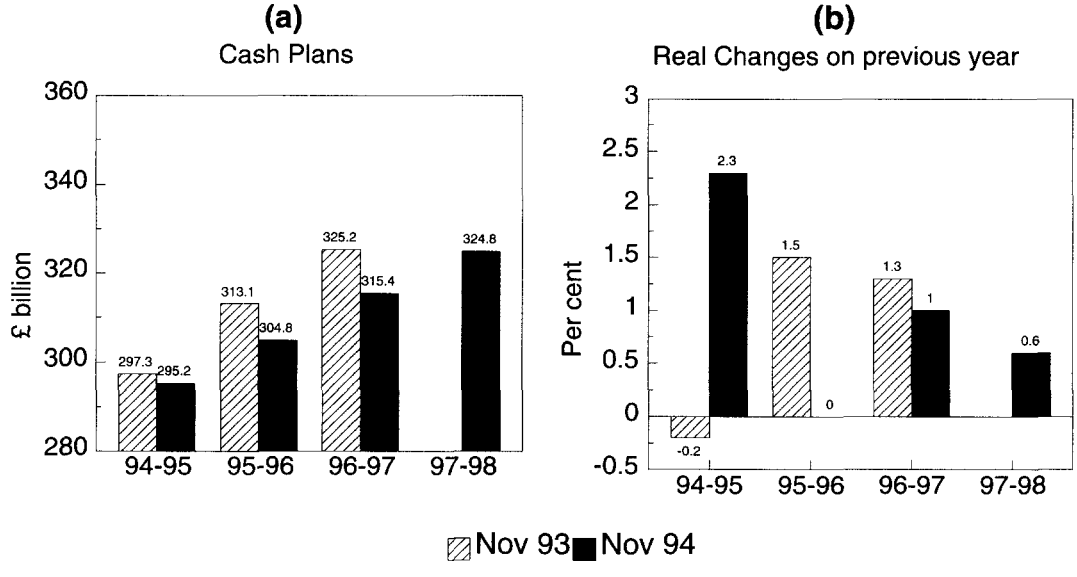
As can be seen from Figure 6.6(b), plans to cut the control total in real terms, which failed in 1994-95, were in effect pushed forward to 1995-96. Plans to spend £255.5bn in 1995-96, together with expected inflation in 1995-96 of 3.25%, represent a real fall of 0.8% on the estimated out-turn for 1994-95. Into the medium term, the plans for a 0.4% growth in the control total in 1996-97 is again lower than the plan set out in the previous Budget.

Overall, the failure to achieve cuts in real control total spending in 1994-95 has been made up for in later years' plans, so long as they are adhered to and not rolled forward once more. If the plans made in the November 1994 Budget are realised, spending will be about the same in real terms as it would have been had the November 1993 plans been carried through. This is illustrated in Figure 6.8, which compares the control total and GGE excluding privatisation proceeds in 1994-95 prices if spending follows the real changes implied by the November 1993 plans to the growth implied by the November 1994 plans.

GGE excluding privatisation proceeds

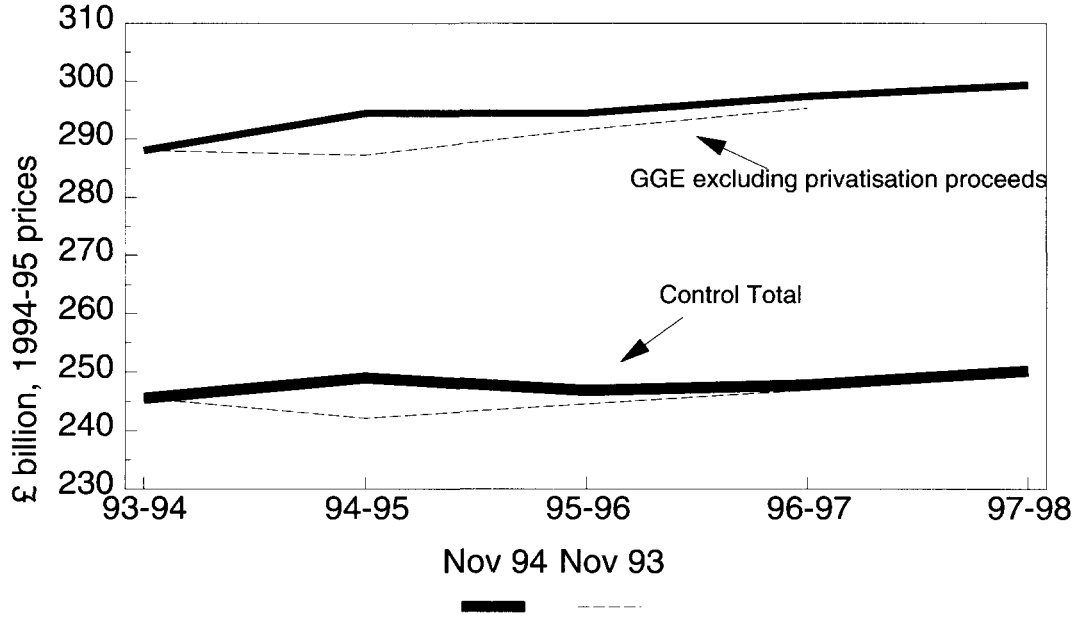
A similar story emerges from examination of the plans for GGE excluding privatisation proceeds, which are summarised in Figure 6.7. More than £2bn was shed from the government's cash estimate for GGE excluding privatisation proceeds for the financial year 1994-95, more than £8bn from its cash plans for 1995-96, and almost £10bn from its plans for 1996-97. However, due to lower inflation than had been forecast in 1993, the real path of spending implied by these plans was less favourable than is immediately apparent from the greatly reduced nominal totals. Instead of a slight real cut in GGE of 0.2%, the estimate made for GGE in 1994-95 represented a real growth of 2.3% on the out-turn for 1993-94.

Figure 6.7. GGE excluding privatisation proceeds



Considerably lower real growth in GGE excluding privatisation proceeds has been planned for the forthcoming years (zero in 1995-96), in order to push the path of GGE excluding privatisation proceeds back towards the path intended in the November 1993 Budget. This again is shown by the higher set of lines on Figure 6.8.

Figure 6.8. Spending in real terms: the November 1993 and November 1994 Budgets compared



Conclusions

It remains to be seen whether the November 1993 Budget can indeed be said to represent a watershed in the control of public expenditure, as the Chancellor has asserted. The last two Budgets have set out plans for public spending that imply considerably lower real spending growth than the plans set out in other recent spending rounds. However, it is the spending out-turns, not the plans, that are of most significance for assessing how well public spending is now under control.

Public spending grew in real terms in 1994-95, despite the plans made in the November 1993 Budget for real cuts. In fact, public spending has grown over recent years at a rate that is roughly similar to real public spending growth at a comparable stage in the economic cycle in the 1980s.

Again at the last Budget, plans were made to keep public spending under very tight control. The crucial test for the Chancellor will be whether these plans can be realised, or whether they will again be rolled forward into future years' plans. This test will be a particularly strong one, since the pressures for additional spending mount when an election draws closer.

6.4 Spending Pressures and Opportunities for Spending Cuts

There has been much public speculation in the past year about the scope for (and the desirability of) permanent reductions in the size of the public sector, and the Chancellor will be under pressure this year from many in his party to deliver sweeping cuts in public spending. At the same time, he will be under considerable pressure from many others to provide extra funds for key areas of public spending such as health and education. This section examines areas of public spending pressures and opportunities for cuts in other areas.

More or Less Public Spending?

Although there has been much talk of spending cuts over the past months, what has been offered hitherto has been little more than hand-waving about possible savings, largely from 'efficiency gains'. This section takes a closer look at the scope for possible spending cuts, drawing from the discussion in Section 6.2 about the actual composition of spending, and looking at current plans for specific areas of spending. Examination of the government's commitments in its major spending programmes also provides an insight into those areas where spending is likely to rise.

Other ways in which the government has attempted to cut down on its spending responsibilities have been by encouraging the private sector to undertake capital expenditure in its private finance initiative and by directly controlling local authority spending with a much tighter capping regime. The implications of these two issues are dealt with in Sections 6.5 and 6.6.

The reserve

One way for the Chancellor to shed money from his spending plans would be to withhold from the departments cash that is held in the reserve for unforeseen contingencies. In the last two Budgets, he has managed to lower his nominal spending plans, not simply by raiding individual departments' allocations, but also by withholding a large part of available reserve expenditure.

Withholding reserve expenditure puts downward pressure on spending in the year in which it is withheld. It can also make it easier for the reserve to be withheld in future years, since when the departments enter into negotiations for control total funds in future years, they are negotiating from a lower base than had the full reserve been allocated to them. This means that savings made in one year may be consolidated into future years' plans, shifting the path of control total spending downwards.

Withholding the reserve is not the only way of shedding cash from spending plans. Another way to do it would be to reduce the initial size of the reserve that is set aside when spending plans for a financial year are first set out three years in advance. Clawing back funds that have already been allocated to departments, or withholding funds from the reserve that have been set aside for potential allocation, is likely to be much more problematic for the Chancellor than simply reducing the buffer of extra funds that is available from the outset.

The size of the reserve that is available for future allocation when the spending plan for a new financial year is made has indeed been reduced over recent years. As we saw in Section 6.1, the Autumn Statement of 1991 set aside £12bn in the reserve for the financial year 1994-95. The Autumn Statement of 1992, by contrast, set aside only £10bn for 1995-96. The November 1993 Budget allowed slightly more than this for 1996-97 (in cash terms, but still less in real terms), and in the last Budget, a reserve of only £8.5bn was set aside for possible future allocation for spending in 1997-98.

In order to keep spending tightly controlled, it is likely that in the forthcoming Budget, a relatively small reserve will be allowed for the newest planning year, 1998-99. In theory, it is possible that the reserve could be abolished altogether, but this does not seem a feasible option for trimming down spending. This is because the reserve provides some much-needed flexibility to the government, not just for shaving down cash plans, but also for providing extra funds at short notice, either for additional programmes or because of unexpectedly high inflation. A buffer of reserve expenditure is politically very useful, since it allows the government to provide cash for extra programmes without having to raise overall spending. At each Budget, the Chancellor announces a whole host of 'extra' measures that are presented as if they were new spending, but in fact come out of the reserve.

Because of the use that has been made of withholding the reserve in order to cut down on spending plans, one of the scenarios that we consider for the path of public spending in Section 6.7 is that which would result from the withholding of reserve expenditure in each of the two financial years following the current one.

Growth

Another way in which it has been suggested that the government could year after year achieve cuts in spending would be if there were improved economic growth year after year. Even if control total spending remained constant in real terms, higher growth would reduce the need for spending on cyclical social security, and lower borrowing from higher tax revenues would reduce the path of interest payments on the government's debt. Faster growth would also mean that even if spending did not fall in real terms, so long as it did not grow as fast as the economy, the share of spending in GDP would fall over time.

But the story is not that simple. Even if improved economic performance could be guaranteed, as society becomes better off and living standards increase, so too will the demands on the public purse. Over the whole of the last century, up until the late 1970s, the share of public spending in GDP has risen as the economy has grown. Since then it has stabilised, but has yet to show a firm downward trend. Although growth ensures that the pressure on cyclical elements of spending will ease, it also ensures that public demands for other areas of spending will rise.

For example, as living standards rise, so too will the demands from the public for more and better services, particularly in education and higher health care. Not only this; we saw in Section 6.2 that about a quarter of public spending goes on pay. As earnings and living standards rise, then so too will the amount that the government must pay to its public servants, and those with whom it contracts to provide services.

What this means is that economic growth alone cannot be the answer for those seeking to find easy solutions to cutting back spending. Unless the government were to withdraw from major areas of its spending commitments, growth would imply more spending demands overall, not less.

Efficiency gains

Cutting back on the costs of running the government is another frequently suggested response to the high public expenditure bill. John Redwood's manifesto for election in the Conservative Party leadership contest last June promised to cut at least £5bn from public expenditure, without the need for cuts in health services or education, largely by making efficiency gains. How this would be done was explained in rather vague terms in his manifesto: 'The immediate task of the new administration will be to tighten up on the waste and unnecessary expenditure that is still apparent in the £303 billion budget of local and national government ... Staff levels, quangos, regulation; all must be looked at with fresh eyes'.

The government's plans for departments' running costs are already extremely tight. In the last Budget, running costs were planned to remain roughly constant in cash terms, and so fall in real terms over time. These real cuts are planned to be achieved through tight restraint on pay. For the third year running, departments are required to offset any wage increases both for their Civil Servants and for public sector workers in general, by improved efficiency and cutting down on administrative costs elsewhere. It has been made clear that extra money to fund pay settlements will not be made available from the reserve.

Staff levels in government departments are already expected to fall in order that the plans for running costs be met. Since 1978-79, over 200,000 of the central government's staff have been shed. Over the next three years, it is expected that the number of Civil Servants should fall by a further 33,000.

Given the large proportion of departments' running costs taken up by pay, it is unrealistic to suppose that there could quickly be many further significant cuts made in running costs beyond those already planned for. Indeed, it is likely to prove increasingly difficult for the government to continue to set public sector pay growth below inflation, and below the level of pay rises in the rest of the economy.

The major spending programmes

The three largest spending programmes are social security, health and education. This section looks at current plans and spending commitments, the scope for achieving spending cuts and the pressure for spending rises in these three areas.

Social security

Social security is the largest area of public spending, and one that has seen rapid real growth over the 1980s and 1990s. In the search for cuts in spending, the social security budget has come under considerable scrutiny in recent years, and the last two Budgets have contained several measures to cut back on spending commitments in some areas. Realistically, further cuts will only be achieved if the government gives up its responsibility for major areas of social security spending, such as universal pension provision, and it is unlikely that this Budget will contain any such drastic measures.

Although it is not an area where significant cuts in spending are likely to be found, nor does social security represent an area where the pressures for spending growth are uncontainable. Contrary to the wide popular perception that social security spending is spiralling out of control, projections to the year 1999-2000 show benefit expenditure falling as a proportion of GDP.

Since 1978-79, social security spending has almost doubled in real terms. Much of this growth has been caused by factors outside the government's direct control. On the whole, the generosity of benefits has remained constant in real terms while the number of people who are entitled to claim for them has risen.

For example, an ageing population has meant that there are now many more pensioners receiving the basic state pension and the government is currently spending more on them, because many have built up SERPS entitlements. There are also growing numbers amongst other groups covered by the benefit system. These include the long-term sick and disabled, and the lone-parent population. About three-quarters of lone parents claim income support, and the number of these has grown rapidly over the 1980s and 1990s. Housing-related benefits have also grown substantially. This is a result of deliberate government policy to shift from so-called 'bricks and mortar' subsidies, in the form of low rents, to subsidies paid to the individual through the benefit system. As rents are pushed up faster than the rate of inflation, government spending on housing benefits has risen very rapidly too.

In recent years, there have been several Budget measures taken to curb the growth of social security. In November 1993, invalidity benefit and unemployment benefit were both reformed in order to cut down on costs. Invalidity benefit was replaced by incapacity benefit in April 1995, with stricter rules for eligibility. Unemployment benefit, available for one year, will be replaced by the jobseekers' allowance in April 1996, which will only be claimable for six months. Claimants must then be means-tested (half a year earlier than under the system of unemployment benefit) before they may move onto income support. In the last Budget, it was housing-related benefits that came under scrutiny. Some adjustments were made to the housing benefit system in order to try to control costs, and mortgage interest relief for income support recipients was restricted. Resources have also been directed towards saving money by cracking down on benefit fraud.

Overall, these changes have enabled projections for spending on social security to be shaved down by about £4bn (in 1994-95 prices) in the financial year 2000-01. The current plan for expenditure on social security benefits (including cyclical social security) is that it should fall in real terms by 0.6% in 1995-96, grow by 1.4% in 1996-97, and then grow by about 2.1% per year in real terms from 1997-98 to 2000-01.

From this, it is clear that although the recent measures taken may have contained some of the growth, they certainly are not sufficient to achieve cuts in social security spending. For this, the government would have to withdraw from major areas of its spending commitments. Pensions are a key area where, over the longer term, less state involvement can be expected. Some measures to reduce the costs of supporting pensioners into the future are already being put into place with the current passage of the 1994 Pensions Bill through Parliament. The equalisation of the state pension age between 2010 and 2020 will mean that the government will no longer have to pay for

pensions for women between the ages of 60 and 65. This is estimated to save about £5bn (in 1994-95 prices) in 2025. Further measures set out in the Pensions Bill will cut the cost of SERPS from about £19.5bn to £10bn by 2040.

