

The use of fiscal policy in the UK as a discretionary demand management tool in the 1950s and 1960s illustrates many of the practical problems that need to be overcome in designing an effective fiscal stabilisation policy.

A credible stabilisation framework should be based on four key principles: constrained discretion; sound long-term policies; maximum transparency; and pre-commitment.

Current and historical experience point to a number of criteria that should be considered to ensure stabilisation policies are as effective as possible. These criteria can be split into two parts covering: the institutional framework; and instrument effectiveness.

The stabilisation policy framework should be:

- 1) symmetrical;
- 2) forward-looking;
- 3) based on clear and transparent operating rules; and
- 4) separate from other government objectives.

Effective instruments should:

- 5) maximise the impact on activity;
- 6) minimise lags; and
- 7) avoid negative impacts on economic efficiency and equity.

**4.1** The purpose of this section is to identify and develop the criteria that should be met to ensure that fiscal stabilisation policy is as effective as possible in the future. To do so, the section draws on historical evidence from the implementation of discretionary fiscal policy in the past both in the UK and internationally. The section is split into two parts. Part A analyses the use, impact and effectiveness of discretionary fiscal policy in the UK and other countries, since the 1950s. Part B presents the key criteria for effective stabilisation policy and for assessing effective stabilisation instruments.

## A: DISCRETIONARY FISCAL POLICY IN THE UK SINCE THE 1950S

**4.2** In the UK, discretionary fiscal policy as a means of stabilisation was most prevalent in the 1950s and 1960s and as such, much of the material in this section is derived from these periods. Many of the lessons learned during this period inform the choice of key criteria for discretionary fiscal instruments presented later in the section. While the primacy of discretionary fiscal policy as a stabilisation tool lessened in subsequent decades, important principles for the design of any stabilisation policy can also be drawn from these periods.

### The 1950s and 1960s

**4.3** UK macroeconomic stability was, in the 1950s and 1960s, underpinned by the fixed exchange rate link to the US dollar under the Bretton Woods regime. Domestically, the UK's economic objective was to maintain a high and stable level of employment. This remained a consistent goal for successive governments until the late 1970s.

#### Fiscal policy as the main instrument

**4.4** Over much of this period, fiscal policy was the primary tool for stabilisation policy. In the early post-war period up until the end of fixed exchange rates in the early 1970s, the main purpose of discretionary fiscal policy was to stimulate domestic demand during a period of low demand, in order to meet the objective of full employment, and restrain the economy when demand was high to avoid balance of payments and currency crises as incomes and prices started to rise.<sup>1</sup> The continuous change of direction in discretionary fiscal policy from expansionary periods to contractionary periods became known as 'stop-go' policies.

**4.5** The problems of the 'stop-go' cycle were exacerbated due to the 'ratchet' effect on wages and prices. Effectively, every upturn phase of the cycle inflated wages and prices, but there was little downward flexibility in wages and prices during the downturn part of the cycle. Over time, this led to an appreciation of the real exchange rate as the economy moved from cycle to cycle. As a consequence, balance of payments crises throughout the 1950s and 1960s<sup>2</sup> undermined the ability of discretionary fiscal policy to operate effectively as a stabilisation instrument. To some extent the domestic goal of full employment and maintaining parity at a fixed exchange rate conflicted. As Hatton and Chrystal (1991) note, "*...successive administrations grappled with the major dilemma of macroeconomic management... reconciling a high level of internal demand and resource utilisation with a manageable balance of payments under fixed exchange rates.*"<sup>3</sup>

**4.6** Despite the problems associated with 'stop-go' cycles throughout the period, the principle of demand management remained widely accepted. The use of discretionary fiscal policy to 'fine tune' the economy reflected both a belief in Keynesianism as the predominant economic school of thought and a fundamental lack of understanding of the monetary transmission mechanism, a position made clear in the Radcliffe Report (1959). The Report's principal recommendation for the use of monetary policy for demand management purposes was that "*...we envisage the use of monetary measures as not in ordinary times playing other than a subordinate part in guiding the development of the economy.*"<sup>4,5</sup>

<sup>1</sup> An expansion of domestic demand tended to suck in imports, worsening the current-account deficit. Under the fixed exchange rate system, the excess spending overseas had to be met by the Bank of England out of the foreign exchange reserves. If reserves were flowing out at an unsustainable rate this would create a run on the domestic currency and a 'sterling crisis'.

<sup>2</sup> Specifically, balance of payments crises arose in 1952, 1955, 1957, 1961 and 1966.

<sup>3</sup> Hatton and Chrystal (1991) in Crafts and Woodward (1991), page 68.

<sup>4</sup> However, the report did recognise that monetary policy did have a use in emergencies.

<sup>5</sup> Radcliffe Report (1959), page 182.

**The implementation of discretionary fiscal policy** **4.7** Over the period, successive governments endeavoured to enhance the effectiveness of discretionary fiscal policy. In the early post-war period, discretionary action to stabilise domestic demand was conducted by adjusting the rate of investment in public works. There were several fundamental problems with this approach. Dow (1964) noted that the small contribution that public investment made to total final demand meant that changes in public investment yielded only a limited impact on the economy. Prest (1968) argued that the diffusion of responsibility for public investment constrained the timeliness of the response.

**4.8** With the problems of adjusting public investment to stabilise domestic demand already well established in the 1950s, more emphasis was placed on variations in direct and indirect taxes as well as changes of hire-purchase terms for durable goods. While these instruments had shorter lags compared to public investment, the effectiveness of these discretionary measures were still subject to criticism. The Radcliffe Report (1959), despite promoting the use of fiscal policy as the main stabilisation instrument, identified several drawbacks of the tools then in use. In particular, the Report noted the timeliness problems associated with the Budgetary cycle: *“Their timing...is handicapped by dependence on the parliamentary timetable; and there are real administrative difficulties in making frequent changes in many tax rates.”*<sup>6</sup>

**4.9** In 1961, in recognition of the timeliness issue, the Government introduced the tax regulator (see Section 6) to facilitate a more rapid response to discretionary fiscal policy. The tax regulator provided the Chancellor with the ability to vary purchase tax rates on consumer goods by ten per cent in both directions in between Budgets. Despite these changes, Brittan (1969) argued that policy responses continued to be hampered by the lag in the publication of data on economic conditions.

**Importance of public expenditure control** **4.10** Throughout the 1950s, the tendency for public expenditure to move pro-cyclically acted as a destabilising influence to stabilisation policy. Decisions on public spending at the time were largely based on serving other public policy objectives rather than demand management. This was a reflection of the decentralisation of the public spending process, in which annual departmental spending plans were made largely in isolation and without due consideration for other spending requirements or the economic climate.

**4.11** Ultimately, the absence of public expenditure planning led to disjointed and conflicting objectives. Demand management was largely conducted on the revenue side, without a consistent approach to public expenditure (although some discretionary revisions to public investment did have some stabilising effect). As a result, the inability of government to act in a co-ordinated fashion meant that revenue and expenditure policies were often offsetting rather than reinforcing. The 1961 Plowden Report on *The Control of Public Expenditure* criticised the existing decentralised arrangements and made recommendations for longer-term expenditure planning based on what could be afforded.

**4.12** Importantly, the Plowden Report also recognised the difficulties of using expenditure as a counter-cyclical stabilisation tool, stating explicitly that expenditure plans should not be subject to the swings of ‘stop-go’ policy and therefore represented a shift in emphasis from the original ‘public works’ stabilisation policy as set out in the 1944 White Paper.

<sup>6</sup> Radcliffe Report (1959), page 185.

**Political pressures on fiscal policy** 4.13 Another issue that regularly surfaced was the ‘political economy’ of stabilisation policy. Dow (1964) recognised the difficulties faced by Chancellors using discretionary fiscal policy as a stabilisation tool: *“To be effective, tax changes must affect most consumers, which is most of the electorate”*.<sup>7</sup> In a similar vein, Prest (1968) cited evidence of domestic political issues interfering with stabilisation policy and specifically noted the example of the 1955 Budget when tax reductions were announced in advance of a forthcoming general election and despite a marked deterioration in the balance of payments.

**Stabilisation studies** 4.14 Overall, studies by Dow (1964) and Price (1978) for the respective periods of 1945-1960 and 1959-1973 found that fiscal policy over these periods had, on balance, been more of a destabilising influence than a stabilising one. As Dow (1964) notes: *“As far as internal conditions are concerned then, budgetary and monetary policy failed to be stabilising and must on the contrary have been positively destabilising...”*<sup>8</sup>

## 1970s and following decades

4.15 The 1970s saw two important structural changes to the UK economy, both of which had important implications for the role of fiscal policy. Firstly, in 1972, there was a switch in macroeconomic policy from a fixed exchange rate to a floating exchange rate regime. Secondly, the 1970s also saw the start of financial market deregulation.

4.16 The role of discretionary fiscal policy as a means of stabilisation diminished in the 1970s. This reflected a number of issues:

- the breakdown of the established Phillips curve relationship between inflation and unemployment;<sup>9</sup>
- discretionary fiscal policy tends to be less effective in a floating exchange rate regime than in a fixed rate one;<sup>10</sup> and
- the development of monetary policy.

**Gradual shift towards monetary policy during the 1970s** 4.17 In the second half of the 1970s it became even more apparent to policy makers that fiscal demand management policies could not simply rectify the long-term deterioration in the supply side, as evidenced by rising unemployment over the 1970s. Furthermore, greater emphasis was placed on the monetary implications of budget deficits following several large accumulated deficits in the early 1970s. The experience of high inflation shifted the attention of macroeconomic policy to keeping inflation low. As the 1970s progressed, monetary policy became the more predominant stabilisation instrument.

4.18 In addition, the late 1970s also marked the end of incomes policies as a means of controlling inflation. Too often, incomes policies were distorting since they artificially compressed wage differentials and hence conflicted with economic efficiency.

<sup>7</sup> Dow (1964), page 212.

<sup>8</sup> Dow (1964), page 384.

<sup>9</sup> A consequence of a period of stagflation induced by the oil-price shocks of 1973-1974.

<sup>10</sup> Conversely, monetary policy tends to be more effective in a floating exchange rate regime than a fixed rate regime.

**1980s 4.19** The shift towards using monetary policy as the predominant demand management tool continued in the 1980s. Over this period, a new approach to macro and micro economic policymaking was established. One of the clearest statements of the government's new policy approach was set out by Nigel Lawson in the 1984 Mais Lecture. The Government's macroeconomic objective was to keep inflation low by controlling the growth of the money supply and its microeconomic objectives were to create conditions that were conducive to increasing employment and growth.

**4.20** While the new approach represented an important development for stabilisation, the implementation of money supply targeting proved difficult. Policy makers neglected the impact of institutional changes (specifically, financial deregulation measures in 1979 and 1986) on the relationship between the money supply and prices. As Balls and O'Donnell (2002) note, "*Intermediate targets can lead policymakers to focus too much on the variable they are targeting at the expense of the wide variety of other important indicators of inflationary pressures.*"<sup>11</sup> The persistent modification of target ranges and target indicators, as well as the lack of transparency in decision-making, created uncertainty and damaged the credibility of policy makers. As the current Chancellor noted, in the 1999 Mais Lecture,<sup>12</sup> "*As the late eighties boom showed, the Government eventually relapsed into the very short-termism it had come in to government to reverse.*"

**4.21** Fiscal policy also failed to establish credibility in the late 1980s, mainly due to the failure of policymakers to fully take account of the effects of the economic cycle on the fiscal position. This was despite the fact that the then Government recognised the importance of disaggregating between cyclical and structural influences on the public finances. This failure meant that discretionary fiscal policy became a destabilising influence on the economy. For example, in 1987 the Government lowered taxes even though the economy was already overheating. Many of the lessons learned from policy mistakes in the 1980s and 1990s are set out in three Treasury 'Lessons' papers.<sup>13</sup>

**1990s 4.22** In the first half of the 1990s, the main focus of stabilisation policy remained on monetary policy. From October 1990 to September 1992, domestic interest rates were set to ensure that the sterling exchange rate stayed within the bands of the Exchange Rate Mechanism (ERM). This resulted in a monetary stance that was inappropriately tight for the depressed domestic economy. It was only following sterling's exit from the ERM in 1992 that monetary policy was for the first time explicitly used to target inflation directly, initially within bands. However, despite the change in policy, inflation expectations remained higher than the inflation target over this period, suggestive of a lack of credibility in the policy arrangements prevailing at that time.

**4.23** Fiscal policy continued to play only a minor role as a stabilisation instrument throughout the 1990s as action was needed to restore fiscal sustainability. Following the accumulation of large budget deficits during the early 1990s, measures to tighten fiscal policy were put in place from Budget 1993 onwards.

<sup>11</sup> Balls and O'Donnell (2002), page 12.

<sup>12</sup> Gordon Brown (1999) Mais Lecture Speech, 19 October.

<sup>13</sup> 'Lessons from the Last Economic Cycle', November 1997; 'Lessons from Macroeconomic Policy Experience', November 1998; and 'Planning Sustainable Public Spending: Lessons from Previous Policy Experience, November 2000.

**4.24** The introduction of a new fiscal framework in 1997, described in more detail in Section 2, allows the Government to make changes to discretionary fiscal policy to help stabilise the economy as long as the fiscal rules continue to be met. In the late 1990s, for the first time in over three decades, a government undertook discretionary tightening during an economic upturn.

#### **Box 4.1: Cross-country experience of discretionary fiscal policy**

Different countries have had varied experiences of the effectiveness of discretionary fiscal policy as a stabilisation tool. This box looks at some country-specific examples.

Cross-country evidence of the historical effectiveness of fiscal policy has been mixed. The stabilising impact of discretionary policy depended on a number of country specific factors, such as the extent to which governments resorted to discretionary policy, and how effectively policy was implemented. Two studies have emphasised that a country's debt level is also significant in influencing the efficacy of fiscal policy. Buti *et al.* (1997) look at the experience of EU countries and Wyplosz (2001) looks at the experiences of the U.S., France, Germany and Sweden. Buti *et al.* (1997) note that countries which have high budget deficits and government debt levels often have insufficient room to manoeuvre to carry out counter-cyclical budgetary policies, which may drive empirical results that show fiscal policy is not effective in countering the cycle. Wyplosz (2001) argues that the lack of budgetary discipline in the 1960s and 1970s reduced the stabilising effects of fiscal policy, and the emphasis on budgetary discipline in the 1990s meant the short-term stabilisation properties of fiscal policy were over-looked.

In the US, the few major instances of legislated fiscal policy for stabilisation purposes occurred in the 1950s and 1970s.<sup>14</sup> In the 1950s, like in the UK, there was a strong commitment by US policymakers to activist demand management policies, with tax cuts and additional spending in response to recessions. Furthermore, in the inflationary environment of the 1970s, the Nixon administration combined a large fiscal expansion (comprising mainly tax cuts), with a wage and price freeze, and in 1975 the Ford administration responded to the recession with a one-year tax cut of \$16 billion,<sup>15</sup> lowering income taxes and also corporate liabilities by substantial amounts. The coverage and duration of unemployment compensation was also increased. The evidence of how effective discretionary fiscal policy was at stabilising the U.S. economy remains tentative. Romer and Romer (1994) argue that discretionary fiscal policy does not appear to have had an important role in generating recoveries; due to policy changes not being implemented until after real activity had reached its trough.

## **B: CRITERIA FOR EFFECTIVE FISCAL STABILISATION POLICIES**

**4.25** Part A illustrated a number of useful lessons learned from the application of stabilisation policy in the past. This part develops these lessons into a set of criteria for a successful framework for fiscal stabilisation and also for effective fiscal stabilisation instruments. Finally, this part also considers how well the current monetary policy framework meets these criteria.

<sup>14</sup> Fiscal policy measures in the 1960s were more focused on promoting economic growth than stabilisation. While the first Kennedy administration undertook additional spending to “bring about economic recovery”, Romer and Romer (1994) state that the total amounts spent were quite small. Other changes in the 1960s such as a new investment tax credit and a tax cut in 1964 seem to be motivated more by concerns with longer-run economic growth rather than stabilisation. See Romer and Romer (1994) page 32 for further details.

<sup>15</sup> Many of the tax cuts were eventually extended to 1977, with additional tax cuts and spending under the Carter administration to strengthen a now healthy economy.

## Criteria for a successful institutional framework for fiscal stabilisation

**Key principles for achieving stabilisation** 4.26 While macroeconomic stability may not be sufficient to deliver the Government's growth and employment objectives, it is certainly a necessary goal. The institutional changes to macroeconomic policy in 1997 represented an important advance to ensuring long-term stability. The four key principles,<sup>16</sup> for achieving macroeconomic stability are:

- **stability through constrained discretion** – long-term stability requires an overall framework, which constrains macroeconomic policy to achieve clear long-term and sustainable goals, but which gives discretion to respond flexibly to shocks. If policy makers have a sufficiently credible commitment to long-term stability, then they will be able to exercise discretion in response to shocks without damaging long-term expectations;
- **credibility through sound long-term policies** – governments can have policy credibility and maintain constrained policy discretion if they pursue monetary and fiscal policies, which are well-understood and sustainable over the long term;
- **credibility through maximum transparency** – the greater the degree of transparency about the government's objectives and the reasons why decisions are taken, the more information about outcomes that is published as a matter of routine, and the more checks on the ability of the government to manipulate the flow of information, the less likely it is that investors will be suspicious of the government's intentions, the greater the flexibility of policy to react to real crises and the easier it is to build a consensus for difficult decisions; and
- **credibility through pre-commitment** – the more institutional arrangements can demonstrate that policy is truly trying to achieve its declared objectives, and the more difficult it is for the government to cheat by breaking promises or aiming for different objectives, the more the public and investors will believe that decisions are being taken for sound long-term reasons.

4.27 These four principles are complementary and reinforcing. Each individual principle is a necessary, but not sufficient, condition for achieving macroeconomic stability. For example, the UK's fiscal framework meets these principles through a high degree of transparency (principle 3), pre-commitment through the fiscal rules to fiscal sustainability over the medium term (principles 1, 2 and 3); but it also retains the flexibility to respond to shocks in the short term if needed, in support of monetary policy (principle 1).

4.28 If discretionary fiscal policy is to play a greater role in stabilisation policy then the framework needs to be developed in order to achieve this additional objective. More specifically, based on meeting the above principles and avoiding the mistakes from the past, the institutional framework for an effective stabilisation policy should be:

- 1) symmetrical;
- 2) forward-looking;
- 3) based on clear and transparent operating rules; and
- 4) separate from other government objectives.

<sup>16</sup> Balls and O'Donnell (2002), Chapter 2.

**Symmetrical** **4.29** For discretionary fiscal policy to be effective it should operate symmetrically over the cycle, easing in response to negative demand shocks and tightening in response to positive demand shocks. An asymmetric application of discretionary fiscal policy would damage credibility and undermine the sustainability of the public finances, reducing its future effectiveness and scope.

**4.30** Since political and institutional conditions in most countries tend to introduce a bias against tightening, there is a bigger incentive to boost the economy via a fiscal expansion during a downturn than to tighten during the upturn. This in part reflects the fact that the political nature of fiscal policy decisions on tax and expenditure can make policies difficult to reverse. If a bias against tightening persists, this would result in a structural loosening of fiscal policy and a build up of government debt.

**4.31** Operating discretionary fiscal policy symmetrically over the economic cycle would require fiscal stabilisation policies to be temporary and reversible, ensuring that the overall effect on the public finances averages out to zero in the medium term. Therefore, operating symmetrically prevents a conflict with the objective of ensuring sustainable public finances.

**Forward-looking** **4.32** In a world with perfect information, and no lags in either implementation or in the transmission mechanism, there would be no need for forward-looking policy. Policy makers could react instantaneously in the knowledge that their actions would affect the economy in the desired way immediately. However, in reality there are lags, for example the transmission mechanisms of stabilisation policy necessarily impose a time lag between the implementation of discretionary action and its impact. Conducting policy based on meeting a target sometime in the future, is recognition and a practical solution to reducing the effect of some of these lags (see Box 4.2). By acting pre-emptively, policymakers can prevent a build up in inflationary pressures thereby helping to reduce volatility in both inflation and output.

**Clear and transparent operating rules** **4.33** Clear and transparent operating rules are necessary for achieving credibility in the government's stabilisation policy. Ambiguous and opaque operating rules generate uncertainty and the economy pays a price for this in terms of higher long-term interest rates, slower growth and a lack of credibility for using discretion when it is really required. For example, frequent changes to the tax regime without clear and transparent operating rules could generate uncertainty and prevent businesses and individuals from planning effectively for the long term. However, clear and transparent operating rules (plus symmetrical application of discretionary action over the cycle) should help to mitigate any of the uncertainty effects deriving from any tax changes.

**Separation of stabilisation policy from other government objectives** **4.34** Where there are potentially conflicting government objectives, the separation of stabilisation policy from other policies is crucial to establishing credibility. Other key policy objectives for government include high quality public services and poverty alleviation subject to maintaining sustainable public finances. Failure to separate government objectives generates uncertainty and undermines the credibility of the government's true intentions. The means of achieving credibility for these intentions is to put in place suitable institutional arrangements that make a strategic pre-commitment to separating policy goals.

**4.35** Like monetary policy, discretionary fiscal policy would also have to be separated from the government's other objectives in order to achieve credibility. To achieve this, it would be necessary to separate fiscal policies aimed at stabilisation from other policies (such as increasing public investment or health spending), which are not easily reversible in response to cyclical movements in the economy.

