

Fiscal stabilisation and EMU

A discussion paper



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*This study has been prepared by HM Treasury as a
discussion paper and to inform the assessment of
the five economic tests*

This paper has benefited from the in-depth discussions of leading academic economists at a recent seminar hosted by the Chancellor of the Exchequer. The paper has also benefited from comments from Professor David Vines, working in a personal capacity as an academic consultant to HM Treasury. All content, conclusions, errors and omissions in this study are, however, the responsibility of HM Treasury alone.

This is one of a set of detailed studies accompanying HM Treasury's assessment of the five economic tests. The tests provide the framework for analysing the UK Government's decision on membership of Economic and Monetary Union (EMU). The studies have been undertaken and commissioned by the Treasury.

These studies and the five economic tests assessment are available on the Treasury website at:

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EXECUTIVE SUMMARY

1 The UK macroeconomic framework is designed to maintain economic stability. Unpredictable fluctuations in output, employment and inflation are disruptive, and can hold back the economy's long-term potential growth. By contrast, economic stability helps firms, households and the Government to plan effectively for the long term, improving the quantity and quality of long-term investment in physical and human capital, and helping to raise levels of productivity.

2 The principal role of current UK fiscal policy is to ensure the sustainability of public finances over the medium term. In addition, the fiscal rules, underpinning the framework, are set over the economic cycle enabling fiscal policy to support monetary policy in smoothing the path of the economy. The purpose of this paper is to assess whether a greater stabilisation role could be delivered through fiscal policy, if the UK were to join EMU.

Policy assignment outside EMU **3** In the current UK policy framework outside EMU, interest rates are the main instrument for demand management. Fiscal policy supports monetary policy in this stabilisation role by helping to smooth the path of the economy primarily via the operation of the automatic stabilisers. When prudent and sensible, discretionary fiscal policy has provided further support to monetary policy, but fiscal policy is not actively used to fine tune aggregate demand.

Policy assignment inside EMU **4** Within EMU, interest rates are set by the European Central Bank (ECB) according to conditions across the entire euro area. When faced with European-wide common shocks which impact similarly on all economies, monetary policy responds in a similar way as if policy were under national control. To the extent that the UK were subject to asymmetric shocks, or symmetric shocks which had an asymmetric impact due to different structures, there would be a case for an enhanced stabilisation role for fiscal policy as an European-wide monetary policy would not adjust fully to address these shocks. In addition, fiscal policy could be more potent in EMU as the monetary policy response to a change in UK fiscal policy would be much more muted.

Fiscal policy and the Stability and Growth Pact **5** Where debt is low and there is a high degree of long-term fiscal sustainability, the case for adopting a tighter fiscal stance to allow room for governments to use fiscal policy more actively is not convincing. Provided that arrangements are put in place to ensure discretionary policy is conducted symmetrically then long-term sustainability would not in any way be put at risk.

6 At the EU level, the Government supports the direction in which the EU fiscal framework is evolving. In the ongoing debate on the interpretation of the SGP, the Government's approach will be to emphasise the significance of the economic cycle, sustainability and low debt, and the important role the Maastricht Treaty gives to public investment, and the implications of this prudent approach for the interpretation of what are 'exceptional and temporary' circumstances in relation to the 3 per cent reference value, for countries with low levels of debt.

7 This paper examines fiscal stabilisation policy from two related perspectives:

- is fiscal stabilisation economically feasible, i.e. does fiscal policy actually work as a stabilisation mechanism? Are there any costs of a more active use of fiscal policy as a stabilisation mechanism? ; and
- is an enhanced role for fiscal stabilisation practically feasible, either through strengthening the automatic stabilisers or discretionary fiscal policy actions which supplement the automatic stabilisers? And what policy developments would be needed to make fiscal policy more effective as a means of conducting stabilisation policy?

Does fiscal policy work as a stabilisation mechanism?

8 Like monetary policy, fiscal policy can have an effect on output and inflation in the short to medium term when wages and prices are slow to adjust. However, the magnitude of the effect will vary in different circumstances. The following key lessons emerge from the economics literature:

- if prices are extremely flexible, fiscal action is relatively ineffective but the effects of demand and supply shocks will be correspondingly less problematic;
- similarly, if consumers are forward-looking and take into account the future tax implications of changes in fiscal policy, then the effects will generally be more muted. But as with price flexibility, this forward-looking behaviour will similarly mitigate the effect of shocks on output and inflation;
- different fiscal instruments have different impacts on output in the short term as well as in the long term. A key issue from a stabilisation perspective is whether policies lead to a change in relative prices; and
- the impact of fiscal policy will vary within different monetary policy regimes. Fiscal policy will tend to have a more powerful stabilisation impact in EMU than the current UK-based inflation targeting regime. This is simply because the impact on UK inflation of a UK fiscal policy change would be much greater than the impact on euro area inflation.

Some of these points, notably the first two, also apply to monetary policy.

9 Evidence from a range of empirically estimated macroeconomic models tends to support the proposition that fiscal policy has significant short-run effects.¹ The evidence generally suggests that consumers and firms are not especially forward-looking or their behaviour is constrained, reinforcing the potential effectiveness of fiscal action. This finding is also supported by survey-based evidence. Given the diverse theoretical and empirical views on the effectiveness of fiscal policy, it would be beneficial if further work was carried out on the fiscal transmission mechanism.

¹ Although the elasticities vary according to a number of factors, including: which instrument of fiscal policy is being used, assumptions about the response of monetary policy, the degree of wage and price flexibility assumed and the degree to which consumers are forward-looking.

Practical considerations in using fiscal policy as a stabiliser **I0** Simulations in econometric models assume policy makers can implement fiscal policy in a timely and well-targeted manner. The experience of the UK in the 1950s and 1960s when stabilisation policy was primarily done through fiscal policy, and the experiences of other countries, illustrates the difficulties in operating an effective counter-cyclical discretionary fiscal policy in practice:

- discretionary fiscal policy often proved pro-cyclical. In particular, there was a tendency to react asymmetrically to an economic shock, given the bigger incentive to ease during a downturn than tighten during an upturn. In a number of countries this led to a sizeable build up in government debt; and
- the lags in implementing fiscal policy and between its implementation and its effect on demand complicated the design of the stabilisation policy, and if prolonged enough, resulted in fiscal policy proving pro-cyclical.

I1 A key lesson from the current macroeconomic framework is the importance of the institutional design in ensuring a successful stabilisation policy. Reforms to the fiscal framework to overcome the problems of discretionary fiscal policy in the past should be based on the principles underpinning the current framework. These are: clear and sound long-term policy objectives; pre-commitment through institutional arrangements; and maximum openness, transparency and clear accountability.

Criteria for an effective stabilisation framework **I2** The lessons learnt from the history of discretionary fiscal policy in the UK and elsewhere, along with the principles underlying a successful macroeconomic framework, suggest a number of criteria to ensure that fiscal stabilisation policy is effective. These include:

- policies should be designed to be symmetric over the business cycle;
- policy should be forward-looking;
- operating rules should be clear and transparent; and
- the stabilisation policy objective should be clearly distinguished from other fiscal policy objectives.

Criteria for choosing effective fiscal instruments **I3** There are also a number of criteria which will be useful to assess specific fiscal instruments:

- an aim of maximising the effect on activity;
- an aim of minimising lags; and
- as with all tax and spending interventions, consideration must be given to the implications for wider government objectives, such as efficiency and equity.

The forward-looking agenda **I4** On the basis of the analysis in Sections 2 to 4 of the paper, and the work in the other EMU studies, Sections 5 and 6 of the paper present a forward-looking agenda which considers the developments that could be considered to make fiscal policy more effective as a means of conducting stabilisation policy were the UK to join EMU, both in terms of the case for strengthening the automatic stabilisers, and using discretionary fiscal policy.

Strengthening the automatic stabilisers 15 Currently, the primary stabilisation role of fiscal policy is played by the automatic stabilisers, i.e. those elements of the tax and spending regime which ‘automatically’ tend to stabilise the economy over the cycle. For example, during an upswing, incomes will rise and tax receipts will increase tending to dampen the cycle. Similarly, in a downturn, unemployment benefit payments will rise tending to moderate the slowdown.

16 The strength of the automatic stabilisers is related to: the size of the government sector, the progressivity of the tax system, the degree to which the tax system taxes cyclically sensitive items, and the level of benefits. Empirical evidence gleaned from a range of econometric models suggests that the automatic stabilisers have a significant stabilising impact in the UK and across the EU. The evidence is less clear-cut on their relative strength in different countries although *a priori* there is reason for thinking the effects in the UK might be a little weaker than the EU average, e.g. reflecting that the UK government sector is not as large as in many other euro area countries. However, the contribution of the automatic stabilisers is not always benign. A temporary adverse supply shock such as a surge in the oil price would boost inflation and depress output. The operation of the automatic stabilisers would help to support output, but could raise inflation further.

Options to strengthen the stabilisers 17 The advantage of increasing fiscal stabilisation by strengthening the automatic stabilisers is that many of the difficulties in operating fiscal policy for stabilisation purposes do not apply to the automatic stabilisers: there are no decision and implementation lags, left to themselves they generally operate symmetrically over the cycle, and they can be reasonably clearly identified and hence separated from other aspects of fiscal policy. However, other considerations apply, in particular, many of the ways to strengthen the automatic stabilisers can have a negative impact on economic efficiency.