Health

The government has a manifesto commitment to increase its spending on health in real terms every year. The National Health Service is perceived to be crucial for winning votes, and at a Budget when an election year approaches, health is certainly not an area where any significant savings in spending can be made. The plans for spending on health set out in the last Budget are, if anything, unrealistically tight, and there will be strong pressures for the funds going to health to be boosted in the forthcoming Budget.

The plans made in the last Budget allowed only a 0.5% real rise in spending by the Department of Health between 1994-95 and 1995-96, a *fall* of 1.5% between 1995-96 and 1996-97, and another very small real increase of 0.3% between 1996-97 and 1997-98. The allocation for 1996-97 (together with expected inflation) appears to break the commitment made by the government to increase spending on health in real terms every year, and the allocations for the other two years, 1995-96 and 1997-98, only just manage to honour it.

It is possible that the government may continue to allow *token* real rises in spending on health: the *Financial Times* (1 September 1995) quotes an unnamed senior Treasury figure as commenting that the manifesto commitment could be honoured with just a 0.1% real rise. But there will undoubtedly be considerable political pressure to allocate some of the funds available from the reserve to health.

Education

Education is another area where the government will be under pressure to provide more funds when it makes its spending plans this Budget. The 1.1% real increase in education spending to local authority controlled schools provided for in the last Budget was not enough to cover fully the pay award of 2.7% given to teachers earlier this year, prompting fears about reductions in the number of teachers and growing class sizes. Pressures for increased education spending will be even greater in 1996-97 for three reasons: demographic trends imply an extra 1.1% pupils in schools; there is great pressure to compensate for last year's relatively small settlement; and the government will face fierce calls to fully fund the teachers' pay settlement this year.

A crucial difference between spending on health and spending on education is the ability of central government to target resources at particular policy priorities. Whilst health care is the responsibility of central government alone, responsibility for education spending, for the vast majority of schools that have not opted for grant-maintained (GM) status, depends on decisions made at both the national and local level. Thus, central government may influence, but not control, the extent to which any additional resources made available to local authorities in 1996-97 are targetted at education provision.

Central government support for education comes almost entirely in the form of an unhypothecated block grant. Grant payments are based on a centrally determined assessment of need, standard spending assessment (SSA). SSAs are built up from seven individual service blocks, the most important of which is the education SSA. By increasing the education SSA alone, central government can ensure that a higher proportion of grant would flow to those authorities that provide education services. A relatively larger education SSA could be coupled with an unchanged overall level of grant and some relaxation of the capping arrangements (allowing council tax payers to fund any additional expenditure) or a more generous overall grant settlement (so that additional educational expenditure is funded through central government revenues).[2]

An increase in the education element of SSA would not ensure higher education expenditure, as local authorities have control over the allocation of government grant. But it is likely that local authorities would choose to spend any additional resources generated by an increase in the education SSA component on the provision of education in 1996-97 for three related reasons:

- **shared policy objectives**: the local authority associations have also made education a policy priority in this year's grant negotiations;[3]
- **political considerations:** local authorities that spend below SSA on education have found themselves very vulnerable to criticism during local election campaigns;
- **competition from the GM sector**: since April 1994, a number of areas[4] have taken part in a pilot scheme in which grant-maintained schools are funded according to a common funding formula (CFF) which assumes local education spending is at SSA. Where spending is below SSA in these areas, schools would have a clear incentive to opt for GM status because their funding would then be based on SSA levels.

Both the government and local authorities will face considerable pressure to increase education spending significantly in real terms in 1996-97. To supplement these pressures on local authorities, the government is likely to increase the relative importance of the education block within the aggregate SSA total, and may even choose to set more relaxed provisional capping criteria for those authorities that provide education services.

6.5 The Private Finance Initiative

The private finance initiative (PFI) has been hailed by commentators both as a potential area for large public spending cuts and as a mechanism for large increases in social capital investment. This section asks whether the PFI is a creative approach or merely creative accounting.

[2] Since both central government grant and local authority self-financed expenditure count towards general government expenditure (GGE), these two approaches have identical implications for the PSBR.

[3] See 'Local needs, local choices, local government', August 1995.

[4] Originally, five areas took part in the scheme. This was extended to 21 areas in 1995-96.

In his speech to the CBI annual conference on 8 November 1994, the Chancellor of the Exchequer, Kenneth Clarke, said 'We need to take the private finance message to the heart of all decision making in government.... in future, the Treasury will not approve of any capital projects unless private finance options have been explored ...'.

The private finance initiative was launched in 1992, but by the end of 1994-95, only around £0.5bn of capital expenditure, a mere 2% of the total of public sector capital expenditure, was planned under the initiative.[5] However, 1995 may well be the year in which the initiative moves from being no more than 'a glint in the planner's eye'[6] to being a central plank of the finance of public sector infrastructure projects.

The success of the initiative cannot be judged by simply measuring the aggregate value of contracts that have been awarded under the scheme, however. It still remains to be seen whether the initiative will result in *additional* or more *efficient* public infrastructure investment as opposed to simply being a creative accounting device for keeping capital expenditure outside of the PSBR.

What is the Private Finance Initiative?

The PFI is a government attempt to encourage the use of private finance for what have hitherto been public investment projects. It separates the purchaser and provider of capital assets in much the same way as initiatives such as compulsory competitive tendering (CCT) and the NHS internal market have separated the purchase and finance of services with a large current expenditure component.

The PFI has resulted from a reappraisal of the conditions under which the private finance of public investment may be desirable. Until the late 1980s, the government had accepted the recommendations of a National Economic Development Council (NEDC) report, prepared by a committee chaired by Sir William Ryrie, which had considered the issue of private finance for the nationalised industries in the early 1980s. The so-called *Ryrie rules* which emerged required that private sector financed projects should 'yield benefits in terms of improved efficiency and profit from the additional investment commensurate with the cost of raising capital from financial markets'.

Under the Ryrie rules, the use of private finance would only be allowed if sufficient efficiency gains could be achieved to compensate for the higher cost of private finance. The merits of private finance proposals were compared with an alternative hypothetical publicly financed alternative. However, since many of the worthwhile projects for which public finance was more cost-effective were never carried out because of Treasury constraints, the Ryrie rules were seen as largely hostile to the use of private finance in public investment projects. For Willetts (1993),[7] 'The notorious Ryrie rules were a tease - the conditions they set for private financed projects were not intended to be met in practice'.

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[5] Financial Statement and Budget Report 1995/96.

[6] Alistair Darling, Opposition Treasury spokesman.

[7] D. Willetts, *The Opportunities for Private Funding in the NHS*, Occasional Paper, Social Market Foundation, London, 1993.

The private finance initiative emerged from a two-stage relaxation of the Ryrie rules.[8] First, in 1989, the then Chief Secretary to the Treasury, John Major, announced that comparisons with hypothetical publicly financed projects would no longer be required 'when the private sector takes full responsibility for the success or failure of the project'. Later, in 1992, Norman Lamont relaxed the rules further so that comparisons with a hypothetical publicly financed project were not required 'if the private sector is wholly responsible for a project which needs Government approval and can recoup all of its costs by charges at the point of use'.

Even in the absence of any efficiency gains from private finance, the relaxation of the Ryrie rules meant that many privately financed projects no longer have to be compared against hypothetical publicly financed projects. Since these publicly financed alternatives were often not carried out anyway due to the rationing of public finance, the relaxation of this artificial constraint on investment finance could plausibly lead to a higher level of public investment.

Why Use Private Finance rather than Public Finance for Public Infrastructure Investment?

Both the present government and the opposition Labour Party have stated a firm commitment to the principles behind the private finance initiative. However, the strength of the political support for the PFI appears to be rooted far more in its potential to increase the level of public infrastructure investment without increasing the size of the PSBR than in the realisation of any efficiency gains.

Public finance is typically cheaper than private finance, since central government, as a large-scale, low-risk borrower with highly marketable debt, generally has access to funds at a lower cost than even large private sector concerns. Hence, for the PFI to succeed, it must have at least one of two desirable welfare effects. First, private finance may generate incentives for operational efficiency, although this is largely a matter of assertion with very little empirical support.[9] In any case, efficiency gains are only likely to occur if a sufficient element of the risks inherent in a capital project can be transferred to the private sector. Second, private finance does not count towards the PSBR,[10] often taken as a key indicator of the government's performance. Therefore, the use of private finance may permit a higher level of infrastructure investment. Some desirable projects, for which the public sector would theoretically provide better value for money, may be given the go-ahead, simply because they will no longer count against the PSBR.

The long-term welfare implications of the private finance initiative can therefore be judged on these two criteria: the *value for money* criterion and the *additionality* criterion. In other words, is the use of private finance cost-effective, and will it lead to a higher level of social infrastructure investment?

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[8] See D. Heald and N. Geaughan, 'Concessions, private finance and local governance', paper presented to the ESRC Local Governance Programme Conference, Exeter, 1995.

[9] See J. Kay, 'Efficiency and private capital in the provision of infrastructure', paper presented to OECD Forum for the Future conference on 'Infrastructure policies for the 1990s', January 1993.

[10] Any public sector grants or subsidies to a privately financed project do count towards the PSBR. For example, Housing Corporation grants to Housing Associations count towards the PSBR but any Housing Association borrowing does not.

Is the Use of Private Finance Cost-Effective?

The cost of private finance is typically higher than the cost of public finance. As a result, the use of private finance can only raise economic welfare if the private sector can construct and manage assets more efficiently than the public sector. This is only likely to happen if the private sector bears the bulk of the risks associated with a capital project. Indeed, since it is not obvious why the private sector should be better able to bear risk than the public sector, efficiency gains may depend on the transfer of risk from the public sector to the private sector resulting in a reduced overall level of risk, whether because of *harder* private sector budget constraints or improved project management. The scope for transferring risk from the public sector to the private sector, and hence of making efficiency gains, differs significantly between the three types of investment project distinguished within the PFI. These are:

- *Financially free-standing projects* where the outlay can be recouped through user charges. The DBFO (Design, Build, Finance, Operate) road schemes fall into this category. Whilst self-financing schemes appear to transfer a considerable degree of project risk to the private sector, the incentive to make efficiency gains may be reduced if either the owner of the asset can exert a substantial degree of monopoly power or the asset is part of a large network. In the former case, the burden of cost-overruns could be passed onto consumers (for example, a risk of the abuse of monopoly power may arise if, as planned, the public sector ferry service is withdrawn when the toll bridge to Skye opens). In the latter case, it is possible that the government could face a considerable degree of residual risk since it is not conceivable that it would allow one part of an integrated network to fail (this may be a danger with the Channel Tunnel rail link). On the other hand, delays in the provision of a fast rail link to connect the Channel Tunnel to the national rail network may provide a major disincentive for the private sector to accept the risks associated with network connections in future projects.
- *Joint ventures* in which the public and private sectors both contribute but the private sector has overall control and bears the majority of the project risk. The London Docklands Development Corporation has recently tendered for a joint venture with the private sector for the provision of energy supplies in the Royal Docks. Again, the public sector may face a considerable degree of residual risk.
- *Leasing arrangements* in which the private sector finances and owns an asset that is then leased to the public sector. The risks associated with asset management and the uncertainties in predicting the future demand for an asset must be transferred to the private sector if leasing arrangements are to be anything other than simply creative accounting devices, as used by some local authorities during the 1980s. This may be very difficult when the asset is highly specialised or where technology advances relatively quickly. London Underground's new Northern Line rolling stock will be provided under a leasing arrangement in which the risks associated with cost-overruns and rolling stock not being available due to inadequate maintenance fall on the private sector owner of the asset. For projects with a capital value of less than £10m, the Treasury applies the rule of thumb that the private sector is deemed to bear the bulk of the risk from a project if the minimum guaranteed level of lease payments must not exceed 70% of the fair value of the assets.

At this early stage of the PFI, the difficulties associated with measuring the size of the costs and risks borne by the public and private sectors respectively make it very difficult to evaluate whether the initiative has resulted in more efficient management of infrastructure investment. But, even if subsequent evidence were to demonstrate that the use of private finance did not provide the best value for money, compared with the use of *hypothetical* public finance, it might still provide good value for money compared with the use of *actual* public finance. This would be the case if the PFI allows some projects with positive net worth to proceed that governmental concern for the level of the PSBR would otherwise have prevented. In the absence of convincing evidence that the use of private finance leads to substantial efficiency gains, the PFI may still generate welfare gains if the use of private finance generates additional capital investment.

Will the PFI Generate Additional Capital Investment?

Despite an initial slow start, the PFI now appears to be building up a significant head of steam, with approximately £2.5bn of contracts likely to be signed by the end of this year (compared with an estimated £22.2bn of publicly financed capital expenditure in 1995-96). However, in the absence of any convincing evidence that the PFI has achieved significant welfare gains through higher efficiency, the key welfare issue is not the value of capital assets created under the PFI but whether privately financed capital expenditure is a substitute or complement for public expenditure.

The story so far ...

The Chancellor forecast in his November 1994 Budget that by the end of 1995, over £5bn of public sector capital investment would have been given the go-ahead under the private finance initiative. In practice, it is likely that less than half of this total will be achieved, although the bulk of the shortfall is attributable to delays in the tendering process for a single project, the Channel Tunnel rail link, which has a contract value of roughly £2.5bn. The key privately financed contracts that have already been signed, or are likely to be signed before the end of 1995,[11] include the Docklands Light Railway Lewisham extension (£100m), a new Scottish Air Traffic Control Centre (£250m) and the purchase and leasing of new rolling stock for London Underground's Northern Line (£400m).

Apart from the Channel Tunnel rail link, another major project, the refurbishment of the West Coast main line railway (£600m) is likely to be delayed until after the privatisation of Railtrack.

As well as these large social infrastructure projects, there has been over £100m of relatively small projects within the NHS.[12] In addition, within the next few months, it is likely that contracts for the first two privately financed prisons and for four private road schemes will have been completed.

[11] Source: Private Finance Panel, 'Private finance initiative status report', January 1995.

[12] HM Treasury Press Release, November 1994.

Capital expenditure proposals already proposed suggest further amounts of capital expenditure over the next few years. For example, within the last year, the NHS has begun the procurement process for five new hospitals, with a total contract value of over £300m,[13] under the PFI.

The assets created under the PFI may result in significant welfare gains if investment now takes place that would previously not have occurred because of government concerns about the level of the PSBR. But these welfare gains will only be realised if private finance is a complement to, rather than a substitute for, the use of public finance. This is unlikely to be the case if either moving some capital expenditure outside of the PSBR leads to a new target by which government performance is judged or the Treasury attempts to claw back some of its capital allocations from those spending departments that are most successful in attracting public finance.

Government borrowing for capital expenditure counts as part of general government expenditure (GGE) and hence towards the public sector borrowing requirement (PSBR). The use of private finance reduces GGE and PSBR compared with an equivalent publicly financed project. This effect is not a 'free lunch', however. The financing and ownership of capital assets by the private sector reduces the public sector's assets and liabilities - the stock of national debt and of fixed public sector capital assets will both be permanently lowered.

The current levels of the PSBR and GGE are often taken by the media, the financial community and the public at large as key indicators of the government's fiscal competence. As a result, it is possible that concerns over the level of GGE have prevented governments from initiating capital investment projects with positive net worth. In this sense, private finance may be seen as a substitute for non-available public finance.

However, if a major motivation behind the PFI is simply to get around a particular method of presenting the public accounts, it is unlikely to be successful. GGE is simply one measure of the financial flows in the economy. The measures used in the presentation of the public accounts evolve over time. For example, within the last year, the government has begun to target a new measure of spending, GGE(X), which excludes privatisation proceeds. If individuals are concerned with the level of GGE or the PSBR because they are concerned about the relative sizes of the public and private sectors in the economy, they are likely to regard private finance and public finance of social infrastructure as largely interchangeable. In this case, rational observers would simply monitor an alternative measure of public expenditure, which included the aggregate value of projects commissioned under the PFI. In this case, unless the PFI results in substantial efficiency gains, it is unlikely to result in a significantly higher level of public infrastructure investment.

Even if the PFI generates a higher level of capital investment in the short run, the long-run impact on capital expenditure is far more difficult to predict. Despite promises that any private finance will fund *additional* investment, it may be very difficult for the Treasury to avoid the temptation to claw back some of the money privately raised from spending departments. Between the first stage of the relaxation of the Ryrie rules

[13] Chancellor's speech to the Private Finance Panel conference, January 1995.

in 1989-90 and 1997-98,[14] gross public sector capital expenditure is planned to fall by over 20% in real terms. Whilst it is difficult to determine what proportion of this figure results from privatisation and contracting-out initiatives (Heald and Geaughan, 1995),[15] such a large planned reduction in publicly financed infrastructure investment may suggest that some of the value of PFI contracts is already being clawed back.