### Criteria for effective fiscal stabilisation instruments

**4.36** An effective fiscal stabilisation framework is not sufficient in itself to ensure effective fiscal stabilisation implementation. It is important to select stabilisation tools that complement the framework as well. A number of criteria for effective stabilisation instruments are considered in the following paragraphs. These criteria will help to minimise the possibility that discretionary fiscal policies will work pro-cyclically and maximise the dampening effect on output volatility. The criteria also take account of the implications of discretionary fiscal policy as a stabilisation tool for economic efficiency and equity.

**4.37** Whether or not the UK joins EMU, the following criteria can be used to assess the likely effectiveness of alternative fiscal instruments for stabilisation purposes. Fiscal stabilisation instruments should:

- 1) maximise the impact on activity;
- 2) minimise inside and outside lags; and
- 3) avoid any negative impact on economic efficiency and equity.

**Maximise impact on activity** **4.38** An effective stabilisation tool should maximise the impact on activity appropriate to the stabilisation requirement. As Annex A illustrates, the impact on activity depends on the choice of stabilisation instrument. A number of factors will determine the size of the impact of a particular instrument. In terms of fiscal instruments these are:

- the magnitude of the base of the stabilisation instrument relative to GDP; and
- the size of the fiscal multiplier for the stabilisation instrument.

**Minimise lags** **4.39** Maximising the impact on activity is clearly a desirable property for a stabilisation instrument. However, if the impact on activity from a stabilisation instrument involves a long lag, this could be an ultimately destabilising, rather than stabilising, influence on the economy. This is because the presence of lags can, if sufficiently long enough, induce a pro-cyclical response to stabilisation policy. The combination of lags that lead to the time delay between the economy requiring a stabilising action and the eventual impact of that action is conventionally divided between inside and outside lags. These are discussed more fully in Box 4.2.

**Box 4.2: Inside and outside lags****Inside lags**

Inside lags are defined as the combination of time delays between the point in time when a stabilisation action is required and when the decision to take that action is implemented.

These lags comprise three elements:

*Recognition lag* – the recognition lag relates to the time delay in obtaining the economic data on which the decisions are based;

*Decision-making lag* – this relates to the time taken for policymakers to process the information from the economic data and come to a decision as to whether to take action or not;

*Implementation lag* – additionally, there will be a further lag between the decision to pursue a policy and implementation of the policy. The implementation lag normally reflects the institutional arrangements in place.

**Outside lags**

Outside lags are defined as the time delay between taking a decision to implement a stabilisation action and when the full economic impact of that action is transmitted to domestic demand. The speed of transmission is dependent upon the type of stabilisation instrument used. For example, it is generally agreed that the maximum impact on UK domestic demand from a change in UK interest rates occurs approximately 1 to 2 years after the change.

The length of the outside lags for the range of possible fiscal instruments will vary, with outside lags likely to be shorter for spending changes than for tax changes. Indeed, the length of the outside lags for tax changes could prove at least as long and uncertain as those of monetary policy.

**Example: inside lags in the UK's public expenditure framework**

In the UK, inside lags for public spending can arise for a number of reasons largely relating to the institutional arrangements in place. For example, there are a limited number of opportunities to obtain parliamentary approval for increases in spending, particularly where there are other pressures on the legislative calendar, and the relatively lengthy processes involved can create further delay. Otherwise desirable reforms to the public expenditure regime – including the introduction of firm and fixed three-year spending plans and new arrangements for ensuring value for money in public procurement – might also have contributed to inside lags. As innovative and often complex modes of public service delivery are developed, necessary processes of appraisal, planning and negotiation can take increasing amounts of time. The devolution and delegation of responsibility for public service delivery to increasingly local levels might also be a contributory factor by, for example, reducing the timeliness of some economic data and the ability of the centre to impose precise controls on patterns of spending.

**4.40** Operating policy in a forward-looking way can help reduce the problem of outside lags since acting pre-emptively should prevent a build-up in inflationary pressures and thereby help to reduce volatility in both inflation and output. However, given the dependence of forecasts on current data it does not solve the problem entirely. Inside lags can be reduced by both improving the timeliness of economic data and by creating the appropriate institutional arrangements that allow for the use of flexible and responsive instruments. In terms of a more activist use of discretionary fiscal policy, this may require that fiscal instruments can be changed outside the normal (annual) Budget timetable.

**Avoid negative  
impact on  
efficiency and  
equity**

**4.41** The government structures the tax and benefit system to achieve a wide range of objectives. The structure reflects the preferences and priorities of the incumbent government. While the process of policymaking and change is clearly ongoing, it can be assumed that the current structure of the tax and benefit system is close to the government's perception of the optimal level and mix of taxes and benefits for a given set of priorities.

**4.42** In this regard, adjusting existing taxes or benefits to meet a stabilisation objective will necessarily impact on some of the efficiency and equity goals, as set by the government. For example, the government sets unemployment benefits at a level that balances the conflicting objectives of fairness against creating the right incentives to make work pay. Clearly, varying levels of unemployment benefit over the cycle as a means of stabilising the economy might run against these other policies. It is important, therefore, that stabilisation policy measures are consistent with wider policy objectives. The separation of stabilisation policy from other government objectives will go some of the way to avoiding a negative impact on efficiency and equity.

**4.43** Box 4.3 below briefly illustrates the application of the principles and criteria discussed in this section to the current monetary policy framework.

### **Box 4.3: How the current UK monetary policy framework fits the criteria**

#### **Symmetrical target**

The current inflation target is symmetric, so that deviations below the target are treated in the same way as deviations above the target, meaning that monetary policy is neither unnecessarily loose nor unnecessarily tight. This helps ensure that monetary policy delivers price stability and also supports growth and employment.

#### **Forward-looking policymaking**

Under the current framework, monetary policy is pro-active and the Bank of England's Monetary Policy Committee (MPC) acts pre-emptively in order to meet the inflation target. By acting promptly, the MPC can prevent a build-up in inflationary pressures, thereby reducing the volatility in both inflation and output. Interest rate decisions are made on a forward-looking basis with a focus on inflation prospects over the next two years, since the full impact of these decisions on inflation takes time to flow through the monetary transmission mechanism.

#### **Clear and transparent operating rules**

The MPC goes about its business according to a regular monthly cycle, augmented by the quarterly Inflation Report. This helps to ensure that its decisions are consistent and well thought out, and it also allows all relevant information to be taken into account when policy decisions are made. Importantly, the MPC publishes the dates of its meetings well in advance. Together with its reporting obligations and other transparency measures such as the publication of the minutes, mean that monetary policy is conducted in a regular fashion and the MPC's reaction function is well understood.<sup>17</sup>

#### **Separation from other objectives**

The MPC is given sole responsibility to use monetary policy to achieve the inflation target. This avoids any perceived conflict with other government objectives.

#### **Minimise inside and outside lags**

In the current framework the MPC meets regularly, on a monthly basis, to consider the appropriate level of interest rates given recent developments in the macroeconomic climate. There is also scope for the MPC to change rates outside the monthly round when necessary.<sup>18</sup> Short inside lags for monetary policy are also helped by the quick implementation of any decisions to change interest rates. Problems associated with outside lags are addressed by implementing policy decisions based on a forward-looking context.

#### **Maximise impact on activity**

Interest rates affect output (in the short run) and prices through very broad transmission channels. A more detailed analysis of monetary policy's impact on the economy can be found in the EMU study by HM Treasury *EMU and the monetary transmission mechanism*.

#### **Avoid negative impacts on efficiency and equity**

The symmetrical inflation target means that there is no bias between savers and borrowers in the medium to long run.

<sup>17</sup> Long-term inflation expectations, as measured by survey and financial market data, show that inflation expectations converged quickly on the target level of inflation when the framework was introduced.

<sup>18</sup> As occurred in September 2001, when a special MPC meeting, following the terrorist attacks in the United States, decided to cut the Bank of England's repo rate from 5 per cent to 4¾ per cent.

**Empirical evidence on the impact of automatic stabilisers suggests they have a significant stabilising impact in the UK and across the EU. However, evidence for the relative strength of automatic stabilisers across the EU is not clear-cut. There are reasons to believe the automatic stabilisers might be slightly weaker in the UK, for example, because the size of the government sector is not as large.**

**The key advantages of the automatic stabilisers are that they act quickly, will tend to be symmetric over the cycle, and can be separated from other policy objectives.**

**However, there is often a trade-off between strengthening their impact and other fiscal policy objectives. For example, while raising the level of unemployment benefits relative to wages may enhance stabilisation it could also damage incentives.**

**So it is not clear what the ‘optimal’ degree of automatic stabilisation would be for the UK inside EMU. Further work is required in a number of areas before a properly informed evaluation of the case for strengthening the automatic stabilisers can be made.**

**Even strengthened, automatic stabilisers may at times need to be supplemented by discretionary action, either monetary or fiscal, because they can only dampen the effects of a shock and may therefore on their own provide an insufficient degree of stabilisation, particularly for large shocks.**

**5.1** Having established that there is a role for fiscal stabilisation in the UK inside EMU, and the criteria for effective fiscal stabilisation policy, this paper now considers the options for achieving a greater degree of fiscal stabilisation in the UK. Discussion of fiscal stabilisation policy can be divided between:

- the impact of the automatic stabilisers; and
- the use of discretionary fiscal policy.

This section focuses on the automatic stabilisers. Part A considers the operation of the automatic stabilisers in the UK, and how this has changed in recent years. Part B then looks at evidence on the strength of the automatic stabilisers in other EU countries and asks how the UK compares. Finally, Part C considers the case for strengthening the automatic stabilisers. The use of discretionary fiscal policy is discussed in Section 6.

## A: THE AUTOMATIC STABILISERS AND THEIR OPERATION IN THE UK

### The strength of automatic stabilisers...

**5.2** There are two steps involved in estimating the strength of the operation of the automatic stabilisers:

- **estimating the degree of budgetary sensitivity:** the initial response of government revenue and spending to economic fluctuations; and
- **estimating the size of the fiscal multipliers:** the subsequent impact on activity of these cyclically induced changes in government revenue and spending.

Estimating the relative magnitude of these two factors leads to an overall assessment of the size of the automatic stabilisers.

### ...depends on the degree of budgetary sensitivity...

**5.3** The degree of budgetary sensitivity to the economic cycle is a product of the structure of the tax and welfare system. Tax and spending policies are often set with specific welfare and incentive considerations in mind, with their effect on automatic stabilisers usually of secondary concern. Factors affecting the budgetary sensitivity of a country to the economic cycle include:

- the size of the government sector;
- the degree of progressivity in the tax system;<sup>1</sup>
- the degree of reliance on cyclically sensitive tax bases;
- the level of unemployment benefits; and/or
- the sensitivity of unemployment to fluctuations in output.<sup>2</sup>

Treasury estimates of the sensitivity of the UK public finances are presented in Box 5.1. Alternative ways of estimating the sensitivity of the public finances to the economic cycle are discussed in Box 5.2.

### ... and the size of the fiscal multipliers

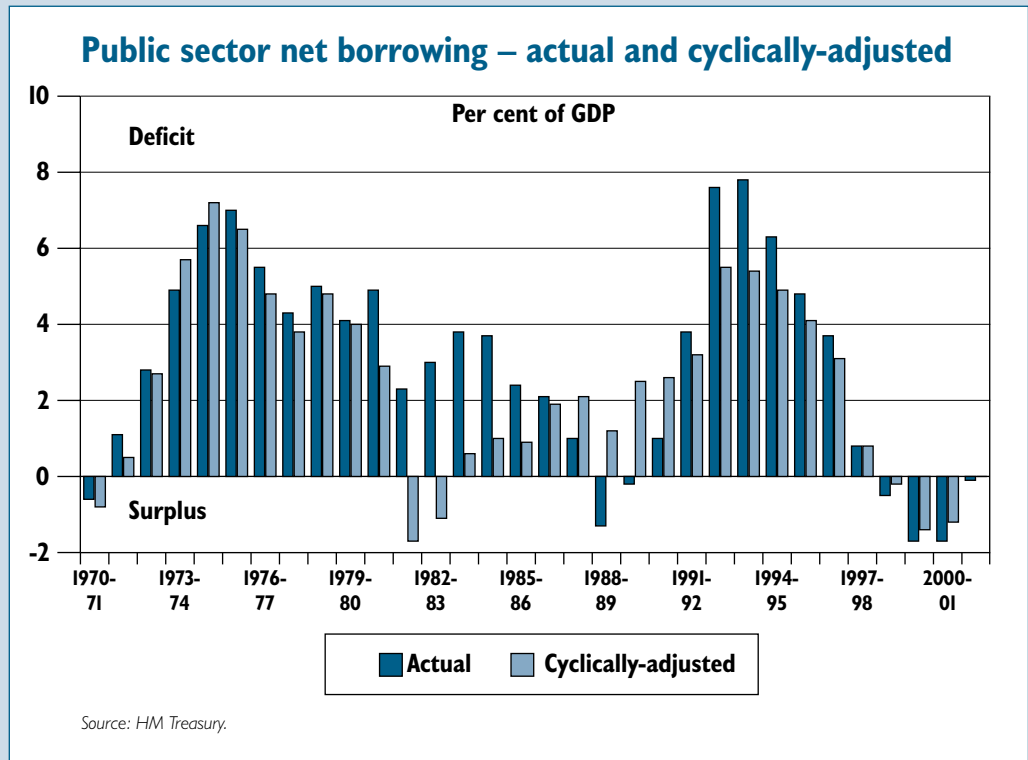
**5.4** Factors affecting the size of the fiscal multipliers have been analysed extensively in Section 3 and include the degree of openness in the economy, the extent to which households smooth their consumption and the flexibility of prices and wages.

<sup>1</sup> Incomes tend to rise and fall with the cycle, so if the system is relatively progressive these changes will have a bigger impact on tax revenue.

<sup>2</sup> If labour hoarding is prevalent, unemployment is less sensitive to changes in output and firms play a more important stabilising role with the automatic fiscal stabilisers doing less. There could still be some impact though, e.g. from lower corporate tax receipts.

**Box 5.1: Calculating budget sensitivity in the UK**

Budget sensitivity in the UK economy can be analysed by examining the difference between the actual Public Sector Net Borrowing (PSNB) and the cyclically-adjusted PSNB. The publication of cyclically-adjusted fiscal balances not only provides an estimate of the automatic stabilisers but is also an important indicator for assessing the underlying state of the public finances. Historical experience has shown that serious policy mistakes can occur if purely cyclical improvements in the public finances are treated as if they represent structural improvements, or if a structural deterioration is interpreted as a cyclical effect.



In order to calculate cyclically-adjusted fiscal balances, estimates of the sensitivity of the public finances to the economic cycle are needed. Treasury estimates<sup>3</sup> suggest that, after two years, a 1 per cent increase in output relative to trend will lead to:

- an increase in the ratio of current budget surplus to GDP of just under  $\frac{3}{4}$  of a percentage point; and
- a decrease in the ratio of public sector net borrowing (PSNB) to GDP of just under  $\frac{3}{4}$  of a percentage point.

These estimates of the cyclical sensitivity of the public finances are based on historical data over the last twenty to thirty years. Thus, the estimates represent an average cyclical responsiveness, although in practice each economic cycle is different and so will be the effect on the public finances.

<sup>3</sup> HM Treasury estimates are presented in Chapter 11 and following appendix of Balls and O'Donnell (2002). The ready reckoners suggest that if GDP growth were 1 percentage point higher or lower than assumed over the coming year, net borrowing might be, respectively, lower or higher by around 0.4 per cent of GDP in the first year and 0.3 per cent in the following year. However, these figures are now closer to 0.5 per cent and 0.2 per cent when allowance is made for the reduction in the lag between profits and corporation tax receipts resulting from the introduction of the instalment system for corporation tax.

**Cyclical variations in taxes...** **5.5** Much of the cyclical sensitivity in the public finances arises from the revenue rather than the expenditure side. Corporate taxes are usually found to have the highest variability, reflecting the fact that corporate profits fluctuate sharply over the economic cycle. In the past, changes in corporation tax receipts in the UK have tended to lag movements in output significantly because of delays in collection. However, reforms to the corporation tax system involving the abolition of payable tax credits and advance corporation tax and the introduction of quarterly instalment corporation tax payments are increasing the timeliness of receipts to changes in activity. For a discussion of the impact of this and other changes since 1997 on the strength of the automatic stabilisers in the UK see Box 5.3.

**... and expenditure** **5.6** On the relatively less sensitive spending side, social security expenditures (particularly unemployment benefits) move the most with the cycle, increasing when the economy is weak. One reason why social security expenditures respond more slowly than most taxes to the cycle is that the labour market is slow to respond to the cycle. Changes in unemployment tend to lag the cycle by a few quarters. However, social security expenditure reacts very quickly once changes in unemployment occur.

**5.7** An alternative way of looking at the sensitivity of the public finances to the economic cycle is to look at movements in the government expenditure to GDP and tax receipts to GDP ratios in response to a change in the output gap. This indicates that the fact that much government expenditure is independent of the economic cycle is in itself a stabiliser, reducing volatility in the economy (though overall volatility will also depend on other factors such as price and wage flexibility and labour mobility). Fatas and Mihov (1999) looked at the relationship between government size and the properties of the economic cycle and found that larger governments (measured by the ratio of expenditure or taxes to GDP) display less volatile business cycles. As the UK's government sector is below the EU average this implies that other things equal, the UK's automatic stabilisers may be relatively weak (see paragraph 5.23).

**5.8** In the UK, over half of government expenditure is within firm and fixed Departmental Expenditure Limits (DEL) which are set in the Spending Review for the following three years. This excludes cyclical items (covered in Annually Managed Expenditure, AME) and so should be independent of movements in the output gap. Treasury estimates (consistent with the overall results for the PSNB and surplus on current budget in Box 5.1) indicate that a 1 per cent increase in output relative to trend will after two years reduce the ratio of total managed expenditure to GDP by about  $\frac{1}{2}$  percentage point and increase the ratio of current receipts to GDP by just under  $\frac{1}{4}$  percentage point.<sup>4</sup> The decrease in the expenditure to GDP ratio is largely due to the rise in GDP with much of government spending remaining unchanged although some effect is related to the fall in social security spending.

<sup>4</sup> Balls and O'Donnell (2002), Chapter 11.

### **Box 5.2: Alternative ways of estimating the sensitivity of the public finances to the economic cycle**

The economic cycle can exert a significant impact on the public finances. A good understanding of the effect of the economic cycle on the government's finances is therefore key to ensuring good fiscal management. Yet the impact will vary from country to country and potentially change over time due to changes in the tax and expenditure system and differences in the cycles themselves.

There are a number of different ways of cyclically-adjusting fiscal aggregates. The Treasury's approach<sup>5</sup> is to regress spending and revenue totals against the output gap. Producing accurate results depends on the ability to identify the effects of discretionary changes to the tax system. This makes such a technique both time-consuming and difficult for cross-country comparisons.

International organisations, such as the European Commission, European Central Bank (ECB) and the Organisation for Economic Co-operation and Development (OECD), therefore tend to use a different, disaggregated approach. They break down changes in the overall fiscal aggregates into specific tax and spending categories. For each category, the effect of the cycle on the tax base (e.g. the wage bill, profits, consumption etc) is estimated based on historical data. Current tax rates can then be used to estimate how changes in the base affect tax receipts. Combining these results provides an estimate of the effect of the economic cycle on tax receipts.

As this disaggregated method does not use tax receipts in its analysis, it avoids the need to specifically remove the effects of discretionary tax changes. It can therefore be more readily applied to cross-country analysis. The approach is, however, not quite as comprehensive as the Treasury's method as not all revenue and spending streams are amenable to this analysis. It also does not allow for lagged effects.

All approaches for cyclical adjustment also need a technique for determining trend growth, and therefore the output gap. The European Commission and the OECD use a 'production function' method, while the ECB uses a statistical filter. The Treasury's approach is based on estimating a trend between identified on-trend points. Prospects for trend growth are based on an analysis of what is driving the components of trend growth.<sup>6</sup>

The table below shows the estimates of the effect on the overall fiscal balance of a 1 percentage point output gap for the United Kingdom. Despite using different approaches, the results are broadly similar.

Organisation	Sensitivity to the cycle
European Central Bank	0.65
OECD	0.5
HM Treasury	0.5 year 1 0.2 year 2
European Commission	0.5

It needs to be remembered that, as these approaches tend to use historical information, the results show the impact of the average cycle. However, each cycle is different and the impact on the public finances will vary.

<sup>5</sup> Balls and O'Donnell (2002), Chapter 11.

<sup>6</sup> "Trend Growth: Recent Developments and Prospects", HM Treasury, April 2002.

**Price shocks with fixed nominal spending plans**

**5.9** One implication of having fixed nominal spending plans for DEL is that the spending framework will be a stabilising force for responding to shocks to the price level as well as shocks to real output. Without a discretionary change in policy, unexpected increases or decreases in prices will not be accommodated by higher or lower spending over the horizon of the Spending Review. Other things equal, this means that real spending will be curtailed with positive price shocks and increased with negative price shocks. In the case of demand shocks, this price effect will further support output stabilisation. In the case of supply shocks, the price level effect will work in the opposite direction to the operation of the fiscal stabilisers affected by output. This is because, as described in Box 2.2, in the case of a positive supply shock inflation will actually fall, and this will allow real government spending to increase (if nominal spending plans are fixed), while the increase in output is dampened by the tax and benefit system. Consequently the automatic stabilisers are expected to have a more powerful effect on output in response to demand shocks than supply shocks. This is confirmed by empirical evidence (see paragraph 5.15). In many respects this is a desirable property, given that the automatic stabilisers may need to be overridden in the case of supply shocks.