18 Any policies to enhance the automatic stabilisers would have to boost one of the factors such as the size of the government sector or the level of benefits, but could have costs, e.g. on making work pay or on the tax burden faced by certain sectors of the economy. It is thus 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 assessment of the case for strengthening the automatic stabilisers can be made.

Developing alternative arrangements for discretionary fiscal policy 19 Even strengthened, the 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. This suggests that a more active discretionary fiscal policy might be required, although reforms would be needed to ensure that such a policy operated in a transparent, credible, symmetric and timely manner.

20 The institutional arrangements for fiscal policy could be developed to ensure the clear identification of stabilisation policy from other policy objectives, and to ensure that discretionary fiscal policy operates symmetrically, minimises lags and enhances transparency.

New fiscal stabilisation objective and rule 21 The adoption of an explicit stabilisation objective and a new fiscal rule would help ensure pre-commitment and that policy was operated in a symmetric way. While the existing fiscal rules, the golden rule and the sustainable investment rule, allow for the full use of the automatic stabilisers and where appropriate for discretionary fiscal policy, the new fiscal rule would impose a symmetric constraint on the operation of discretionary fiscal policy.

22 One credible option would be a rule under which the Government would commit to a discretionary fiscal policy response if the forecast of the output gap exceeded, say, plus or minus 1 or 1.5 per cent of GDP unless the Government believed that there was a strong case against discretionary fiscal policy action. In either case, the Government could be required to write an open letter to Parliament. This could explain why the output gap was expected 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 range and how this approach meets the other fiscal policy objectives. In this way, the output gap forecast would act as a symmetrical trigger to discretionary fiscal policy with the Government required to respond equally to large forecast positive and negative output gaps.

**Improving
credibility and
transparency**

23 Given the complexities of operating a more active fiscal stabilisation policy, there is a case for enhancing independent surveillance. This could be achieved by increasing the role of independent analysis (e.g. for technical elements such as ‘dating’ the economic cycle) or strengthening the monitoring of fiscal policy, through existing structures such as the EU. The publication by the Government of a regular Stabilisation Report would further enhance transparency and openness. Some authors have argued, drawing explicit parallels with monetary policy, for the delegation of fiscal stabilisation policy to an independent committee (an independent Fiscal Policy Committee). However, the establishment of such a body would be inconsistent with parliamentary tradition in the UK, and would challenge parliamentary sovereignty.

Minimising lags

24 A more active role for discretionary fiscal policy would require the lags in the policy process to be minimised. Conducting policy on a forward-looking basis would help to take account of the existence of lags. There is also a case for making more use of the existing tax regulators which allow rates of VAT and duty to be varied outside the Budget process using secondary legislation, and for modernising them to increase their suitability for this purpose. The paper considers issues such as the role of Parliament, design considerations and the scope for new tax regulators.

**Specific fiscal
instruments**

25 The paper considers various fiscal instruments that could be used in a discretionary manner for stabilisation purposes. Key criteria for such instruments are to maximise the impact on activity for a given change in the deficit, minimise lags and to minimise any adverse impacts on wider government objectives such as equity and efficiency. Frequent changes in government expenditure would conflict with the current multi-year spending review structure and could impact on other public policy objectives such as delivering public services. Hence the focus is on tax instruments, such as:

- **direct taxes:** however, varying income taxes or national insurance contributions is likely to generate significant practical problems and may have only a relatively limited stabilisation impact. They are thus unlikely to be suitable instruments for stabilisation purposes;
- **consumer credit tax:** such a tax could impact on household spending decisions through the effect on borrowing to finance consumption. However, the paper concludes that such a tax would not be feasible, all the more so in an integrated EU financial market;
- **investment instruments:** temporary tax credits could, for example, be used to stimulate investment in a recession. However, the effectiveness of such a measure might be limited, and frequent use of temporary tax incentives could increase uncertainty, damaging long-run investment in the economy;

- **housing taxes:** 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. The paper looks at stamp duty and at the wide variety of property taxes levied in other countries; and
- **expenditure taxes:** temporary changes to a combination of expenditure taxes, for example through the regulator power, could prove useful instruments with limited undesirable impacts on incentives, the supply side or the overall equity of the tax system.

Conclusions 26 The degree of stabilisation may not be sufficient inside EMU where the absence of a UK-specific monetary policy may cause macroeconomic volatility to increase. 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.

INTRODUCTION

1.1 In the current UK policy framework outside EMU, interest rates are the main instrument for demand management. Fiscal policy supports monetary policy in this stabilisation role by helping to smooth the path of the economy primarily via the operation of the automatic stabilisers. When prudent and sensible, discretionary fiscal policy has provided further support to monetary policy, but fiscal policy is not actively used to fine tune aggregate demand.

1.2 Within EMU, interest rates are set by the European Central Bank (ECB) according to conditions across the entire euro area. When faced with European-wide common shocks which impact similarly on all economies, monetary policy responds in a similar way to if policy were under national control. To the extent that the UK were subject to asymmetric shocks or symmetric shocks which had an asymmetric impact due to different structures, there would be a case for an enhanced stabilisation role for fiscal policy as a European-wide monetary policy will not adjust fully to address these shocks. In addition, fiscal policy could be more potent in EMU as the monetary policy response to a change in fiscal policy would be much more muted.

1.3 Section 2 *Policy assignment outside and inside EMU* sets the scene for the paper by looking first at the benefits of economic stability and how the design of the current UK macroeconomic framework works to secure and maintain long-term stability. The section then goes on to examine why there would be greater role for a more active fiscal policy to provide macroeconomic stabilisation if the UK were inside EMU with interest rates set by the ECB. It also considers the issue of operating a more active fiscal stabilisation policy alongside the Stability and Growth Pact.

1.4 Section 3 *Fiscal policy as a stabilisation mechanism* examines the extent to which fiscal policy, both discretionary fiscal policy and the automatic stabilisers, can act as a means of stabilising the economy. It examines the:

- theoretical underpinnings of fiscal policy;
- effectiveness of fiscal policy, looking at the choice of instruments, empirical evidence on the effectiveness of fiscal policy and the impact of the policy and wider economic environment; and
- possible long-run effects of fiscal policy.

1.5 The purpose of Section 4 *Historical experience of fiscal policy and criteria for effective fiscal stabilisation* is to identify and develop the criteria that should be considered to ensure that discretionary 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 a set of key criteria for effective stabilisation policy and for assessing effective stabilisation instruments.

1.6 Having established in Sections 2 to 4 that there would be a role for fiscal stabilisation if the UK were inside EMU, and the criteria for effective fiscal stabilisation policy, the paper goes on to consider the options for achieving a greater degree of fiscal stabilisation in the UK. The discussion is divided between the operation of the automatic stabilisers and the use of discretionary fiscal policy in Sections 5 and 6 respectively.

1.7 Section 5 *The operation of the automatic stabilisers* focuses on the automatic stabilisers. Part A considers the operation of the automatic stabilisers in the UK, and how these have changed over 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.

1.8 Section 6 *Making discretionary fiscal policy more effective* considers a variety of policy options to make discretionary fiscal policy more effective if the UK were to join EMU. This includes discussion of necessary institutional design based on the principles underpinning the existing macroeconomic 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. The section goes on to consider the potential use of different fiscal instruments based on meeting the criteria identified in Section 4, in particular their impact on: demand, the lags involved and any impact on broader government objectives such as equity and efficiency.

1.9 Section 7 concludes.

1.10 The Annex provides further details of fiscal multipliers in macroeconomic models.

The macroeconomic frameworks of both the UK and the euro area are designed to maintain economic stability. Stability allows economic agents to plan effectively for the long term and improve long-term investment in both physical and human capital.

Outside EMU, the UK Government sets the objectives for both monetary and fiscal policy. Monetary policy is the main tool for demand management. Fiscal policy is set primarily to ensure the sustainability of the public finances and to support monetary policy in helping to stabilise the economy via the full operation of the automatic stabilisers. Where appropriate, discretionary fiscal policy is also considered.

Within EMU, interest rates are set by the European Central Bank according to conditions across the entire euro area. When faced with European-wide common shocks which impact similarly on all economies, monetary policy responds in a similar way as if policy were under national control, but it only responds to country-specific shocks to the extent they affect euro area aggregates.

With the loss of an independent monetary policy, there is a greater potential role for fiscal policy to deal with country-specific shocks. In addition, fiscal policy could be more potent in EMU as the monetary response to a change in UK fiscal policy would be much more muted. Depending on the prevalence and size of the shocks, the benefits in additional stabilisation of the economy may be sufficient to make it worthwhile using fiscal policy more actively inside than outside EMU.

The Government supports a prudent interpretation of the Stability and Growth Pact. Where debt is low and there is a high degree of long-term fiscal sustainability, the case for adopting a tighter fiscal stance to allow room for governments to use fiscal policy more actively is not convincing. Provided that arrangements are put in place to ensure discretionary policy is conducted symmetrically then long-term fiscal sustainability would not be put at risk.