If the PFI does not generate any additional capital expenditure, any benefits of efficiency gains on individual projects will have to be weighed against potential inefficiencies in the allocation of finance between projects. One danger with the use of private finance is that a higher proportion of infrastructure investment may be channelled into projects that can generate a future income stream than a cost-benefit approach to the composition of the overall public investment programme might suggest was optimal. A suboptimal mix of privately financed capital projects could be compensated for by a targetting of public expenditure towards other priorities as long as the PFI results in additional capital expenditure overall. If, on the other hand, the government treats public and private finance as substitutes, the resultant mix of capital projects could represent a substantial welfare loss.

Conclusions

The much heralded private finance initiative does appear to have had an impact in terms of bringing forward various aspects of major infrastructure investment. However, it is difficult to avoid drawing the conclusion that the main motivation behind the process appears to be a circumvention of the rules governing a particular definition of the PSBR, much as local authorities attempted to avoid central government's control over their expenditure during the 1980s. Unless the government is irrationally concerned with the PSBR, or the public will irrationally ignore any activity that occurs outside of the precisely defined total, both of which are possibilities worthy of serious consideration, it is difficult to understand why, in the long run, the PFI should lead to a significant increase in social infrastructure investment.

Since the value of contracts awarded under the PFI has risen significantly during 1995, it is unlikely that any major changes to the operation of the policy initiative will be announced during this year's Budget. The Chancellor may, however, use the opportunity of the Budget to announce the signing of a further tranche of contracts under the initiative. Any additional capital expenditure launched under the PFI should be considered in the context of any changes to the government's plans for publicly funded capital expenditure.

6.6 Capping Local Authority Expenditure

During 1995-96, central government has exerted an unprecedented level of control over the expenditure decisions of local authorities. In the present financial year, 288 out of the 440 (65%) general purpose local authorities in Great Britain have set their budgets equal to an expenditure 'cap' determined by central government. Aggregate

[14] Public sector capital expenditure plans (real terms, 1993-94 prices), Financial Statement and Budget Report 1995/96.

[15] D. Heald and N. Geaughan, 'Concessions, private finance and local governance', paper presented to the ESRC Local Governance Programme Conference, Exeter, 1995.

local authority expenditure is a mere 0.4% below the level permitted by the capping system, representing less than £1 in council tax for a Band D property below what local authorities are allowed to spend. Within England and Wales, of those local authorities that are responsible for the provision of the main strategic services such as education and personal social services (the London boroughs, Metropolitan districts and shire counties respectively), only 13 out of 116 (11%) local authorities set budgets that differed from the central government cap.

This development has, to a large extent, replaced local decision-making with central dictat, raising concerns over the vitality of the local democratic process and the degree of uniformity in the provision of public services across the country. At the same time, many other aspects of the local finance system that used to blur local accountability have now been modified, raising the possibility that the abolition of capping might not prevent the government from keeping a grip on public expenditure. These two developments have led to Cabinet-level discussions on the relaxation of capping. In addition, the opposition Labour Party has pledged to 'replace capping with arrangements to make council more responsible at the local level'.[16]

This year's Budget may well be the last meaningful opportunity for the present government to abolish capping before the next general election. We therefore consider whether any attempt to relax the present capping regime would reduce the ability of central government to maintain a tight grip on public expenditure, and assess the potential consequences for council tax bills.

What is Capping?

The 1984 Rates Act gave central government the powers to limit the tax rates that local authorities set in order to prevent 'excessive' increases in local expenditure. Initially, this system of 'capping' local tax rates affected a very small number of local authorities. By 1995-96, the 'capping limit' might be seen as the single most important factor affecting the local budgetary process.

The precise capping arrangements used by central government in individual years have differed in terms of their *timing* and their *coverage*. In terms of timing, until 1990-91, those authorities that central government deemed to be 'overspenders' in a given year had their budgets capped in the following year. Since then, central government has insisted that capped authorities reduce their budgets in the current financial year, thereby incurring the costs of re-billing.

In terms of coverage, there have been two distinct phases in the evolution of the present capping arrangements: *selective capping* and *universal capping*. Until 1991-92, central government only limited the tax rates of a very small number of 'high-spending' authorities each year. Even today, very few local authorities are formally capped, as Figure 6.9 shows. However, since 1991-92, central government has announced a provisional maximum expenditure limit applying to all[17] local authorities at an early stage in the local budgetary process. This allows local authorities to budget to avoid capping by effectively capping themselves. Over the last few years, a majority of local authorities have chosen to 'cap themselves' by setting their budget at the provisional

[16] 'Renewing democracy, rebuilding communities', the Labour Party.

[17] Subject to exemptions for authorities with an annual budget of less than £15m prior to 1992-93.

expenditure limit, as shown in Table 6.5. Indeed, provisional caps set by central government are now almost certainly the most important factor affecting the local budgetary process.

Figure 6.9. Number of local authorities whose expenditure was formally capped by central government, 1985-86 to 1995-96

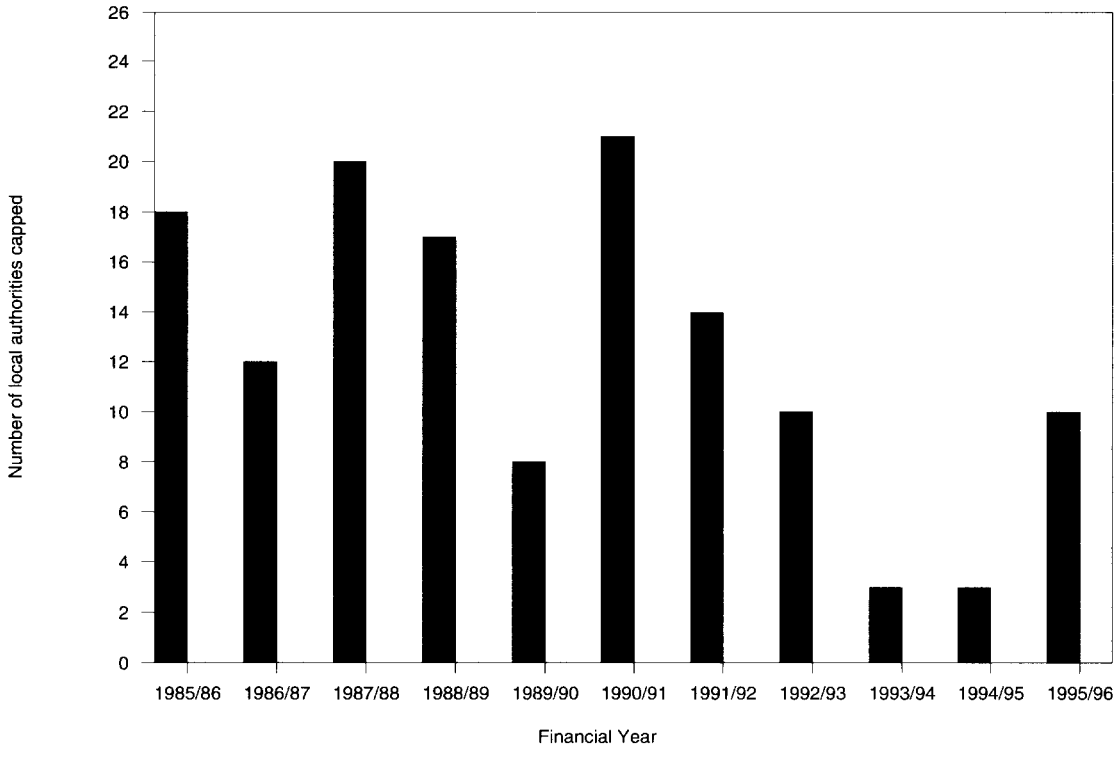


Table 6.5. Numbers of local authorities formally capped and that capped themselves in 1994-95 and 1995-96

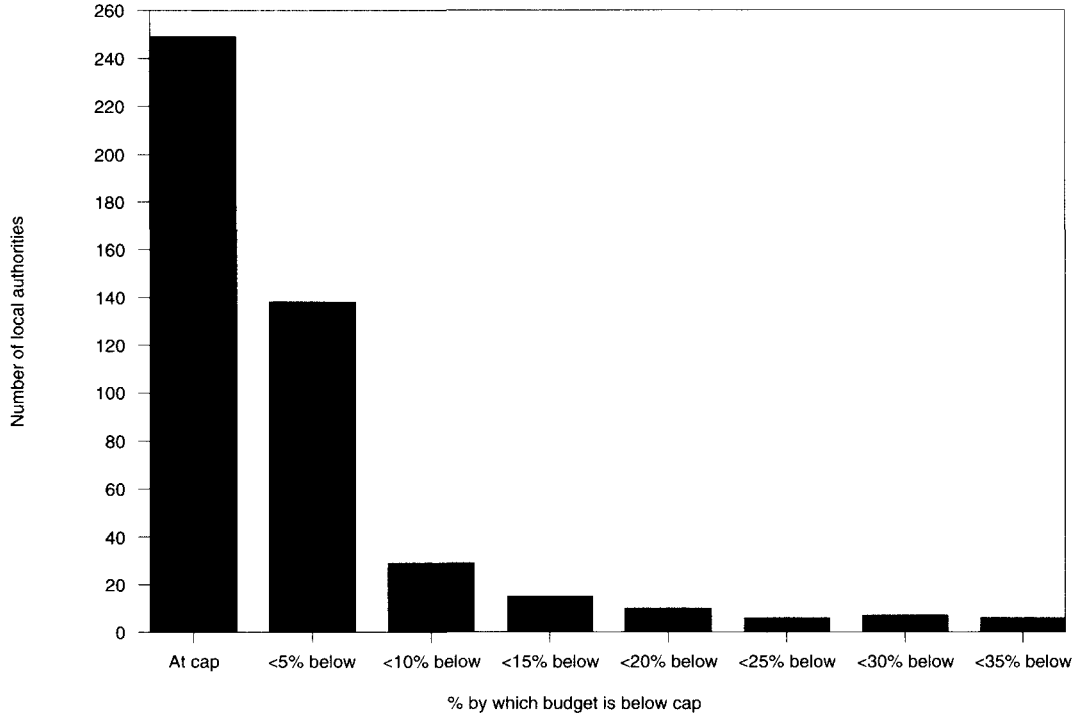
Financial year	No. of authorities formally capped	No. of authorities that capped themselves
1994-95	3	202
1995-96	10	278

Local authorities are free to set budgets that breach the provisional capping limit, although they face the expense of re-billing if they fail to convince the government of the merits of their case. However, only one of the ten authorities[18] that set their budgets above cap in 1995-96 had its cap revised.

[18] South Yorkshire fire and civil defence authority, a single service authority.

Overall, in 1995-96, local authorities, in aggregate, plan to spend only 0.4% less than the aggregate central government cap. As can be seen in Figure 6.10, the vast majority of local authorities that choose to spend below cap do not spend very much below it. This suggests that a tight financial settlement in the November 1995 Budget may cause an even larger number of local authorities to cap themselves in 1996-97.

Figure 6.10. The relationship between local authority expenditure and central government caps, 1995-96



Source: *Finance and General Statistics 1995/96* (CIPFA).

The extent to which local spending is now effectively centrally controlled is far greater than might be suggested by simply considering the number of authorities that set their budgets at cap. This 'numbers' approach gives a small rural district council with few responsibilities the same weight as a large Metropolitan authority with many responsibilities. Once we consider the pattern of local authority expenditure by class of authority, as illustrated in Table 6.6, we can see that outside of London, aggregate spending by the major service-providing authorities does not differ significantly from the central government cap. Those authorities that choose to spend less than cap are overwhelmingly shire district authorities that only account for 15% of SSA in shire areas. This suggests that the impact of capping arrangements on the provision of local services is considerably greater than a simple comparison based on the number of authorities capped would suggest.

We consider the problems that might be generated by this unprecedented degree of central control over local decision-making, and what difficulties might face a government that attempts to replace the capping regime with a more relaxed local finance system.

Table 6.6. The discrepancy between local budgets and central caps by class of authority, 1995/96

Type of local authority	Percentage by which aggregate local budgets are below central cap
Major service providers	
All London authorities	0.8%
All Metropolitan authorities	0%
English shire counties	0%
Welsh counties	0%
Minor service providers	
English shire districts	3.3%
Welsh shire districts	1.1%

Source: *Finance and General Statistics 1995/96* (CIPFA).

What Problems Might Capping Cause?

Capping has succeeded both in bringing aggregate local spending broadly in line with what central government finds acceptable and in rendering local expenditure decisions far easier for central government to predict. However, during the last year, there have been a number of demands from across the political spectrum for capping to be abolished. These demands have generally been based on the four 'side-effects' of the convergence of local budgets on centrally determined expenditure caps:

- *The local democracy effect.* Capping denies local choice. The process of competition between political parties at the local level may be damaged by the inability of rival parties credibly to promise to deliver higher spending or lower taxes during local election campaigns. If local spending levels are largely dictated by central government, local elections offer little real choice to the voters of different spending levels, tax levels and standards of local services. With none of these issues at stake, local elections may become increasingly dominated by national political events. Moreover, the electorate may perceive little incentive to bother to vote in local elections at all.
- *The welfare effect.* Local authorities are able to respond to local demands and match the provision of public services more closely to local variations in public preferences more flexibly than a uniform national system of government. This may be why many European countries have recently devolved additional powers to sub-central tiers of government. A capping system that ignores local preferences[19] risks generating a mismatch between the local services for which the local electorate vote and are willing to pay, and those that local authorities are able to provide.

[19] Not all capping systems take precedence over local preferences. In California, for example, state property tax limitation provisions may be overridden by local referendums.

- *The levelling effect.* Whilst the present capping regime has undoubtedly restricted the spending of a minority of 'overspending' local authorities, it may actually have encouraged some low-spending authorities to spend up to cap to maximise their freedom for manoeuvre in future years. A stylised example of this phenomenon is given in Box 1.
- *The grant formula effect.* Caps depend on what central government thinks a local authority needs to spend to provide an (unspecified) standard level of service, known as the standard spending assessment (SSA). SSAs, in turn, are estimated by looking at the relationship between past spending levels and various socio-economic and demographic factors. However, if spending begins simply to reflect caps, and caps reflect SSAs that depend on past spending that was capped, the local finance system could become completely circular, ceasing to produce any of the information necessary to enable central government to distribute grant fairly.

Box 1. Why the capping arrangements may encourage local authorities to spend up to cap - the levelling effect

Assume that two local authorities spend the same amount in 1993-94, 5% above SSA, as shown in Table 6.7. In 1994-95, local authorities could increase expenditure by up to 1.25% from their 1993-94 base budget as long as their 1994-95 budget would remain between 5% and 10% above SSA. Assume that authority A spends up to its cap through choice but authority B chooses not to. Under the capping arrangements that applied in 1995-96, local authorities were allowed to increase expenditure by up to 0.5%, provided this did not lead to them setting a budget that was greater than 10% above SSA.[20] This leaves authority A with a larger range of expenditure choices than authority B, a possible incentive to spend up to cap the previous year.

Table 6.7. An illustration of the incentives that the capping system may create for low-spending local authorities

Authority	SSA[a]	Spending 1993-94	Cap limit 1994-95[b]	Spending 1994-95	Cap limit 1995-96
Authority A	£100m	£105m	£106.3m	£106.3m	£106.9m
Authority B	£100m	£105m	£106.3m	£105m	£105.5m

[a] Assume the SSA is constant for all three years.
[b] Abstracts from any changes in the local authority's responsibilities.