**Fiscal multipliers are also important**

**5.10** The empirical evidence for the size of the fiscal multipliers tends to suggest that short-term expenditure multipliers are larger than those for tax (see paragraph A10 in Annex A). This means that while the revenue side of the public finances is more sensitive to the cycle, it could be the spending side which has a more significant effect on GDP in the short term. For example, the fiscal multiplier associated with changes in social security payments is likely to be high. Those who receive social security payments are likely to be liquidity constrained and consume out of current income. Therefore, when social spending changes, this is likely to have a greater impact on consumption and GDP than equivalent changes to income taxes where the impact is at least partially smoothed away by households.

**5.11** In addition, it is difficult to ascertain the impact of changes to taxes on GDP, due to collection and decision lags. For example, while corporation tax is very sensitive to the cycle, the fact that it has in the past been collected annually, so that no impact is felt by companies until the end of the tax year, may have slowed down its impact on companies' investment decisions.

**Box 5.3 How have the automatic stabilisers changed since 1997 in the UK?**

A number of factors may have altered either budgetary sensitivity to the cycle, or the size of the fiscal multipliers since 1997:

- **Macroeconomic stability:** The Government's current macroeconomic framework, introduced in 1997, has enabled policy to sustain stability and growth in the UK despite the sharpest global slowdown since the 1970s. Many of the benefits of increased economic stability flow from the reduction in economic uncertainty faced by businesses, individuals and government. This helps them plan for the future with greater confidence. For example, greater certainty is manifested in lower volatility of unemployment relative to output and therefore, all other things being equal, smaller changes in the automatic stabilisers for a given change in output.
- **Unemployment:** Employment has remained more robust than in past economic slowdowns, helping to keep unemployment rates at, or very close to, levels last achieved in the 1970s. This could reflect either labour hoarding by firms expecting any downturns to prove to be short or shallow, a reflection of macroeconomic stability, or greater flexibility in wages and hours worked. So while the lower sensitivity of unemployment to the economic cycle implies weaker automatic stabilisers, this is offset by greater labour market flexibility arising from greater flexibility in wages and working hours with the possibility of increased cyclical variation in income tax receipts.
- **Government expenditure:** Between 1997-98 and 2001-02, the ratio of total managed expenditure (TME) to GDP averaged 38.4 per cent, compared with 42.4 per cent for the period between 1990-91 and 1996-97. However, the ratio has already increased and will rise further as additional spending to ensure high quality public services and raise public investment comes through, approaching the 1990-91 to 1996-97 level by 2005-06. TME is split between Department Expenditure Limits (DEL) and Annually Managed Expenditure (AME). The setting of fixed three-year DEL for over half of government spending should also have a stabilising effect. AME includes demand-led items such as social security expenditure and has been less volatile since 1997 reflecting more stable unemployment levels.
- **Income tax reforms:** Income tax reforms such as the removal of income tax allowances (mortgage interest relief, married couples allowance), the introduction of the 10p rate, the reduction in the basic rate of income tax and the introduction of self-assessment, have in combination made the tax system more progressive. This would have increased budgetary sensitivity to the cycle, though it may also have reduced the associated fiscal multiplier, so the overall impact on the automatic stabilisers is ambiguous. The effect of the introduction of tax credits is also unclear. These have lowered the very high marginal deduction rates faced by many low-income families,<sup>7</sup> although the number exposed to marginal rates of over 60 per cent has increased. Higher marginal tax rates would tend to increase the size of the automatic stabilisers, so the overall effect is ambiguous.
- **Cyclically-sensitive tax base:** The impact on the automatic stabilisers from the introduction of the instalment system for corporation tax is likely to be one of timing rather than magnitude. It is possible that income tax receipts have become more cyclical as a result of large variations in the level of bonuses and possibly also from greater flexibility in hours worked.

Given the mixed evidence outlined above, it is difficult to conclude one way or the other whether developments since 1997 have strengthened the automatic stabilisers. Over time the Treasury estimates of budgetary sensitivity have fallen slightly but they are now assumed to work through faster due partly to the corporation tax reforms.<sup>8</sup>

<sup>7</sup> HM Treasury (2002b), Table 4.4 has marginal deduction rates for low-income families pre and post the introduction of tax credits.

<sup>8</sup> Balls and O'Donnell (2002), Chapter 11.

## B: INTERNATIONAL COMPARISONS OF THE STRENGTH OF THE AUTOMATIC STABILISERS

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**5.12** Table 5.1 sets out evidence on the effectiveness of automatic stabilisers in smoothing fluctuations in GDP growth and the output gap in EU countries using several multi-country macroeconomic models. These include the European Commission ‘QUEST’, OECD ‘Interlink’ and National Institute of Economic and Social Research (NIESR) ‘NiGEM’ models.<sup>9</sup>

### Main results of studies

**5.13** The results from the three studies are shown in Table 5.1 and differ in the extent to which they estimate the automatic stabilisers are able to smooth economic fluctuations.<sup>10</sup> The automatic stabilisers are estimated to be most effective in the OECD study, smoothing economic fluctuations by around a quarter in the EU. In contrast, the NIESR study of the euro area indicates that only 11 per cent of economic fluctuations are smoothed. There is mixed evidence on the strength of the automatic stabilisers in the UK relative to the rest of the EU.

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<sup>9</sup> European Commission results are discussed in “Public Finances in EMU-2001”, European Economy, No 3. OECD results are from Van den Noord (2000) and a revised version of the paper, Van den Noord (2002). NiGEM results are from Barrell and Pina (2002).

<sup>10</sup> Results from macroeconomic models depend crucially on model specification and the assumptions underlying the simulations, particularly the monetary policy and fiscal solvency rules. The monetary policy response assumed in the models in response to movements in GDP growth or inflation is important since it will effectively work as an additional stabilisation mechanism in the simulations. The fiscal solvency rules are switched off in the short run but are re-introduced in the medium term to ensure fiscal sustainability. In addition, when assessing the effectiveness of the automatic stabilisers in smoothing fluctuations, a comparison is needed with a scenario in which automatic stabilisers are not allowed to work. This alternative scenario requires the budgetary impact of economic fluctuations to be offset by changes in other components of the budget. The results are therefore sensitive to which budget items are adjusted to keep the overall fiscal balance fixed.

**Table 5.1: Effectiveness of automatic stabilisers across EU countries**

	Percentage of fluctuations in output that are smoothed <sup>1,2,3</sup>					
	European Commission QUEST model				OECD	NIESR
	Consumption shock	Investment shock	Export shock	Productivity shock	Interlink model	Nigem model
Belgium	24	11	12	12	22	5
Denmark	31	18	25	14	–	–
Germany	17	9	10	13	31	18
Greece	22	13	17	10	14	–
Spain	17	11	11	17	17	13
France	23	13	14	13	14	7
Ireland	26	6	9	9	10	7
Italy	21	11	12	17	23	5
Netherlands	20	9	10	11	36	6
Austria	23	11	14	13	7	12
Portugal	30	16	19	14	–	10
Finland	20	11	15	13	58	7
Sweden	31	13	15	17	26	–
UK	18	9	8	11	30	–
<b>Unweighted Average</b>	<b>23</b>	<b>12</b>	<b>14</b>	<b>13</b>	<b>24</b>	<b>9</b>
<b>Weighted Average<sup>4</sup></b>	<b>20</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>25</b>	<b>11</b>

<sup>1</sup> EC QUEST model results show the percentage of GDP fluctuations that are smoothed.

<sup>2</sup> OECD Interlink model results show percentage of root mean squared (RMS) deviations of the output gap that have been smoothed from 1991-2000.

<sup>3</sup> NIESR Nigem model results show percentage of RMS deviations of GDP growth smoothed based on stochastic simulations for 1999-2005, where trials are drawn from 1993-1997.

<sup>4</sup> Weighted by GDP in 2001.

Source: European Commission (2001), "Public Finances in EMU – 2001", European Economy No. 3, page 70 and pp.188-190.

### Response of automatic stabilisers to different shocks

**5.14** The European Commission's study shows that the automatic stabilisers in the UK and other EU countries are more effective at smoothing consumption shocks than smoothing either investment or export shocks. This reflects the nature of the tax regime and differences in the budget sensitivities across shocks. The budgetary sensitivity is highest for consumption shocks, since VAT and excise duties are directly affected by the shock. Countries with a tax regime that has a relatively high share of revenues coming from VAT and excise duties thus generally have more powerful automatic stabilisers when faced with a consumption shock. In contrast, no tax category is directly affected by export shocks and hence the effectiveness of the automatic stabilisers is weakened. In the case of investment shocks the direct budgetary response works in the opposite direction, as an increase in investment results in an increase in investment allowances, and hence a reduction in revenue. The wider economy impact is however enough to ensure the overall effect is not negative.

**5.15** The European Commission's study also looks at the impact of the automatic stabilisers in the event of a supply shock, modelled via shocks to labour productivity. This shows that the automatic stabilisers only have a relatively modest effect on smoothing fluctuations in the economy when faced with such a shock. This is not unexpected given the earlier discussion of the different response of the automatic stabilisers to demand and supply shocks (see Box 2.2 in Section 2 and paragraph 5.9). As already noted, this is actually a desirable property, given that the automatic stabilisers may need to be overridden in the case of supply shocks. The European Commission concludes that in the case of supply shocks the automatic stabilisers are "...unlikely to act as a major brake on the required adjustment or make it more difficult for the central bank to maintain price stability."<sup>11</sup>

<sup>11</sup> European Commission (2001a), page 59.

**5.16** Following a similar methodology as the Commission, Barrell and Hurst (2003) have updated the estimates of the automatic stabilisers for the NiGEM model. Table 5.2 summarises the results. Their estimates are somewhat smaller than those of the Commission, reflecting in part, differences in the treatment of indirect tax changes. However, like the Commission, they find that the automatic stabilisers are most effective in response to consumption shocks, and much less so for investment and export shocks.

**Table 5.2: Effectiveness of automatic stabilisers in the NiGEM model**

Country	Percentage of fluctuations in output that are smoothed			
	Consumption shock	Investment shock	Export shock	Weighted <sup>1</sup> average
Belgium	18	3	3	5
Germany	13	7	7	10
Greece	12	7	6	8
Spain	12	6	6	9
France	18	3	3	11
Ireland	16	4	4	5
Italy	9	5	5	6
Netherlands	21	2	2	5
Austria	16	8	8	10
Portugal	18	7	6	8
Finland	14	4	4	7
UK	11	4	4	7
<b>Average (unweighted)</b>	<b>15</b>	<b>5</b>	<b>5</b>	<b>8</b>

<sup>1</sup> Weighted average uses relative shares of consumption, investment and exports in GDP in each country.

Source: Barrell and Hurst (2003).

**5.17** Barrell and Hurst also weight the effectiveness of the automatic stabilisers for different shocks by the relative shares of consumption, investment and exports in GDP. This allows them to derive a figure for the overall effectiveness of the automatic stabilisers over this period (column 4 of Table 5.2). This shows that for the UK, the automatic stabilisers have on average removed around 7 per cent of the output fluctuations arising from consumption, investment and export shocks.

### Cross-country comparisons

**5.18** The empirical cross-country comparisons do not give clear-cut results for the relative effectiveness of the automatic stabilisers in offsetting shocks in different countries. For example, the OECD study shows that the UK is slightly above average in its smoothing capacity with 30 per cent of shocks being smoothed compared to an unweighted average across all countries of 24 per cent, whereas the European Commission's study and the NiGEM simulations suggest that the UK is slightly below average in smoothing economic fluctuations for each of the different types of shock analysed.

**5.19** Barrell and Pina (2002) note that their estimates are generally lower than existing studies, and attribute this to two main factors. First, they argue that previous studies, such as the OECD study, place too much emphasis on demand shocks. Automatic stabilisers are best at stabilising demand shocks, hence a greater emphasis on these would lead to higher estimates of the effectiveness of smoothing. The European Commission's study avoids this drawback by focusing on the smoothing effect of automatic stabilisers on particular shocks.

**5.20** Secondly, Barrell and Pina (2002) argue that previous studies have been backward-looking in their modelling of monetary policy, which can lead to higher estimates of smoothing capacity. They show that a forward-looking modelling technique, which fully accounts for rational expectations and the relevant response of the central bank, reduces estimates of smoothing capacity. For example, they find that if no response by financial markets and the monetary authorities is assumed, automatic stabilisers smooth 14 per cent of shocks in the euro area, but if the monetary authorities are assumed to respond this falls to 11 per cent.

**5.21** The European Commission's study models monetary policy responses, and hence is comparable to Barrell and Pina's study, while the OECD study only incorporates a response from the monetary authorities using a Taylor rule for "...all countries except for those (other than Germany) that participated in the ERM throughout the 1990s until the start of monetary union and whose fluctuation band was left unchanged during the turbulence of the early and mid-1990s (i.e. France, Austria, Belgium, Denmark, the Netherlands and Spain). For the latter group of countries, nominal interest rates were kept constant."<sup>12</sup>

**The monetary policy response matters...**

**5.22** With the UK assumed to run an independent monetary policy in these studies, there is likely to be a greater interest rate response in the UK than in the euro area countries, so a lower multiplier might be expected. Inside EMU the fiscal multipliers might be somewhat larger, increasing the estimated effectiveness of the automatic stabilisers relative to other countries.

**...as does government size...**

**5.23** As already discussed (see paragraph 5.7), the size of government is another factor affecting the strength of the automatic stabilisers. Table 5.3 illustrates the comparative size of governments in the EU in 2001. As the table highlights, the UK is below the euro area average (by between 6 and 8 percentage points of GDP), and in fact it is the third smallest in the EU behind Spain and Ireland. However, as noted in Box 5.3, government expenditure is set to rise in the UK over the 2002 Spending Review period, as additional expenditure to ensure high quality public services and raise public investment comes through. Thus the difference in government size compared with the euro area average may narrow in the future.

**Table 5.3: General government size in the EU (per cent of GDP, 2001)**

	Germany	France	Italy	Euro area	UK
Total expenditure	48.3	52.7	48.4	48.2	40.3
Total revenue	45.5	51.3	46.2	46.7	41.0

Source : European Commission (2002), "Economic Forecasts, Autumn 2002," *European Economy* No. 5, page 110.

**5.24** Fatas and Mihov (1999), from their sample of 20 OECD countries, provide an indicative rule of thumb for the impact on volatility of output from a change in the size of government that "...an increase in government size by one percentage point (of GDP) will reduce the volatility of output (standard deviation of GDP) by 0.07."<sup>13</sup> This implies that if the size of the UK's government sector was the same as the euro area average, the standard deviation of GDP would reduce by about 0.5.

**...and a cyclically-sensitive tax base...**

**5.25** The OECD study by van den Noord (2000) examines the cyclical sensitivity of specific tax components. The results are shown in Table 5.4. The decomposition of the cyclical sensitivity of the UK's tax base provides a relatively mixed picture in comparison with France, Germany and Italy. The results show that the UK is relatively sensitive to changes in output for personal tax and social security but less so for corporation tax. In aggregate, the sensitivity of the UK's tax base relative to Germany, France and Italy by OECD and European Commission measures is very similar.

<sup>12</sup> Van den Noord (2000), pp. 139-140.

<sup>13</sup> Fatas and Mihov (1999), Non-technical Summary.

**Table 5.4: Tax and expenditure elasticities**

	Corporation Tax	Personal Tax	(OECD) Indirect Tax	Social Security	Current Expenditure	(OECD) Total Balance	(EC) Total Balance
France	1.8	0.6	0.7	0.5	-0.3	0.5	0.4
Italy	1.4	0.8	1.3	0.6	-0.1	0.5	0.4
Germany	0.8	1.3	1.0	1.0	-0.1	0.5	0.5
<b>UK</b>	<b>0.6</b>	<b>1.4</b>	<b>1.1</b>	<b>1.2</b>	<b>-0.2</b>	<b>0.5</b>	<b>0.5</b>

Sources: Van den Noord (2000) and Commission services.

**...and so does  
the net  
replacement  
rate**

**5.26** The net replacement rate which measures out-of-work benefits compared to in-work incomes, also affects the size of the automatic stabilisers. A recent OECD (2002) study suggests that in general, the UK is close to the average for developed countries. However, cross-country comparisons of this kind are extremely difficult to make and one needs to be wary of attaching too much weight to a single study.

**Automatic  
stabilisers in the  
US**

**5.27** Automatic stabilisation in the US economy through the federal tax and benefit system is smaller than in many other industrialised economies, in part because of the smaller share of the economy accounted for by the government sector. Research by Cohen and Folette (2000) and Auerbach and Feenberg (2000) indicates that automatic stabilisers offset around 8 to 10 per cent of shocks to output, while the OECD study suggests that 16 per cent of economic fluctuations in the US are smoothed by the automatic stabilisers. In addition, individual state governments in the US do not tend to use their budgets as a stabilisation tool. In fact, almost all states limit the operation and impact of the automatic stabilisers through balanced budget requirements. Thus the overall degree of stabilisation provided in the US is not large, and is probably less than that which is provided by individual EU Member States.<sup>14</sup>

**Automatic  
stabilisers versus  
discretionary  
policy**

**5.28** Van den Noord (2002) uses the OECD Interlink model to undertake a cross-country comparison of the stabilising impact of the automatic stabilisers versus discretionary fiscal policy. Table 5.5 shows the key results. While the automatic stabilisers were slightly more important than discretionary policy in stabilising output on average, there were significant cross-country differences. In three countries, (Italy, Belgium and France) discretionary fiscal policy actually served to *increase* cyclical volatility. However, where discretionary fiscal policy operated counter cyclically, it tended to have a *stronger* stabilising impact than the automatic stabilisers. Of the nine countries where discretionary fiscal policy reduced cyclical volatility, it was more important than the automatic stabilisers in all but three. One of the exceptions was the UK, where fiscal policy has not been used much as a discretionary demand management instrument in recent years. This suggests that while the use of discretionary fiscal policy must be undertaken with care to ensure it operates counter cyclically, it can be an important and powerful way to supplement the automatic stabilisers.

<sup>14</sup> For further discussion of the automatic stabilisers in the US see the EMU study by HM Treasury *The United States as a monetary union*, Chapter 3 and Annex B.

**Table 5.5: Impact of fiscal policy on the cyclical volatility of output (1991-99)<sup>1</sup>**

	Actual cyclical volatility of output <sup>2</sup>	Increase (+) or decrease (-) in cyclical volatility attributable to:	
		Automatic stabilisers	Discretionary policy
Finland	5.7	-7.8	-2.9
Ireland	3.6	-0.4	-0.7
Sweden	2.9	-1.0	-1.1
Italy	2.3	-0.7	1.7
Spain	1.9	-0.4	-1.1
Belgium	1.8	-0.5	0.7
France	1.8	-0.3	0.1
Greece	1.8	-0.3	-2.6
<b>United Kingdom</b>	<b>1.6</b>	<b>-0.7</b>	<b>-0.4</b>
Germany	1.4	-0.8	-0.3
Austria	1.3	-0.1	-1.4
Netherlands	1.1	-0.4	-1.5
<b>Average</b>	<b>2.3</b>	<b>-1.1</b>	<b>-0.8</b>

<sup>1</sup> Output volatility is measured as the root mean square of the output gap.

<sup>2</sup> Countries are ranked according to cyclical variability of the output gap.

Source: Van den Noord, 2002.

## C: THE CASE FOR STRENGTHENING THE AUTOMATIC STABILISERS IN THE UK

**5.29** In terms of the criteria for effective fiscal stabilisation policies set out in Section 4, there are three key advantages associated with using the automatic stabilisers for stabilisation purposes:

- the inside lag is minimised. In general, the effect occurs at the same time that incomes are paid, consumption takes place or people become unemployed (though in practice some lags will still occur due to administrative delays in tax/benefit payments etc);
- left to themselves the automatic stabilisers will operate symmetrically over the cycle; and
- to the extent that they can be identified with a reasonable degree of confidence, the operation of the automatic stabilisers can be easily separated from other aspects of fiscal policy, as they are in the UK's fiscal rules.

### Trade-offs need to be considered

**5.30** But a key issue to consider when assessing the case for strengthening the automatic stabilisers is the trade-off with other policy objectives. The existing policies which constitute the automatic stabilisers were designed carefully, and with other objectives in mind such as the need to promote equity and efficiency. Strengthening the automatic stabilisers would risk cutting across these considerations, and upsetting the balance that has been struck between competing objectives. So for example, while raising the level of unemployment benefits relative to wages may enhance stabilisation, it could also damage incentives.

**5.31** In addition, it is not clear what the ‘optimal’ degree of automatic stabilisation would be for the UK inside EMU. This would require a comparison of the potential benefits with the potential costs, neither of which are clear cut. The potential benefits would depend on the degree of economic instability the UK experienced inside EMU. While the loss of the domestic monetary policy lever may be expected to increase the benefits of strengthening the stabilisers, it is not clear by how much. This will require consideration over time. Decisions would also depend on the costs of strengthening the stabilisers in terms of other policy objectives as discussed above, which will depend in turn on the specific tools used. For example, a policy which strengthened the automatic stabilisers at the expense of reducing flexibility could be damaging on balance.

**5.32** Given that there is still much to be learnt about all these issues, not least from the experiences of other countries within EMU, further work will be required over time to assess the case for strengthening the automatic stabilisers if the UK were to join EMU:

- the analysis of the strength and timeliness of impact of the existing automatic stabilisers will be updated in light of recent developments (discussed in Box 5.3);
- consideration of major tax and spending reforms will take into account where relevant the likely impact on the automatic stabilisers, for example in the reform of corporation tax which is currently in consultation;
- an analysis of the degree of cyclical variation in the UK economy if the UK were to join EMU would determine the extent of the need for further stabilisation; and
- if on the basis of this analysis, there appears to be a need to strengthen the automatic stabilisers, further analysis of the specific options for achieving this would be required, and an assessment would need to be undertaken of the potential costs and benefits associated with each option in terms of the stabilising impact and of the likely implications for the Government’s wider policy objectives such as efficiency and equity etc.