2.1 This section looks first at the benefits of economic stability and how the design of the current UK macroeconomic framework works to secure and maintain long-term stability. It then examines whether there is a greater role for a more active fiscal policy to provide macroeconomic stabilisation if the UK were inside EMU with interest rates set by the European Central Bank (ECB).

2.2 Macroeconomic policy has a key role in delivering economic stability. While the volatility of both GDP growth and inflation has been low in recent years, the UK economy has historically suffered from higher volatility than many other industrialised countries.¹ A successful stabilisation policy should help smooth the path of the economy, although there is evidence that macroeconomic policy often exacerbated the economic cycle in the UK before the existing framework was established in 1997.

¹ The historical record of economic volatility in the UK economy is analysed in more detail in 'Delivering Economic Stability: Lessons from Macroeconomic Policy Experience', HM Treasury, November 1998. Volatility in the euro area as a whole is discussed in the EMU study by Professor Mike Artis *Analysis of European and UK business cycles and shocks*.

Benefits of economic stability 2.3 Many of the benefits of 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. Less volatility in outturns for growth, inflation and unemployment all provide benefits, including:

- **growth:** pronounced economic cycles can have adverse effects on long-term investment and hence productivity. A deep recession, for example, would result in an acceleration in the scrapping of physical capital. Productive capital which could well have taken a long time to build up in periods of growth, could be lost very quickly. Dixit and Pindyck (1994) indicated that uncertainty about economic prospects could also harm investment.² The nature of investment spending is that it is usually partially or completely irreversible, with the initial cost of the investment at least partially sunk (i.e. non-recoverable). The combination of uncertainty and irreversibility means that firms will often find it convenient to delay rather than commit themselves to an investment project in the face of volatility;
- **inflation:** volatility in inflation (often associated with high inflation) can have a number of detrimental effects. It can distort economic decisions and add to the risk of making investments. Investment spending could be harmed by a higher cost of capital as a larger risk premium to allow for uncertainty pushes up long-term interest rates. Firms may be reluctant to enter long-term monetary contracts, perhaps for investment purposes, in an environment of volatile inflation, and the efficiency with which capital is allocated may be reduced. A lack of price stability can also make it more difficult for households to discern relative price changes and thus it can reduce the effectiveness of the price mechanism;
- **unemployment:** a rise in unemployment would not only have substantial personal costs for those affected in terms of lost security and income, but could be harmful to the overall human capital and productivity of the country. Spells of high unemployment can have persistent effects, making it harder to reduce unemployment once it has risen, since unemployed people can find their skills depreciating rapidly;³ and
- **lower welfare losses:** cyclical income volatility is likely to have adverse distributional effects, accentuating differences between income groups. Storesletten, Telmer and Yaron (2001) suggest that lower income groups have higher welfare losses associated with business cycles compared to their higher income counterparts and that distributional effects are an important aspect of understanding the welfare cost of business cycles.

² A more detailed discussion of the issues surrounding investment is provided in the EMU study by HM Treasury 'EMU and business sectors'.

³ The Government has announced a wide range of policies to reduce long-term unemployment such as the New Deal programmes and initiatives such as Jobcentre Plus. More details can be found in Chapter 4 of HM Treasury 'The changing welfare state : Employment opportunity for all', November 2001.

A: STABILISATION POLICY OUTSIDE EMU

UK macroeconomic framework

2.4 The UK macroeconomic framework is briefly outlined in Box 2.1 below. While not a member of EMU, the UK 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. The responsibility for setting interest rates consistent with keeping inflation at its target level is assigned to the Bank of England's Monetary Policy Committee (MPC). Fiscal policy supports monetary policy in helping to stabilise the economy through the operation of the 'automatic stabilisers', described in more detail below. Where appropriate, discretionary fiscal policy action is also considered. However, the current UK macroeconomic framework does not envisage the use of fiscal policy to 'fine tune' demand.

Box 2.1: UK macroeconomic framework

Monetary policy framework

The primary objective of monetary policy is price stability. The Bank of England's Monetary Policy Committee (MPC) has full operational independence for setting interest rates to meet the Government's inflation target.

Price stability is a means to an end, not an end in itself. The monetary policy framework aims to maintain price stability because this is the most important contribution monetary policy can make to achieving long-term economic prosperity. Subject to maintaining price stability, the Bank of England Act (1998) states the Bank should support the Government's economic policy, including its objectives for growth and employment.⁴

The target is symmetric which ensures that outcomes below target are treated as seriously as those above. If inflation deviates by more than 1 percentage point above or below target, the Governor of the Bank of England must send an open letter to the Chancellor of the Exchequer.

Fiscal policy framework

UK fiscal policy is based on five key principles of fiscal management which are set out in the *Code for Fiscal Stability* - transparency, stability, responsibility, fairness and efficiency. The Code also requires the Government to state its objectives and fiscal rules through which it operates fiscal policy based on these principles. 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.

These objectives are implemented through the Government's two fiscal rules, against which the performance of fiscal policy can be judged:

- **the golden rule:** over the economic cycle, the Government will borrow only to invest and not to fund current spending; and
- **the sustainable investment rule:** public sector net debt as a proportion of GDP will be held over the economic cycle at a stable and prudent level (defined as below 40 per cent of GDP).

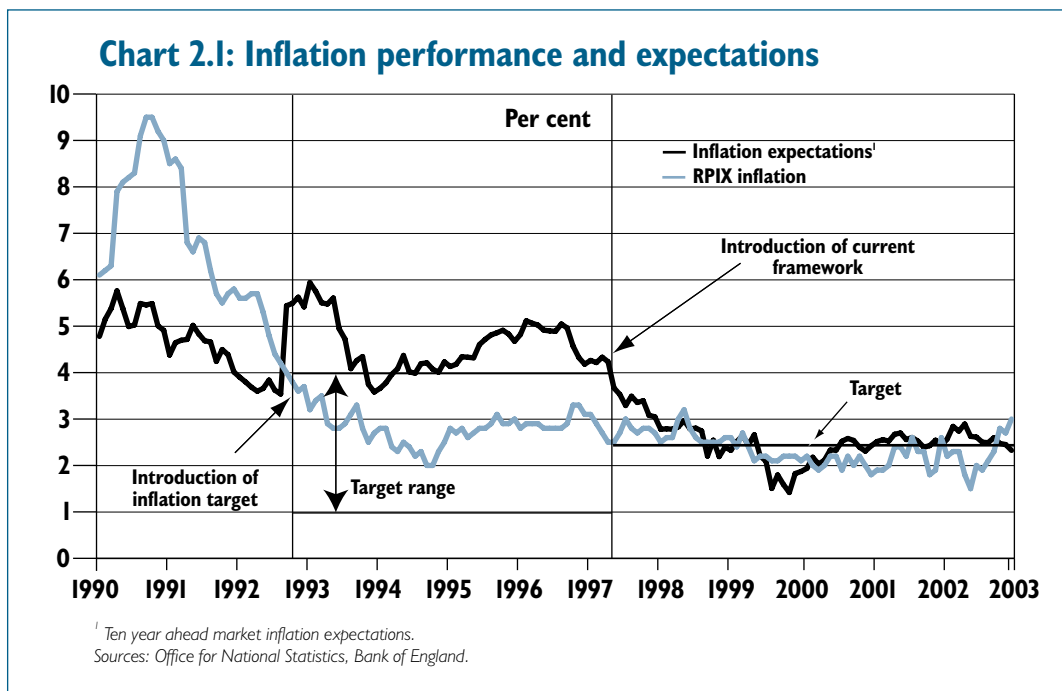
⁴ For further information see the annex to "The New Monetary Policy Framework" HM Treasury, October 1999, pp. 35-37.

Constrained discretion... **2.5** The UK macroeconomic framework is designed to ensure long-run stability while also allowing the authorities to respond appropriately to shocks. This has been referred to as ‘constrained discretion’.⁵ The overall framework should thus constrain macroeconomic policy to achieve long-term and sustainable goals but allow for flexibility to ensure that policy can smooth the path of the economy. The key principles for a framework of credible constrained discretion are:

- clear and sound long-term policy objectives consistent with achieving macroeconomic stability;
- pre-commitment through institutional arrangements and procedural rules; and
- maximum openness, transparency and clear accountability.