Despite these four undesirable side-effects of the present capping system, the abolition of capping remains problematic for two reasons. First, in the long run, it is not clear whether an alternative local finance system would enable the government to keep a

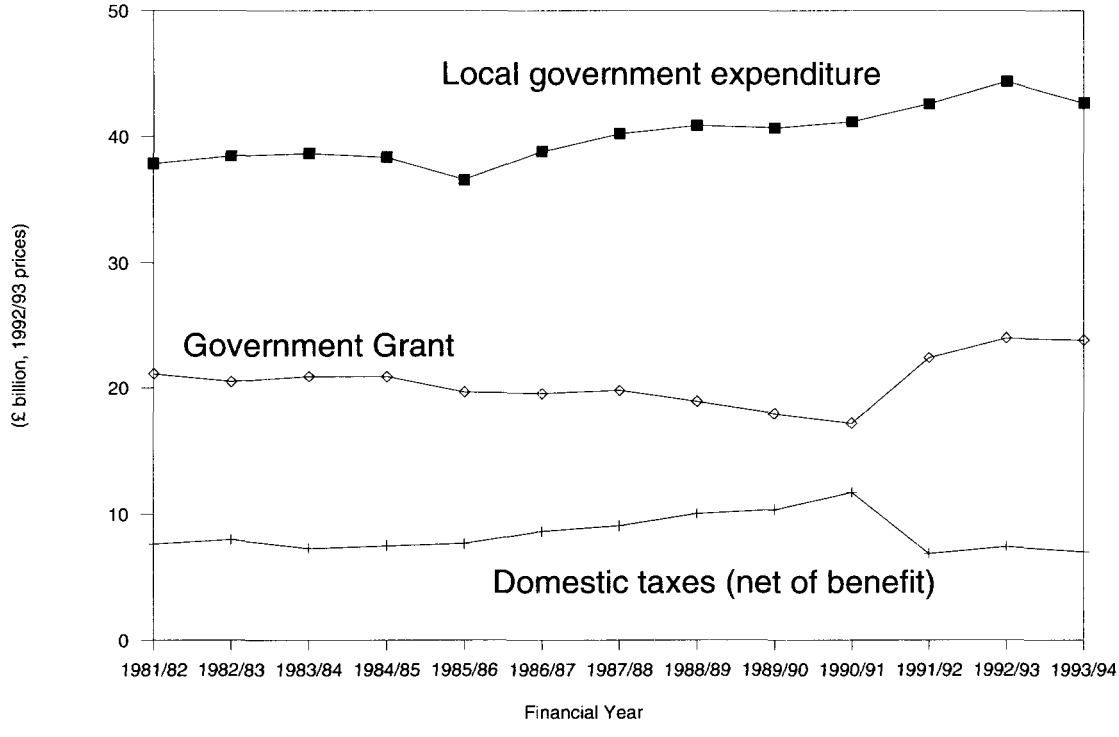
[20] Assume that neither of the authorities is an Inner London borough or a Metropolitan fire and civil defence authority.

firm grip on public expenditure.[21] Second, the government might find it difficult to manage the transition from the present capping regime to a more relaxed local finance system without incurring a high political cost. This would occur if any of the blame for any resulting increases in local taxes were attributed to central government. We address each concern in turn.

Could the Government Keep a Grip on Public Expenditure without Capping?

Capping was originally introduced because of the perceived failure of the local finance system of the 1980s to 'rein in' high-spending local authorities. In practice, the growth rate of local authority expenditure has varied considerably from year to year. In real terms, expenditure was relatively flat during the first half of the 1980s, as shown in Figure 6.11. This was followed by two periods of relatively fast expenditure growth: in the late 1980s and in the period between the introduction of the community charge and the 1992-93 general election, a period of relatively generous grant settlements.

Figure 6.11. Real local authority expenditure, real government grant and real local domestic tax revenues (net of benefit), 1981-82 to 1993-94



Source: *Local Government Financial Statistics. England No. 4.*

[21] Local authorities are not permitted to borrow to finance current expenditure, so a relaxation of capping that leads to higher local authority self-financed expenditure leads to equivalent increases in general government expenditure and tax receipts, thereby having no effect on the PSBR.

The perceived failure of the particular system of financial incentives to reduce expenditure during the 1980s has often been mistakenly interpreted as evidence that financial incentives can never successfully restrain local expenditure growth. A more warranted conclusion to draw from the experience of the 1980s would be that a badly designed and unstable system of financial incentives will fail to deliver central government objectives.

In the early 1980s, central government perceived that the central 'problem' of local authority expenditure was that local authorities did not face the correct 'tax price' (the impact on tax bills of a £1 per head increase in local expenditure) of their spending decisions. To remedy this system, central government introduced a system of financial incentives to reduce local authority expenditure by withdrawing grant from high-spending authorities to increase the tax price faced by their local electorates. These included:

- a grant-related poundage (GRP) schedule which linked grant payments to local expenditure. The system ensured that tax rates rose more rapidly for expenditure above a certain threshold.
- a system of local expenditure targets. Expenditure levels above target resulted in a 'penalty' reduction in grant. These penalties grew increasingly severe until their abolition in 1986.

By the late 1980s, it was generally believed that local authorities were not sufficiently accountable for the electoral process alone to curb 'excessive' local spending. Conventional wisdom suggested that local authorities had been successful in passing on to central government at least some of the responsibility for the tax rises that resulted from higher local spending. However, a more rational explanation of why voters may not have held their local authorities to account for their expenditure decisions would appear to have two main elements.

First, local taxpayers were caught in something of a pincer movement between higher real levels of local authority expenditure and reductions in the real value of central government grant throughout the decade, as shown in Figure 6.11. Some of the responsibility for higher local taxes clearly did lie at the door of central government.

Second, a stable and transparent system of local authority finance would make a clear link between local authority expenditure decisions and local tax rates. Various elements of the local finance system of the 1980s were not conducive to this:

- The 'rules' governing the allocation of grant to local authorities changed every year so that changes in tax rates often bore little resemblance to local expenditure decisions.
- Central government attempted to equalise fully the resources available to local authorities so authorities with low tax bases often found that higher spending still attracted additional central government grant.
- The grant penalties imposed on a small but increasing number of high-spending authorities left them with no grant at all. This left these authorities effectively immune from any further penalties for additional spending.
- Less than half of all local tax income was raised directly from households. Much of the burden of higher local spending fell on the local business community.

- Spending targets were based on expenditure in the previous year so that an authority that increased its expenditure (and hence lost grant) in the current year would be given a higher target (and hence more grant for a given level of expenditure) in the following year. This perverse dynamic incentive of penalties for overspending may have encouraged higher spending since the penalties for spending above target grew more severe each year.

Hence, far from supporting the view that local authorities failed to respond rationally to financial incentives in the 1980s, an analysis of central-local relations during the period suggests that local authorities may have responded very rationally to a badly designed system of financial incentives. Local authorities would be likely to respond just as rationally to the incentives created by a local finance system that was stable and created a clear link between additional local expenditure and higher local tax rates. In the absence of a capping regime, there are reasons for supposing that the present local finance system could succeed in encouraging local authorities to exercise considerable restraint in their budgetary decisions:

- The 'nationalisation' of business rates means that the full burden of any additional local expenditure falls solely on households.
- The present grant system ensures that the full burden of any increases in local expenditure falls entirely on local taxpayers, not on central government. An extra £1 per head of expenditure increases local council tax bills by £1 per head.
- Whilst, on average, the council tax only finances £1 in every £4.50 of discretionary local authority expenditure, it finances £1 of every £1 of additional expenditure. This means that a 1% increase in total local spending raises council tax bills by 4.5% on average, and by more in those areas with high assessed needs and low property prices. Table 6.8 illustrates the range of gearing ratios for each class of English local authority. Box 2 explains how the gearing ratios used in these comparisons were calculated.

Table 6.8. Range of gearing ratios for English and Welsh local authorities

Class of authority	Mean gearing ratio	Standard deviation of gearing ratios	Lowest gearing ratio	Highest gearing ratio
Inner London boroughs	6.5	1.9	3.5	10.7
Outer London boroughs	4.4	1.3	2.6	8.5
Metropolitan districts	5.5	0.9	3.6	7.9
Shire counties	4.0	0.6	2.8	5.7
Shire districts	3.6	0.9	2.2	7.5
All authorities	4.5	2.3	2.2	10.7

Gearing ratios tend to be higher for those authorities with high assessed needs (SSAs) or small tax bases. Since spending is concentrated amongst those authorities with high spending needs, the majority of local authorities, especially in shire areas, have gearing

Box 2. The determination of local authority gearing ratios

Gearing ratios measure the percentage increase in local tax bills that will result from a 1% increase in discretionary local authority expenditure. Since this will vary with the size of discretionary local expenditure,[22] we compare all authorities at SSA. Thus, gearing ratios are given by the formula $\frac{100}{x}$ where x is the percentage of the authority's SSA that would be funded if the council tax for standard spending (CTSS) were charged across the authority's tax base.

It is possible to generate far larger gearing ratios than those given in Table 6.8 if one takes alternative measures of local authority expenditure. However, alternative spending measures include many items of expenditure over which local authorities exercise practically no discretion, and hence lead to overestimates of the true size of gearing ratios.

The functions of local authorities can usefully be split between a *choice* component (local authorities determine spending priorities according to local preferences) and an *agency* component (local authorities carry out functions on behalf of central government).

Whilst many local services such as education contain a balance of choice and agency elements, some local services such as the administration of housing benefit, council tax benefit and mandatory student awards are a purely agency function. Expenditure on such services is not included within SSA and is funded exclusively through specific grants, having no impact on local tax bills.

ratios far lower than aggregated figures suggest. For all authorities, this 'gearing' effect of expenditure changes to tax changes is likely to exert a strong moderating influence on local authority expenditure plans, even in the absence of capping.

All in all, while a relaxation of capping would reduce the ease with which central government can predict and limit aggregate local authority expenditure, there are good reasons to suppose that other elements of the present local finance system would still allow central government considerable control over aggregate local expenditure.

Problems in the Transition from a Capping Regime

Whilst there may be several good reasons for believing that, in the long run, existing elements of the local finance system could restrain local spending to acceptable levels without the 'side-effects' of the capping system, it is far more difficult to see how central government can withdraw from the present highly restrictive arrangements. There are significant dangers for central government in relaxing the current strict capping regime,

[22] Higher levels of spending above SSA actually reduce an authority's gearing ratio, since the percentage local tax contribution rises.

if, as seems likely, central government continues to be concerned to avoid significant increases in local spending and taxation. These issues are of particular importance at the present stage of the electoral cycle.

- *The 'information' problem.* Universal capping has left central government with very little idea of what each local authority would ideally choose to spend. Some authorities would probably prefer to spend far more than at present, but some could conceivably choose to spend a little less, since the present system may have encouraged some local authorities to spend 'up to cap' to increase their room for manoeuvre in future years. This makes it extremely difficult to gauge exactly how restrictive the present capping arrangements are. As a result, the abolition of capping is an inherently risky strategy since the consequences for council tax bills are difficult to predict.
- *The 'catch-up' problem.* Given that capping has restricted the spending of some local authorities repeatedly for a number of years, any relaxation of control could lead to a one-off 'catch up' in aggregate local authority expenditure. The resultant one-off 'catch up' in council tax rates could lead to sharp rises in local tax rates, for which central government might not be able to avoid all of the blame.
- *The 'credibility' problem.* If aggregate local spending rises excessively after the abolition of capping, central government may feel the need to reimpose some form of restriction. Anticipating this, local authorities might be tempted to increase spending in the first year of abolition by more than they would have done if they thought the abolition of capping was permanent. They might attempt to 'make hay whilst the sun shines' in anticipation of a reintroduction of direct controls at a later date. This added upward boost to spending would make the reimposition of capping all the more likely. The problem would not occur if central government could credibly commit itself not to reintroduce capping at a later date. However, given central government's traditional interest in overall levels of public expenditure, one example of which is the target of reducing GGE(X) below 40% of GDP, such a commitment is unlikely to be seen as credible.

A consideration of these issues suggests that the long-run success of any move to a less restrictive local finance regime might depend critically on the design of the transition period. Any 'big bang' relaxation of controls runs a significant risk of necessitating a return to some form of more direct control in the future. A more gradual relaxation of capping limits might not overcome the information problem. Other strategies, such as annual elections, local budgetary referendums or a 'trust council' approach to relaxing controls over a minority of local authorities, would also be likely to generate significant problems.

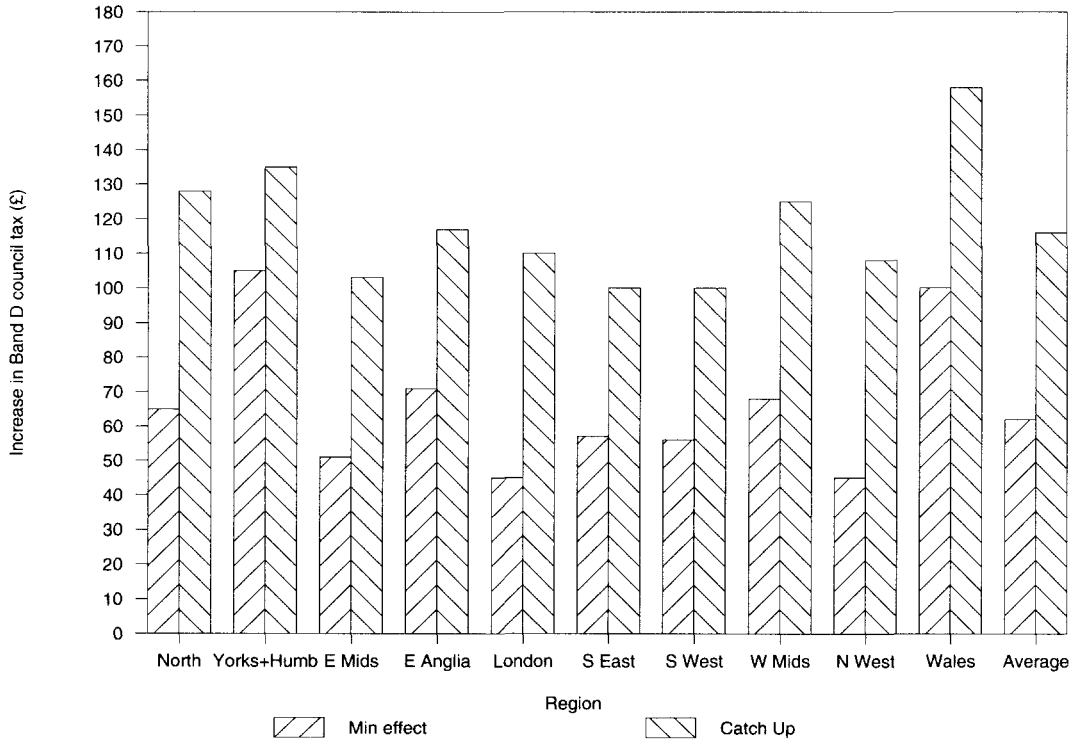
The Impact of the Abolition of Capping on Council Tax Bills

Whilst, for the reasons given above, it would be very difficult to forecast how local authorities would react in response to any relaxation of capping controls, we estimate the impact on council tax bills of two conceivable alternative scenarios: a *minimum-effect* scenario and a *catch-up* scenario.

Minimum-effect scenario. Local authorities do not increase expenditure in response to the abolition of capping but maintain reserves at present levels.

Over the last two financial years, local authorities have planned to make significant reductions in their reserves (which do not come within the definition of expenditure that is capped) to finance a level of expenditure that is higher than that implied by the capping system. In 1994-95, reserves are estimated to have fallen by £933m, and they are planned to fall by a further £1,056m in 1995-96.[23] Clearly, this situation cannot go on for ever. If this additional expenditure were funded, as it has to be in the long run, by higher council tax rates, it would result in council tax bills rising from an average bill on a Band D property of £598 in 1995-96 to £660, a rise of over 10%. The distribution of the increase in Band D council tax rates by region is shown in Figure 6.12. Tax increases are largest in those regions where local authorities are making significant reductions in their reserves this year, and where there is a relatively small local tax base.

Figure 6.12. The possible impact of the abolition of capping on average Band D council tax rates



[23] Source: *Finance and General Statistics 1995/96* (CIPFA).

> ***Catch-up scenario***. Local authorities maintain reserves at present levels and a 2% real terms increase in local expenditure.

An alternative scenario could be that local authorities choose to maintain their reserves at current levels, and also use the opportunity afforded by the relaxation of central government controls to make a real increase of 2% in budgeted expenditure. Under this *catch-up* scenario, the council tax bill for a Band D property would rise from an average of £598 in 1995-96 to an average of £713 (in 1995-96 prices), an increase of over 19% in real terms. Figure 6.12 illustrates the regional pattern of increases in Band D council tax bills under this scenario. Tax rises will be highest in those regions in which local authorities already set relatively large budgets and are making significant cuts to their reserves this year.

Policy Implications

The present system of extensive central control over local authority expenditure decisions may blur local accountability, damage the local democratic process and reduce the ability of local authorities to respond to variations in the preferences of their electorates. Whilst the abolition of the present capping regime may be a sensible strategy in the long run, the risks involved in the transition process would be considerable. Since central government would be unlikely to avoid all of the blame from any rises in council tax bills that would result from abolishing capping, it would be a brave central government that took such a gamble within 18 months of a general election.

6.7 The Prospects for Public Spending

In the forthcoming Budget, the Chancellor will set out an estimate of public spending in the current year, 1995-96, his revised plans for 1996-97 and 1997-98, and new plans for an additional financial year, 1998-99. In this section, we set out our own estimates for the path of spending over these years, considering three different scenarios for public spending into the medium term. A fuller discussion of our spending estimates is to be found in Appendix 1, which explains the methods used in this Green Budget to forecast the PSBR.