**5.33** Comparisons with the costs and benefits of increased use of discretionary fiscal policy should also be made. But even if strengthened, the automatic stabilisers may at times need to be supplemented by discretionary action, because they may provide an insufficient degree of stabilisation on their own, particularly for large shocks. Making discretionary fiscal policy more effective for the purposes of stabilisation policy is the subject of the next section.

This section considers policy options to make discretionary fiscal policy more effective for stabilisation purposes, basing those reforms on the principles underpinning the existing framework: clear and sound long-term policy objectives; pre-commitment through institutional arrangements and procedural rules; constrained discretion; and maximum openness, transparency and clear accountability.

First, it considers options to reform the institutional arrangements for fiscal policy if the UK were to join EMU. The adoption of an explicit stabilisation objective and an explanation of the Government's fiscal stabilisation 'rule' would add an element of pre-commitment and help ensure that discretionary policy operated in a symmetric way. And the publication by the Government of a regular Stabilisation Report would further enhance transparency and openness. In addition, given the complexities of operating a more active fiscal stabilisation policy, there is a case for enhancing independent surveillance. Finally, greater use of the existing tax regulator power would help to minimise lags in the use of discretionary fiscal stabilisation policy, and reforms could increase their suitability for this purpose.

Second, the section compares various fiscal instruments that could be used for stabilisation purposes, in particular taking into account their impact on demand and broader government objectives such as equity and efficiency.

In theory, discretionary fiscal policy could be carried out through any taxation or expenditure change, or some combination. However, in practice, government spending changes operate with long lags and frequent changes would conflict with the current medium-term spending framework. Temporary changes to income taxes and national insurance contributions also face significant practical problems and may have a relatively limited stabilisation impact.

In contrast, temporary changes to a combination of expenditure taxes, for example through the regulator power, could prove to be a powerful fiscal stabilisation tool, with limited undesirable impacts on incentives and the overall equity of the tax system. Fiscal instruments impacting on the housing market could help reduce volatility in this sector of the economy, through 'automatic stabiliser' properties, as well as providing a potential additional discretionary stabilisation tool.

**6.1** The options for increasing the role of fiscal stabilisation policy can be divided between strengthening the automatic stabilisers and using fiscal policy more actively in a discretionary way. The previous section considered the use of automatic stabilisers and concluded that there is considerable uncertainty surrounding their optimal level. Moreover, even strengthened, automatic stabilisers can only dampen the effects of a shock - and may therefore, on their own, provide an insufficient degree of stabilisation, particularly for large shocks. Hence, this section considers policy options for using discretionary policy in a more active manner.

**6.2** In theory, discretionary fiscal stabilisation policy has the advantage that it is highly flexible and can be tailored to meet given macroeconomic target(s) and to respond to specific shocks. However, as discussed in Section 4, the experience of the UK in the 1950s and 1960s, and that of other countries, illustrates the difficulties in operating an effective discretionary fiscal stabilisation policy in practice. In particular, the evidence suggests that policy in the UK was generally pro-cyclical and hence not a stabilising force.

**6.3** This section therefore considers policy options to make discretionary fiscal policy more effective distinguishing between:

**Institutions** (Part A): the UK's reforms to the monetary policy framework underline the importance of institutional design in the area of stabilisation policy. How the institutional arrangements for fiscal policy could be developed to define a fiscal stabilisation policy clearly and distinctly from other aspects of fiscal policy; to ensure that discretionary fiscal policy operates symmetrically; to enhance credibility and transparency; and to minimise lags; and

**Instruments** (Part B): considers which fiscal policy levers are likely to prove most effective and can be used flexibly. Given the desire to create a more stable and predictable framework for public spending, as reflected in the current multi-year spending review structure, and the long lags in the operation of government spending, the focus here is on tax instruments. Instruments are considered bearing in mind the criteria outlined in Section 4, in particular their impact on demand, and broader government objectives such as equity and efficiency.

**6.4** The Swedish Government has undertaken a similar analysis regarding the operation of stabilisation policy in EMU. It established a specific body (the Swedish Committee on Stabilisation Policy in EMU) in 2000 to consider these issues and, in particular, to give proposals as to how fiscal policy would be best pursued under these conditions. A summary of its conclusions is given in Box 6.5.<sup>1</sup>

## A: INSTITUTIONS

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**6.5** A key lesson of the practice of stabilisation policy, both in the 1950s and 1960s (when the emphasis was on using fiscal policy) and more recently (when monetary policy has been assigned the primary responsibility for stabilisation) is the importance of institutional design. With a potentially more active role for discretionary fiscal policy inside EMU, this section considers reforms to ensure that discretionary fiscal stabilisation policy could operate in a symmetric, transparent, credible and timely manner.

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<sup>1</sup> A summary of the report 'Stabilisation Policy in the Monetary Union' can be found on the Swedish Government website at [http://www.finans.regeringen.se/propositionermm/sou/pdf/emu\\_summary.pdf](http://www.finans.regeringen.se/propositionermm/sou/pdf/emu_summary.pdf)

## The Framework For Discretionary Fiscal Stabilisation Policy

**6.6** Under the current macroeconomic framework, the Government's key fiscal objectives are:

- over the medium term, to ensure sound public finances and that spending and taxation impact fairly both within and between generations; and
- over the short term, to support monetary policy; and, in particular, to allow the automatic stabilisers to play their role in smoothing the path of the economy

**6.7** Hence, the primary objective for fiscal stabilisation policy is to support monetary policy and to allow the full operation of the automatic stabilisers.<sup>2</sup> While the framework also permits the Government to use discretionary fiscal policy to stabilise the economy (as long as the fiscal rules continue to be met), in recent years, the main discretionary instrument for stabilisation policy has been monetary policy. (For a more detailed discussion of the current UK framework, see Section 2 and the EMU study by HM Treasury *Policy frameworks in the UK and EMU*).

**6.8** Inside EMU, with monetary policy being undertaken by the European Central Bank (ECB) and a potentially more active use of discretionary fiscal policy, there is a case for developing the fiscal policy framework further. In particular, there is a risk that fiscal policy changes made for active stabilisation purposes could be confused with other tax or spending changes (for example, those made for efficiency or equity reasons) and could be asymmetric, resulting in a deficit bias.

**6.9** The principles underpinning the current framework continue to apply: clear and sound long-term policy objectives consistent with achieving macroeconomic stability; pre-commitment through institutional arrangements and procedural rules; constrained discretion; and maximum openness, transparency and clear accountability. The following discussion explores how these principles could be applied to discretionary fiscal stabilisation policy.

### A new fiscal policy objective

**6.10** A first step towards the development of a more active and distinct fiscal stabilisation policy would be the articulation of a more explicit fiscal stabilisation objective. This objective would be added to the existing objectives for fiscal policy, which themselves would need to be modified appropriately to reflect the fact that UK monetary policy inside EMU would be undertaken by the ECB. The fiscal objectives could thus become:

- over the medium term, to ensure sound public finances and that spending and taxation impact fairly both within and between generations;
- without prejudice to the above, to support the ECB in its objective of price stability, and
- to support high and stable rates of growth over the short and medium term.

**6.11** This formulation ensures that the objective of fiscal sustainability takes precedence over the other objectives.

**6.12** The second objective explicitly recognises that, inside EMU, monetary policy would be set by the ECB and helps ensure that inflation expectations in the UK would be anchored by the ECB's price stability objective. However, in some situations where the UK's real exchange rate was away from its long-term equilibrium, the path to the medium-term goal of price stability could involve a different rate of inflation in the UK to the rest of the euro area, for a given period of time. This differential rate of inflation would nevertheless be consistent with the overarching goal of price stability and would simply reflect an adjustment path to the equilibrium level of the real exchange rate (for further discussion see Box 6.1).

<sup>2</sup> This stabilisation objective is distinct from, for example, the Government's aim to provide incentives to work, save and invest which can also be delivered through tax and/or spending decisions.

**Box 6.1 Fiscal policy, inflation and the real exchange rate**

Blanchard (2001) discusses the choice between fiscal policy and domestic inflation as an adjustment mechanism in the case of an asymmetric shock within EMU. A discussion along similar lines is contained in European Commission (2001b), Chapter 2.

Suppose the economy is overheating, i.e. output has risen above its equilibrium level. There are two options: the government can let the economy run its course, allowing inflation to lead to real appreciation or it could use fiscal policy to lower domestic demand. In both cases the economy would return to equilibrium. However, the greater the fiscal contraction, the smaller the real appreciation and the less pressure on the external balance.

Blanchard argues that which approach is most appropriate depends on the source of the shock, the external position and the initial fiscal position. If the shock arises from external sources, then it may make sense to allow adjustment to take place through inflation and the current account. But if the shock arises from domestic sources, then a fiscal contraction may be more appropriate. If debt is still high then the case for a fiscal contraction is likely to be strengthened.

Blanchard gives the **example of Ireland**, which enjoyed average growth more than 7 per cent higher than the euro average in the first two years of EMU. This reflected growth in both internal and external demand, with Ireland experiencing both a small current account surplus and strong fiscal position. However, increases in wage pressure and inflation suggested the economy was moving above its equilibrium level of activity. Given the relatively balanced nature of the increase in demand, it could be argued that the adjustment should be equally balanced, with a mixture of inflation/real appreciation and fiscal contraction.

Given strong growth and investment demand, Blanchard argued that it could well have been appropriate for Ireland to finance some of its investment through a reliance on world savings. This would suggest more emphasis on inflation and a real appreciation. Given the strong fiscal position, Blanchard argued it was more difficult to make a case for a larger fiscal surplus, particularly given the case for higher public investment.

Overall, Blanchard suggested that the appropriate adjustment path for Ireland would consist of in part, a higher rate of domestic inflation, which would increase the relative price of domestic goods and reduce external demand.

In fact, inflation in Ireland has remained consistently above the euro average, while fiscal policy was loosened through a program of tax cuts, in return for wage moderation as part of the Programme for Prosperity and Fairness (PPF). Nonetheless output growth slowed sharply in 2001 and 2002, with another year of below potential growth expected in 2003, reflecting both supply constraints and the slowdown in world demand.

Adjusting through inflation may not be easy. There are risks to the extent that temporarily higher inflation has a knock-on effect on inflation expectations which persists after the adjustment phase is completed. There is also a problem arising from the effect of higher inflation on real interest rates, which may offset the competitiveness effect working through the real exchange rate for a time (discussed in more detail in the EMU study by Dr Peter Westaway *Modelling Shocks and Adjustment Mechanisms in EMU*). More generally, an increase in inflation volatility makes it harder to identify relative price signals from more generalised inflationary pressures, making resource allocation less efficient.

**6.13** The third objective reflects the specific role that fiscal stabilisation policy could have inside EMU. It is consistent with allowing the full operation of the automatic stabilisers or going beyond this with supplementary counter-cyclical discretionary fiscal action.

**A fiscal stabilisation policy ‘rule’**

**6.14** In line with the principle of pre-commitment through institutional arrangements and procedural rules, if the UK were to join EMU, the Government would, in addition to an explicit objective, set out a new fiscal stabilisation rule. As noted above, the existing fiscal rules allow for the full use of the automatic stabilisers and, where appropriate, for discretionary fiscal policy, as long as the conditions for fiscal sustainability are met. The new fiscal rule would similarly allow for the full operation of the automatic stabilisers but would, in addition, impose a symmetric constraint on the operation of discretionary fiscal policy. The UK would then have three fiscal rules: 1) to ensure fiscal sustainability (the sustainable investment rule); 2) to ensure an explicit allowance for public investment and automatic stabilisers (the golden rule); and 3) to provide for symmetrical constraint in fiscal stabilisation policy.

**6.15** Ideally, a new fiscal rule should deliver some or all of the attributes of the current (discretionary) monetary policy framework, in that it should be:

- highly transparent and easily monitored;
- forward-looking;
- designed to allow for moderate short-run deviations from the policy target (to prevent fine tuning); and
- symmetric over the cycle.

**6.16** A formulaic rule could be envisaged to achieve this, such as a rule which targeted the cyclical component of debt, or a rule which set constraints on the deficit depending on the existing level of debt and the cyclical position (for further discussion and examples see Box 6.2). This could help increase transparency over the Government’s reaction function. This could be useful in the case of fiscal stabilisation policy because of the range of potential instruments involved and the potential conflicts with other fiscal policy objectives. However, the most appropriate response will vary according to the type of shock that has occurred and the economic context, so some degree of flexibility would be preferable. And as discussed in Section 4, past experience has shown that it can be undesirable to focus policy too much on an intermediate indicator or pre-specified formula rather than the target outcome itself in a more flexible way. So at this stage, based on current understanding and past history, rigid formulaic rules do not appear to be the best way to achieve the stabilisation objective.

**Box 6.2: Formulaic Policy Rules**

The government could choose to establish a pre-specified formula to guide policy in response to shocks. For example: Discretionary Fiscal Policy (DFP) – the planned discretionary increase or decrease in the budget deficit/surplus for stabilisation purposes – could be defined by:

- a simple response to the *forecast* (f) output gap:

$$\text{DFP} = a * (\text{output gap } (f))$$

- as above, but taking into account the debt-to-GDP ratio explicitly, where 'k' is the medium-term target for debt:

$$\text{DFP} = a * (\text{output gap } (f)) + b * (\text{debt/GDP} - k)$$

- relating it to the measured impact of the Automatic Stabilisers:

$$\text{DFP} = d * (\text{impact of automatic stabilisers})$$

- A Taylor Rule:

$$\text{DFP} = a * (\text{output gap}) + c * (\text{deviation of inflation from target})$$

In each of these rules, the parameters (a, b, c) define the magnitude of the policy response and could be preannounced by the Government. In all cases, 'a' would be negative (so that policy would be eased in response to a negative output gap). In the second rule, 'b' would be negative (so that policy would be eased less in a situation of high levels of outstanding debt). And in the Taylor rule, 'c' would be negative but could be larger or smaller than 'a' depending on the relative preference for responding to deviations in output compared to deviations in inflation and the relation between them.

A different formulation could impose maximum/minimum limits on the level of the budget deficit at different points in the cycle, depending on the debt-to-GDP ratio.

**6.17** Instead the Government would introduce a trigger point which would initiate a procedure committing the Government to take action in order to meet the stabilisation objective. A credible option would be a rule under which the Government would commit to undertake a discretionary fiscal policy response if the forecast of the output gap<sup>3</sup> exceeded, say, 1 or 1.5 per cent of GDP, unless the Government believed that there was a strong case against such a discretionary fiscal policy action. In either case, the Government could be required to publish an open letter to Parliament, explaining:

- why the output gap was forecast to exceed the pre-announced trigger value;
- how the action it is taking is consistent with achieving greater stabilisation, or its reasons for not taking discretionary fiscal policy action;
- the period in which it expects the output gap to reduce to within the pre-announced range; and
- how this approach meets the other fiscal policy objectives and the Government's wider economic objectives.

<sup>3</sup> The output gap is calculated as actual output less trend output as a percentage of trend output (non-oil basis).

**6.18** In this way, the output gap forecast would act as a symmetrical trigger for discretionary fiscal policy: the Government would be required to respond and explain its actions equally in the case of (large) forecast positive and negative output gaps. The rule would also trigger an additional layer of transparency. It would not, however, exclude the use of discretionary fiscal policy – whether it was for stabilisation purposes or not – when the output gap was within these bands. For a discussion of how the rule might work in different scenarios, see Box 6.3.

**6.19** One potential problem with this sort of rule concerns the practical difficulties associated with measuring and forecasting the output gap.<sup>4</sup> In practice, estimating the output gap requires a judgement as to the trend rate of growth of the economy and there are long lags before reliable estimates of GDP growth are available (as unlike inflation data, GDP data is often revised many months after initial estimates are made), adding to the volatility of the variables being monitored and forecast. While all forecasting necessarily involves an element of uncertainty and judgement, these practical limitations argue against any attempt at ‘fine tuning’ through discretionary fiscal policy action, and this is reflected in the rule as discretionary action is only triggered if there is a significant output gap (i.e. greater than the pre-announced trigger value).

**6.20** Alternatively, the Government could use other measures such as the deviation or expected deviation from the inflation target as a trigger for discretionary fiscal policy action. This would avoid some of the disadvantages of measuring and forecasting the output gap but would not necessarily be as simple as is the case outside EMU. In particular, at times the adjustment path for domestic inflation may involve a different (short-term) inflation rate from the rest of the euro area. Paragraph 6.12 and Box 6.1 discussed this earlier.

**6.21** In the simple output-gap formulation, as with the current monetary policy framework, the precise reaction function of the Government would not be specified under the rule. While the Government would commit to using discretionary fiscal policy to reduce large output gaps, it would not specify precisely the magnitude of its fiscal policy response. This is analogous to the way in which the Bank of England’s Monetary Policy Committee is not required to announce a rigid formula for how much it will change interest rates in response to a given deviation of the forecast of inflation from the 2.5 per cent target. Of course, unlike the current monetary policy framework, the open letter would be triggered when the output gap was forecast to exceed the trigger value, not just when the outturn exceeded the trigger.

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<sup>4</sup> For more detailed discussion of the issues surrounding forecasting and measurement of trend GDP growth and output gaps see HM Treasury publications ‘Trend Growth: Recent Developments and Prospects’ (April 2002) and ‘Public Finances and the Cycle’ (March 1999).

**Box 6.3: The operation of fiscal policy under the new rule**

Under the symmetric trigger rule discussed in paragraph 6.17, the Government would be required to ease fiscal policy in response to a negative output gap in excess of the pre-announced trigger value, (for example, 1 or 1.5 per cent of GDP) and tighten in response to a positive output gap of the same magnitude. Chart 2.2 in Section 2 shows that the output gap exceeded these levels significantly only once in the 1990s. It was also exceeded significantly twice in the 1980s. The overall experience of the late 1990s has been much greater stability in output, reflecting the stabilising influence of the new macroeconomic framework. However it is likely that a trigger value of this magnitude would be reached more often if the UK were inside EMU.

Looking forward, the analysis of the EMU study by Dr Peter Westaway *Modelling shocks and adjustment mechanisms in EMU* suggests that a fiscal policy rule based on the output gap would reduce the volatility of output and inflation.<sup>5</sup> For example, a positive asymmetric demand shock (such as a shock to consumer preferences or developments in the housing market) would raise both inflation and output. The automatic stabilisers would react to the increase in output, leading to a tightening of the stance of fiscal policy. By dampening demand, the initial rise in output and inflation would be reduced, with a knock-on effect to other variables such as the real exchange rate. Under the new fiscal rule, if the shock resulted in a forecast positive output gap in excess of the pre-announced trigger value, the government would reinforce the automatic stabilisers by tightening discretionary fiscal policy. This would further reduce volatility.

In the event of a positive supply shock (such as a rise in the level of productivity), the real exchange rate would need to depreciate in the long run to bring the economy back to equilibrium. Demand would initially fail to keep up with the sudden increase in supply potential, leading to a negative output gap (although output itself would be increasing). This would in turn lead to a fall in domestic inflation and a rise in the real interest rate. In this case, the automatic stabilisers would react to the change in the level of output by tightening fiscal policy, which would be counter-productive. However, because the fiscal rule is based on the output gap, it would lead to a fiscal loosening (if the projected output gap was sufficiently large), offsetting the effects of the automatic stabilisers. This would help smooth the adjustment path, by reducing the fall in output and inflation and the increase in the real interest rate.

In addition, policymakers would need to take into account the effect of discretionary fiscal policy on the other two fiscal rules. If net debt were close to 40 per cent of GDP, then the scope for discretionary policy would be quite limited. In this case, the government might choose to override the rule, to protect fiscal sustainability.

The right 'trigger point' for the rule is a matter of judgement. If a clearly identifiable shock occurred that was expected to have a sizeable effect on output, then the government might choose to take action, even if it did not expect the output gap to exceed the pre-announced trigger value. However, it would need to be careful that it was not reacting too frequently to small shocks, to avoid the dangers of 'fine-tuning'. In addition, the trigger for fiscal policy would need to be re-assessed, depending on economic developments within EMU.

<sup>5</sup>The EMU study *Modelling shocks and adjustment mechanisms in EMU* does not explicitly analyse the effects of an output gap-based rule. It looks at the effects of a number of scenarios for fiscal policy, including the case where fiscal policy responds only via the automatic stabilisers; when it responds using both the automatic stabilisers and a discretionary rule that allows for feedback from inflation; and the response when the discretionary element of fiscal policy allows for feedback from both the output gap and inflation. See Section 5 of the study and Box 2.3 in this paper for more details.

## Ensuring Credibility and Transparency

**Stabilisation report** **6.22** In line with the principle of maximum openness, transparency and clear accountability, the Government would create a regular mechanism for communicating its discretionary fiscal stabilisation objective and policy stance if the UK were to join EMU. One credible option would be for the Government to publish a regular **Stabilisation Report** on a pre-announced timetable. The Report could be, for example, published on a quarterly basis, with one released at the time of the Budget, and three additional reports a year. This would also help ensure that the discretionary fiscal policy was timely by making sure that the Government undertook decisions on stabilisation policy on a quarterly basis (even if no changes in policy instruments were needed).

**6.23** The Stabilisation Report could mirror the current framework for the Inflation Report, setting out:

- an analysis of recent macroeconomic developments, including the latest forecasts for UK output, inflation and the public finances;
- an assessment as to whether the UK output gap was likely to exceed the pre-announced trigger value over the forecast horizon; and
- if so, a description of the Government's planned response. This could explicitly identify the fiscal instruments to be used for stabilisation purposes and indicate the process for their reversal in future, helping to ensure that the discretionary fiscal policy changes were understood to be temporary and that 'ratchet effects' were avoided.