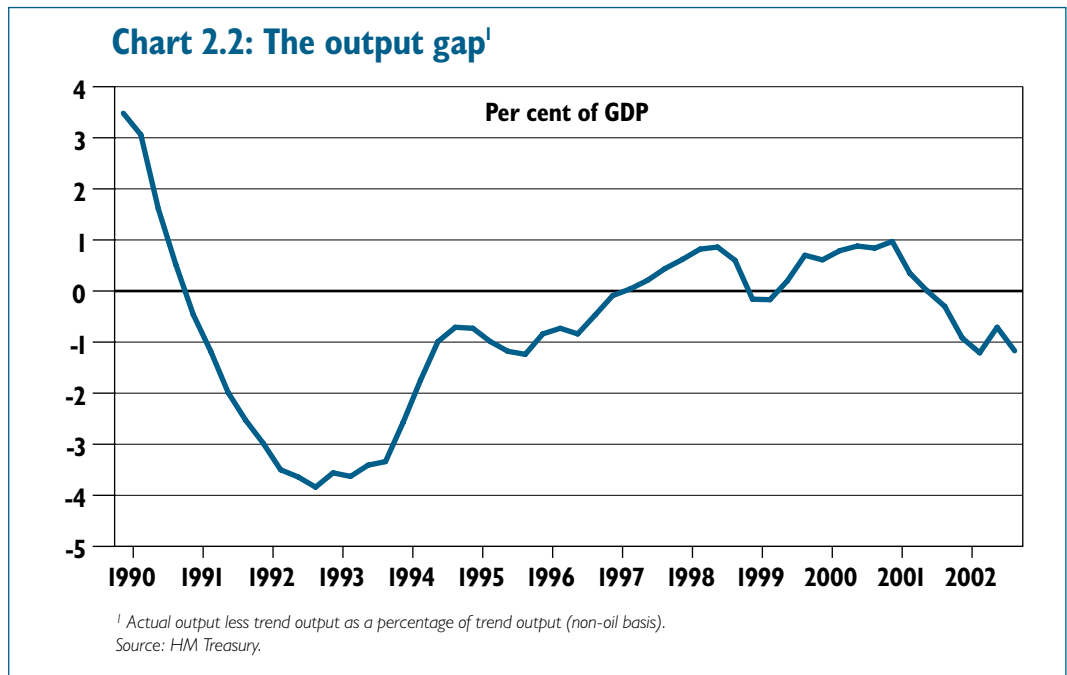
...in the UK’s monetary policy framework...

2.6 In the case of the UK’s monetary policy framework, the long-term policy objective is the symmetric inflation target. Pre-commitment through institutional arrangements and procedures has been achieved by giving the MPC of the Bank of England full operational independence to set interest rates to meet the inflation target. A high level of openness and transparency has been provided through prompt publication of MPC minutes including voting records, quarterly Inflation Reports and the open letter system.



⁵ A definition for this term can be found in Chapter 2 of Balls and O’Donnell (2002) “Reforming Britain’s Economic and Financial Policy” and also, HM Treasury ‘Macroeconomic Frameworks in the New Global Economy’, November 2002.

2.7 Since its introduction in 1997, the monetary policy framework has helped keep inflation close to the Government's target and has achieved a high degree of credibility. 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. By aiming to keep inflation at its target level, monetary policy also acts to stabilise output around its trend level in the face of demand shocks. Monetary policy is therefore the primary instrument for demand management.⁶ As shown in Chart 2.2, since 1997 output has been much closer to trend than in the early 1990s.



... and in the UK's fiscal policy framework

2.8 The Government's fiscal policy framework also constrains discretion by ensuring the medium-term objective of maintaining sound public finances is met while allowing flexibility in the short run. The fiscal rules are set over the economic cycle, therefore enabling fiscal policy to support monetary policy in smoothing the path of the economy. Conventionally, the analysis of fiscal policy distinguishes between the operation of the automatic stabilisers and discretionary fiscal policy, both of which may be used to support monetary policy.

2.9 The automatic stabilisers are the features of the tax and spending system that serve to dampen the impact of shocks on output. As the economy strengthens, incomes and profits tend to rise, resulting in higher income and corporation tax receipts. Consumers also spend more, increasing VAT and other indirect tax receipts, while lower unemployment reduces social security spending. This increase in tax receipts and reduction in government spending leads to lower government borrowing and reduces demand in the economy. When the economy weakens, the opposite effects occur and the automatic stabilisers increase demand through higher borrowing.

2.10 The automatic stabilisers are the primary way in which fiscal policy helps to stabilise the economy. They are regarded as automatic in the sense that they occur as a result of the economic cycle and do not require a specific decision by government. Allowing the automatic stabilisers to operate means the MPC makes smaller interest rate changes in order to stabilise the economy than would be the case if there were no automatic stabilisers.

⁶ For more information on how the inflation target works see "The Inflation Target and Remit for the Monetary Policy Committee: Background Notes", HM Treasury (1997).

Box 2.2: The operation of the automatic stabilisers in the face of demand and supply shocks

The effectiveness of the automatic stabilisers will depend, among other things, on whether macroeconomic shocks are from the demand or supply side and their duration.

Automatic stabilisers would help to lessen the impact of a temporary demand shock. In the case of a positive demand shock (such as an increase in consumer confidence), both inflation and output would rise. The automatic stabilisers would help moderate the initial increase in inflation and output and would work in the same direction as monetary policy. The stronger the automatic stabilisers, the more the initial shock is offset and the smaller the role for monetary policy (or discretionary fiscal policy).

In the case of a supply shock, inflation and output move in opposite directions. For example, a temporary adverse supply shock (such as a surge in the oil price) would support inflation and depress output. The operation of the automatic stabilisers would help to boost output, but could raise inflation further. In this case there could be a conflict between the tightening of monetary policy to contain inflation and the automatic stabilisers. However, to the extent that inflation expectations remained anchored at the inflation target level, there would be no need for a monetary policy tightening and a temporary deviation of inflation from the target would be the right response with the automatic stabilisers playing a role supporting output.

If the supply shock were permanent, however (for example, due to changes in the long-term growth rate of productivity or labour supply), and changed the potential output of the economy, then the operation of the automatic stabilisers could delay the adjustment of the economy to its new equilibrium and result in higher inflation during the adjustment period. This delay might be desirable on occasion but discretionary fiscal policy to override the automatic stabilisers might be needed ultimately either to maintain fiscal sustainability or simply to ensure the necessary market adjustments in relative prices.

Section 5 finds evidence that the automatic stabilisers have a larger impact on output when stabilising demand shocks than supply shocks. This suggests that the problems of allowing the automatic stabilisers to operate freely might be less than first appears.

2.11 Discretionary fiscal policy is the other element of fiscal policy. Broadly, this refers to taxes and spending changes that are not related to the economic cycle. Discretionary fiscal policy is often interpreted as a deliberate tax or spending decision, for example, a reduction in a tax rate or decision to increase spending.⁷

2.12 The UK's fiscal policy framework 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. However, in recent years, as in other countries, the main discretionary instrument for stabilisation policy has been interest rate changes rather than discretionary fiscal policy.⁸

⁷ There is a third category of non-discretionary changes that are not associated with the normal cyclical movement of the economy nor a specific tax or spending decision, for example, those arising from a structural change in the economy. For the purposes of this paper we disregard these non-discretionary factors, though in reality part of the government's fiscal judgement is the degree to which non-discretionary changes are accommodated or offset.

⁸ This has not always been the case. Section 4 briefly considers the UK's experience of using fiscal policy as the main discretionary instrument for stabilisation policy in the 1950s and 1960s.

2.13 There are a range of challenges in operating a successful discretionary fiscal stabilisation policy to provide effective counter-cyclical stabilisation. These include: doubts about the impact on demand, long decision and implementation lags and the difficulties in reversing policy. Notwithstanding these difficulties, to the extent that the combination of monetary policy action and the operation of the automatic stabilisers is successful, the need for discretionary fiscal policy for stabilisation purposes will be limited.

Monetary and fiscal coordination in the UK framework

2.14 The current macroeconomic framework provides a high degree of coordination between monetary and fiscal policy in the UK. This is aided by the Government setting the objectives for both fiscal and monetary policy, by having transparent procedures and by the presence of a non-voting Treasury representative at the meetings of the MPC. As a result, both sets of policy makers are aware of what each other is trying to achieve and how each other will react to their policy decision and other new information. For example, in setting the fiscal policy stance in the Budget, the Treasury has to take into account the likely response of the MPC.

B: STABILISATION POLICY INSIDE EMU

Monetary policy within EMU

2.15 Membership of EMU requires that interest rates are set by the ECB according to conditions across the entire euro area rather than those in an individual Member State like the UK. Subject to this key difference, there are considerable institutional similarities between the monetary policy frameworks in the UK and the euro area. Interest rate decisions are made by an independent central bank with a clear price stability objective. Credibility has been built up, allowing the ECB to vary interest rates to smooth the path of the euro area economy. However, there are some important differences of detail between the UK and euro area systems which could influence how the central banks operate in practice. A more detailed comparison of the monetary policy frameworks in the UK and the euro area is provided in the EMU study by HM Treasury *Policy Frameworks in the UK and EMU*.

2.16 When faced with European-wide common shocks that impact similarly on all euro area countries, monetary policy responds in the same 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. If the UK were in EMU, the ECB's decisions on interest rates would only be affected by economic developments in the UK to the extent that this contributed to the overall euro area aggregates.

2.17 Country-specific shocks will inevitably have asymmetric impacts on different euro area countries. However, European-wide common shocks could have an asymmetric effect if the responses to the shock differed. This would be the case if countries have different economic structures. For example, factors such as the degree of price flexibility, the responsiveness of consumers to changes in interest rates and the importance of external trade can vary between countries and influence the response of the economy to shocks. In the remainder of this paper, the term 'asymmetric shocks' covers both country-specific shocks and asymmetric responses to a common shock, so it is used to describe any shocks where the monetary response of the ECB might not be fully appropriate for an individual Member State such as the UK.