Public Spending in 1995-96

Our assessment of public spending in the current year, 1995-96, rests on two separate issues. The first is whether the departments that have underspent their cash allocations in the last financial year will be allowed to carry over these underspends into 1995-96, or whether the cash savings that have been made will be consolidated. The second issue concerns whether it is realistic to suppose that the real plans that have been made for spending in the current year will be kept to, in particular in the light of new forecasts for inflation. These issues are discussed in turn.

In the last Budget, the Chancellor planned that the control total should fall in real terms by 0.8% between 1994-95 and 1995-96. The base upon which he planned this real cut was his estimate for control total spending in 1994-95 of £249.6bn. In fact, the out-turn for control total spending in 1994-95 was £248bn, representing an underspend of £1.6bn compared with the Budget estimate made the previous November. These savings were a result of cash underspends across almost all departments.

With regard to this underspend, the Chancellor faces two options when he prepares his estimate for spending in the current financial year. Either he could continue to base the planned 0.8% real cut on the amount he thought the departments would spend in 1994-95, in effect allowing the underspend to be carried over into the current financial year, or he could consolidate the underspend, by insisting that the 0.8% real cut should be on the actual amount spent in the previous year.

If he insists that the 0.8% cut must be on actual spending, then it reduces the chances of seeing significant underspends in the future. This is because departments that have underspent in 1994-95 will see their cash allocations lowered in each future year as a result. In effect, they will be penalised for spending below the Budget estimate of what their needs would be. On the other hand, with tax revenues coming in lower than expected, there will be considerable pressure on the government to keep spending very tight this year. Lower cash spending in 1994-95 (compared with the estimate) provides an opportunity for the government to achieve lower nominal spending not just in 1994-95, but year after year.

The Chancellor's hands are already tied in terms of underspends from departments' running costs: it has been promised that all underspends on running costs (approximately £0.5bn in 1994-95) may be carried forward into the following year. Rather than making *ad hoc* assumptions about exactly how much of the remainder will be consolidated, and how much carried over, we assume that the full amount of the underspend in the last financial year is allowed to be carried over.

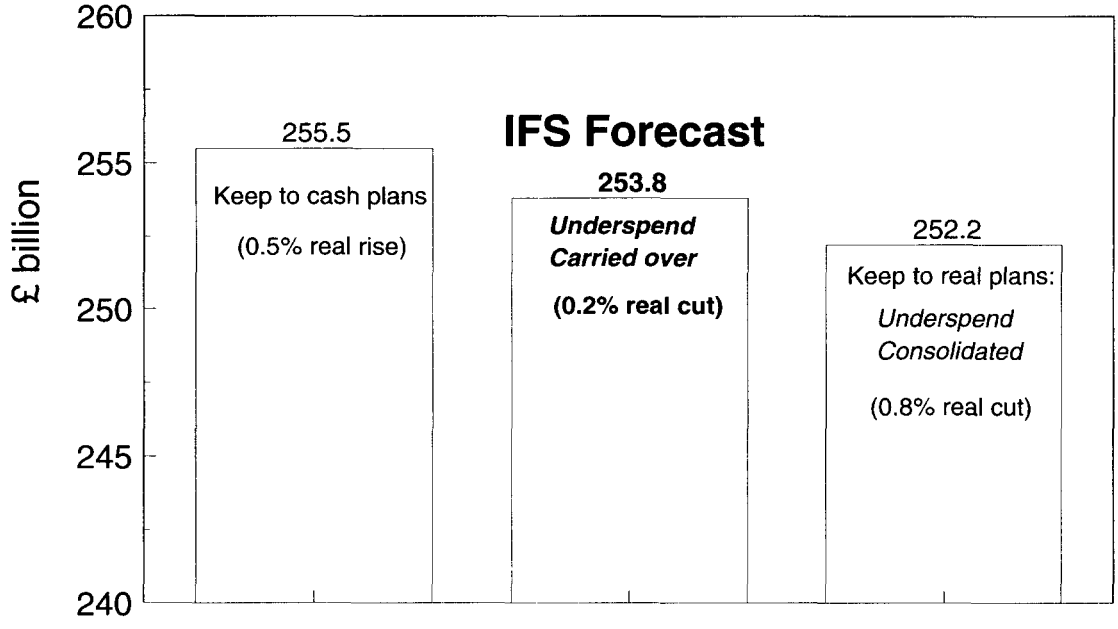
We make this assumption in the light of the fact that the plan to cut control total spending by 0.8% in 1995-96 is very ambitious. Section 6.3 showed that because of lower inflation than had been forecast, the plan (made in November 1993) to cut the control total in real terms in 1994-95 was not achieved, but instead was rolled forward into this year's plans. This year, inflation as measured by the GDP deflator is again expected to come in below initial forecasts. In last year's Budget, the GDP deflator in 1995-96 was forecast to be 3.25%. The Treasury's Summer Economic Forecast revised this downwards to 3%, whilst the Goldman Sachs baseline forecast for the GDP deflator in 1995-96 is 2.5%.

What this means is that the current cash plans for spending in 1995-96 imply higher real growth on the 1994-95 out-turn, not only because of the £1.6bn underspend in 1994-95, but also because of lower-than-forecast inflation. If the Chancellor wanted to keep to his plan to cut the control total by 0.8% in 1995-96, and assuming a GDP deflator of 2.5% in 1995-96 (Goldman Sachs forecast), and he insisted that the full underspend is consolidated, he would have to find a way to shed £3.3bn from the £255.5bn plan set out last November. This is more than the £3bn reserve component still available to him.

In order to make a real cut of 0.8% but allowing the full underspend to be carried over, as we assume, he would only have to find £1.7bn savings from the control total, which is well within the reserve amount available to him. The out-turn for the control total in 1995-96 in this case would be £253.8bn, as assumed in our PSBR forecast for 1995-96. This represents a real cut of 0.2% on the actual out-turn for 1994-95, rather than the 0.8% planned.

This is shown in Figure 6.13, which compares the control total in 1995-96 on three bases: if cash plans are realised; if the underspend is not consolidated and the 0.8% real cut is on the planned rather than the actual out-turn for 1994-95 (this allows some slippage in the real plans); and if real plans are kept to and the underspend consolidated. All assume a GDP deflator of 2.5% in 1995-96.

Figure 6.13. The control total in 1995-96



Public Spending in 1996-97, 1997-98 and 1998-99

For the prospects into the medium term, we consider the levels of public spending under three different scenarios. Taking our estimate for control total spending in 1995-96 as the base, the first scenario is that the real path of spending then follows the real growth in spending planned in the last Budget. For control total spending, this implies a real growth of 0.4% in 1996-97, and 1% real growth each year thereafter.

The second scenario is that spending is controlled more tightly than planned last November. For example, if real cuts in control total spending are not achieved as planned in 1995-96, then the Chancellor may again try to roll over his plans for real cuts into 1996-97 or thereafter. This scenario implies the government will achieve the real path outlined in the November 1994 Budget. Specifically, we make estimates for spending under the assumption that every year the reserve component of the control total is reduced, and that these reductions are *not* allocated to any departments at all, but instead are shed from the spending plans altogether.

The third scenario we consider is one in which the Chancellor makes plans to sweeten the electorate in the years approaching a general election, by raising expenditure in real terms by 1.5% in 1996-97 and 2% in 1997-98. This follows the precedent set by the spending plans made in the 1991 Autumn Statement in the run-up to the April 1992 election. Our real spending growth estimate for this scenario shows that we do not expect he will plan for spending rises as large as those planned in 1991.

The spending estimates under these three scenarios and the corresponding PSBR paths are set out in Appendix 1.

Appendix 1: Forecasting the PSBR

This appendix outlines the methods we use to forecast the state of the public finances for 1995-96. We outline two alternative methods for forecasting tax receipts, and describe a number of methodological changes we have made since last year's Green Budget. We also consider the likely path of the PSBR over the medium term, under a number of alternative assumptions about macroeconomic conditions and public expenditure policies. We begin by evaluating the accuracy of the forecasts made in last year's Green Budget.

A1.1 Sources of Forecast Errors in Last Year's Green Budget

We have made a number of revisions to our methodology in the light of the forecast errors contained in last year's Green Budget. Table A1.1 compares the tax and expenditure forecasts contained in last year's Green Budget with those of the Treasury in the FSBR (and after the 1994 mini-Budget) and with the provisional out-turn figures for 1994-95 (presented in the 1995 Summer Economic Forecast (SEF)).

Table A1.1. Breakdown of forecast errors for 1994-95

	IFS Green Budget October 1994	FSBR November 1994[a]	Post-Budget Report November 1994	Summer Economic Forecast June 1995
General government receipts	254.4	252.5	252.6	249.4
General government expenditure[b]	287.5	288.9	288.9	287.1
PSBR	31.9	34.4	34.3	35.3

[a] These figures come from the FSBR published on Budget Day and do not take into account the impact of the emergency Budget that followed the House of Commons vote on increasing the rate of VAT applicable to domestic fuel from 8% to 15%.
[b] Including privatisation proceeds.

Note: The PSBR figure does not represent the difference between receipts and expenditures because the net public corporation borrowing requirement must be added to achieve this figure.

Sources: HM Treasury, Financial Statement and Budget Report (1995-96); HM Treasury, Summer Economic Forecast; IFS, *Options for 1995: The Green Budget.*

Last year's Green Budget underestimated the PSBR for 1994-95 by some £3.4bn, a larger error than that found in the November 1994 Budget. The shortfall derives almost completely from forecasting tax revenues, since the out-turn figure for expenditure in 1994-95 was very close to the figure predicted in last year's Green Budget.

As Table A1.1 illustrates, our expenditure forecasts were very close to the out-turn figure, differing by only £0.4bn. Last year, we argued that if the Chancellor stuck to the planned real change in expenditure, he would be able to achieve reductions in nominal spending compared with previous plans, since actual inflation was lower than had been forecast when the nominal expenditure plans were originally drawn up. As a result, the out-turn figure for the nominal control total was £2.8bn lower than had

been planned in November 1993 (£1.6bn lower than forecast in November 1994). However, this reduction in nominal expenditure, compared with plans, represents a higher-than-planned real-terms increase in expenditure in 1994-95 (see Chapter 6 on spending).

On the receipts side, our predictions were less successful, differing from out-turn by some £5bn. The accuracy of our predictions differed significantly between the different types of taxes. Our forecast of Inland Revenue yields differed from out-turn by only £0.5bn (0.6% of Inland Revenue tax receipts). However, this was largely the result of a £2bn overprediction of income tax receipts being counterbalanced by a £1.3bn underprediction of corporation tax yields.

At the time of last year's Green Budget, we assumed that tax revenues were accelerating. As a result, we chose to take the Summer Economic Forecast's prediction of income tax receipts. As it turns out, the information on current receipts available by the end of August 1994 was an almost perfect predictor of the out-turn tax yield for income tax, as shown in Table A1.2.

Table A1.2. Forecast errors for general government receipts, 1994-95

(£ billion)	Summer Economic Forecast 1994	IFS current receipts model	IFS modelled receipts	IFS judgemental forecast	Treasury FSBR
Income tax	2	0.1	1.4	**2**	1.2
Corporation tax	-0.5	-3.7	-1.6	**-1.3**	0.8
VAT	1.6	2	0.3	**1.6**	1.5
Total Inland Revenue	1.4	-4.5	-0.6	**0.5**	1.9
Total Customs and Excise	1.7	2.6	1.2	**2.3**	1.2
General government receipts	5.1	-2.9	2.2	**5.1**	3.3

It would have been far more difficult to have predicted corporation tax yields accurately at the time of last year's Green Budget since both the current receipts information available by August 1994 and the IFS model used last year (described below) underpredicted tax yields. In terms of the current receipts model, this can be explained by a fall in the percentage of annual tax receipts collected by August from 29% in 1993-94 to 23% in 1994-95. Moreover, the bulk of receipts by August were in advance corporation tax rather than mainstream corporation tax, considerably complicating the forecasting process.

Our forecast errors were larger for Customs and Excise taxes, where we overpredicted by over £2bn (1.9% of Customs and Excise receipts). This error was spread across a number of taxes.

The yield from value added tax, at £41.8bn[1] estimated out-turn, was £1.6bn lower than our forecast. However, as it turns out, our modelled results, using the techniques described below, would have led to an error of only £0.3bn on value added tax, less than 20% of our actual forecast error, as shown in Table A1.2. We, together with the Treasury, appear to have been misled by the apparent acceleration of receipts that occurred earlier on in the year. The smaller error in our modelled receipts approach, which was based on a relatively accurate forecast of the growth rate of consumers' expenditure, appears to be due to a change in the composition of consumers' expenditure between VATable and non-VATable good. As a result, we have modified the tax elasticities used in our modelled receipts approach for this year, as described below.

The impact of the introduction of the National Lottery on VAT revenues has often been overstated. It is certainly true that since the National Lottery is not subject to VAT (with a 17.5% standard rate) but is subject to a 12% betting and gaming levy, any switch of expenditure from VATable consumer goods to the purchase of National Lottery tickets is likely to have a negative impact on tax revenues. However, the increase in the yield of the betting levy between 1993-94 (with no lottery) and 1994-95 (with the lottery existing for only part of the year) was a mere £100m, which is negligible compared with the size of the shortfall in VAT revenues. In addition, if expenditure on the National Lottery replaced expenditure on non-VATable goods, the introduction of the National Lottery would have had a positive impact on tax receipts.

This year, we have altered our methodologies for forecasting tax receipts in the light of the information gained from evaluating the errors made in last year's Green Budget. These changes are discussed in the next section.

A1.2 Methods for Forecasting Tax Receipts

In this section, we describe the two main methods we have used to forecast tax revenues in the current financial year: a *current receipts* method, which uses information on the rate of growth of tax receipts available by early September 1995 to make revenue predictions for the whole of 1995-96, and a *modelled receipts* method, which multiplies forecast changes in various tax bases during 1995-96 by the estimated elasticities of tax revenues to changes in the tax base. These two methods are discussed in some detail below.

Current Receipts Forecasts

The current receipts method uses the following formula to estimate revenues for the whole year based on data available for receipts so far:

[1] This figure was taken from the Summer Economic Forecast 1994.

$$1995-96\ \textit{forecast} = \frac{\textit{April}-\textit{August}\ \ 1995\ \ \textit{out}-\textit{turn}}{\textit{April}-\textit{August}\ \ 1994\ \ \textit{out}-\textit{turn}} * 1994-95\ \ \textit{out}-\textit{turn} \quad \text{(A1.1)}$$

Where the pattern of tax receipts is relatively stable over the year, and a large proportion of tax receipts are collected in the first few months of the financial year, the current receipts method is a useful method for predicting tax revenues. However, although expected seasonal patterns are accounted for, the estimates are sensitive to one-off fluctuations and changes in GDP growth.

The current receipts approach is particularly sensitive to changes in the timing of tax payments. This is of most concern for those taxes that are collected in 'lumps' at certain times of the year and for which only a small percentage of total annual receipts are likely to have been collected at the time of our forecast. For income tax, corporation tax, VAT and National Insurance contributions, we use data to August 1995. Around 40% of annual tax is usually collected by this time of year, except for corporation tax, where receipts are concentrated in 'lumps', in January, April, July and October. We only have receipts data for two of these months, and these do not include the two largest receipts. For other receipts, we use data to July, meaning the proportions collected are smaller (around one-quarter), except in the case of capital gains tax, where receipts are concentrated at the end of the calendar year. These factors must be taken into account when considering the accuracy of the current receipts forecasts in Table A1.6.

As Table A1.3 shows, the proportion of the revenues from VAT, National Insurance contributions and income tax that had been collected by the time of the Green Budgets in 1993 and 1994 was broadly similar between the two years. As a result, the current receipts method for forecasting these taxes was a relatively accurate predictor of tax receipts last year. However, the proportion of annual corporation tax receipts collected by August fell from 29% in 1993-94 to 23% in 1994-95, explaining why the current receipts method underpredicted corporation tax receipts for 1994-95. It is unlikely that the current receipts approach will be very useful for predicting tax revenues for those taxes for which the timing of receipts varies so much from year to year.

Table A1.3. Proportion of annual revenues for which information available for the last two Green Budgets[a]

Revenue	% of annual tax receipts available by Green Budget 1993	% of annual tax receipts available by Green Budget 1994
Income tax	40 %	40 %
Corporation tax	29 %	23 %
Capital gains tax	10 %	5 %
Inheritance tax	23 %	25 %
Stamp duties	24 %	25 %
VAT	39 %	41 %
Other Customs and Excise	25 %	24 %
Vehicle excise duty	25 %	22 %
National Insurance contributions	42 %	42 %

[a] For the main taxes, data on receipts to August 1993 and August 1994. For the minor taxes, we have information to July 1993 and July 1994. Monthly revenues from *Financial Statistics*.