**6.24** Such regular reporting could inform public debate and enhance monitoring of the Government's fiscal stabilisation policy. Indeed, it could provide a specific role for Parliamentary scrutiny of fiscal stabilisation policy as, for example, the Chancellor could present the Report to Parliament.

**6.25** A framework for reporting on discretionary fiscal policy is already in place in Australia where the Australian Charter of Budget Honesty requires the Government to publish a regular 'Fiscal Strategy Statement' (see Box 6.4).

### Box 6.4: The Australian Charter of Budget Honesty: Government Reporting

The Australian Charter of Budget Honesty came into effect with the passing of 'Charter of Budget Honesty Act' in 1998.<sup>6</sup> The stated aim of the Charter is to 'improve fiscal outcomes...by requiring fiscal strategy to be based on principles of sound fiscal management and by facilitating public scrutiny of fiscal policy and performance'.

The Act (Parts 4 and 5) requires the Government to publish a wide range of reports including a **Fiscal Strategy Statement**.<sup>7</sup> This Statement must be published 'at or before' a Government's first Budget and then 'at the time of' subsequent Budgets. In practice, it has been included in the Government's budget pack, forming part of the 'Budget Strategy and Outlook' document. The aim of this strategy is to 'increase public awareness of the Government's fiscal strategy and to establish a benchmark for evaluating the Government's conduct of fiscal policy'. Specifically, the Statement must:

- specify the Government's long-term fiscal objectives within which shorter-term fiscal policy will be framed;
- explain the *broad strategic priorities* on which the budget is, or will be, based;
- specify the key *fiscal measures* that the Government considers important and against which fiscal policy will be set and assessed;
- specify for the Budget year and the following 3 financial years, the Government's fiscal objectives and targets and the expected outcomes for the specified key fiscal measures;
- explain how the fiscal objectives and strategic priorities relate to the principles of sound fiscal management;
- specify fiscal policy actions taken or to be taken by the Government that are *temporary in nature*, adopted for the purpose of moderating cyclical fluctuations in economic activity, and *indicate the process for their reversal*; and
- explain broadly the reporting basis on which subsequent Government fiscal reports will be prepared.

In the 2001-02 fiscal strategy, the Government adopted a discretionary fiscal easing, stating that '*in the present situation of a temporary slowdown in economic growth, an easing in the fiscal position is appropriate as it helps to support demand*'.<sup>8</sup> The Government identified several discretionary policy actions:

- significant personal income tax cuts associated with The New Tax System (a major reform of the Australian tax system introduced in 2000);
- further reduction in the company rate;
- abolition of the Financial Institutions Duty levied by States and Territories; and
- bringing forward of tax credits for motor vehicles (for some businesses).

The 2001-02 Strategy also stressed that this fiscal easing was moderate, consistent with sustainable public finances (Australia had achieved an average budget surplus of around 1/2 per cent of GDP in the previous years), and temporary (i.e. the published forecasts showed that the fiscal easing was expected to reverse by 2003-04).

In the 2002-03 Strategy, the Government announced a reversal of the discretionary easing, stating that "*as the international economy returns to more normal long-term growth rates, it is appropriate to remove (this) stimulus*".<sup>9</sup> It is estimated that there will be a contraction of around 1/2 per cent GDP in 2002-03 from fiscal policy.

<sup>6</sup> The complete text of the Australian Charter of Budget Honesty is available online on the 'SCALEplus' legal information retrieval system owned by the Australian Attorney-General's Department, at <http://scaleplus.law.gov.au/html/pasteact/2/3115/top.htm>.

<sup>7</sup> All of the Australian Government's Budget Papers, including previous years, are available on the website [www.budget.gov.au](http://www.budget.gov.au)

<sup>8</sup> 2001-02 Budget Paper 1, Statement 1: Fiscal Strategy and Budget Priorities, page 1-9

<sup>9</sup> 2002-03 Budget Paper 1, Statement 1: Fiscal Strategy and Budget Priorities, page 1-9

**Specifying the instruments** **6.26** The Government could retain maximum flexibility in its use of discretionary fiscal policy by implicitly reserving the right to use any fiscal instrument for fiscal stabilisation. This would enable the Government to tailor the use of different instruments in response to different shocks. However, the benefits of such flexibility would need to be weighed against the greater transparency, and credibility, of discretionary fiscal policy obtained by limiting fiscal stabilisation policy to a pre-announced instrument or set of instruments.

**6.27** The Swedish Committee on Stabilisation considered this question and concluded that it would be appropriate for the Swedish Parliament to decide on a few fiscal policy measures, which should be used to stabilise the economy in the event of macroeconomic imbalances (see Box 6.5). An alternative option would be to identify a specific set of stabilisation instruments to be used on a quarterly basis, while implicitly leaving open the use of all fiscal instruments in the annual Budget.

**Box 6.5: The Swedish Committee on Stabilisation Policy in EMU**

This committee (Government of Sweden, 2002) was set up to look at the problems which might occur with stabilisation policy in EMU, and to give proposals as to how fiscal policy would be best pursued under these conditions.

The committee noted that under EMU, domestic stabilisation would have to be managed through fiscal policy, which also has many other objectives. This meant that there was a risk that long-term perspectives in stabilisation policy would be set aside for more short-term considerations.

To address this problem, the committee's proposals were as follows:

- fiscal policy should have as its primary stabilisation policy target to *counteract major fluctuations in the level of activity* both in the short and medium term. In other words, the output gap must not grow too large;
- in the case of 'normal' shocks, stabilisation should take place primarily through the automatic stabilisers. Discretionary fiscal policy should be reserved for 'major' macroeconomic shocks, roughly equivalent to an absolute output gap of at least 2 per cent. It should also be possible to vary the extent of active labour market programmes in response to minor shocks;
- in order to create scope for the automatic stabilisers and discretionary fiscal policy within the constraints of the Stability and Growth Pact, the target for government net lending in Sweden should be a surplus of 2.5 or 3 per cent of GDP;
- the Swedish Government currently imposes a central government expenditure ceiling. However, in order to ensure that there is sufficient room on the expenditure side of the budget for the automatic stabilisers and for any additional discretionary measures, there should be a special *margin for cyclical expenditure*. This would be used only for expenditure increases that followed automatically from cyclical developments or discretionary fiscal policy decisions for the purposes of stabilising the economy;
- in order to speed up decisions on fiscal policy measures it would be appropriate for the parliament to decide on a few fiscal policy measures in advance, which should be used to stabilise the economy in the event of macroeconomic imbalances. The Report recommended the following measures be considered: variations in the value-added tax, personal income tax, payroll taxes, government consumption, and government investment. In the event of a major fall in output and weak finances, an *internal devaluation*, that is, a lowering of payroll taxes financed by increases in other taxes, could be considered (see paragraph 3.25); and
- an independent advisory body, a *fiscal policy council*, should be set up to monitor fiscal developments and give recommendations on the stance of fiscal policy on the basis of guidelines laid down by the parliament and the government.

**Independent audit** **6.28** Inside EMU, where discretionary fiscal policy could be used more actively for stabilisation purposes, fiscal policy decisions are likely to become more complex and involve a significant element of judgement. There would therefore be a case for further constraining the Government's discretion and enhancing the credibility of fiscal policy by introducing greater independent analysis of specific elements on stabilisation policy, particularly the more technical aspects. For example, in the United States the National Bureau of Economic Research is responsible for dating the economic cycle. Given the importance of the 'trigger point' for discretionary fiscal stabilisation, there is a strong case in EMU for subjecting the Government's judgement as to when the most recent economic cycle began to validation by a suitably independent body, such as the National Audit Office.

**6.29** Similarly, while governments would retain responsibility and accountability for setting fiscal stabilisation policy, there is a case at the EU level for strengthening the role of independent monitoring and surveillance of more active discretionary fiscal policy.

**Strengthening independent surveillance** **6.30** As set out in detail in the EMU study by HM Treasury *Policy Frameworks in the UK and EMU*, some independent surveillance and monitoring already occurs in the European context. For example, under the Excessive Deficit Procedure, Member States are required to submit Excessive Deficit returns to the European Commission twice a year. If the European Commission believes that a Member State has exceeded, or is at risk of exceeding, the Treaty reference values for government deficit and/or government debt, it prepares an official 'Opinion'. This Opinion is then addressed to the ECOFIN Council of EU Economic and Finance Ministers and it is the Council (i.e. Member States) that decides (through qualified majority, including the state concerned) whether an excessive deficit exists. Where an excessive deficit is judged to exist, the Council makes recommendations to the Member State concerned with a view to bringing the situation to an end in a given time period. In this way, peer review by other Member States is an important mechanism for independent surveillance of one aspect – the sustainability – of national fiscal policy.

**6.31** Similarly, since 1997, EU surveillance of Member States' budgetary positions has been formalised through annual Stability (for Member States participating in EMU) and Convergence (for Member States not participating in EMU) Programmes. Specifically, Member States are required to detail their adjustment path towards meeting the medium-term budgetary objective of the Stability and Growth Pact (SGP) of close to balance or in surplus and the expected path of the general government gross debt-to-GDP ratio. They must submit updates of their programmes each year.

**6.32** Yet the surveillance of broader, more complex questions, such as the appropriate stance for discretionary fiscal policy, would require a greater degree of judgement in the process of evaluation and, arguably, a deeper knowledge of the economy being monitored. While retaining the principle of peer review of fiscal policies by Member States, one possibility would be to strengthen the independent surveillance process in the EU as part of wider reforms to the Stability and Growth Pact. For example, the EU could establish an intergovernmental 'fiscal surveillance committee', staffed by Member State and European Commission representatives, with delegated authority to conduct analysis and surveillance of national fiscal policies.

**Stabilisation fund** **6.33** Another option that has been considered in other countries to increase openness and transparency, and increase the emphasis on the symmetry of fiscal policy, is the creation of a specific Stabilisation Fund. This would be recorded in the public accounts but clearly distinct from other parts of the public finances. Examples of funds in operation in other countries are outlined in Box 6.6. These tend to differ according to the precise institutional arrangements in place.

**6.34** Any such Fund could collect revenue when fiscal policy was tightened for stabilisation purposes and could be the source of finance when fiscal policy was loosened for stabilisation purposes. In principle, inflows and outflows should sum to zero over the cycle, providing a check that stabilisation policy was operated symmetrically. In practice, the Fund need not necessarily be an explicit constraint on decision-making, but rather a mechanism to create greater transparency.

**6.35** While such a mechanism might be suited to the particular institutional arrangements in other countries, and where some degree of ring fencing is desirable, it may not be necessary where there are other mechanisms which help to avoid pro-cyclical outcomes and ensure sufficient transparency. In the UK, with its tradition of parliamentary scrutiny of fiscal policy, and where other mechanisms would be introduced to ensure symmetry and enhance transparency such as the fiscal rule and stabilisation report discussed in paragraphs 6.17 and 6.22 above, such a mechanism would be an unnecessarily complicating feature of the fiscal framework.

#### **Box 6.6: Country examples of stabilisation or buffer funds**

**In Finland, buffer funds were set up primarily to avoid pro-cyclical changes in contributions to unemployment insurance and pension schemes - which occurred in the early 1990s, when unemployment increased from 6.6 per cent to 16.4 per cent and the unemployment insurance contribution rate had to be increased tenfold in order to compensate for lower revenues and increasing outlays.<sup>10</sup> Two buffer funds were introduced in 1997:**

- **unemployment benefit EMU buffer:** during periods of relatively strong growth, employers and employees pay slightly higher contributions than is necessary to finance unemployment benefit expenses in order to create a buffer fund. During periods of relatively weaker growth, recourse to increasing these contributions can be avoided by using this buffer as a means of finance, i.e. the buffer fund produces counter cyclical variations in the unemployment insurance contribution rate; and
- **occupational pensions EMU buffer:** This works in a similar way to the unemployment buffer fund: employers and wage earners pay a higher occupational pension contribution than is necessary to consolidate pension funds and to pay pensions during periods of relatively stronger growth, and the buffer fund means that it is possible to collect lower contributions than would otherwise have been necessary when growth is weak.

**In both of these cases, the buffer funds slow down the increase in contributions in a downturn and, at the same time, support domestic demand as they are large enough to level out 'normal' cyclical fluctuations.**

<sup>10</sup> This created a vicious circle whereby increases in labour costs led to an increase in unemployment, and the need to raise extra revenues.

In the **United States**, most state governments have some form of ‘rainy day fund’ – although the size of the funds has varied widely from around 10 per cent of expenditure in New Mexico to zero in California and Colorado. The parallels between EU Member states and US states are not clear cut, since fiscal policy at the federal level in the US plays a far greater role in assisting regional adjustment to shocks than EU level fiscal policy does in Europe. The EMU study by HM Treasury *The US as a monetary union* provides a thorough overview of fiscal policy in the US, and compares the degree of stabilisation provided with that in European countries and Canada.

The ‘rainy day’ funds absorb excess revenue during booms and the balances can be used to cover shortfalls during recessions. The precise legal structure surrounding the funds differs from state to state. Some may be used in an essentially discretionary manner requiring legislative approval for withdrawal, while others are more automatic, with provisions requiring that funds be used only in years of economic downturn determined through a formula. For example, the Indiana fund is based on a statutory formula where deposits are made from revenues when real income growth is more than 2 per cent a year and withdrawals are made when real incomes fall by more than 2 per cent a year.

In **Sweden**, the Committee on Stabilisation considered the merits of establishing a buffer fund to provide financial scope for lowering wage costs in the event of a large negative macroeconomic shock by reducing negotiated employer contributions to various insurance systems, thus redistributing wage costs over time. They concluded that such a Fund could be useful for stabilisation purposes, but should be set up and administered by the labour market parties themselves, should they choose to do so, without any government involvement, “so that the division of responsibility between the government and the parties with respect to wage formation will be as clear as possible”<sup>11</sup>

**An independent fiscal policy?** **6.36** Some authors have taken this a step further, drawing explicit parallels with monetary policy, and arguing for the delegation of fiscal stabilisation policy to an independent committee – a fiscal policy equivalent of the MPC or a Fiscal Policy Committee (FPC). Box 6.7 provides detail on some of the different proposals.

**6.37** However, taxation and expenditure decisions are complex and fundamentally collective political and social choices, requiring strong democratic accountability to provide adequate legitimacy. The establishment of an independent fiscal policy committee would be inconsistent with the parliamentary tradition in the UK, which gives the House of Commons ‘financial privilege’ with respect to tax decisions. Making even a subset of fiscal policy decisions independent of scrutiny would thus challenge parliamentary sovereignty and it is therefore not considered further.

<sup>11</sup> Government of Sweden (2002), page 4

**Box 6.7: An Independent Fiscal Policy Committee (FPC)**

A number of authors have suggested delegating fiscal policy decisions to an independent agency to improve budget discipline and the effectiveness of fiscal policy as a stabilisation tool:

- Several authors have suggested that an FPC should set a ‘debt change limit’ which the government would be obliged to follow (von Hagen and Harden, 1994; Eichengreen, von Hagen and Harden, 1995; and Eichengreen, Hausmann and von Hagen, 1999);
- Wyplosz (2001) has suggested that the FPC would be given the right to decide the annual budget target, but not the size or composition of spending or taxes;
- Ball (1997) has suggested that parliament would take the decision for the medium-term target for the fiscal balance and base levels for some taxes and government expenditures. The FPC would then have the power to vary these tax rates and expenditure levels within pre-specified limits in order to stabilise cyclical fluctuations;
- Gruen (2001) suggests that an independent fiscal agency be given power over a taxation parameter, which would move income and corporate tax rates up or down across the board;
- Wren-Lewis (2000) suggests that a ‘fiscal regulator’ body be given the power to make temporary changes in a select number of instruments, and only in the interests of demand management.

An alternative model would be to establish a purely advisory committee with no powers to actually alter tax or spending levels (as suggested by the Swedish Committee on Stabilisation Policy – see Box 6.5). One risk is that such a committee would not have any impact. For this reason, the Swedish Committee suggested that the committee’s recommendations be made in public reports to which the Government would have to respond. Wyplosz (2001) suggests that during a given period, the Government might not be allowed to deviate more than twice from the recommendations set out by the committee, or that any deviation be corrected within a set period. However, he recognises that these rules might have peculiar outcomes.

This highlights one of the problems with advisory committees. If they do have powers, then it is only a short step towards complete delegation, with the attendant problems of political legitimacy. However, if they are a purely advisory body, the incentives to follow their advice might be quite weak.

## Addressing the Lags Problem

**6.38** An additional criteria for the effective use of discretionary fiscal policy for stabilisation purposes is that it must operate in a timely manner. As discussed in Section 4, the outside lags – those between enacting a policy change and its impact on demand – are likely to be of a similar order for fiscal policy as monetary policy (and may be less in the case of spending changes) and are minimised through the adoption of a forward-looking framework. However, the inside lags of fiscal policy have proved to be long in practice involving a lengthy decision making process and a long lead-time between the decision and the actual implementation of the policy change. Constraining fiscal policy changes to an annual Budget is clearly one reason for this. Hence, to make discretionary fiscal policy more effective for stabilisation purposes, there is a need to develop mechanisms to reduce inside lags in particular.

**The use of tax regulators** **6.39** Legislative arrangements allowing the Government to alter certain tax rates outside the Budget process do already exist in the UK. The so-called ‘tax regulators’ allow rates of VAT and duty to be varied outside the Budget process using secondary legislation (See Box 6.8).

#### **Box 6.8: The Existing Tax Regulators**

The existing regulator powers are formalised in various pieces of legislation:

- the VAT Regulator (VAT Act 1994) allows the rate of VAT to be changed by a maximum of 25 per cent of the existing rate;
- the Economic Regulator (Excise Duties (Surcharges or Rebates) Act 1979) allows the rates of the majority of excise duties on alcoholic drinks, hydrocarbon oils, betting & gaming and Air Passenger Duty to be changed individually by up to 10 per cent of the existing rate; and
- the Tobacco Products Duty Regulator (Tobacco Products Duty Act 1979) allows the rates of duty on tobacco products to be changed by up to 10 per cent of the existing rate.

The regulators were originally introduced in the 1960s and 1970s to allow the Government to change indirect tax rates between Budgets for demand management purposes, but they have been used rarely. They were last used in the 1970s:

- VAT was changed using the regulator powers in 1974, as part of a package designed to tackle inflation; and
- the Economic and Tobacco Products Duty Regulators were used in 1976 to increase alcohol and tobacco duties respectively, in order to increase revenue and hence reduce the Public Sector Borrowing Requirement.

**6.40** Though rarely used in the past, these regulator powers could be used more actively for stabilisation purposes. They could be used as they stand (the suitability of different fiscal instruments including VAT and duty as stabilisation tools is discussed in Part B of this section), or they could be extended to other taxes specifically for stabilisation purposes. If the existing regulator powers were to be used for stabilisation, there is also a case for modernising them to make them more suitable for that purpose. Consideration could be given to a number of options for reform relating to:

- the mechanism by which Parliament approves tax rate changes made through the regulators;
- the limits on the amount by which the tax rates can be altered by the regulators;
- the scope for compulsory grouping of duty rate changes under the Economic Regulator; and
- strengthening the temporary nature of rate changes made through the regulators.

**The role of Parliament** **6.41** All the existing regulators allow changes to the rates of the appropriate duties or taxes by way of Treasury Order. Orders for increases are subject to affirmative resolution by Parliament (and must be debated and voted on within 28 days of being made), while Orders for reductions are subject to negative resolution (where a debate is only required within 40 days of the Order being laid should the order be ‘prayed against’).

**6.42** Though still subject to the passing of the resolution, any changes brought about by the use of the regulator may be implemented almost immediately after announcement. This would be similar to changes announced in the Budget which take effect as early as from 6pm on the day of announcement for excise rates, in order to prevent forestalling, though VAT rate changes have allowed for up to 15 days for traders (particularly retailers) to change their systems.

**6.43** It is clear that tax rate changes must be subject to parliamentary scrutiny. However, the current structure is asymmetric – it requires less time and imposes less onerous requirements for a decrease in taxes than an increase. This is at odds with the need to design a structure that is symmetric both in theory and in practice and could contribute to a deficit bias. Thus, consideration could be given to changing the existing legislation to ensure that parliamentary approval processes were the same whether the tax was increased or decreased.

**Limits on the rate changes** **6.44** The large tax base provided by VAT and excise duties would mean that a given rate change could have a relatively big impact (for further discussion of the different instruments, see Part B below). However, there are limits on the amount by which the tax rates can be altered by the regulators under the existing legislation: VAT can be changed by up to 25 per cent of the existing rate (implying a range of 13.1 per cent to 21.9 per cent around the existing 17.5 per cent standard rate) whereas excise duties and tobacco products duty can only be changed by up to 10 per cent of each individual existing rate. (All changes made through the regulators are measured in relation to the *original* rate i.e. the rate change cannot be compounded in successive changes between Finance Bills.)

**6.45** In addition, European law requires that the rate of VAT is not reduced below a minimum rate of 15 per cent. This would impose an additional constraint on VAT rate changes (i.e. implying a minimum VAT rate of 15 per cent rather than 13.1 per cent), and could constrain rate changes at the top end too, if the operation of the regulators were required to be symmetric.

**6.46** While the rate changes allowed under the regulators are quite large, these limits could potentially constrain the ability of the existing regulators to offset large shocks by themselves. A wider degree of permitted variation may therefore be desirable. In addition, allowing greater variation may enhance the credibility of the overall policy stance simply because fiscal stabilisation policy is less likely to be constrained. Thus further consideration could be given to the scope for and desirability of widening the limits.