Fiscal policy in EMU

2.18 The loss of independent monetary authority therefore strengthens the case for fiscal policy to help tackle asymmetric shocks. The EMU study by Dr Peter Westaway *Modelling Shocks and Adjustment Mechanisms in EMU* concludes that output and inflation volatility is likely to be higher in EMU in the absence of stabilisation through fiscal policy. The study goes on to show how fiscal policy could play a role in dampening the effects of economic shocks. (Box 2.3 provides more details.)

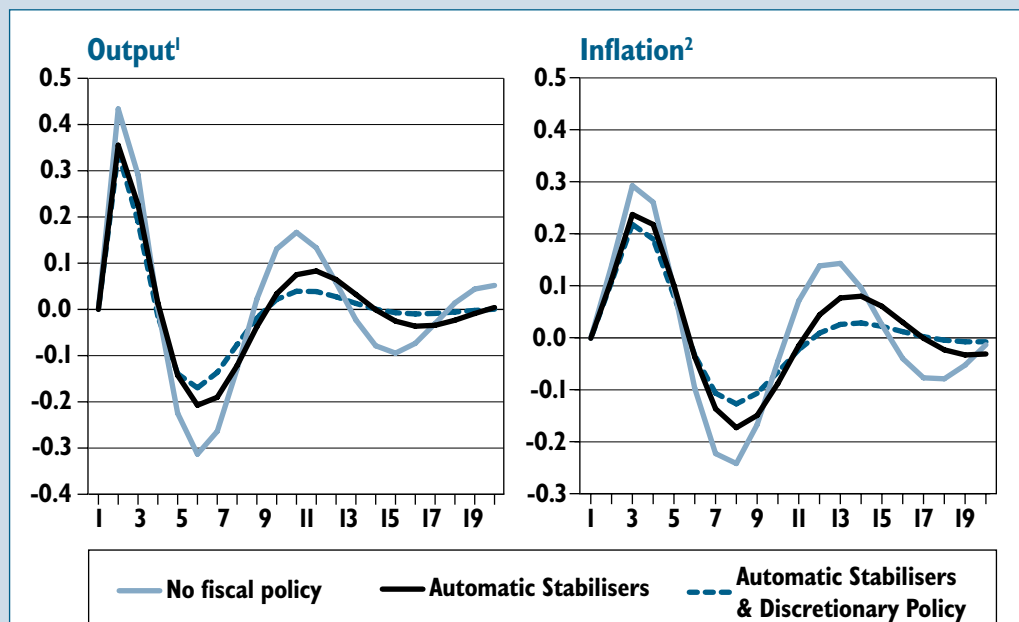
2.19 Joining EMU could also increase the effectiveness of fiscal policy. With euro area monetary policy set on the basis of euro area conditions, a change in UK fiscal policy would produce a much smaller off-setting change in monetary policy compared to the situation outside EMU. The importance of the monetary policy regime on the potency of fiscal policy is discussed in more detail in Section 3.

2.20 Inside EMU, the automatic stabilisers would continue to function as they did outside EMU. As discussed above, they may also be more potent because of the change in the monetary policy regime. However, as automatic stabilisers can only ever dampen a shock, discretionary fiscal policy may be needed to provide the appropriate degree of stabilisation. In contrast to the position outside EMU, the benefits in additional stabilisation of the economy may be sufficient to make it worthwhile considering using fiscal policy more actively.

Box 2.3: Impact of fiscal policy in providing macroeconomic stabilisation

This box uses a stylised macroeconomic model to examine how fiscal policy could dampen the impact from shocks to the economy within EMU using automatic stabilisers alone or the combination of automatic stabilisers and discretionary fiscal action. The model is outlined in more detail in the EMU study *Modelling Shocks and Adjustment Mechanisms in EMU*.

The charts below show the impact of a temporary demand shock affecting the UK on the level of output and inflation over time, in this case twenty quarters. The different lines show the effect of different fiscal policy responses: no response, just allowing the automatic stabilisers to work and combining the automatic stabilisers with counter-cyclical discretionary fiscal policy. Using automatic stabilisers alone only dampens the shock and so can only partly offset it. Using counter-cyclical discretionary fiscal policy alongside the automatic stabilisers could further dampen the effect of the shock. This simulation illustrates how discretionary fiscal policy could be useful in EMU in place of having an independent monetary policy.



¹ Percentage difference from base.

² Percentage points relative to base.

Source: EMU study by Dr Peter Westaway 'Modelling Shocks and Adjustment Mechanisms in EMU', (2003).

2.21 In the absence of a fiscal policy response to a country-specific shock, the adjustment process would be through market mechanisms. A negative demand shock would have to be absorbed through a lower relative inflation rate which would boost competitiveness. The lower relative inflation rate would come about as the result of lower output and higher unemployment, which would bear down on domestically generated inflation. The speed of such adjustment mechanisms and their costs in terms of lower growth and higher unemployment would depend on the degree of flexibility in the product and labour markets. Adjustment could be further delayed by a destabilising real interest rate response (sometimes referred to as the Wicksell effect). A negative demand shock in the UK would lower inflation, but since UK developments would only have a small effect on aggregate euro area inflation, the interest rate response from the ECB would probably be less than the fall in UK inflation, pushing the real interest rate up.

C: FISCAL POLICY IN EMU AND THE STABILITY AND GROWTH PACT

2.22 The institutional framework for fiscal policy in EMU is set out in the EMU study by HM Treasury *Policy Frameworks in the UK and EMU*. A key change if the UK were to join EMU would be that the UK would be obliged to avoid excessive budget deficits rather than just endeavour to do so and the UK could be subject to the sanctions of the Stability and Growth Pact (SGP) were it judged to have an excessive deficit. This means that a breach of the limits of 3 per cent of GDP for budget deficits and 60 per cent of GDP for gross government debt would raise the possibility of the imposition of sanctions.

2.23 As explained in the EMU study by HM Treasury *Policy Frameworks in the UK and EMU*, it is very unlikely that the UK would meet the Government's sustainable investment rule while failing to meet the SGP's 60 per cent of GDP gross debt limit, so this change should not affect the UK's current framework. A more difficult question is whether the 3 per cent of GDP limit for deficits would impact on policy. This has not been an issue for the UK so far. As outlined earlier, if the UK were to enter EMU, to the extent that the UK were subject to asymmetric shocks, there would be a case for an enhanced stabilisation role for fiscal policy. This might be expected to involve wider fluctuations in the deficit, either from the full operation of the automatic stabilisers alone or their combination with discretionary fiscal policy.

2.24 In the event of entry into EMU, some people have argued for a lower deficit (or higher surplus) target over the cycle, to allow room for discretionary expansionary fiscal policy in downturns.⁹ This is in response to concerns that the scope for discretionary measures may be limited by worries over the impact on the sustainability of the public finances. However, this argument is less convincing in situations where public debt is low and there is a high degree of long-term fiscal sustainability, as in the case of the UK.

⁹ Report of the Swedish Commission on Stabilisation Policy in EMU (March 2002), page 12.

2.25 One risk is that a more active discretionary fiscal policy would lead to more uncertainty over fiscal variables. If this were the case, then there would be a case for greater caution in setting fiscal policy. For example, when policy targets are asymmetric (i.e. when the costs of underachieving the target are greater than overachieving the target), then a higher variance in budgetary outcomes implies that the Government should aim for lower deficits and/or lower debt levels over the medium term than otherwise.¹⁰

2.26 Given the UK's low level of debt, questions over sustainability are unlikely to arise as a result of reasonable variations in the budget deficit due to discretionary policy changes and the full operation of the automatic stabilisers. In addition, the UK already exercises considerable caution in setting fiscal policy, through the use of cautious assumptions, which underpin the public finance forecasts. The fiscal projections are also 'stress-tested' by assessing the impact of assuming trend output is one per cent lower. This means there is already a substantial safety margin built into the current fiscal framework to deal with unexpected shocks to the fiscal position.

2.27 However, where greater use of discretionary fiscal policy is envisaged, it is vital that the variations in the budget deficit are symmetric so that there is no deterioration in the average balance over the cycle. Section 6 considers the institutional arrangements that might go alongside a more active use of discretionary fiscal policy which would help underpin the need for symmetry. A key issue, as in other areas of the UK macroeconomic framework, is to promote a high degree of transparency, including through: well-defined objectives and operating rules, regular reporting and accountability arrangements, and ideas related to the open letter system for monetary policy.¹¹

2.28 At the EU level, the Government supports the direction in which the EU fiscal framework is evolving. In the ongoing debate the Government will continue to support and argue for a prudent interpretation of the SGP which takes account of the economic cycle, sustainability and the important role of public investment. Indeed, on the basis of this prudent interpretation, which ensures fiscal policy responds symmetrically over the cycle, one approach would be to broaden the definition of 'exceptional and temporary' circumstances to allow deficits to rise above 3 per cent of GDP for low debt countries during periods when output is below trend. The UK Government therefore supports the proposals agreed by EU Finance Ministers in March 2003 and it is discussing with its EU partners how these proposals might be best implemented in practice.