Modelled Forecasts

Our modelled receipts approach models changes in tax revenues as resulting from a multiplication of the forecast change in the tax base during 1995-96 by the elasticity of tax revenues to changes in the tax base. The basic approach is given by the following formula:

$$\text{1995-96 revenues} = \text{1994-95 revenues} * \left\{ \frac{\text{1995-96 base}}{\text{1994-95 base}} * \text{Elasticity} \right\}. \qquad (A1.2)$$

We have revised our methodology for forecasting tax receipts in the light of the forecast errors made in last year's Green Budget. In the Summer Economic Forecast, the Treasury revised down its 1995-96 tax revenue forecasts because it had overestimated tax revenues for 1994-95 by over £3bn. These overestimates came from forecast errors in three of the major taxes: income tax (£1.2bn), corporation tax (£0.8bn) and VAT (£1.5bn). But unlike most previous tax forecast errors, these could not be attributed to changes in economic indicators that had not been foreseen at Budget time, when forecasts had been reasonably accurate. The Summer Economic Forecast highlighted the composition of economic activity as the reason behind shortfalls in revenue. For example, the growth in the overall wage bill contained a higher proportion of employment growth compared with earnings growth, giving less income tax revenue, and greater consumers' expenditure on non-VATable items (such as the National Lottery) reduces VAT revenue. Each of these cases is an example of a change in the underlying tax responsiveness to the tax 'base', which we call the tax elasticity.

If the equilibrium level of tax elasticities has changed, the impact on medium-term tax revenue forecasts will be considerable. Therefore in this Green Budget we have re-evaluated the tax elasticities we use for forecasting. Previously, our tax elasticities were generally estimated on the basis of IFS microeconomic tax models. They were estimated by varying the tax base (e.g. increasing all incomes by 10% in a tax and benefit model) and calculating the effect on revenues. This approach has the advantage that it can genuinely abstract from changes in the tax regimes and the timing of tax receipts. The disadvantage is that the elasticity generated is related to the year of data used, and it is difficult to model changes in the composition of economic growth.

This year, we have estimated the average annual elasticity of each tax against its base for each year back to 1970. Simply, we could calculate the nominal percentage change in revenues from one year to the next and compare this with the nominal change in the tax base. But this would have the obvious flaw that budgetary changes to taxes (such as raising or lowering rates) affect revenues but not generally the tax base, and this would bias any analysis of tax elasticities. Therefore we attempt to make the following year's revenue consistent with a base year's figure by adding back estimated reductions in revenue from tax reductions and subtracting revenue gains from tax increases. Once this adjustment is made, changes in revenues can be compared with changes in the tax base.

Our forecasts for tax revenues are based in nominal terms, so these adjustments must also be made in nominal terms, i.e. we need a revenue comparison assuming tax parameters do not change between years. We adjust the following year (t+1) revenues and find the percentage growth compared with the raw base year (t) revenues. The first stage is to adjust the year t+1 revenues for the year t+1 Budget. This is simply a process of subtracting (adding) first-year tax increases (reductions) from a non-indexed base

of the t+1 Budget. Second, the net effect (i.e. not accounted for in the raw year t revenues) of the previous year's Budget must be subtracted from the t+1 revenues. These effects are published in the annual *Financial Statement and Budget Report* and the formula for the adjustment is shown in equation (A1.3):

$$\%\Delta AT_{t+1} = \frac{(T_{t+1} - C_{t+1,t+1} - C_{t+1,t} + C_{t,t}) - T_t}{T_t} \quad \text{(A1.3)}$$

where ΔAT_{t+1} = change in adjusted income tax revenue;
T_{t+1} = raw published tax revenue;
$C_{t+1,t+1}$ = change in year t+1 revenue from year t+1 Budget;
$C_{t+1,t}$ = change in year t+1 revenue from year t Budget;
$C_{t,t}$ = change in year t revenue from year t Budget.

Using adjusted revenue figures, computing the underlying tax elasticity for a year is straightforward; it is simply the adjusted percentage change in tax revenues divided by the percentage change in the tax base. However, the elasticities computed using this method often contain one or more of the following three serious problems:

- *The tax base used in the calculation of elasticities is not an accurate reflection of the true base for a tax.* For example, real consumers' expenditure is inferior to the sales volume of tobacco products as a tax base for tobacco duties. But the latter measure is difficult to forecast forward as part of a macro model, and in many cases approximations of the tax base are satisfactory.
- *The government's FSBR projection of budgetary changes is inaccurate.* This distorts the adjusted revenue figures and hence distorts the calculated elasticities.
- *The timing of tax revenues can change from year to year.* In some financial years, substantial tax receipts have been collected on one side of the financial year cut-off from economic activity in the other financial year. This distorts the relationship between the figures for the revenue and the base, and hence distorts calculated elasticities.

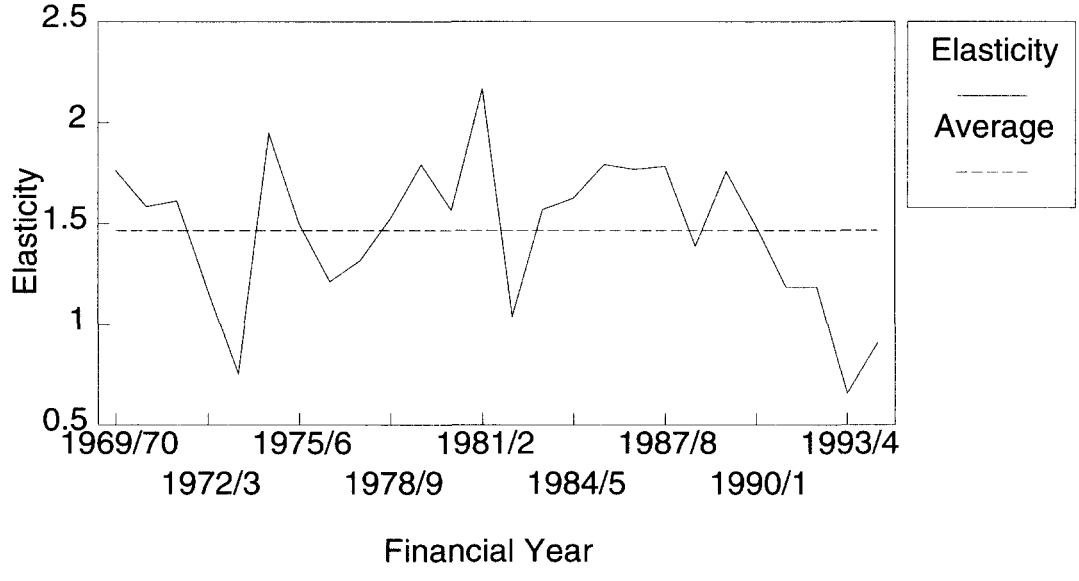
Hence analysis of aggregate revenue data must be treated with care, especially where sharp fluctuations in the elasticities are apparent from one year to the next. In our analysis, we have only revised our elasticities derived from micro-data if we have carried out further work that has helped us understand the underlying tax elasticities better, or if the average aggregate elasticity is substantially different from that used previously and there are known problems with our previous approach, or if we have found better approaches to revenue forecasting than previously used. The following paragraphs highlight our current views on the tax responsiveness of the major taxes, and Table A1.4 shows the elasticities used in our modelled forecasts.

Income tax

Before last year's Green Budget, we used a revenue elasticity of 1.6 with respect to the gross incomes derived from our tax and benefit model. Tax-free allowances make income tax progressive, and the marginal rate exceeds the average rate at all ranges of income. Hence the average elasticity must be substantially greater than 1 as increases in income will lead to a proportionally greater increase in income tax as average tax rates rise. But our previous elasticity exceeded the long-run average, and, as Figure

A1.1 shows, was substantially higher than recent elasticities. Moreover, this simple elasticity could not distinguish between alternative reasons for changes in the income tax base, such as the differential effects of employment growth versus wage growth.

Figure A1.1. Income tax elasticities



Therefore, we investigated the cause of these fluctuations using simple time-series cointegration techniques. We found a long-run cointegrating income tax elasticity of 1.49 with respect to nominal earnings growth. Using this relationship in an Engle-Granger style error correction model, we found that in the short run, income tax revenues could be explained well using other components of the income tax base. In particular, we found a much lower elasticity to employment growth, reflecting the fact that the newly employed have lower wages. Also, the proportion of part-time employees in the work-force biases down income tax elasticities. This model is able to explain the recent reduction in overall income tax elasticity because the economic recovery has been associated with employment (not wage) growth and further increases in the proportion of part-timers. Table A1.4 gives the parameter estimates for these income tax revenue elasticities.

National Insurance contributions

It is difficult to analyse NICs on an aggregate basis as the NICs system is completely different from that in the early 1970s when there was still a considerable flat-rate element. Additionally, the government did not publish NIC revenue effects of budgetary changes until the mid-1980s. And for the years for which revenue data were available, the average elasticity was not significantly different from 1.05, the elasticity used in previous Green Budgets. We are fairly confident about this elasticity because NIC floors create progressivity in NICs (for most contributors) that push elasticities above 1, but this effect is partially offset by the zero marginal rate on employee NICs for those earning above the upper earnings limit.

Table A1.4. Tax bases and elasticities for model forecasts

Tax	Base	Elasticity
Income tax	Nominal wage growth	1.56
	Lagged employment growth	1.18
	Proportion of part-time employees	-0.26
	Lagged error correction term	-0.22
Corporation tax	Nominal gross profits	1.20
VAT	Nominal consumers' expenditure	1.10
National Insurance	Nominal wage bill	1.05
Petrol	Real consumers' expenditure	1.00
Tobacco	Real consumers' expenditure	0.25
Beer	Real consumers' expenditure	0.85
Wines	Real consumers' expenditure	1.50
Spirits	Real consumers' expenditure	0.95

Corporation tax

In previous Green Budgets, we have used a corporation tax elasticity of 1.2 to lagged nominal gross trading profits. This has proved to be unsatisfactory in forecasting revenues, but an analysis of the underlying elasticity does not help find a more robust figure for the elasticity because it fluctuates so frequently. There are many reasons for these fluctuations, which are listed below.

- Estimating the effects of budgetary changes has proved to be highly problematic. In particular, the 1984-86 corporation tax reforms raised substantial revenues but were assumed by the Treasury in 1984 to be revenue-neutral.
- Aggregate corporation tax receipts are a mixture of advance corporation tax (related to dividend payments in the current year) and mainstream corporation tax (related to the previous year's taxable profits after deducting ACT paid). Consequently, we would not expect a simple and stable relationship between receipts and profits to exist.
- Individual companies carrying forward losses or payments of surplus ACT also break a simple link between revenues and a profits base.
- Gross trading profits (GTP) is not an adequate base for corporation tax. A more relevant base would adjust GTP by adding rental income and subtracting interest payments and depreciation. However, the first three problems make this base equally inappropriate.

Therefore, we have attempted to find a better method of forecasting corporation tax receipts. Corporation tax is collected in two stages. Advance corporation tax (ACT), which relates to the size of dividend payment made from this year's profits, is paid soon after the payment of the dividend itself. Mainstream corporation tax (MCT), which is the tax left owing after the payment of ACT has been offset from the company's total tax charge, is paid not less than nine months after the end of the company's

accounting year. This means that current receipts of corporation tax include payments of ACT based on this year's dividend payments and payments of MCT based on profits made last year.[2]

Using published company accounts data for 1994 on profits, dividends and tax payments, we have been able to produce an estimate of the expected increase in total tax revenue, based on a sample of about 900 companies quoted on the UK Stock Exchange. Combining these data from company accounts with forecasts of earnings growth from World Equities, we were able to build up a picture of the expected increase in taxable profits and dividends between 1994-95 and 1995-96. This translated into an estimated increase in corporation tax revenues of 27%, or total revenues for 1995-96 of £24.5bn. This compares with a 35% increase predicted by the Treasury in the Summer Economic Forecast, or total revenues of £26.1bn.

It is possible that this method will lead us to underpredict the increase in corporation tax revenues for this year, mainly because our sample covers only part of the quoted sector of the UK economy, and these companies tend to be the largest. Although this means that they will account for a significant proportion of the total tax revenue received from companies, they also tend to have more stable profits and dividend payments over the business cycle than the rest of the company sector. Hence our judgemental forecast is slightly higher than that predicted by our new modelling technique.

Value added tax

VAT is a tax proportional to expenditure, so if expenditure patterns remain constant, consumers' expenditure rises will be exactly matched by VAT rises. This implies an elasticity of 1. An elasticity greater than 1 implies that as expenditure rises, a greater proportion of total expenditure is spent on VATable goods. As zero-rated goods tend to be characterised more by necessities than by luxury goods, and as expenditure rises the proportion spent on luxuries increases, we would expect the VAT elasticity to be greater than 1. Consequently, we have previously used a VAT elasticity of 1.1 with respect to nominal consumers' expenditure.

However, our aggregate analysis of the elasticity showed that while the average elasticity was 1.05, it showed considerable cyclical fluctuation. This implies that in a downturn, elasticities fall, as households spend a greater proportion on zero-rated goods, while in boom periods, elasticities rise. On the basis of this and past errors in the modelled VAT forecast, we have concluded that our VAT elasticity had been too high in the recession and currently, but was reasonable in a scenario of continued growth. Therefore the VAT elasticity we use in this Green Budget is 1 for 1995-96 and 1.1 for subsequent years.

[2] This point is complicated by the fact that companies' accounting years do not necessarily correspond to the fiscal year.

Petrol duties

The tax base used for petrol duties is real consumers' expenditure. Real expenditure is used because excise duty on petrol and related products will only rise if the volume of sales increases (after adjusting for budgetary changes, of course). This base is clearly inferior to a base of the volume of fuel sales, but is used for ease of forecasting the base forward. Our elasticity analysis suggested the elasticity was close to 1, which is considerably lower than the elasticity of 1.3 previously used. We have cut our elasticity assumption because there no longer seems to be a strong rationale to believe fuel consumption is reasonably highly elastic to increased real consumers' expenditure. Increased fuel efficiency of vehicles and a stable share of petrol expenditure in total expenditure support this cut in assumed elasticity.

Tobacco duties

Cigarette consumption has fallen, as a proportion of real consumers' expenditure, which has affected revenues from tobacco products. Hence the elasticity of 0.35 used in previous Green Budgets no longer reflects the relationship between tobacco revenues and consumers' expenditure. We have reduced the elasticity used from 0.35 to 0.25.

Alcohol duties

In general, the elasticities previously used for alcohol duty forecasts are reflected on average in the adjusted aggregate data. Therefore we have kept the elasticities shown in Table A1.4 unchanged from previous Green Budgets.

Table A1.5 gives our working assumptions about the out-turn for the macroeconomic aggregates that form the tax bases outlined above. The evidence of recent months suggests that the recovery may be slowing down more quickly than expected, and we forecast growth and inflation to be less favourable than in the 1995 Summer Economic Forecast. Compared with last year, we now expect GDP growth to fall to 2.5% in 1995-96 (we forecast 3.5% last year) and employment growth to be a mere 0.8%.

Table A1.5. Macroeconomic assumptions and sensitivity analysis

	1995-96 (forecast % growth)	1995-96 (alternative% growth)	PSBR sensitivity (£ billion)
GDP	2.5		n/a
Wages	4.0	5.0	£1.4bn
Consumer prices	3.2	4.2	£0.4bn
Consumers' expenditure	2.5	3.5	£0.6bn
Employment (previous year)	0.8	1.8	£0.8bn

Note: The sensitivity of revenue predictions to a 1 percentage point change in GDP forecasts varies depending on which component part has led to the change in GDP.

The final column in Table A1.5 shows the sensitivity of our modelled estimates. It shows the effect on government revenues of a 1 percentage point change in the macroeconomic assumptions. For example, if wage growth is 5.0% rather than 4.0%,

£1.4bn extra government revenue would be generated. The extent of the sensitivity depends on the size of the tax elasticities and the proportion of total revenues raised by taxes related to the changed tax base.

Revenue Forecasts for Fiscal 1995-96

During the last year, a slowdown in the rate of growth of the economy has become evident (we now forecast GDP growth in 1995-96 at 2.5%, compared with 2.75% in the Summer Economic Forecast and 3.5% in last year's Green Budget). In addition, changes in the composition of employment and expenditure growth appear to have led to a lower level of receipts in 1995-96 than was expected last November. Largely because of the tax receipts shortfall last year, the PSBR can now be expected to fall more slowly than seemed likely a year ago, even if the government manages to achieve the very tight expenditure targets it has set itself. This may reduce the potential size of the Chancellor's election war chest.