**Grouping the rate changes** **6.47** Under the existing Economic Regulator, different percentage changes can be applied to different types of duty, provided the changes are all in the same direction. But in the original legislation, it could only be applied across the board, to the whole range of Customs and Excise revenue duties and purchase taxes. Grouping in this way has some advantages, in that it excludes the scope for special pleading in relation to particular taxes and helps ensure tax changes have a broadly-based impact on activity, limiting the degree to which any individual tax rate needs to change. By contrast, without grouping there are opportunities to change different taxes at different times, minimising the volatility of individual rates (for example one duty may be changed at the start of the year, and a different duty could be changed later in the year, with none changing more than once a year), and to tailor the fiscal change more precisely.

**6.48** The revenue generated by each of the taxes and duties covered by the existing regulators is set out in Table 6.1 below. It also shows the maximum potential revenue impact of changes made through the regulators (given the rate variation limits discussed above) to provide an indication of the magnitude of the stabilising impact of specific rate changes.<sup>12</sup> It is clear that VAT has by far the biggest tax base, and hence any rate change would have a much bigger stabilising impact in comparison with the individual duties. Indeed by themselves, most of the duties are likely to have a very small impact. However, in combination they could be more significant. This and the desire to avoid placing an unduly high proportion of the burden of stabilisation policy on a small and specific section of the population, strengthens the case for considering legislation to re-establish some degree of compulsory grouping of duty rate changes.

**Table 6.1 : Revenue generated by taxes and duties covered by the existing regulator powers**

	Revenue 2002-03 (£bn, Budget 2003 estimate)	Maximum potential revenue impact of rate changes made under the existing regulator power (£bn)
VAT	63.6	+15.9/-9.1 <sup>1</sup>
Tobacco products duty	8.1	0.8
<i>Economic Regulator duties:</i>		
fuel	22.1	2.2
spirits	2.3	0.2
wine	1.9	0.2
beer & cider	3.1	0.3
betting & gaming <sup>2</sup>	1.3	0.1
air passenger	0.8	0.1
<i>Total Economic Regulator duties:</i>	<b>31.5</b>	<b>3.1</b>
<b>Total all regulators</b>	<b>103.2</b>	<b>+19.8/-13.0</b>

<sup>1</sup> Downward movements in the standard VAT rate are constrained by EU law (see paragraph 6.45).

<sup>2</sup> This is only indicative as not all betting and gaming duties are included in the Regulator, and recent amendments to the structure of betting and gaming duty may change the revenue yielded in future.

<sup>12</sup> In the absence of reliable estimates of the sensitivity of consumer demand to VAT and duty changes, the calculations in the table assume that the tax rate changes have no impact on behaviour and thereby overstate the revenue that would be raised in practice in response to a given a percentage increase. Yet it is precisely this change in behaviour (i.e. an increase or decrease in consumption) that delivers the stabilising properties of the tax change. Further work to identify this response would therefore be required if these tools were to be used more frequently for stabilisation purposes.

**The temporary nature of the rate changes** **6.49** Under existing regulator powers, the rate change lapses after one year unless a further order is made or the change has been consolidated in a Finance Bill in the interim. This temporary feature of rate changes under the regulators would be consistent with the use of the regulator as a stabilisation tool, as the expectation should be that rate changes for stabilisation purposes would only be temporary. A decision would need to be made at the end of the year as to whether the higher/lower rate established under the regulator should be continued, increased or decreased, or allowed to lapse. Any increase, decrease or extension would be subject to parliamentary resolution again. (But returning to the previous rate would not require a vote – it would happen automatically). Of course assessments of the need for further action to stabilise output would be made more frequently than once a year, and changes through the regulators could be made as often as deemed necessary. However, the automatic one-year lapse would provide a useful default endpoint, clearly establishing the temporary nature of changes made for stabilisation purposes.

**6.50** Changes to the legislation to allow a longer or shorter lapse period could be considered if one year was deemed to be inappropriate. Alternatively, the Government could set the lapse period each time the regulator was used, in order to ensure the rate change was in place for an appropriate length of time under the prevailing economic conditions.

**6.51** As one of the criteria for effective fiscal stabilisation is the need for a clear separation between temporary fiscal changes made for stabilisation purposes and fiscal changes made for other reasons, it may be desirable to define the regulator explicitly as a tool for stabilisation. This suggests that changes made for other reasons would not be made through the regulator – they would have to be made through the Finance Bill or other primary legislation. This could be set out in the regulator legislation itself, or it could be established in the fiscal framework. The temporary nature of all changes made through the regulators would reinforce this distinction.

**The scope for new tax regulators** **6.52** The legislative precedent set by the regulators could be a useful foundation for further legislation, perhaps extending the regulator powers to other taxes specifically for stabilisation purposes. A regulator could in principle be introduced on any tax, for example stamp duty or the insurance premium tax.

**6.53** The use of a regulator for stabilisation purposes would be easiest in relation to taxes whose rate can be varied in a visible way at regular intervals. For others, which assess income on an annual basis (such as income tax and corporation tax) or are based upon an annual period (such as council tax or business rates), a rate which varied during the year would create greater, though not necessarily insurmountable, practical problems. Using taxes with an annualised charge would also have a less immediate impact on behaviour, with correspondingly longer lags in effectiveness.

**6.54** The speed with which a rate change can be implemented will also vary between taxes, regardless of the legal arrangements. For example, there is likely to be a 6-7 week lag before any changes to income tax or national insurance contributions (NICs) could be implemented while employers updated their computerised payroll systems. The compliance costs to business associated with more frequent rate changes would also need to be taken into account whichever tax was used.

**Summary:** 6.55 This subsection has considered options for reforming the fiscal framework to improve the effectiveness of discretionary fiscal policy for stabilisation purposes, basing reforms on the principles underpinning the current framework: constrained discretion; clear and sound long-term policy objectives; pre-commitment through institutional arrangements and procedural rules; and maximum openness, transparency and clear accountability.

**Institutions**

6.56 In summary, the analysis in this subsection suggests that if the UK were to join EMU:

- the adoption of an explicit **stabilisation objective** and rule would add an element of pre-commitment and help ensure that discretionary policy operated in a symmetric way;
- however, a rigid, formulaic **fiscal rule** would not be appropriate for this purpose. A procedure which committed the Government to take appropriate action under pre-defined circumstances and which triggered an additional layer of transparency would be more suitable;
- the publication by the Government of a regular **Stabilisation Report** would further enhance transparency and openness;
- given the complexities of operating a more active fiscal stabilisation policy, there is a case in EMU for increasing the role of **independent audit** of specific technical elements of fiscal stabilisation policy, and enhancing **independent surveillance**;
- a **stabilisation fund** would be unnecessary if pro-cyclical outcomes can be avoided in other ways and if other mechanisms exist which create sufficient transparency;
- the establishment of an **independent fiscal policy committee** would not be consistent with parliamentary tradition in the UK, as it would challenge parliamentary sovereignty with respect to fiscal policy; and
- greater use of the existing **tax regulator power** would help to minimise lags in the use of discretionary fiscal stabilisation policy, and reforms could increase their suitability for this purpose.

## B: INSTRUMENTS

**6.57** This subsection considers which fiscal instruments are likely to prove most effective for stabilisation purposes, taking into account their impact on demand and wider government objectives such as efficiency and equity.

### The Incidence of Stabilisation Policy

#### Burden of stabilisation policy

**6.58** Individual fiscal instruments impact on groups in society in different ways and one issue for consideration in relation to the use of any fiscal instrument is its likely distributional effects. However, as all members of society benefit from stabilisation policy (through reduced macroeconomic volatility), the burden of stabilisation policy should arguably be spread across as wide a group as possible. In addition, if individual instruments are used symmetrically for stabilisation purposes (with for example, the same taxes increased in an upswing and reduced in a recession) the net impact on individual income or consumption should be zero over the cycle. However, this will not be true for liquidity constrained households who are unable to borrow to finance consumption when taxes are high. The uncertainty associated with increased volatility of tax and benefit rates would also generate deadweight losses for the population as a whole and may have adverse impacts on incentives.

#### Temporary changes

**6.59** The temporary nature of rate changes for stabilisation purposes also has implications for the impact on demand. This has particular importance when considering the relative impact of the different instruments. For example, ‘consumption shifting’ is likely to occur following temporary indirect tax changes, as individuals delay consumption where possible in response to a tax and price increase, to wait until the tax (and the price of the good/service being taxed) is reduced.<sup>13</sup> Hence, the impact on consumption and demand is likely to be larger for a temporary indirect tax change than for an equivalent temporary change in income taxes. Again this effect is likely to vary between different income groups. These issues are discussed in greater depth in Section 3.

### Specific Instruments

#### Government expenditure

**6.60** In theory, discretionary fiscal stabilisation policy could be carried out through either taxation or expenditure changes (or some combination of the two). At first glance, changes to public spending seem attractive given their potentially powerful short-term effect on demand and output. Indeed, the analysis earlier and the results from the macroeconomic models presented in Annex A suggest that the short-term impact of spending changes might exceed that of income tax changes.

<sup>13</sup> Of course this effect is limited to those items which do not need to be consumed immediately.

**6.61** However, macroeconomic models implicitly assume that it is possible to increase and decrease government spending as needed to achieve the desired stabilisation response. Yet experience has shown there are a number of serious obstacles to the effective use of government spending as a discretionary fiscal stabilisation tool. For example:

- there are long lags in making government spending decisions and in implementing changes to plans (although outside lags are small since government spending feeds directly into GDP);
- spending decisions, including changes to transfers, may be more difficult to reverse in practice. This hinders the implementation of temporary changes and the experience of the 1950s and 1960s suggests that this lack of downward flexibility is likely to result in a ‘ratcheting up’ of overall government spending over time;
- it is very difficult to isolate spending decisions made for stabilisation purposes from those made for other fiscal policy reasons (such as investment in priority public services). Hence, using spending for stabilisation purposes would reduce transparency;
- frequent changes in government spending for stabilisation purposes would conflict with the government’s existing macroeconomic framework and damage the certainty gained through medium-term spending plans. Moreover, there might be a temptation to cut capital expenditure to achieve a given public spending reduction. Under the current fiscal framework, spending plans are set over three years reflecting the desire to create a more stable framework for public investment; and
- some areas of government spending cannot be used as a stabilisation tool because of contractual and other long-term commitments.

**6.62** There are some important distinctions between different components of government expenditure – notably between transfers (such as benefit payments) and other forms of spending. For example, with transfer payments:

- outside lags might be greater since transfer payments might not be spent immediately, although in practice many recipients of transfer payments are liquidity constrained and hence have a high marginal propensity to consume;
- ratchet effects are likely to be especially powerful, as there is strong political pressure not to reduce benefits; and
- the impact on incentives to work, save and invest is likely to be high, resulting in complex trade-offs.

**6.63** More generally, the long lags in the implementation of government spending, both in terms of decision-making and in terms of implementing policy changes, pose a significant constraint on the use of government expenditure as a stabilisation tool since stabilisation policy needs to be both timely and temporary. One possibility for improving the effectiveness of fiscal stabilisation policy involving government spending would be to consider mechanisms to improve the forecasting of departmental expenditure and to strengthen incentives for departmental spending to occur as planned. This would improve the quality of the information on which decisions on discretionary fiscal policy would be made.

**6.64** Given these constraints on using government spending changes as a discretionary fiscal policy tool, the rest of this subsection focuses on tax-based instruments. The discussion considers a range of tools that affect on household consumption:

- indirectly through the impact on income (such as income taxes and national insurance contributions);
- directly at the point of consumption (such as expenditure taxes and those that impact on the consumption of housing); and
- through its impact on the cost of borrowing for consumption purposes (such as a consumer credit tax).

**6.65** This subsection also considers instruments that affect demand through their impact on private investment.

**Direct taxes** **6.66** Direct taxes affect consumption through their impact on household income. Given the potentially large impact on household income and demand of changes in income taxes, they appear to be a potentially powerful tool for stabilisation policy. However, income taxes involve fundamental questions of equity and efficiency, arguably more so than other taxes, and it may therefore be more difficult to use them for stabilisation purposes.

**6.67** In theory, equity concerns could be minimised by ensuring that any changes in income taxes for stabilisation purposes preserved the existing distributional effects. For example, Gruen (2001) suggests that all tax rates (both personal and corporate taxes) could be multiplied by a taxation parameter. This would initially be set at 1, but could be then changed up or down as required. For example, an increase of 10 per cent (taxation parameter = 1.1) would mean increasing tax rates by 10 per cent (eg from 22 per cent to 24.2 per cent). Such an across-the-board increase in income taxes would be strongly progressive.

**6.68** Gruen also suggests two other options. The first, allowing the lowest marginal tax rate to vary. This would tend to maximise the effect of changes in the fiscal stance on demand, by targeting the most liquidity constrained consumers, but it also would be seen as unfair, because it would impose high volatility on low income earners. Alternatively, a flat-rate tax could be levied on all income over a certain low income threshold – in Australia the mechanism for this already exists through the Medicare Levy. This would be akin to shifting the tax allowance up or down. Equity issues would also arise.

**6.69** However, one potential drawback is that income tax is charged for a whole year, with a rate set for that year in the Budget.<sup>14</sup> Hence, primary legislation would be required to establish arrangements allowing income taxes to be changed more often than once a year.

<sup>14</sup> Although at a practical level, employees' tax on their income from employment is collected throughout the year via Pay-As-You-Earn (PAYE).

**6.70** In addition, for taxpayers whose main income is only assessed annually (such as the self-employed and some pensioners) income taxes are paid on an annual basis (though some will pay on account throughout the year). Hence, for these taxpayers, even if the change in income taxes were announced quickly, the impact on their cash position would operate with a long lag (particularly when compared to changes in indirect taxes) as individuals would not feel the full impact until their income tax returns were filed after the end of the financial year. Hence, the demand impact might also be delayed.

**6.71** Even if more frequent changes to income taxes were possible, consumption smoothing and/or increased precautionary savings by households could limit the impact of any income tax changes. Unlike expenditure taxes, where the impact is felt both through an income and a relative price effect, income taxes only impact on consumption through an income effect. Hence, the impact of consumption smoothing is potentially greater for income taxes than expenditure taxes. However, the evidence presented in Section 3 suggests that consumption smoothing is far from perfect partly because a sizeable proportion of households are liquidity constrained.

**National insurance contributions** **6.72** Employee national insurance contributions (NICs) also affect consumption through their impact on income. Changes will therefore have a similar impact on demand as changing income taxes and are also broadly progressive. NICs are also calculated on a weekly or monthly rather than annual basis and therefore do not present the same problems with lags as income tax changes.

**6.73** However, NICs may not be a suitable stabilisation tool as they are paid into the National Insurance Fund – rather than the consolidated fund – and hence are earmarked for spending on health and contributory benefits. In addition, there are links between NICs and other aspects of the tax and benefit system so frequent changes in NICs may result in pressure to change other instruments. Frequent changes would also add to the administration cost for firms through their impact on payroll systems, and there would be administrative lags as employers updated their systems to reflect the new tax rate.

**Consumer credit tax** **6.74** Another channel through which tax instruments can affect household consumption is through their impact on borrowing to finance consumption. One option in particular, a consumer credit tax, has some immediate appeal as a potential stabilisation tool in that it would act in some ways as a close substitute for monetary policy. Like a change in interest rates, it would directly affect income and hence spending. It would not operate through other monetary policy transmission channels such as investment and the exchange rate however.

**6.75** A consumer credit tax levied on interest payments would have some potential advantages. The ‘outside lag’ would likely be of a similar order to interest rate changes. In addition, there are likely to be few impacts on the supply-side, such as the labour market.

**6.76** However, an important difference compared to monetary policy is that a credit tax would redistribute income from debtors in the consumer sector to the Government, rather than between net debtors and net creditors as interest rate changes do. Since the majority of consumer credit (around 80 per cent) is mortgage borrowing, the primary incidence of the tax would fall on households with mortgages.

**6.77** Broadly speaking, this would make a consumer credit tax mildly progressive since households at the low end of the income spectrum are less likely to have a mortgage. However, within the subset of households with mortgages, a consumer credit tax would prove to be regressive since interest payments form a much larger proportion of total income for households with low incomes. In addition, there is some evidence that the distribution of non-mortgage consumer credit is concentrated in certain groups in society (such as those with high levels of mortgage debt and the young) and the rates of interest charged on this form of credit tend to be much higher, suggesting that imposing a tax on this credit may impact particularly strongly on these groups.

**6.78** However, implementing a workable consumer credit tax in practice poses formidable obstacles both in terms of design and enforceability. The use of malleable financial products (such as offset mortgages or interest free credit) may make the tax base very volatile and asymmetric over the cycle (as individuals would shift credit away from products with interest charges when the tax was imposed on interest rates and return to such instruments when the tax was reduced or eliminated). In addition, as with interest rate changes, the impact depends on the degree of pass through from lenders to consumers which may be very limited if lenders restructure financial products to offer ‘fixed rates’ (including both interest payments and the tax) to customers. Furthermore, in practice it could prove difficult to distinguish between business and consumer credit effectively.

**6.79** The administrative costs associated with introducing a tax on the roughly 500,000 registered providers of consumer credit in the UK are likely to be very large. Yet, confining a credit tax to mortgage borrowing would impact particularly strongly on some groups (such as first time buyers). Indeed, a tax levied solely on mortgage borrowing becomes, in effect, a housing market tax and it is not clear that a credit tax is the most effective or efficient means for taxing this sector of the economy.<sup>15</sup>

**6.80** There would also be compliance issues. Ensuring that foreign lenders complied with the tax would be a necessary aspect of any consumer credit tax - since cross-border competition in retail financial services is growing and is an explicit objective of the UK Government. Yet, it is not clear that it is possible to design enforcement mechanisms that are both sufficiently powerful to ensure compliance and compatible with the single European market in financial services.

<sup>15</sup> Other tax instruments in the housing sector are discussed separately, see paragraph 6.86.

**6.81** In sum, while in principle a consumer credit tax has some attractions, in practice there is no realistic prospect of implementing it effectively in a world of complex and innovative financial products and integrated financial markets.

**Investment instruments** **6.82** An alternative is to use an instrument that would impact on demand through private investment. One example here would be the use of temporary tax credits to stimulate investment in a recession (and their removal to reduce the incentives for investment during a recovery).

**6.83** Measures designed to impact on investment have been considered in other countries. For example in the US, President Bush advocated an Investment Tax Allowance in 1992 and President Clinton proposed an incremental investment tax credit in 1993, although neither were enacted. Similarly, the package of measures announced by President George Bush in January 2003 intended 'to strengthen the American economy' included specific measures to stimulate investment. The main elements are: allowing small businesses to write off up to \$75,000 of investment in new equipment (rather than the \$25,000 limit applied previously), and the elimination of taxes paid by shareholders on dividends. However, it is too early to tell what impact such measures will have on the US economy, as they have not yet taken effect.

**6.84** There is some evidence that temporary investment incentives (tax cuts or credits) have a larger impact on investment than permanent ones (see Hassett and Hubbard, 1996), through their impact on the timing of investment decisions. Much as an indirect tax change alters consumption through changes in relative prices, a temporary investment tax credit could reduce the relative cost of investment now as opposed to the future, acting to bring forward investment. Hassett and Metcalf (1994, 1995) conclude that this effect is significant.

**6.85** However, it is by no means certain that fiscal instruments aimed at stimulating investment would have a large impact on activity in the UK. Many businesses in the UK exhaust their liability to corporation tax in a downturn, and so would not benefit from the incentive. Also, the effectiveness of corporation tax as a discretionary fiscal tool is limited by the relative import-intensity of capital spending by business, and by the good access of corporation taxpayers to capital markets (relative to, for example, income taxpayers). In addition, frequent use of temporary tax incentives would increase uncertainty in business capital budgeting, making it more difficult for firms to forecast the path of the cost of capital and make investment decisions.

**Stamp duty and the housing market** **6.86** As discussed in Part A, in modernising the regulator, one option would be to extend the regulator power to additional taxes, such as stamp duty. This would ensure that a range of tools were available for fiscal stabilisation purposes – increasing the potential magnitude of impact of stabilisation policy and ensuring that it was highly flexible (for example by using instruments that impact on different sectors of the economy in response to different shocks).

**6.87** More broadly, tax instruments affecting the housing market have some immediate appeal for a number of reasons. First, the residential housing market in the UK has long been one of the most volatile sectors in the economy – and in comparison with other EU countries – and has been a source of wider macroeconomic instability. Hence tax instruments that reduce volatility in the housing market should help reduce the need for other stabilisation policies. In addition, there are links between the housing market and consumption: for example, rising house prices increase the wealth of property owners and may result in more equity withdrawal; individuals can often secure personal loans on property ownership; and the purchase of a house often results in significant consumption of durable goods. This suggests that instruments that impact on the housing market (through house prices, borrowing against housing wealth and/or the volume of house transactions) may have an impact on consumption. Tax instruments based on the housing market would also be linked to a cyclically sensitive base and hence could have powerful properties as automatic stabilisers. Finally, investment in housing is relatively lightly taxed compared to other investments.