2.29 In conclusion, the lack of an independent monetary policy means that individual countries inside EMU may need to rely to a greater extent on fiscal policy to stabilise their economies when national economic conditions diverge significantly from those prevailing in the currency area as a whole. Where debt is low and there is a high degree of long-term fiscal sustainability, the case for adopting a tighter fiscal stance to allow room for governments to use fiscal policy more actively is not convincing. Provided that arrangements are put in place to ensure discretionary policy is conducted symmetrically then longer-term sustainability would not be put at risk.

¹⁰ To see why greater uncertainty may require a lower deficit target, assume that errors in forecasting are normally distributed, the standard deviation of budget outturns are equal to 0.5 per cent of GDP, and the government wanted to ensure that the budget will be in balance or surplus with 95 per cent probability in every year. Then it should aim for a budget surplus of roughly 1 per cent of GDP. If the standard deviation of the budget deficit rose to 0.6 per cent, the government would need to increase its target budget surplus to around 1.2 per cent of GDP to maintain a 95 per cent probability of meeting its goal of a balanced budget.

¹¹ The open letter system requires the Governor of the Bank of England to write an open letter to the Chancellor in the event of a deviation of more than 1 per cent below or above the inflation target.

Fiscal policy has the potential to reduce fluctuations in output resulting from demand shocks where there is sluggish adjustment of wages and prices. There is, however, uncertainty about how strong the stabilising effects are.

If prices are very flexible, fiscal action (like monetary policy) is relatively ineffective at demand management. But a high degree of price flexibility would also mean that fiscal (and monetary) action is less likely to be required.

Forward-looking consumers, who are not liquidity-constrained and can therefore smooth consumption in the face of changes to their income, will generally reduce the stabilising effects of income tax changes.

Different fiscal instruments are likely to have different short-term effects on demand as well as different impacts on long-term growth.

Empirical evidence, including from macroeconomic models, suggests that the sign of the short-run fiscal multipliers should generally be regarded as positive, but there is a large degree of variation in the magnitude of the multipliers between different models.

The magnitude of the potential stabilisation effect of fiscal policy also varies between different monetary policy regimes. Comparing the situation of the UK operating a domestic inflation targeting regime with the UK in EMU under a euro area inflation targeting regime, fiscal policy would tend to have a more powerful short-run effect on demand if the UK were in EMU.

Fiscal policy is likely to be a more effective stabilisation policy in large, closed economies than small, open ones.

3.1 This section examines the extent to which fiscal policy, both discretionary fiscal policy and the automatic stabilisers, can act as a means of stabilising the economy. It examines the:

- theoretical underpinnings of fiscal policy;
- effectiveness of fiscal policy, looking at the choice of instruments, empirical evidence and the impact of the policy and wider economic environment; and
- possible long-run effects of fiscal policy.

A: FISCAL POLICY IN MACROECONOMIC THEORY

3.2 According to the traditional Keynesian view, discretionary fiscal policy impacts directly on current income, under one or more of the following assumptions: sluggish price or wage adjustment, slack productive capacity, and myopic or liquidity-constrained firms and households. Under the theory, a loosening of fiscal policy stimulates both consumption and investment, and boosts demand and output in the short run. The standard way of thinking about the impact of fiscal policy was represented in the so-called IS-LM model and its open-economy extension the Mundell-Fleming model. The main points are summarised in Box 3.1.

Box 3.1: Impact of fiscal policy in the IS-LM and Mundell-Fleming models

A standard tool for analysing the impact of stabilisation policy is the IS-LM model set out by Hicks (1937) in response to Keynes' General Theory (1936). This model integrates the goods and money markets, and assumes fixed prices and a closed economy. A fiscal easing pushes up output and increases interest rates.¹ The extent of the stimulus to output from such a policy action will then depend on the degree of 'crowding out' of private spending from the higher interest rate. The greater the sensitivity of private spending to interest rates and the less sensitive money demand is to interest rates, the larger the amount of crowding out.

The Mundell-Fleming model is the open economy extension of the IS-LM model. The effectiveness of fiscal policy can be analysed under both flexible and fixed exchange rates. With flexible exchange rates and some capital mobility, a fiscal easing would initially raise output and interest rates as in the closed economy case. However, given that domestic interest rates had risen relative to foreign interest rates, there would be a capital inflow into the country which would result in an exchange rate appreciation. This would reduce net exports and eventually offset some of the boost to output from the fiscal loosening. In the extreme case of perfect capital mobility, the boost to output would be fully offset by a worsening in the net export position. In this case, fiscal policy would only affect the composition of demand within the economy.

Under fixed exchange rates, an easing in fiscal policy will again cause a capital inflow into the country. However, with a fixed exchange rate, the central bank will have to sell its own currency and acquire foreign exchange reserves. This will raise the money supply and further boost output. Thus the Mundell-Fleming model suggests that discretionary fiscal policy will have a larger impact on output under fixed rather than floating exchange rates.

Degree of price flexibility

3.3 The appropriateness of the IS-LM framework has been questioned, in particular because it assumes prices are fixed and hence ignores the supply-side of the economy. Output is effectively demand-determined. This may still be a reasonable short-term assumption if wages and prices are slow to adjust and movements in aggregate demand are initially accommodated by movements in output rather than prices. But it is unlikely to be helpful in thinking about longer-term effects and it could be highly misleading were the speed of adjustment of wages and prices to change relative to previous experience.

¹ The model assumes fixed money supply. As higher output pushes up money demand and the money supply is assumed to be fixed, the interest rate must rise to maintain equilibrium in the money market. In the UK monetary framework, interest rates are set by the Bank of England's Monetary Policy Committee (MPC) to meet the inflation target. This would mean that there could also be an offsetting monetary policy response to an expansionary fiscal policy although there is no reason to suppose the effects would be the same as assuming a fixed money supply.

3.4 Two particular challenges to the IS-LM framework are Barro (1976) and the ‘policy ineffectiveness result’ associated with Sargent and Wallace (1975). These demonstrate that if prices and wages are fully flexible and if economic agents have rational expectations,² government policies to stimulate aggregate demand have no effect on real output and employment unless the policy measures are unanticipated. Thus, using fiscal policy (or monetary policy) to stimulate aggregate demand will only generate higher inflation. The key reason for this result is the classical market-clearing, flexible price assumption rather than rational expectations. Multi-period overlapping contracts models by Phelps and Taylor (1977) and Fischer (1977) showed there could be a role for stabilisation policy under rational expectations if complete wage and price flexibility was not assumed.

3.5 Theory therefore suggests that the greater the degree of wage and price flexibility, the less effective fiscal policy would be in stabilising the economy. Greater flexibility, however, reduces the importance of stabilisation in the face of demand or supply shocks. Rapidly adjusting prices and wages would reduce the extent to which output and employment responded to, for example, a negative demand shock. Greater flexibility therefore reduces both the effectiveness of fiscal stabilisation and the need for it in the first place.

Forward-looking consumers

3.6 Another key insight from the theoretical literature is that forward-looking consumers will tend to be little affected by temporary changes in income taxes unless they are subject to liquidity constraints (or myopia) in which case their consumption will tend to be influenced by current income. Forward-looking consumers are said to practice ‘consumption smoothing’ in the sense that they try to iron out temporary shocks to their current income, including fiscal ones. They would therefore smooth out the additional consumption from a temporary tax cut over their lifetimes, for example, greatly reducing the short-term impact on demand. A similar point applies to corporate taxes and firms’ investment spending.

3.7 The description ‘temporary’ is used here in a broad sense: either the government announces it will be temporary or it is perceived as such because it is unsustainable. A permanent tax cut would need to be based on a sustainable fiscal position, for example by being matched by credible (actual or planned) spending cuts or offsetting tax increases. An extreme form of ‘consumption smoothing’, sometimes referred to as ‘Ricardian equivalence’, was set down by Barro (1974). This suggests that there is no effect on consumption from temporary income tax changes. This is discussed in Box 3.2.

² The rational expectations hypothesis states that agents use all available information in forming expectations and there are no systematic errors in expectations. This means that expectations are not biased: expectations are on average correct with only random errors.

Box 3.2: Ricardian Equivalence

Under certain theoretical conditions,³ temporary income tax changes will have no impact on real variables such as private consumption and private investment. For example, if taxes are increased, forward-looking economic agents will not reduce their consumption but will instead offset this increase by an equivalent reduction in private savings because they perceive that the tax burden will be reduced in the future. Agents will effectively smooth their consumption by funding the shortfall associated with the temporary tax increase by borrowing or running down assets, in anticipation of a reversion to lower tax levels in the future.

The extreme form of Ricardian equivalence has been criticised on a number of grounds. A key criticism is the presence of liquidity constraints. Some households may be unable to smooth sufficiently their consumption when faced with tax changes since they may be unable to borrow as much as their future expected income would justify. Such households, when faced with a tax increase, would have to cut their spending. Other assumptions behind the theory have also been challenged. With finite horizons for households, any current tax cut might be offset only by a tax increase in the distant future. If this were the case, then households must care about the taxes for the next generation (i.e. their children) will pay in the future for Ricardian equivalence to hold. To the extent that this does not hold, or does not hold completely (e.g. for those without children), the offsetting impact from the effect of future tax payments would be less than complete.