Consumers' expenditure remains flat, due to a combination of low levels of confidence in the housing market and the impact of previously announced tax increases, leading to some commentators coining the term the 'too good to feel good' recovery. On the other hand, consumers' expenditure growth may accelerate later on in the financial year, given that the tax increases from the two 1993 Budgets are now in place and that some individuals are soon to gain from windfalls resulting from the ending of the mutual status of certain building societies.

Table A1.6 shows a selection of forecasts for the government revenues for the current year. Government forecasts from the *Summer Economic Forecast* of late June 1995 are shown in the first column. The second and third columns use the two alternative methods for forecasting tax receipts for 1995-96 described above: the *current receipts* method and the *modelled receipts* method. In the final column, we present our judgemental view, giving our *forecast* of what we expect the government to present on Budget Day.

Income tax undershot forecasts last year, and this lower level of revenues is likely to carry through into the 1995-96 financial year. The Summer Economic Forecast argued that tax revenues had grown less than expected despite nominal wage growth being close to expectations due to the composition of the growth in nominal wages. The impact of a more flexible labour market may be to produce higher employment growth and lower wage growth during a recovery than in previous economic cycles. Given the progressive structure of income tax, this is likely to depress yields for a given value of nominal wage growth.

Until July 1995, our modelled receipts and current receipts predicted similar values, somewhat below the forecast in the SEF. However, an acceleration of receipts in August has led to the current receipts method now predicting a higher level of receipts than forecast in the SEF. It is difficult to determine whether this represents an alteration in the timing of receipts or a genuine acceleration in tax revenues. In the light of this uncertainty, our forecast of £68.3bn (some £0.6bn less than the SEF) is a judgemental forecast, taking into account the evidence from the current receipts and modelled receipts approaches.

Corporation tax yields increased by some 29% last year. With gross trading profit growth last year of over 14%, 1995-96 is likely to be another year of significant growth in the yield of corporation tax. However, our methods used in previous Green Budgets predict tax revenues to be far lower than the 35% growth forecast contained in the Summer Economic Forecast. As discussed above, we have serious reservations concerning both previous methods: current receipts because little mainstream corporation tax has been collected by August, and modelled receipts primarily because gross trading profits is a poor measure of the tax base. As a result, our forecast for corporation tax receipts in 1995-96 takes into account our new approach to forecasting the corporation tax base, which implies a 27% increase in taxable profits and dividends, and receipts of £24.5bn. For our judgemental forecast, we have adjusted this slightly upward to reflect our perception, explained above, of a downward bias in this method of calculation.

Overall, we predict the yield of **Inland Revenue taxes** in 1995-96 to be £98.4bn, some £2bn less than predicted in this year's Summer Economic Forecast.

Consumers' expenditure growth has been particularly sluggish this year, with the growth of **VAT** revenues between 1994-95 and 1995-96 downgraded from 13.2% in the post-Budget FSBR to 8.6% in the Summer Economic Forecast. Both the current receipts information and the modelled approach suggest that VAT revenues could actually come in at an even lower level than the SEF suggests. Given the recent instability in the relationship between consumers' expenditure growth and VAT receipts, our forecast is based on the current receipts method.

After a slow start to the financial year, there has been a recent acceleration in the rate of growth of revenues from **petrol and tobacco duties**. We take the current receipts information as the basis of our forecast for petrol duties. For tobacco duties, we forecast revenues at £7bn, between the figure suggested by the SEF and the current receipts figure.

Whilst we expect most excise taxes to grow more slowly than in the Summer Economic Forecast, the revenues from the **betting and gaming levy** have been accelerating in recent months due to the continued popularity of the National Lottery. We therefore take the current receipts figure for this tax.

Overall, we forecast the receipts from **Customs and Excise taxes** to be £78.4bn in 1995-96, some £1bn less than this year's Summer Economic Forecast.

Between the FSBR (1994) and the Summer Economic Forecast (1995), the Treasury reduced the forecast of income tax receipts for 1995-96 by £1.2bn (1.7% of the original forecast) whilst the forecast of receipts from National Insurance contributions was only reduced by £0.2bn (0.4% of the original forecast). Whilst the bases of the two taxes clearly differ, they are likely to move together. As a result, the forecast for NICs contained in the SEF appears somewhat optimistic for 1995-96 receipts. Our judgemental forecast takes the current receipts information now available to forecast that National Insurance revenues will be £43.1bn in 1995-96, some £1.2bn lower than predicted in the SEF.

Overall, we forecast the out-turn figure for **general government receipts** in 1995-96 at £272.3bn, £4.1bn less than is given in the Summer Economic Forecast but slightly higher than predicted by either our current receipts or modelled receipts methods.

Table A1.6. The public finances, 1995-96[a]

(£ billion)	Summer Economic Forecast	IFS current receipts	IFS modelled receipts[b]	IFS forecast
Income tax	68.9	69.4	67.9	68.3
Corporation tax	26.1	24.2	24.5	25
Petroleum revenue tax	0.9	0.6	0.8	0.9
Capital gains tax	0.9	1.4	0.9	0.9
Inheritance tax	1.5	1.5	1.4	1.5
Stamp duties	2	1.8	1.8	1.8
Total Inland Revenue	**100.4**	**99.0**	**97.4**	**98.4**
VAT	45.4	44.9	44.3	44.9
Petrol	15.8	15.5	16.9	15.5
Tobacco	7.3	6.3	8.3	7
Alcohol	5.8	5.6	6	5.8
Betting and gaming	1.7	1.8	1.3	1.8
Customs duties	2.3	2.3*	2.3*	2.3
Agricultural levies	0.1	0.1*	0.1*	0.1
Air passenger duty	0.3	0.3*	0.3*	0.3
Insurance premium tax	0.6	0.6*	0.6*	0.6
Total Customs and Excise	**79.4**	**77.5**	**80.1**	**78.4**
Vehicle excise duties	4.1	4.1	4.1	4.1
Oil royalties	0.6	0.6*	0.6*	0.6
Business rates	13.6	13.6*	13.6*	13.6
Other taxes and royalties	6.2	6.2*	6.2*	6.2
Total taxes and royalties	**204.2**	**201.0**	**202.0**	**201.3**
National Insurance contributions	44.3	43.1	42.6	43.1
Council tax	9.2	9.2*	9.2*	9.2
Interest and dividends	4.9	4.9*	4.9*	4.9
Gross trading surplus and rent	5.1	5.1*	5.1*	5.1
Other receipts	8.7	8.7*	8.7*	8.7
General government receipts	**276.4**	**272.0**	**272.5**	**272.3**
Control total	**255.5**	**253.8**	**253.8**	**253.8**
Cyclical social security	13.6	13.6*	13.3	13.3
Central government debt interest	20.7	20.7	20.7	20.7
Accounting adjustments	9.7	9.7*	9.7*	9.7
GGE (X)	**299.5**	**297.8**	**297.4**	**297.4**
Privatisation	-3	-3*	-3*	-3
Other adjustments	5.4	5.4*	5.4*	5.4
General government expenditure	**301.9**	**299.8**	**299.8**	**299.8**
General government borrowing requirement	25.5	27.9	27.3	27.6
Public corporations borrowing requirement	-1.9	-0.6	-1.0	-1.0
Public sector borrowing requirement	**23.6**	**27.3**	**26.3**	**26.6**

[a] * signifies a figure taken from the Treasury's Summer Economic Forecast.
[b] Using Goldman Sachs central macroeconomic forecast for 1995-96.

Expenditure Estimates for Fiscal 1995-96

Our approach to the forecasting of public expenditure in 1995-96 is broadly similar to that used in last year's Green Budget and is discussed in some detail in the main text.

The out-turn figure for public expenditure in 1995-96 will depend on two issues: whether the Chancellor is able to achieve the planned 0.8% reduction in the real level of the control total in 1995-96 (given the government's failure to reduce the real control total in 1994-95), and whether the £1.6bn undershoot of the control total in 1994-95 compared with the November 1994 Budget forecast can be consolidated into spending plans in 1995-96 and beyond.

In 1995-96, the Chancellor is likely to find himself in a similar position to last year: inflation (as measured by the GDP deflator)[3] is likely to be lower than was forecast when the original spending plans were drawn up and so it may be relatively easy to cut spending in nominal terms but far harder to keep a grip on real expenditure. This may be a particular concern, given that a 0.8% cut in the control total (in real terms) has been built into previous plans.

Our methodology for forecasting public expenditure takes the implied real growth (reduction) in control total expenditure from the FSBR, and attaches this implied real growth to our forecast of the GDP deflator. The formula for our forecast is shown below.[4]

$$\text{CT 1995-96} = \text{CT 1994-95} * \left(\frac{\text{Real CT 1995-96}}{\text{Real CT 1994-95}}\right) * \left(\frac{\text{GDP deflator 1995-96}}{\text{GDP deflator 1994-95}}\right). \quad \text{(A1.4)}$$

Our expenditure forecasts for 1994-95 were very close to the out-turn figure for the year. We predicted that the Chancellor would take advantage of a lower rate of inflation than when the spending plans were originally drawn up to cut nominal expenditure (compared with November 1993 plans) whilst still allowing a significant real increase in expenditure (compared with November 1993 plans). This was exactly what happened. The out-turn for the nominal control total came in £2.8bn below the level planned in November 1993, and £1.6bn below the forecast made in the November 1994 Budget. Meanwhile, real expenditure growth over 1994-95 was 1.1%, compared with a planned reduction of 1.3% in the November 1993 plans, suggesting that expenditure control may not be as tight as is commonly perceived. However, extremely tight control of spending between the November 1994 Budget and the end of 1994-95 achieved a lower increase in expenditure in real terms than had been forecast in the November 1994 Budget.

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[3] The GDP deflator measure of inflation excludes imports. As a result of the depreciation in the value of sterling earlier on this year, inflation is presently lower on the GDP deflator measure than the RPI measure.

[4] Full consolidation of the 1994-95 expenditure undershoot is assumed, so we take the 1994-95 provisional out-turn figure for expenditure rather than the planned total.

As discussed in the main text, it appears unlikely that the Chancellor will be able to achieve both the planned reduction in the control total for 1995-96 and fully consolidate the undershoot in 1994-95. As a result, as our baseline expenditure forecast, we assume that the Chancellor will achieve the planned 0.8% reduction in the control total but that the 1994-95 control total undershoot will not be consolidated. This suggests that the control total for 1995-96 will be £253.8bn, £1.7bn less than the Summer Economic Forecast. As inflation (as measured by the GDP deflator) is likely to be lower than when the expenditure plans were first drawn up, we expect that general government expenditure will be £2.1bn less than forecast in the SEF as a result of a lower forecast control total and lower expenditure on cyclical social security, as compared with the SEF. Table A1.7 compares our expenditure forecasts for 1995-96 with those contained in this year's SEF.

Table A1.7. Government expenditure, 1995-96

	Summer Economic Forecast	IFS baseline forecast[a]
Control total	**255.5**	**253.8**
Cyclical social security	13.6	13.3
Central government debt interest	20.7	20.7
Accounting adjustments	9.7	9.7*
GGE (X)	**299.5**	**297.4**
Privatisation proceeds	-3	-3*
Other adjustments[b]	5.4	5.4*
General government expenditure (including privatisation proceeds)	**301.9**	**299.8**

[a] * signifies a figure taken from the Treasury's Summer Economic Forecast.
[b] 'Other adjustments' comprise spending financed by the National Lottery and interest dividend receipts.

Our forecast for the cyclical social security component of general government expenditure uses the published SEF figure and subtracts from this the difference between the government's unemployment claimant count and our forecast of claimant unemployment, multiplied by a rough cost of unemployment benefits of £350m for each 100,000 unemployed. The Goldman Sachs baseline forecast for unemployment in 1995-96 is 2.3m, somewhat less than the FSBR's, resulting in lower-than-forecast expenditure on cyclical social security in 1995-96. Our assumptions for the government debt interest reflect the outstanding level of debt and are almost identical to the Summer Economic Forecast.

Public Sector Borrowing Requirement

Our overall forecast for the PSBR will be somewhat higher than the Summer Economic Forecast, which itself increased the 1995-96 PSBR forecast by some £2bn as compared with last year's FSBR. We expect both tax receipts and spending to turn out lower than predicted. GGE(X) is forecast to be £2.1bn lower than the SEF, largely due to

lower-than-expected inflation, and revenues are likely to be £4.1bn lower than forecast, mainly as a result of slower growth and changes in the composition of growth. In addition, the net contribution of the public corporations is likely to be smaller than forecast in the SEF. This leads to a baseline forecast for the 1995-96 PSBR of £26.6bn, £3bn higher than in the SEF.

Our expenditure forecast for 1995-96 is sensitive to which measure of inflation is used to predict nominal spending, given the planned path of real expenditure. Our baseline forecast of the GDP deflator in 1995-96 (which is used as the basis for our expenditure forecasts) is 2.5%, somewhat lower than the 3.2% baseline forecast for the retail price index (RPI). These two measures of inflation differ in 1995-96 largely because of the impact of the recent 5% depreciation of sterling which, by leading to higher import prices, filters through into the RPI measure (through higher prices on imported consumer goods) but not into the GDP deflator (which focuses on domestic production, and hence ignores foreign trade). We chose the GDP deflator measure since this is used by the Treasury in producing expenditure plans.

Table A1.8. Public finances, 1995-96

	Summer Economic Forecast	IFS forecast
General government expenditure (X)	**299.5**	**297.4**
General government expenditure (including privatisation proceeds)	**301.9**	**299.8**
General government receipts	**276.4**	**272.3**
Public corporations borrowing requirement	-1.9	-1.0
Public sector borrowing requirement	**23.6**	**26.6**

A1.3 Fiscal Year 1996-97

The public finances in 1996-97 are again projected using a variety of IFS micro-modelled elasticities from Table A1.4 and our macroeconomic working assumptions, given in Table A1.5.

Compared with the disappointing growth performance of the British economy in the present financial year, we expect growth to pick up again slightly in 1996-97 to 3% on 1995-96. It seems likely that the stance of policy will become increasingly incompatible with any movement towards the lower end of the government's target range for inflation, and hence we expect a build-up of inflationary pressures, taking the GDP deflator to 3.5% next year, on course to exceed the government's target of 2.5% inflation the following financial year.

Predicting **income tax** receipts has been rendered more difficult by the apparent structural shift in the relationship between output and employment growth during the present economic recovery compared with that observed in previous economic cycles. We expect a slight acceleration in employment growth next year to 1%. This slight tightening of the labour market, together with a worsening inflation outlook, is likely to lead wage inflation to rise to 5.2%. Overall, we predict income tax receipts to increase by 8.9% in 1996-97 to £74.4bn, compared with an 8.7% increase in receipts in 1995-96.

Predicting **corporation tax** receipts is rendered more difficult by the complexities of the tax. In addition, the dynamics of calculating corporation tax liabilities mean that the margin of error may increase significantly as we forecast further into the future. We expect net profits growth to slow considerably from the 27% growth seen in 1994-95 to 14% in 1995-96. This suggests that the growth in the revenues from corporation tax will slow to 13.9% in 1996-97.

Customs and Excise revenues are expected to rise by some 8.3% in 1996-97. We forecast that the rate of growth of consumers' expenditure will remain buoyant at 2.9%, with retail price inflation moderating. In addition, the Chancellor's stated intention of raising excise duties significantly in real terms, year on year, has a significant impact on revenues.

Overall, we expect the PSBR in 1996-97 to come in at around £16.1bn, the same figure as in the Summer Economic Forecast but £4.1bn higher than the prediction of £12bn made in last year's Green Budget.

A1.4 The Public Finances in the Medium Term

The British economy is now into the fourth year of recovery, with the turning-point of the recession being dated at 1991Q1. Forecasting developments in the macroeconomy over the medium term is fraught with problems, most notably from changes in the government's policy stance and the unpredictability of exogenous shocks. We therefore present two alternative economic scenarios, one with higher growth and inflation than the other, and the implications of each for the PSBR over the medium term.

The baseline scenario
The present stance of policy remains unchanged. Growth picks up before the next general election but inflation does not achieve the 2.5% target.

At present, there appears to be a potential for conflict between the government's stated inflation target (of 2.5% inflation by the end of the Parliament) and the present stance of monetary and fiscal policy. At present, there are some indications that policy may be too slack to constrain inflation to the lower half of the government's target range. We therefore present two alternative scenarios as to developments in the macroeconomy over the medium term: first, a *baseline* scenario in which the government maintains its present policy stance, implying an easing of its commitment to an inflation target of 2.5% in the run-up to the next general election; second, an *inflation control* scenario in which the stance of policy is adjusted to achieve an annual inflation rate of 2.5% by the end of the Parliament.