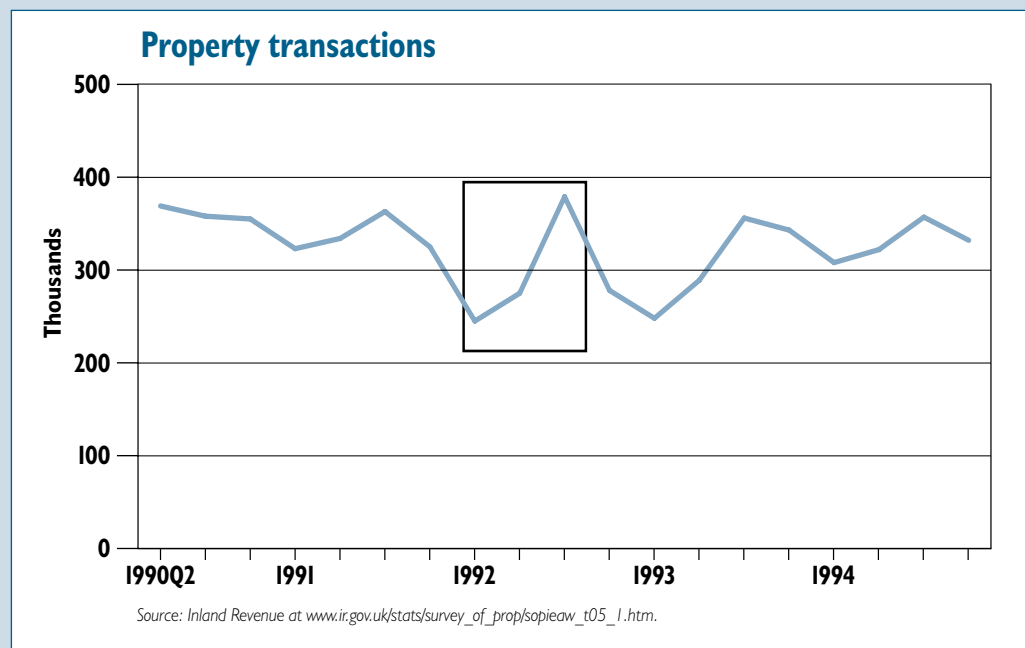
**6.88** Stamp duty is a tax levied on the purchase of a property – on the transaction and not on the ownership of the property itself. There are currently four stamp duty rates (0, 1, 3 and 4 per cent), depending on the total price of the property. The tax is imposed on the full price of the property.

**6.89** It might be possible to use stamp duty as a discretionary instrument to dampen housing market fluctuations by varying the rates in relation to the house price cycle. For example, stamp duty could be raised during a period of rapid house price increases, reducing demand for housing (either for new or for existing property). This in turn could lead first to a moderation in house price inflation (resulting in reduced growth in housing wealth) and second, to weaker demand for housing-related durable goods. During a period of weaker than average growth, stamp duty rates could then be lowered to boost housing demand. There is some evidence, from the temporary stamp duty holiday in the early 1990s, that temporary changes in stamp duty have an impact on the housing market (see Box 6.9).

#### **Box 6.9: The 1992 stamp duty ‘holiday’**

The stamp duty threshold was increased temporarily from £30,000 to £250,000 from 20 December 1991 to 19 August 1992 (and then returned to £30,000). This meant that for all properties with a market value between £30,000 and £250,000, the stamp duty rate fell from 1 per cent to zero over the period. The estimated lost revenue yield was £110 million in 1991-92 and £290 million in 1992-93.

The evidence on property transactions suggests that the ‘holiday’ had some impact on the housing market. Total property transactions were on a downward trend when the holiday was introduced, which continued for the first quarter of the holiday (probably reflecting the lags involved in buying and selling houses). However, transactions rose sharply in the third quarter of 1992, the last period before the temporary holiday closed, suggesting that at least some transactions were brought forward from the following period when the original threshold was re-imposed.



**6.90** One potential drawback of altering the level of stamp duty is that it may affect labour mobility, thereby making the labour market less efficient. However empirical evidence to support this view is limited. An additional problem of using stamp duty as a stabilisation tool is that it may only have a small impact on the number of housing transactions since it is only one of many costs faced by potential property purchasers and since any additional tax could be spread across the life of a mortgage.

**Other housing taxes** **6.91** There are a wide variety of property taxes across the world, with a number of them exhibiting stabilising characteristics. Denmark, for example, currently operates a property tax system based on a flat-rate tax of 1 per cent of the market value on owner-occupied housing (which is assessed on an annual basis). When introduced in 1998, the Danish Government expected that the new tax system would help to dampen future house price inflation (which had been high in previous years), and in turn help stabilise private consumption growth. With annual revaluations the Danish property value tax acts as an automatic stabiliser by withdrawing a higher proportion of income from consumers as house prices increase as, during an upturn, house price inflation tends to exceed income growth. In addition, the Danish Government could choose to vary the tax rate according to economic circumstances. Muellbauer (2003) argues that this could be an important way of stabilising consumption.

**6.92** Some countries charge capital gains tax (CGT) on the sale of property, though in many, including the UK, the principal private residence (PPR) is exempt. Sweden is one country which charges CGT on the PPR, though at a lower rate than for other property. Other countries use CGT as a form of tenure tax, so that properties held for longer are subject to a lower tax charge. For example, in Germany, CGT is charged on all capital gains considered speculative, which in the case of real estate (including the PPR), means any property sold within ten years of acquisition. Finland also charges differential CGT depending on how long the property has been held – the proportion of the value on which CGT is charged falls after ten years.

**6.93** In the Netherlands, all mortgage interest receives tax relief. Recent reforms, implemented in 2001, attach a number of conditions for homeowners to claim full tax relief. For example to qualify for mortgage interest relief on their re-mortgaged properties, homeowners must prove that they are releasing equity for home improvement. The recent Dutch policy changes may reduce the significance of the link between house price changes and consumption by reducing the ability to withdraw equity from housing and then use it to fund consumption.

**Expenditure taxes** **6.94** Of course the most direct way to affect consumption is to tax it directly, through expenditure taxes. As discussed in Part A, expenditure taxes (VAT and excise duties) have been used for stabilisation purposes in the past (albeit rarely) and are already covered by the existing regulator powers. Hence, they are potentially flexible tools that could be varied in a timely manner for stabilisation purposes.

**6.95** In addition, as discussed in paragraph 6.59, such indirect taxes are likely to have a powerful effect on demand because, in addition to an income effect, they also have a relative price effect which encourages consumers to delay or bring forward expenditure. Hence, the impact on consumption and demand is likely to be larger for a temporary indirect tax change than for an equivalent temporary change in income taxes. In practice, some expenditure taxes may have a stronger or more symmetrical impact on aggregate demand than others. For example, substantial changes in the rates of tobacco duty might have implications for the relative sizes of the UK duty paid and non-duty paid shares of the tobacco market.

**6.96** While not conclusive, the evidence from macroeconomic models suggests that, particularly if used as a group, changes in expenditure taxes could have a significant impact on demand for a relatively small change in the tax rate. (See Annex A for a more detailed discussion of different fiscal multipliers).

**6.97** From an equity point of view, an increase in VAT is broadly neutral across the income spectrum, as people on low incomes tend to spend a higher proportion of their income on goods which are subject to zero or reduced rates of VAT.

**6.98** One potential drawback of indirect taxes is that the direct effect of an increase is to raise retail prices. Hence, frequent changes could place a significant administrative burden on businesses in the retail sector and could add to the volatility of inflation. However, as noted in paragraph 3.26, while some empirical evidence suggests that indirect taxes have a larger impact on inflation than direct taxes (because they are included in the price index that wage bargainers use), the evidence is not conclusive. In addition, the impact on inflation will be only a one-off phenomenon as price levels adjust to incorporate the new tax rate. This is analogous to the one-off increase in RPI inflation resulting from an increase in interest rates (as mortgage interest payments are included in the broad Retail Price Index (RPI)).

**6.99** A further practical challenge is the potential impact of in-year variations to VAT and excise duties on business compliance costs. For retailers in particular, and especially those smaller retailers that do not make use of computerised pricing and accounting systems, adjusting for rate changes could be costly and time consuming. Under some circumstances, this may mean rate changes are not passed on to consumers fully, or evenly across products. One possible way of mitigating additional compliance costs would be to allow a short lead-in period for rate changes; however, that could increase the risk of tax losses through forestalling and avoidance which would also run counter to the desired stabilisation effect.

**6.100** In sum, a tax instrument that involved changes to a group of indirect taxes already exists under the regulator powers and could prove to be a powerful fiscal stabilisation tool. In addition, there are likely to be limited impacts on incentives and the supply side of the economy and, assuming the existing structure and exemptions would remain in place, limited impacts on the overall equity of the tax system. However, the need to minimise both additional business compliance costs and scope for additional tax losses poses practical challenges on which further work would be needed.

**Summary: Instruments** **6.101** This subsection has considered the various tax instruments that could be used in a discretionary manner for stabilisation purposes. As outlined in Section 4, the main criteria for such instruments are to maximise impact on activity for a given change in the fiscal stance while taking into account wider government objectives such as equity and efficiency.

**6.102** In summary, the analysis in this subsection suggests that:

- using **government spending** for stabilisation purposes would not be sensible, as any changes made would involve long inside lags and frequent changes would conflict with the current medium-term spending framework;
- using **income taxes and national insurance contributions** would create significant practical problems and may have only a relatively limited stabilisation impact;
- while a **consumer credit tax** has advantages in principle, in practice there is no realistic prospect of implementing it effectively;
- while temporary **investment incentives** could affect the timing of investment decisions, this impact might be quite small, and frequent use of temporary tax incentives would increase uncertainty, damaging long-run investment in the economy;
- fiscal instruments impacting on the **housing market** could help reduce volatility in this sector of the economy, through ‘automatic stabiliser’ properties, as well as potentially providing an additional discretionary stabilisation tool; and
- temporary changes to a combination of **expenditure taxes**, for example through the regulator power, could prove to be a powerful fiscal stabilisation tool, with limited impacts on incentives and the overall equity of the tax system.



**7.1** Outside EMU, the Government sets the objectives for both monetary and fiscal policy. Monetary policy is set to achieve price stability as defined by the Government's inflation target and is the main instrument for demand management. The Government's fiscal rules are set over the economic cycle, allowing fiscal policy to support monetary policy by the full operation of the automatic stabilisers. Where appropriate, discretionary fiscal policy is also considered. However, to the extent that the combination of monetary policy and the operation of the automatic stabilisers is successful, the need for discretionary fiscal policy for stabilisation purposes should be greatly reduced.

**7.2** Membership of EMU would mean that interest rates are set by the European Central Bank (ECB) according to conditions across the entire euro area rather than those pertaining to an individual Member State like the UK. When faced with Europe-wide common shocks, monetary policy will respond in a similar way as if policy were under national control. However, countries in EMU can no longer set interest rates to address shocks that impact asymmetrically on their economies. The loss of domestic monetary policy in EMU, and the fact that the operation of the automatic stabilisers can only dampen a shock, means that fiscal policy may need to be more activist to the extent that asymmetric shocks are important.

**7.3** This paper explores a number of policy options to make discretionary fiscal policy more effective for stabilisation purposes and strengthen the automatic stabilisers. The paper considers the robust institutional framework required to ensure an enhanced fiscal stabilisation policy operates symmetrically, credibly and transparently, and which policy levers are likely to prove most effective. Credible policy options include a new symmetrical fiscal rule to trigger the Government to consider taking action, publishing a Stabilisation Report to enhance transparency, increasing the role of independent audit, a greater role for the tax regulators and specific fiscal instruments that could be used for stabilisation purposes. The Treasury will conduct further analysis into these issues to ensure the policy proposals would deliver effective counter-cyclical stabilisation of the economy were the UK to join EMU.



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**A1** This annex examines the evidence for the size and sign of fiscal multipliers. To do so, the annex utilises:

- UK macroeconomic models;
- multi-country macroeconomic models; and
- structural VAR<sup>1</sup> models.

**Using macroeconomic models** **A2** Macroeconomic models can only, at best, be a quantitative approximation to the structure of a modern economy. However, models are a useful tool for illustrating some of the points on the impact of fiscal instruments on the economy, outlined in Section 3.

**A3** Estimates of fiscal multipliers from macroeconomic models depend crucially on both model specification and the assumptions underlying the fiscal policy shocks. Most macroeconomic models allow for some short-run ‘Keynesian’ effects as a result of sluggish wage and price adjustment, although they also have ‘classical’ long-term properties under which output is supply-determined. However, the particular model structure, the treatment of expectations, and parameter values in specific equations can produce markedly different estimates.

**A4** Two technical assumptions are crucial in the case of fiscal policy simulations and can have marked effects on the estimates of fiscal multipliers:

- how monetary policy reacts to a change in inflation and output resulting from a change in fiscal policy; and
- whether a rule to ensure fiscal solvency (sometimes referred to as a ‘fiscal closure rule’) is applied. This often takes the form of a condition for the debt to GDP ratio or the deficit to GDP ratio. Key issues are how soon this is applied and through which fiscal instrument.

## UK Macroeconomic Models

**Comparison of UK macroeconomic models** **A5** Church *et al.* (2000) present comparative simulations of the impact of a government spending increase and an income tax cut on the UK economy using five macroeconomic models of the UK economy.<sup>2</sup>

**A6** The spending simulation is an annual increase of £2 billion in government expenditure in 1995 prices (approximately  $\frac{1}{4}$  per cent of GDP) which continues for five years. The tax simulation is a two percentage point reduction in the basic rate of income tax (approximately  $\frac{2}{3}$  per cent of GDP) which is sustained for five years. During these five years, the fiscal solvency rules are suspended and are then re-introduced to ensure long-term fiscal sustainability. The monetary policy assumption used is that interest rates are changed to meet the inflation target.<sup>3</sup> Table A1 below sets out results for the impact on output of these simulations with the shocks scaled up to 1 per cent of GDP to ease comparability.

<sup>1</sup>Vector autoregressive models.

<sup>2</sup>The models are from the London Business School (LBS), HM Treasury, National Institute of Economic and Social Research (NIESR), the COMPACT model of Exeter University and the Cambridge University Small UK Model (CUSUM).

<sup>3</sup>Church *et al.* (1997) provide a more detailed explanation of the monetary policy assumption adopted for each model. Although monetary policy is set to meet the inflation target in all five models, the specific monetary feedback rule does differ between models and hence may affect the multiplier estimates.

**Table A1: Spending and tax multipliers in five UK macro models**

Percentage difference in GDP from base value in year	Spending simulation <sup>1</sup>				
	LBS	NIESR	Treasury	COMPACT	CUSUM
1	0.94	0.98	0.47	0.51	1.10
3	0.90	0.47	0.04	0.12	-0.71
5	0.79	0.20	-0.82	0.47	-0.51
	Income tax simulation <sup>2</sup>				
	LBS	NIESR	Treasury	COMPACT	CUSUM
1	0.15	0.78	0.35	0.02	0.76
3	0.96	1.24	0.92	-0.02	0.95
5	0.93	0.53	0.97	0.06	1.19

<sup>1</sup> Increase in government spending of £2 billion (1995 prices) per year for five years (scaled up to 1 per cent of GDP).

<sup>2</sup> Two percentage point reduction in the basic rate of income tax lasting five years (scaled up to 1 per cent of GDP).

Source: Church et al. (2000).

### Government expenditure simulation

**A7** Table A1 shows a positive short-term impact on output in all models from the government spending increase. The rise in government spending feeds directly into output growth, but the fiscal expansion means that interest rates are raised to keep inflation close to target. Higher interest rates have an impact on private spending and lead to an appreciation of the exchange rate which reduces net exports. As a result, expenditure multipliers are highest in the first year and then fall as the impact from higher interest rates comes through. First-year expenditure multipliers are around unity in the simulations of the LBS, NIESR and CUSUM models, while the simulations of the Treasury and COMPACT models indicate multipliers of around a half. In the longer term (beyond the fifth year, not shown in Table A1), the majority of models show a zero or negative impact on output. This is due to government spending returning to base values together with tax rate increases as a result of the re-introduction of the fiscal solvency rule.

### The importance of the monetary policy response

**A8** As noted in Section 3, the multiplier estimates depend crucially on the extent of the monetary policy response to the change in inflation resulting from the rise in government spending and its interaction with the exchange rate. The interest rate response differs noticeably between models (by the fifth year of the simulation, interest rates are between 0.20 and 0.56 percentage points higher than in the base) with consequent impacts on consumption, investment and the exchange rate. These simulations assume an independent monetary policy. If the UK were inside EMU, with interest rates responding only to euro area developments as a whole, the interest rate rise would be more muted and the estimates for the fiscal multipliers would be higher.

### And the exchange rate response

**A9** Higher domestic interest rates relative to unchanged foreign interest rates lead to an appreciation of the exchange rate.<sup>4</sup> Forward-looking models such as NIESR, COMPACT and CUSUM have a faster exchange rate response than backward-looking models such as the Treasury model.<sup>5</sup> The faster initial appreciation of the exchange rate will lower import prices and offset domestically-generated inflationary pressures, resulting in less need for an interest rate response than in models where there is a smaller initial appreciation.

<sup>4</sup> The exchange rate is modelled in all the models via an uncovered interest rate parity condition in which the exchange rate is explained in terms of its expected future level and the differential between domestic and foreign interest rates. In forward-looking models, higher domestic interest rates relative to foreign interest rates will result in a jump appreciation in the exchange rate (in response to anticipated future events) followed by a depreciation.

<sup>5</sup> The Treasury model can also be operated using forward-looking expectations.

**Income tax simulation** **A10** The cut in the basic rate of income tax has a positive multiplier effect on output in all five models. However, in each case, the first-year tax multiplier is smaller than the first-year expenditure multiplier. In addition, the range of tax multiplier estimates is greater than those for expenditure multipliers.

**Impact on disposable income** **A11** A key channel through which income tax cuts affect the economy is through higher personal disposable income and its impact on consumer spending. The impact from the change in disposable income will depend on the extent to which households are assumed to smooth their consumption, as discussed in Section 3. This is the main reason for the diverse first-year tax multipliers between the models.

**A12** The COMPACT model shows the smallest output effect from an income tax cut, and illustrates a near ‘Ricardian’ response to a temporary tax cut. In contrast, the other models show a much greater impact on output, illustrating more traditional ‘Keynesian’ effects on consumer behaviour. The COMPACT model explicitly models forward-looking consumers who smooth their consumption in response to income changes. However, the ‘Ricardian’ response is not complete because some consumers are assumed to be liquidity-constrained and do increase their spending after a tax cut.<sup>6</sup>

**Impact on wage bargaining** **A13** A second channel through which an income tax cut may impact on the economy is through its effect on wage bargaining. As discussed in paragraph 3.26, a lower tax rate reduces the wedge between employers’ real wage costs and employees’ real consumption wages, which would put downward pressure on real wage outcomes. In the simulations in Table A1, there are tax wedge effects in both the NIESR and Treasury model real wage equations.<sup>7</sup> The fall in real wages feeds through into lower unemployment, reinforcing the positive impact on consumers’ expenditure (and therefore output) from the tax cut. In addition, less pressure on real wages reduces inflation in the first year of the simulation, lessening the need for interest rate rises.

**Indirect tax simulations** **A14** Simulations on the COMPACT model suggest that, although income tax changes have only a very modest impact on output in an economy in which most households smooth their consumption, temporary indirect tax changes could prove more powerful. Wren-Lewis (2000) suggests that the impact on output and inflation are “*about five times greater than with the income tax shock*”. In a forward-looking model, consumers know that a change in indirect taxes is temporary and either delay or bring forward their spending in response to the change in relative prices. The reallocation of spending over time is brought about in the COMPACT model by changes in the real interest rate facing consumers.<sup>9</sup>

<sup>6</sup> The theoretical structure of the COMPACT model is described in Darby *et al.* (1999). The proportion of credit-constrained consumers is assumed to be a function of the extent of financial liberalisation in the economy. In the steady-state, around 20 per cent of labour income is estimated to go to credit-constrained consumers.

<sup>7</sup> The version of the Treasury model in the Church *et al.* simulations had a direct tax wedge in both the short and long run. The current version of the Treasury model only has short-run effects from the tax wedge.

<sup>8</sup> Wren-Lewis (2000), page 101.

<sup>9</sup> The simulation assumes that the monetary authorities, when setting interest rates, ignore the mechanical rise and subsequent fall in consumer prices associated with the temporary increase in VAT.

**Box A1: Fiscal policy simulations on the Treasury model**

The theoretical structure of the Treasury model is outlined in Chan, Savage and Whittaker (1995). In the short run, wage and price adjustment is sluggish, meaning that fluctuations in aggregate demand are reflected in fluctuations in output. In the long run, output will be determined by exogenous productivity trends and the rate of population growth.

The table below shows the size of the fiscal multipliers in some standard fiscal policy simulations. The simulations assume fixed nominal interest rates, backward-looking expectations and no fiscal solvency rule.

**Fiscal multipliers in the Treasury model from a 1 per cent of GDP change in fiscal instruments<sup>1</sup>**

	Year 1	Year 2	Year 3
Government consumption increase	1.1	1.4	1.4
Income tax reduction	0.3	0.6	0.9
VAT reduction	0.3	0.5	0.8

<sup>1</sup>Shocks were a £2.4 billion (1995 prices) rise in government consumption, a 1p reduction in the basic rate of income tax and a 1p cut in the VAT rate. All shocks were scaled up to be equivalent to 1 per cent of GDP. The 2002 Treasury public model was used.

As with the other UK models surveyed, short-term expenditure multipliers are greater than tax multipliers reflecting that the rise in government consumption feeds directly into GDP. Income tax and VAT reductions in the Treasury model boost output through the increase in real personal disposable income but also through lower real wage growth and the consequent reduction in unemployment, the result of short-run direct and indirect tax wedges in the real wage equation. However, the assumption of fixed nominal short-term interest rates is crucial for the size of the fiscal multipliers in both the expenditure and tax simulations. The rise in inflation from the expansionary fiscal policy coupled with fixed nominal interest rates implies a drop in real interest rates, boosting both consumption and investment. In addition, the nominal exchange rate depreciates steadily in response to a deteriorating current account balance.

Adopting a monetary policy rule (as in Table A1) to ensure inflation remains close to target, changes the path of both the interest rate and exchange rate in the simulations. The fiscal stimulus is offset by higher nominal (and real) interest rates leading to some crowding out of private demand. With UK interest rates rising relative to foreign interest rates, the exchange rate also appreciates, leading to a reduction in net exports. This implies lower fiscal multipliers. However, inside EMU with interest rate and exchange rate responses much more muted, the simulation results in this box are more plausible than in a domestic inflation-targeting regime.