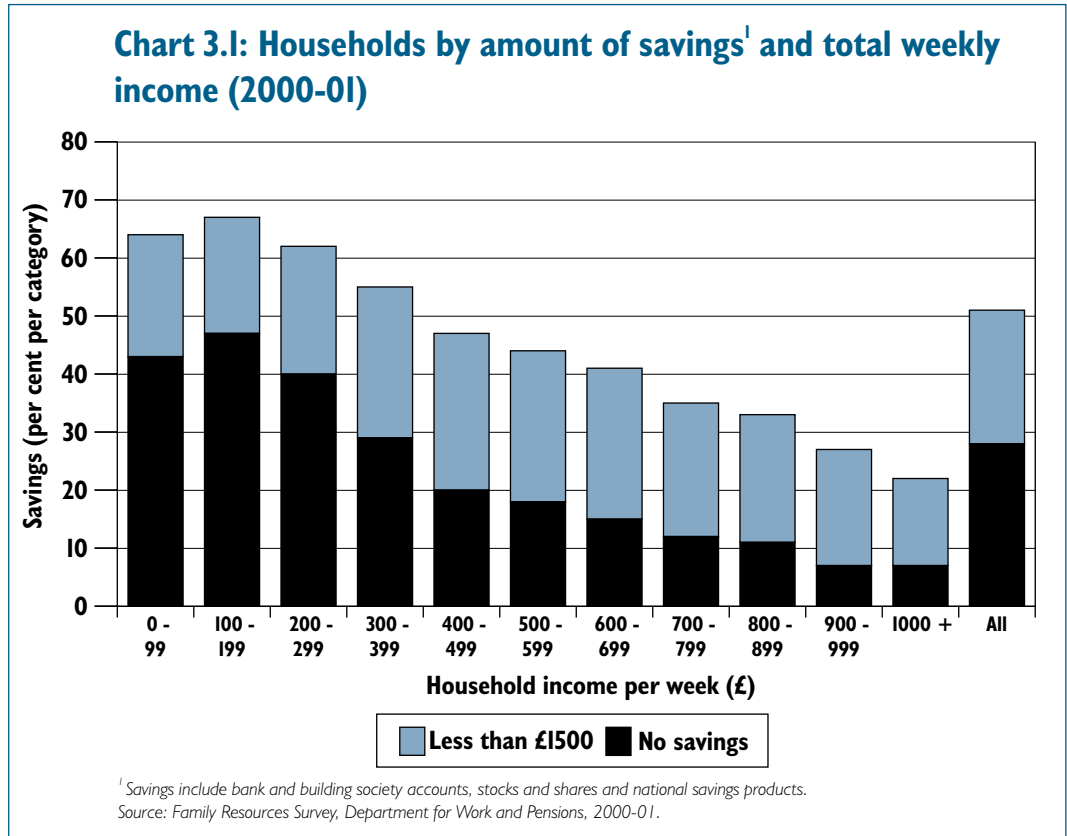
It is important to note that the full Ricardian equivalence result only really applies to income tax changes. Changes in other fiscal instruments will tend to affect demand. This consideration complicates even the income tax case as forward-looking consumers are likely to be uncertain over the form of future policy adjustments. Some of the differences in the impact of different fiscal instruments are discussed below.

Evidence on consumption smoothing

3.8 Liquid financial savings such as bank and building society accounts, equities, and premium bonds are key in allowing short-term smoothing of consumption. UK data on savings and wealth suggests, however, that a sizeable proportion of households have little financial means to smooth their consumption, at least for an extended period of time.

3.9 The Family Resources Survey indicated that in the financial year 2000-01, 51 per cent of households had less than £1,500 in gross savings, while 28 per cent of households had no savings. A breakdown of savings by income groups confirms that households in the lowest income groups are more likely to have modest or no savings. Data from the British Household Panel Study (BHPS), analysed by Banks, Smith and Wakefield (2002) confirms this and indicates that when looking at net financial savings (savings minus debts), half of the population in 2000 held £600 or less.

³ Assumptions are that private economic agents are infinitely long-lived, rational utility maximisers who do not face liquidity constraints and therefore consume according to permanent income. Taxes are lump sum.



3.10 The majority of personal wealth is held in more illiquid assets, in particular, in housing and pensions. These are more useful for ‘consumption smoothing’ over a lifetime rather than over the short term, although housing assets can provide useful collateral for loans. Lower income groups have lower owner-occupier rates and fewer private or occupational pensions than the rest of the population. Coupled with low financial savings, a sizeable percentage of households therefore have only modest levels of total wealth. Inland Revenue data for 2000 showed that 28 per cent of the adult population had individual net marketable⁴ wealth of less than £5000, while Banks and Tanner (1999) suggested that one in ten households had no wealth at all.

3.11 Improved access to credit markets would help households to smooth consumption through borrowing rather than drawing on savings. Evidence from the Bank of England’s Financial Stability Review (2002) indicates that there has been increased credit card penetration among lower-income households, driving a sharp rise in the unsecured debt to income ratio for the poorly paid.⁵ However, lack of income, wealth and collateral will limit the amounts lenders will be prepared to lend, meaning that consumption smoothing via the credit markets is likely to be partial at best for low-income borrowers. Banks, Smith and Wakefield (2002) show that the poorest fifth of households are only around half as likely as the richest fifth to have debts (not including mortgage debts), a pattern that holds across different age ranges.

⁴ Marketable wealth includes houses, stocks and shares and other saleable assets. It excludes all rights accruing to individuals under occupational and state pension schemes.

⁵ BHPS data indicated that unsecured debt as a proportion of household income rose from 4.8 per cent in 1995 to 9.6 per cent in 2000 for those households with incomes of less than £11,500.

Box 3.3: Evidence on consumption smoothing

Campbell and Mankiw (1989) found that in the US roughly half of income went to households that consumed according to current income. Other, more recent studies have supported the finding that consumption smoothing is less prevalent in practice than some theoretical models predict. Shapiro and Slemrod (1995) studied a very temporary US income tax change made in 1992 (effectively just a delayed payment). When asked what they would do with the extra income nearly half the respondents said they intended to spend most of it. Parker (1999) used household-level consumption data and found that households changed their consumption expenditures in response to temporary fluctuations in current disposable income induced by the social security tax system. Souleles (1999) focused on consumption of predictable tax refunds. He found consumption increased by 35 per cent of a refund within three months.

In the UK, there is further empirical evidence against a high degree of consumption smoothing. Sumner (1991) and Bagliano (1993) have looked at the effect of the announcement of changes in income taxation on consumption. Sumner (1991) used the lag between the announcement of changes to taxation in Budgets and the implementation of policies to test whether Ricardian equivalence held. If consumers were forward-looking and smoothed their consumption, then when the tax change was implemented, spending should not have been affected, as any response of consumption should already have taken place at the time of the announcement. However, over the period 1976-1988, Sumner found that expenditure on non-food items reacted strongly to changes in disposable income at the implementation date. Bagliano (1993) used a similar approach to consider consumption on food, clothing and durables in the period 1960-1990, and found that expenditure reacted to fiscally-induced movements in disposable income *only* at the implementation date. He also found that he could not rule out that myopic behaviour of households may be the cause of the sensitivity of consumption to implemented tax changes.

More recently Mankiw (2000) has concluded: *“Although this [empirical] literature does not speak with a single voice, the consensus view is that consumption smoothing is far from perfect. In particular, consumer spending tracks current income far more than it should.”*⁶ Further, there is plenty of evidence that many households have very little wealth and so: *“Many households do not have the financial wherewithal to do the intertemporal consumption smoothing assumed by much modern macroeconomic theory... Acknowledging the prevalence of these low-wealth households helps explain why consumption tracks current income as strongly as it does.”*⁷

⁶ Mankiw (2000) page 2.

⁷ Mankiw (2000) page 4.

3.12 In summary, empirical studies have generally rejected full Ricardian equivalence. However, as long as there is a degree of consumption smoothing by households, the impact of any discretionary fiscal policy will generally be reduced. One caveat on the evidence concerns countries with very high debt to GDP ratios and where their fiscal framework lacks credibility, where something close to Ricardian equivalence is observed (as discussed in Box 3.5).

B: THE EFFECTIVENESS OF FISCAL POLICY

3.13 The discussion above sets out the key theoretical issues that underpin the rationale for using fiscal policy. However, the extent to which fiscal policy is effective in reality depends on a number of factors, including the instrument used, and the wider economic and policy environment. These are discussed below, alongside the main findings from the empirical evidence. Annex A provides a fuller discussion of the evidence from macroeconomic models on the effectiveness of different fiscal policy instruments in different environments.

3.14 The effectiveness of fiscal policy is often discussed in the context of discretionary fiscal policy. However, the issues discussed below are just as relevant to the operation of the automatic stabilisers.

The instruments available

3.15 The impact of fiscal policy will vary according to the instrument used. There are three main issues:

- the difference between tax and spending changes;
- how different groups of individuals respond to tax changes; and
- the impact of measures which affect relative prices.