The inflation control strategy.
Policy adjusted to achieve stated inflation objective of 2.5% inflation by the end of the Parliament. The tightening of the stance of macroeconomic policy leads to a slowdown in growth.

Using macroeconomic variables (a subset of which are shown in Table A1.9) and the elasticities in Table A1.4, Table A1.10 illustrates the future path of the PSBR under our baseline expenditure assumption for the two alternative macroeconomic scenarios described above: our baseline forecast and our forecast of the impact of the policy changes necessary for central government to achieve its target of a 2.5% inflation rate by the end of this five-year Parliament.

Table A1.9. Alternative macroeconomic working assumptions

(% growth)		1995-96	1996-97	1997-98	1998-99	1999-2000
GDP	Baseline	2.5	3	2.5	2.5	2.5
	Inflation control	2.2	2.2	2.5	2.5	2.5
GDP deflator	Baseline	2.5	3.5	3.2	3.2	3.2
	Inflation control	2.5	3.0	2.5	2.5	2.5
Employment	Baseline	0.8	0.9	0.7	0.6	0.6
	Inflation control	0.4	0.2	0.7	0.6	0.6

Table A1.10. The PSBR in the medium term: sensitivity analysis for each economic scenario

		1995-96	1996-97	1997-98	1998-99	1999-2000
Assumptions:	**Government sticks to its plans for real control total growth. 1994-95 spending undershoot is not consolidated.**					
PSBR	Baseline	26.6	16.1	8.4	2.5	-7.2
(£ billion)	Inflation control	26.6	19.2	13.8	9.9	2.7
PSBR	Baseline	3.7	2.1	1.0	0.3	-0.8
(% of GDP)	Inflation control	3.7	2.6	1.8	1.2	0.3

We estimate *government revenues* into the medium term under each of these macroeconomic scenarios. We have assumed no changes in tax policy other than those already announced in past Budgets. This 'no policy change' assumption allows for the annual revalorisation of excise duties and indexation of income tax allowances and thresholds. Otherwise, the structure of the tax system remains unchanged and no estimates have been included for possible further increases or decreases in tax revenues resulting from future Budgets.

The baseline spending assumptions assume that the government sticks to the real path of expenditure implicit in its pre-announced nominal plans but fails to consolidate the £1.6bn undershoot of expenditure in 1995-96 into future years' plans. It is clear that higher inflation presents governments with public spending pressures through increased wage demands, social security payments and bills for goods and services.

On the other hand, faster growth can alleviate some spending pressures, particularly in social security. We adjust cyclical social security to reflect the level of unemployment prevailing under each scenario.

As Table A1.10 shows, over the medium term, the difference between the two macro policy scenarios leads to a difference of £9.9bn in the PSBR forecast for 1999-2000, some 1.0% of GDP. The differential impact of these policy scenarios is relatively small, given the massive changes in the PSBR we have witnessed in recent years. This largely reflects the limited differences in our policy scenarios: our baseline forecast is for the government to fail to achieve its inflation target by the end of the decade, but it does not fail by much to meet it.

A1.5 Medium-Term Projections for the Public Finances under Alternative Expenditure Scenarios

Over the medium term, the impact of various policy choices over the level of government expenditure may have a very significant impact on future levels of the PSBR. We therefore present three alternative scenarios for government *spending*: a *no policy change* scenario, a scenario that allows *higher expenditure* around the likely time of the next general election, and a *firm expenditure control* scenario.

Table A1.11. Three alternative scenarios for public expenditure

No policy change	Government sticks to the path of real expenditure implicit in its pre-announced nominal expenditure plans.
Higher spending	Government makes larger-than-planned real increases in the control total around the time of the general election.
Firm expenditure control	Government does not allocate the contingency reserve to spending departments around the time of the general election.

Future levels of government expenditure are difficult to predict because government spending is determined by a combination of government policy and historical spending patterns as well as macroeconomic variables. Each of the scenarios is modelled against our baseline forecast of trends in the real economy. Hence, the tax revenue implications of each scenario are identical and are shown in Table A1.12.

Table A1.12. Estimated medium-term tax revenues using baseline economic forecast

(£ billion)	1995-96	1996-97	1997-98	1998-99	1999-2000
Inland Revenue	98.4	108.2	117.9	127.3	136.9
Customs and Excise	78.4	84.9	91.7	98.5	105.7
General government receipts	272.3	293.7	314.9	335.7	357.5

Our baseline spending assumption is for a 'no policy change' scenario. The expenditure plans set out in the November 1994 FSBR imply a planned cut in the control total (in real terms) for 1995-96 of some 0.8%, followed by a rise of 0.5% in 1996-97 and 1% in succeeding years, expressed in real terms. However, spending plans are presented in nominal terms, so if the Treasury's inflation assumption is flawed, and the government sticks to its nominal spending plans, the desire to see a real cut in the control total of 0.8% in 1995-96 cannot be met. To succeed in sticking to its declared policy, the government must treat nominal spending plans flexibly, increase them when inflation is higher than forecast and reduce them when inflation undershoots. Our first scenario, therefore, pegs real growth in the control total to that outlined in the 1994 FSBR, assuming the 1994-95 expenditure undershoot (compared with the November 1994 Budget forecast) is not consolidated into the spending plans for future years. Nominal expenditure levels are adjusted accordingly. The formula is shown in equation (A1.4). In addition, we adjust the level of debt interest to reflect total outstanding debt, given the different paths for the PSBR resulting from alternative expenditure scenarios.

Table A1.13 illustrates the future path of GGE and the PSBR over the medium term under our baseline expenditure scenario. The PSBR declines, reaching a position of budget surplus by 1999-2000. As can be seen in Table A1.16, which gives the PSBR and GGE(X) as percentages of GDP, our baseline scenario would allow the Chancellor to meet the Maastricht target of public sector borrowing less than 3% of GDP by 1996-97, well ahead of many other European countries. In addition, the Chancellor's declared target of reducing government expenditure, as measured by GGE(X), to less than 40% of GDP would be achieved in 1997-98.

Table A1.13. The public finances in the medium term, baseline scenario: the government sticks to present plans for real control total growth

(£ billion)	1995-96	1996-97	1997-98	1998-99	1999-2000
Control total	253.8	263.7	274.9	286.5	298.7
GGE (X)	297.4	308.9	320.4	332.6	344.8
General government spending	299.8	311.3	325.4	339.6	351.8
Privatisation	-3	-4	-2	-1	-1
PSBR	26.6	16.1	8.4	2.5	-7.2

Our second spending scenario allows for some slippage in expenditure control at the time of the next general election, with a 1.5% real increase in expenditure in 1996-97 and a 2% increase in 1997-98, before returning to the pre-announced pattern of real terms increases. The implications of this scenario for GGE and the PSBR are shown in Table A1.14. By the end of the period, the control total is £6.2bn higher than under the baseline scenario and the PSBR is £7.4bn, higher.[5]

[5] The additional expenditure comes through the impact of higher debt interest payments due to a higher level of accumulated debt in previous years under this scenario.

Table A1.14. The public finances in the medium term, higher spending scenario: the government allows some slippage in expenditure plans in the run-up to the next general election

(£ billion)	1995-96	1996-97	1997-98	1998-99	1999-2000
Control total	253.8	266.6	280.7	292.5	304.9
GGE (X)	297.4	311.8	326.4	339.2	352.2
General government spending	299.8	314.2	331.4	346.2	359.2
Privatisation	-3	-4	-2	-1	-1
PSBR	26.6	19.0	14.4	9.2	0.2

The third spending scenario assumes the government takes a very tight grip on spending and does not allocate the contingency reserve to spending departments in either 1996-97 or 1997-98. The implications of this scenario are summarised in Table A1.15. This shows a control total for 1999-2000 which is nearly £10bn lower than under the baseline scenario, leading to a public sector debt repayment (PSDR) of £18.7bn in 1999-2000.

Table A1.15. The public finances in the medium term, tight expenditure control scenario: the government does not allocate the contingency reserve in the run-up to the next general election

(£ billion)	1995-96	1996-97	1997-98	1998-99	1999-2000
Control total	253.8	258.0	266.0	277.2	288.9
GGE (X)	297.4	303.2	310.9	321.9	332.8
General government spending	299.8	305.2	315.9	328.9	339.8
Privatisation	-3	-4	-2	-1	-1
PSBR	26.6	10.4	-0.9	-7.9	-18.7

Table A1.16 shows trends in GGE(X) and the PSBR as a percentage of GDP over the medium term. Under the tight control scenario, the Chancellor would come close to his stated aim of reducing public expenditure (as measured by GGE(X)) to below 40% of GDP by 1996-97, a year earlier than in the baseline forecast and two years earlier than if spending control is relaxed at the time of the general election.

Under all three scenarios, the UK economy will meet the Maastricht convergence criteria (a PSBR of less than 3% of GDP) by 1996-97. Under the tight expenditure control scenario, the public finances would move into surplus in 1997-98, two years earlier than under our baseline scenario.

Table A1.16. Comparison of trends in GGE(X) and PSBR as a % of GDP over the medium term[a]

		1995-96	1996-97	1997-98	1998-99	1999-2000
GGE (X)	Baseline	41.8	40.7	39.9	39.2	38.4
(% of GDP)	Tight control	41.8	40	38.8	37.9	37.1
	Spending boom	41.8	41.1	40.7	39.9	39.2
PSBR	Baseline	3.7	2.1	1.0	0.3	-0.8
(% of GDP)	Tight control	3.7	1.4	-0.1	-0.9	-2.1
	Spending boom	3.7	2.5	1.8	1.1	0

[a] Assumes the baseline macroeconomic scenario.

Appendix 2: Tax Revenue Ready Reckoner

Table A2.1. Direct effects of illustrative changes in taxation, 1996-97

(£ million)	Cost/yield (non-indexed base)	
	1996-97	1997-98
Income tax		
Rates		
Change standard rate by 1p	1,600	2,000
Change lower rate by 1p[a]	850	720
Change higher rate by 1p	240	560
Allowances		
Change personal allowance by £100	430	640
Change married couple's allowance by £100	110	160
Lower-rate band		
Increase lower-rate band width by 10%	240	350
Basic-rate limit		
Change basic-rate limit by 1%	50	95
Change basic-rate limit by 10%		
increase (cost)	450	870
decrease (yield)	580	1,100
Allowances, bands and limits		
Change all main allowances, lower-rate band and basic-rate limit:		
increase/decrease by 1%	280	420
increase by 10% (cost)	2,650	4,100
decrease by 10% (yield)	2,900	4,500
National Insurance contributions		
Rates		
Change main employee rate by 1p	1,875	2,155
Change highest employer rate by 1p	2,380	2,750
Change Class 2 rate by £1	75	110
Change Class 4 rate by 1p	0	175

(continues)

[a] Revenue changes in the full year are lower because corporation tax changes are included in this value. Advance corporation tax changes in the first year would be offset by opposite changes to mainstream corporation tax in subsequent years.

Note: The revenue effect is computed for changes to the 1996-97 tax system and relates to the first-year (1996-97) and the full-year (1997-98) effects.

Table A2.1. Direct effects of illustrative changes in taxation, 1996-97 (contd)

(£ million)	Cost/yield (non-indexed base)	
	1996-97	1997-98
Corporation tax		
Change full rate by 1%	630	940
Change smaller companies' rate by 1%	90	140
Capital gains tax		
Increase annual exempt amount by £500 for individuals and £250 for trusts	-	4
Inheritance tax		
Change inheritance tax rate by 1%	20	38
Increase inheritance tax threshold by £5,000	19	37
VAT		
Change VAT rate by 1%	2,540	2,675
Excise duties		
Beer up 1p a pint	105	110
Wine up 5p a bottle	35	35
Spirits up 25p a bottle	30	30
Cigarettes up 5p a packet	185	195
Petrol up 1p a litre	335	370
Derv up 1p a litre	125	145
VED up £5	130	130
VAT		
Extend VAT to:	**(1995-96 effect)**	
Food	7,550	
Passenger transport	2,500	
Construction of new homes	1,800	
Books, newspapers, etc.	1,200	
Water and sewerage services	900	
Children's clothing	750	
Prescriptions	650	

Note: The revenue effect is computed for changes to the 1996-97 tax system and relates to the first-year (1996-97) and the full-year (1997-98) effects.

Source: *Tax Ready Reckoner and Tax Reliefs*, HM Treasury, July 1995.

Appendix 3: Methodology for Calculating Impact of Fiscal Incentives for Research and Development

Using accounting data (from Datastream) for the period 1990-94, the amount of additional R&D and revenue that would have resulted from introducing three example tax credits have been simulated.

We used a sample of 1,378 firms listed on the London International Stock Exchange, 340 of which reported some R&D spending in their annual accounts in 1993. The total amount of R&D done by these firms was around £6bn. This includes R&D conducted overseas by UK firms, and does not include R&D conducted in the UK by foreign firms. Total business-funded R&D conducted in the UK is around £9bn. R&D is very concentrated, with the top five firms accounting for nearly half of total spending.

New R&D spending is calculated by assuming an own-price elasticity of -1. Marginal effective credit rates (MECRs) are calculated using the following formulae:

For Credit 1

$$MECR_t = \rho_t\left[Z_t - \frac{1}{3}\{(1+r)^{-1}X_{t+1} + (1+r)^{-2}X_{t+2} + (1+r)^{-3}X_{t+3}\}\right]$$

where ρ_t is the statutory credit rate, r is the interest rate,

	0	R&D is below base (the firm gets no credit)
$Z_t =$	0.5	R&D is more than twice base (the firm gets half the credit)
	1	R&D is between base and twice base (the firm gets the full credit),

and X_{t+j} indicates whether or not current expenditure will influence the amount of credit the firm receives in period j.

For Credit 2

$$MECR_t = \rho_t[Z_t - \{(1+r)^{-1}X_{t+1}\}]$$

where ρ_t is the statutory credit rate, r is the interest rate,

	0	R&D is below last year's or the credit will be greater than £4.5m (the
$Z_t =$		firm gets no credit)
	1	R&D is above last year's and the credit is less than £4.5m (the firm gets the full credit),

and X_{t+1} indicates whether or not current expenditure will influence the amount of credit the firm receives next year.

For Credit 3

$MECR_t = 0.2.$

All MECRs are set to zero if the firm is in a tax-exhausted position.

Appendix 4: Alcohol Taxation and Cross-Border Shopping

Crawford and Tanner (1995)[1] present a simple model which allows us to examine how the UK's indirect tax rates on alcohol need to be adjusted in order to maximise tax revenue following the completion of the Single European Market. This Appendix extends their model to include the effects on other taxes associated with the sale of excisable goods. Following Crawford and Tanner, consider a single taxed good. Denote:

R = tax revenues;
τ = indirect taxes (expressed as a tax rate per unit);
v = associated taxes (expressed as an amount of tax per unit);
π = tax-exclusive prices;
q = quantity demanded.

Then tax revenues are given by

$$R = (\tau\pi + v)q \qquad (A4.1)$$

where $q = q(p)$, where $p = (1+\tau)\pi$ is the tax-inclusive price of the good. Differentiating (A4.1) with respect to τ gives

$$\frac{dR}{d\tau} = \pi q + \pi\tau \frac{dq}{d\tau} + v\frac{dq}{d\tau}. \qquad (A4.2)$$

If $dR/d\tau > 0$, then a marginal increase in indirect tax rates will increase total revenue; if $dR/d\tau = 0$, then the total revenue yield is maximised; and if $dR/d\tau < 0$, then marginally cutting indirect tax rates will raise total revenue.

Assuming $d\pi = 0$, then by definition

$$dp = \pi d\tau \qquad (A4.3)$$

and

$$dq = \varepsilon q\left(\frac{dp}{p}\right) \qquad (A4.4)$$

where ε is the price elasticity of demand.

We can therefore rewrite equation (A4.2) as

[1] I. A. Crawford and S. Tanner, 'Alcohol taxation and cross-border shopping', *Fiscal Studies*, vol. 16, no. 2, pp. 94-113, 1995.

$$\frac{dR}{d\tau} = \pi q\left[1+\left(\frac{\tau}{1+\tau}\right)\varepsilon\right] + v\left(\frac{\varepsilon q}{1+\tau}\right). \qquad (A4.5)$$

Setting $dR/d\tau = 0$ and given that we know the current rate of indirect taxes and have an estimate of the current elasticity of demand, we can solve equation (A4.5) for v^* - the minimum amount of associated taxes per unit demanded required for a further increase in the tax rate to cause total revenues to fall.

$$\frac{dR}{d\tau} = 0 \Leftrightarrow v^* = -\left[\frac{p}{\varepsilon}+\pi\tau\right] \qquad (A4.6)$$