**Multi-country Macroeconomic Models**

**A15** There are a number of multi-country macroeconomic models such as the European Commission's QUEST model, the International Monetary Fund's MULTIMOD model and the National Institute's NiGEM model. Such models allow analysis of the international transmission of shocks through interest rate, exchange rate and trade linkages. Such models not only provide cross-country comparisons of responses to shocks but are also useful for illustrating the impact from joining a multi-country endeavour such as EMU. The following discussion presents:

- simulations on the QUEST model on the effectiveness of different fiscal instruments; and

- simulations on the NiGEM model carried out by HM Treasury to illustrate the impact on fiscal multipliers from joining EMU.

**A16** The multi-country macroeconomic models mentioned above impose a similar theoretical structure across each economy. In the absence of differing monetary policy regimes, cross-country differences in responses to shocks will largely reflect differences in coefficients and the dynamics in the estimated equations. However, such differences can prove important for the size of the short-run fiscal multipliers. As with the UK macroeconomic models analysed earlier, these models allow for sluggish wage and price adjustment in the short run to generate some ‘Keynesian’ effects but have ‘classical’ long-run properties.

**European  
Commission’s  
QUEST model**

**A17** The short-run fiscal multipliers presented in Table A2 are derived from simulations on the European Commission’s QUEST model of a 1 per cent of GDP rise in government expenditure and a weighted average of 1 per cent of GDP reductions in labour, corporate profits and value-added taxes. However, to ensure fiscal sustainability, both fiscal expansions are offset by lump-sum changes in taxes after three years to stabilise the debt to GDP ratio in the model. Monetary policy in the simulations is assumed to target euro area inflation, except in Sweden and the UK which are assumed to target their own inflation rates.

**Table A2: Estimates of first year fiscal multipliers for EU countries from EC Quest Model**

	Revenue multiplier <sup>1</sup>	Expenditure multiplier
Germany	0.2	0.4
Spain	0.1	0.5
France	0.1	0.5
Ireland	0.1	0.4
Italy	0.1	0.5
Netherlands	0.1	0.4
Portugal	0.0 to 0.1	0.7
Sweden	0.3	0.4
U.K.	0.2	0.3

<sup>1</sup>Tax multipliers are weighted averages of 1 per cent reductions in labour, corporate profits and value-added taxes.

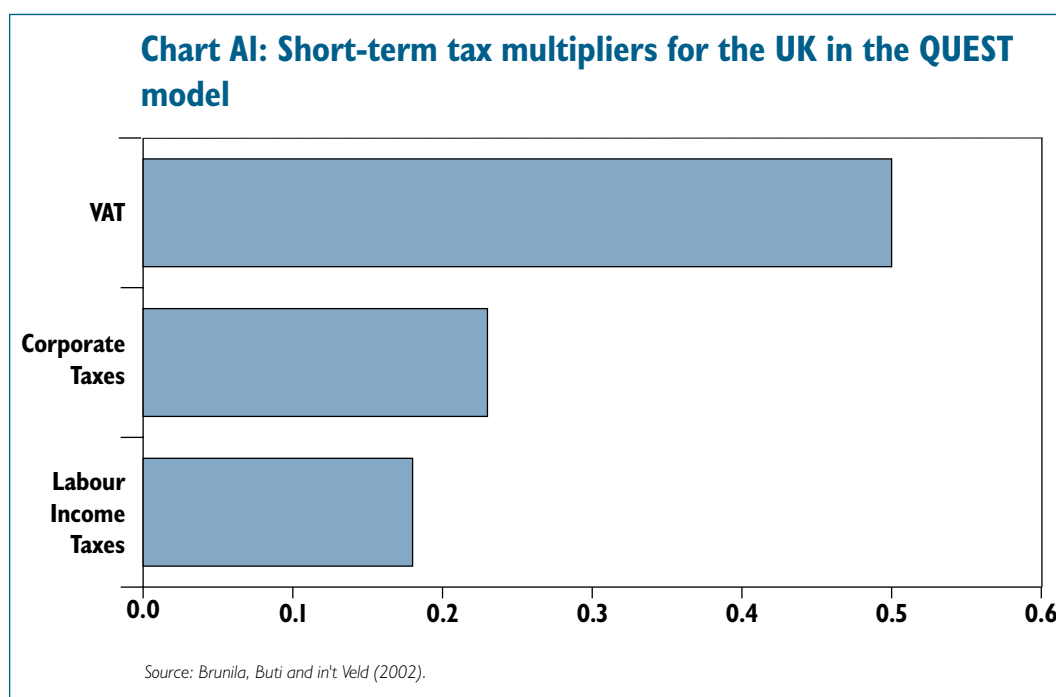
Source: European Commission “Public Finances in EMU – 2001”, *European Economy*, No 3, page 72.

**A18** Like the results from UK models, the estimated fiscal multipliers indicate that part of the fiscal expansion is crowded out via higher real interest rates and an appreciating currency. A key finding from the EC QUEST model, which is consistent with the UK models, is that the short-term tax multipliers are smaller than the expenditure multipliers. This in part results from the forward-looking behaviour of consumers in the model. Although liquidity-constrained households will boost their consumption in response to the rise in disposable income, other households will smooth their consumption in anticipation of a higher tax take in the future.

**A19** The first-year tax multipliers in Table A2 may understate the longer-run effect of a tax change for two other reasons. Unlike government expenditure which is assumed to impact immediately and directly on GDP, there could be a lag before tax changes have their full effect on demand. Secondly, any supply side effects from the tax reductions are likely to become more important over the medium term.

**A20** As set out in Section 3, the extent to which monetary policy reacts to deviations of inflation away from its target in these simulations will affect the size of the estimated fiscal multipliers. In euro area countries, the monetary policy response to a country-specific fiscal shock is likely to be limited even for the larger countries since interest rates will only respond to deviations in euro area inflation. The results show that expenditure multipliers are smaller for the UK and Sweden where there is likely to be a larger monetary response than for countries within EMU. However, the revenue multipliers for the two countries are relatively large.

**A21** Brunila, Buti and in't Veld (2002) report a variety of tax simulations on the Commission's QUEST model. They temporarily reduce labour income taxes (i.e. income tax and National Insurance contributions), corporate taxes and VAT by 1 per cent of GDP for two years. The cuts are reversed in the following year and monetary policy is assumed to respond to deviations of inflation throughout the simulation. Chart A1 shows that the tax multiplier for VAT is estimated to be higher than those for income or corporate taxes. Given forward-looking consumers, a reduction in VAT brings forward spending, in anticipation of higher indirect taxes in the following year. In contrast, forward-looking consumers and firms smooth away much of the temporary income or corporate tax cuts.



**NiGEM simulations carried out by HM Treasury**

**A22** A number of simulations have been carried out on NIESR's NiGEM<sup>10</sup> model. This is a multi-country macroeconomic model and helps illustrate the differing responses of the economy to changes in fiscal instruments inside and outside EMU. The simulations carried out were:

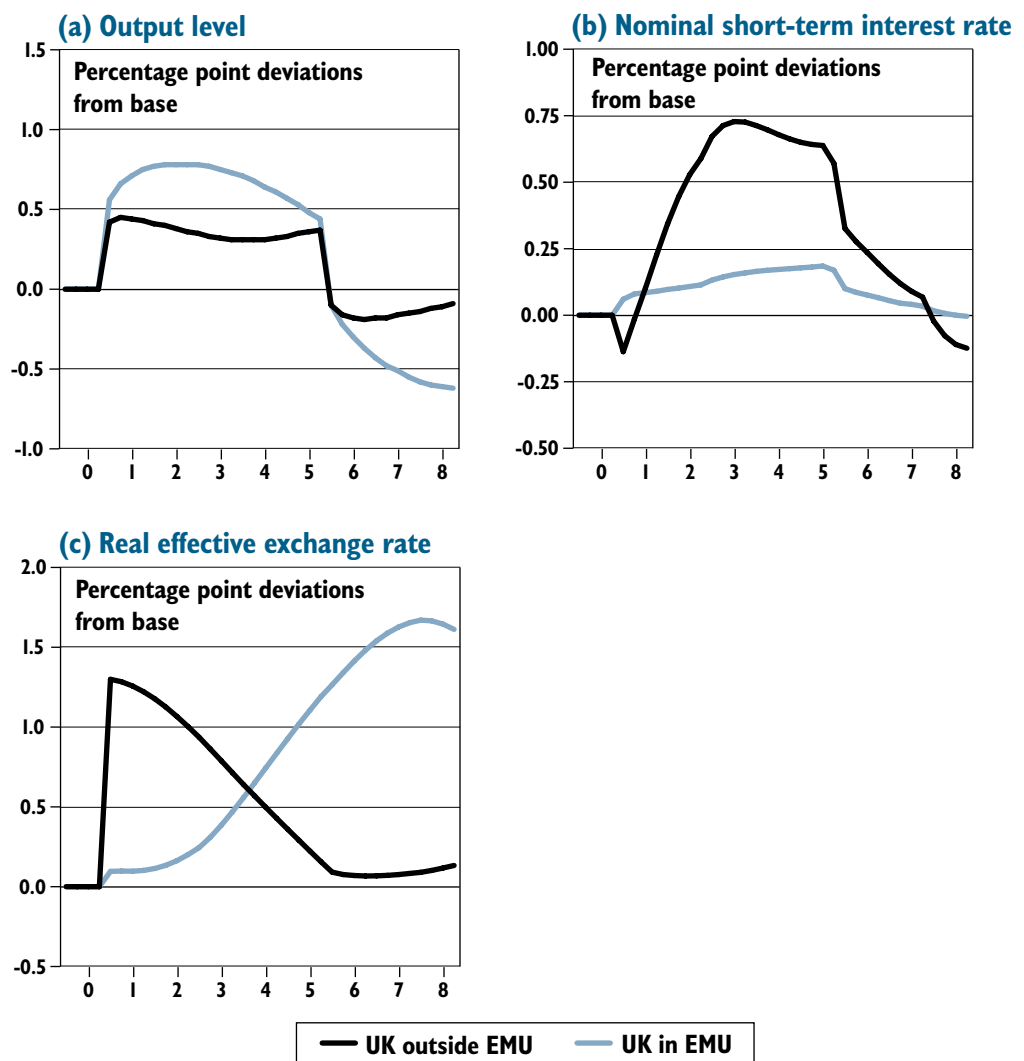
- 1 per cent of GDP rise in government consumption for five years; and
- 1 per cent of GDP cut in direct tax for five years.

<sup>10</sup>The NiGEM model is a 'New Keynesian' model, i.e. that in the short and medium term, sluggish adjustment of wages and prices allow for some Keynesian effects. A key element of the NiGEM model is that it incorporates forward-looking behaviour in consumption, wages, exchange rates, equity prices and long-run interest rates. Forward-looking expectations are model consistent.

**A23** Outside EMU, monetary policy is assumed to follow a Taylor rule in which interest rates are changed in response to deviations of UK inflation from target and changes in the UK output gap. Within EMU, a euro area Taylor rule is followed. Given the forward-looking nature of the model, the policy rule responds to expected inflation. The fiscal solvency rule has not been imposed, but all the simulations assume that the spending or tax decisions are temporary.

**A24** The NiGEM simulations carried out by HM Treasury confirm the importance of the assumed monetary regime. In both simulations, fiscal multipliers are higher within EMU, than when running an independent monetary policy. This primarily results from the more muted interest rate response within EMU, since euro area interest rates will only move to the extent that fiscal policy in the UK impacts on euro area output and inflation. Differing exchange rate reactions inside and outside EMU will also have a marked effect on the simulation results.

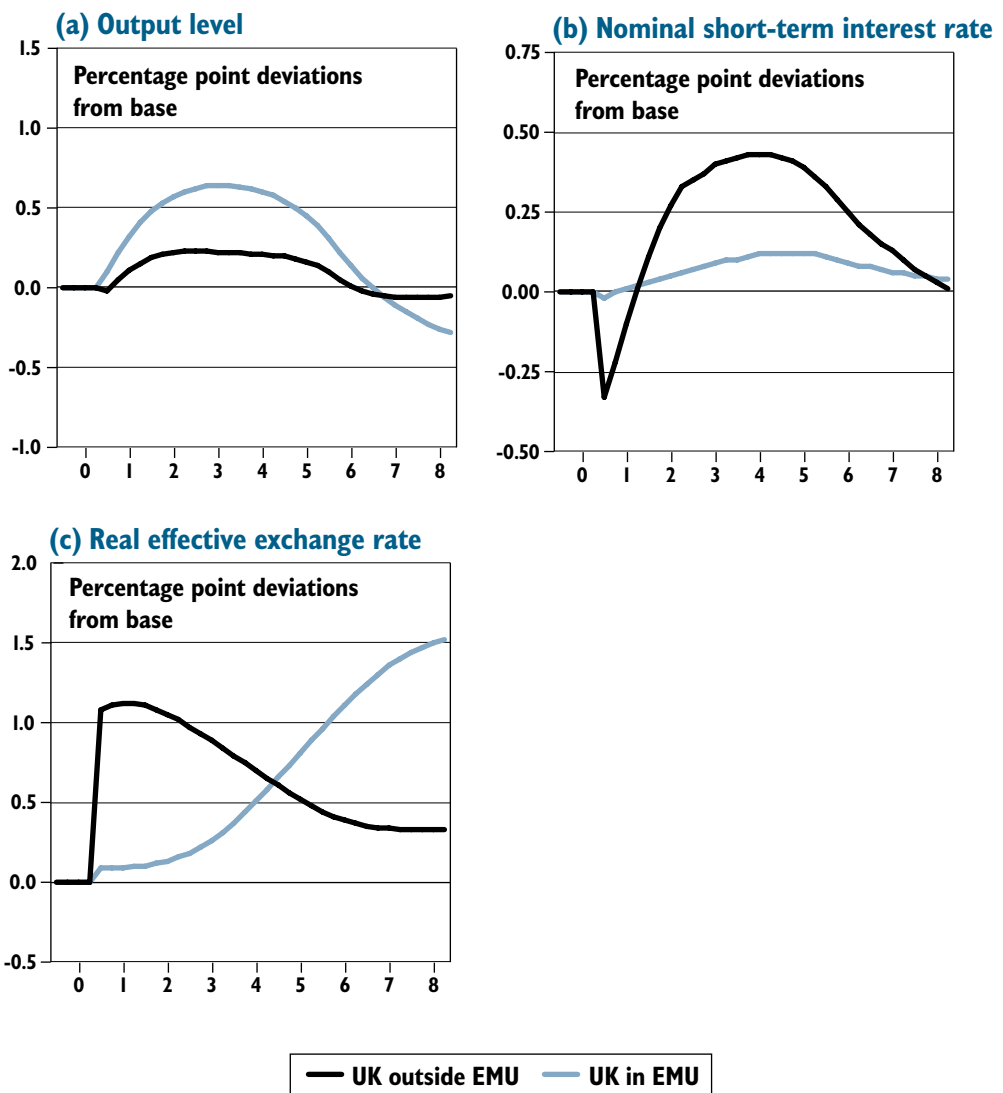
**Chart A2: Impact of a 1 per cent of GDP rise in government consumption**



**Government consumption shock** **A25** Since government consumption forms part of aggregate GDP, a rise of 1 per cent of GDP feeds through directly to output. However, the stronger response of interest rates outside EMU means that private investment is partly crowded out. Consumer spending is boosted both outside and within EMU.<sup>11</sup>

**A26** In addition, the stronger rise in interest rates outside EMU, via the forward-looking exchange rate leads to an immediate appreciation in the exchange rate, affecting competitiveness and lowering net trade. Inside EMU, the simulation, without a bilateral exchange rate with the euro area, gives a different profile for the real exchange rate. The real exchange rate appreciates steadily over the five year period. In the absence of offsetting fiscal action, the adjustment mechanism is in terms of higher inflation, as discussed in Box 6.1.

**Chart A3: Impact of a 1 per cent of GDP rise in direct tax revenue**



<sup>11</sup> This in part reflects that the NIGEM model does not find a role for short-term interest rates in their consumption equation and so interest rates only impact indirectly through their effect on income and wealth.

**A27** The fiscal multipliers from the 1 per cent of GDP cut in direct tax revenue<sup>12</sup> are smaller than those for the government consumption simulation both outside and inside EMU. With the UK in EMU, the maximum fiscal multiplier from the direct tax simulation is 0.6, compared with 0.8 for the government consumption simulation. The direct tax cut has its primary effect through the rise in household disposable income and on consumption. Although the NiGEM model has forward-looking consumers, there is only partial ‘consumption smoothing’.

#### Direct tax simulations

**A28** The overall impact on output from a cut in direct taxes will depend also on the response of investment and net exports. Government expenditure is assumed to be fixed in this simulation. As in the government consumption simulation, the stronger interest rate response outside EMU and the immediate appreciation in the exchange rate have a greater crowding out effect on investment and net exports than when inside EMU. Indeed, within EMU, the fact that real interest rates fall, actually boosts investment.

### Structural VARs

**A29** Recently, a number of academic studies have attempted to estimate the effects of fiscal policy on the economy using structural vector autoregressions (SVARs). Studies which have used this methodology have come up with a wide range of multiplier estimates, although some studies have indicated that multipliers could be smaller than those suggested by simulations of large-scale macroeconomic models.<sup>13</sup>

**A30** In a SVAR, a set (vector) of variables is modelled. In the case of an SVAR looking at fiscal policy, the set of variables could include government expenditure, taxes, output and interest rates.<sup>14</sup> Each of the four variables would be regressed on past values of itself and the other three variables. The residuals from each regression represents ‘shocks’ to the system, in the sense that they are developments that could not be predicted from past observations of the variables in the system. By applying appropriate restrictions (e.g. from economic theory or institutional features of the economy), it is possible to convert the residuals into ‘structural’ shocks, such as fiscal policy shocks, that have a clearer economic interpretation.

**A31** Blanchard and Perotti (2002) use institutional information to provide the restrictions necessary to identify the fiscal shocks in the US in a three-variable SVAR (output, net taxes and spending). This is done via institutional information about the elasticity of fiscal variables to economic activity and by ruling out the possibility of discretionary adjustments to fiscal policy in response to unexpected events within the quarter, given the lags in implementing discretionary fiscal policy. Perotti (2002) also uses a similar technique in a five variable SVAR model for five OECD countries including the US and the UK.

**Table A.3: Multiplier estimates from Structural VARs**

Study	Country	Sample	Spending Multipliers		Tax Multipliers	
			Impact <sup>1</sup>	Peak	Impact	Peak
Blanchard and Perotti (2002)	US	1960-1997	0.8	1.3	0.7	0.8
Perotti (2002)	US	1960-2000	0.4	1.1	0.3	0.8
	UK	1960-2000	0.3	0.3	-0.04	0.2

<sup>1</sup> Impact multiplier is the effect on output in first quarter.

<sup>12</sup> In the direct tax simulation, real government consumption and investment are fixed at base levels.

<sup>13</sup> The SVAR technique has been used to investigate a number of economic issues. The EMU study ‘*The Exchange rate and macroeconomic adjustment*’ develops a SVAR model to analyse the source of shocks for the real exchange rate.

<sup>14</sup> Studies have included a variety of other variables in SVAR models looking at fiscal policy, including the price level and the real exchange rate.

**A32** The results in Table A.3 and others surveyed in Hemming, Kell and Mahfouz (2002) show a diverse range of short-run multiplier estimates for particular countries and between countries. In addition, short-run expenditure multipliers were generally higher than short-run tax multipliers, mirroring the results obtained from macroeconomic models. Results for the UK from Perotti (2002) and from Escolano (2002) indicated that expenditure and tax multipliers were low. In the latter study, the fiscal multipliers of budgetary aggregates on output were small and often statistically insignificant.

**A33** SVAR models can be compatible with a wide variety of hypotheses on, for example, the formation of expectations. However, the downside of SVAR models is that their results are dependent on which restrictions are chosen. This means that the outcome of the modelling exercise can depend heavily on the variables chosen and those omitted, the number of lags, the periodicity of the data, the means by which the data series are rendered stationary (e.g. differencing or a Hodrick-Prescott filter), the ordering of the variables, or what restrictions are chosen to convert the residuals into 'structural' shocks. It is not surprising then, that studies can differ substantially in their conclusions even if they are applied to the same economy and period. Hendry and Mizon (2000) also criticise the use of VARs for policy analysis. They show that the estimated responses of output to a shock (a fiscal policy shock in this case) can be misleading in the presence of a structural break. There is some evidence of this in Perotti (2002) who shows markedly different UK multiplier estimates for the first twenty years of the sample compared with the final twenty years of the sample.

**Conclusions of  
empirical  
evidence**

**A34** The evidence from the macroeconomic models surveyed is that generally fiscal multipliers are positive, although sometimes they can be quite small. A key conclusion is that the size of fiscal multipliers can depend crucially on the monetary policy reaction assumed and the exchange rate reaction. Hence, multipliers are likely to be larger within EMU than with an independent monetary policy, reflecting the more muted interest rate response with EMU and the fixed exchange rate within the euro area. The variation in estimates of fiscal multipliers also reflects other differences such as the extent of consumption smoothing as discussed in Section 3.

**A35** The empirical evidence also suggests that:

- short-run multipliers for expenditure changes are likely to be higher than those for tax changes. Government expenditure feeds directly into output, while tax changes have to affect disposable income first and could be partly offset via consumption smoothing; and
- temporary indirect tax changes which affect relative prices can be more powerful than temporary income tax changes in models which capture the effect of consumers delaying or bring forward their spending in response to the change in relative prices.