Tax and spending changes

3.16 A change in government expenditure is likely to have a more powerful effect on demand than a change in income taxes when consumers are forward-looking. As described above, in the case of an income tax cut, forward-looking consumers may anticipate the higher taxes in the future. If they are consumption smoothing, their demand response will be small (or even zero if there is full Ricardian equivalence).

3.17 The same consumption smoothing behaviour produces a different effect in the case of a temporary increase in government expenditure. The reduced consumption needed to pay higher future taxes to cover the additional spending would be spread over many years. In the short term therefore, the positive impact on demand of higher government spending would only be marginally offset by a fall in household consumption. An even more straightforward example is where a temporary increase in government spending is financed by lower government spending in the more distant future.

3.18 Evidence from macroeconomic models tends to support the broad conclusion that government spending has a greater impact on demand in the short run than changes in income taxes. Although there are a wide range of results for the impact of tax and spending changes on output, reflecting differences in the way the models are constructed, of five UK models reviewed in Church *et al.* (2000), all showed a greater short-run output response to government spending changes compared to income tax changes, as set out in Annex A.

3.19 However, the evidence from macroeconomic models of a stronger response to changes in government spending compared to taxation needs to be treated with caution. Firstly, the models all assume that spending changes happen immediately, while the discussion in Section 4 suggests that, historically, changes in government spending to stabilise the economy have often occurred with significant lags. This will tend to reduce the effectiveness of government spending as a stabilisation tool. In addition, these models tend not to consider ways in which any tax change could be structured to maximise the response on demand, as discussed below.

3.20 The evidence on the differential responsiveness of the economy to tax and spending suggests that changes in their composition can impact on demand. For example, a (temporary) increase in expenditure financed by higher income taxes (such that government borrowing was unchanged) may increase demand. While the full effect of the higher spending on demand would be felt at once, the full impact of higher taxes on demand would be smoothed over time, at least partially by households reducing their savings. This is known as a balanced budget multiplier effect. It is the existence of ‘consumption smoothing’ that can make this sort of fiscal policy effective.

**Response of
different
individuals to tax
changes**

3.21 The impact of an income tax change on demand will also depend in part on the propensity to consume of the people affected. Suppose that people who are more affluent have a lower propensity to consume out of current income than people who are less well-off. This would be the result, for example, if better-off people find it easier to smooth the impact on their consumption of shocks to their current income by adjusting their stock of wealth (i.e. by adjusting their borrowing or saving). Less well-off people, however, are more likely to be liquidity constrained and so their consumption will tend to be more closely related to their current income.

3.22 As a consequence, changes in income taxes affecting higher-rate taxpayers are likely to have less short-term impact on demand than equivalent sized changes in income taxes affecting basic-rate taxpayers. Changes in benefits, for example those paid to the unemployed, are likely to have even more powerful effects on demand because people on benefits tend to have a very close link between their current income and their consumption.

**Measures which
affect relative
prices**

3.23 A further distinction concerns policy measures which affect relative prices. A simple example is a short-lived change to VAT which affects household consumption. A temporary reduction in the VAT rate reduces the relative price of spending today compared with spending in the future when the VAT rate returns to its previous level, in a similar way to a reduction in the interest rate. This encourages all households (including forward-looking consumers who are not liquidity constrained) to consume more now and less in the future. This effect would be likely to be especially powerful on consumer durables, which provide a long-lasting flow of services.

3.24 Other policies that would affect relative prices include varying the rate of capital income taxation over the cycle (or alternatively investment taxes or subsidies), which temporarily changes the after-tax rate of return on investment. Another example would be temporary changes in investment allowances to affect the timing of firms’ investment spending. However, the likely effectiveness of such a measure might be limited. (For further discussion see paragraph 6.85).

3.25 Fiscal policy changes which work through changes in relative prices do not have to involve variations in the budget balance. Calmfors in the EMU study *Submissions on EMU from leading academics* gives as an example a reduction in payroll taxes which is offset by an increase in taxes falling on employees (e.g. income taxes). This is sometimes called an *internal exchange rate devaluation*, because it has short-run effects similar to a nominal exchange rate devaluation: it reduces the relative domestic cost of labour as well as the purchasing power of employees. This may be useful in a situation of low growth, where there is little or no scope for increasing the budget deficit. Denmark and Sweden have, in the past, both pursued this sort of policy.

The effect on inflation

3.26 An additional issue is the short-run impact of different fiscal instruments on inflation. Tax changes tend to increase the wedge between what employers pay relative to the prices of the goods and services they sell and what employees take home relative to the prices of the goods and services they consume. The impacts of increases in income taxes and social security contributions on the ‘tax wedge’ are obvious. But the impact of changes in indirect taxes is very much the same. Indirect tax changes drive a wedge between the prices consumers pay and the prices that firms receive.

3.27 There has been a long (and inconclusive) empirical debate about whether different tax instruments have different short-term impacts on inflation, and whether there is any long-term effect. The findings tend to suggest that either indirect taxes have a larger impact on short-term inflation, for example because they are in the price index that workers bargain over, or the impact of different taxes are all roughly the same. The Treasury model currently assumes that the effects of different taxes are broadly similar in the short term, with no long-term impacts, although it is very hard to distinguish between the competing approaches from the data.

The importance of the policy regime and economic environment

The importance of the monetary regime

3.28 So far the discussion has not paid much attention to the type of monetary policy regime that is assumed. However, the potential importance of this was illustrated in the discussion of the exchange rate regime in the Mundell-Fleming model (in Box 3.1). For the UK considering joining EMU, the key distinction is between monetary policy regime operating at the level of the UK economy and one operating at the euro area level.

3.29 Outside EMU, in reaction to a temporary increase in government spending, UK interest rates would respond much more strongly because the impact on UK demand and inflation would be much greater than the impact on euro area demand and inflation. The interest rate response would be supplemented by the exchange rate response outside EMU. Within EMU, interest rates depend on conditions across the euro area and the nominal exchange rate is fixed with the rest of the euro area so the exchange rate response would also be much more limited. The more muted interest rate and exchange rate response within EMU is likely to result in a higher short-term fiscal multiplier.

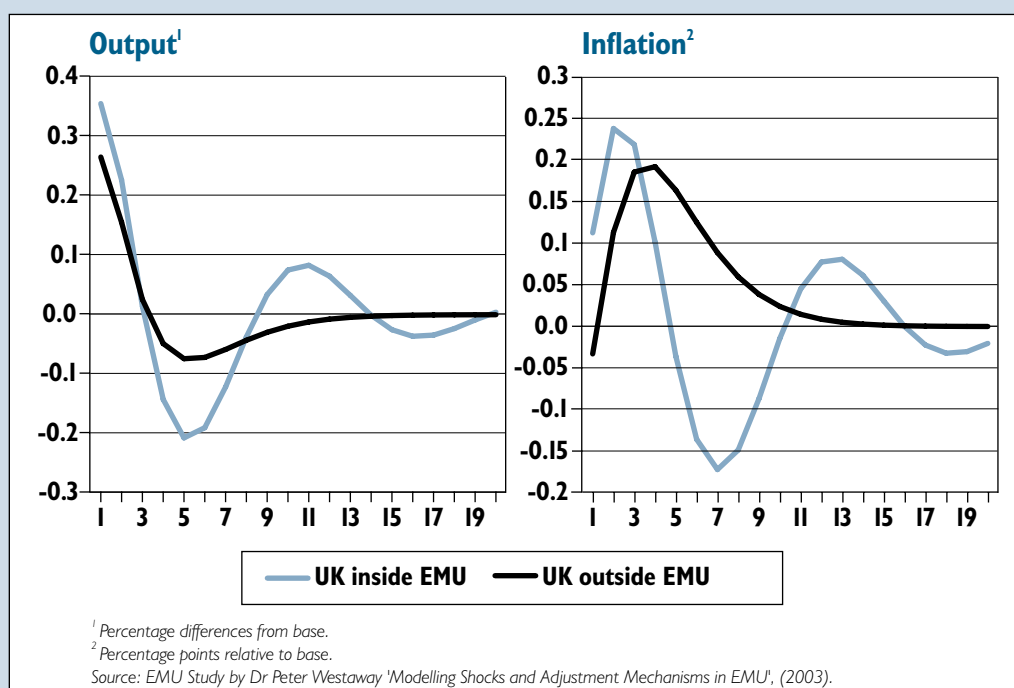
3.30 Box 3.4 uses the stylised macroeconomic model from the EMU study by Dr Peter Westaway *Modelling shocks and adjustment mechanisms in EMU* to illustrate the impact of an asymmetric demand shock (such as a temporary increase in UK government spending) under different monetary policy regimes. Some fiscal policy simulations using the National Institute’s NiGEM model are discussed in Annex A. These reinforce the point that short-term fiscal multipliers are likely to be higher within EMU, reflecting the differing interest rate and exchange rate responses.

Box 3.4: Macroeconomic impact of an asymmetric demand shock under differing monetary regimes

The stylised macroeconomic model described in the EMU study *Modelling shocks and adjustment mechanisms in EMU* (and already introduced in Section 2, Box 2.3) can be used to compare the impact of an asymmetric demand shock in the UK (such as a temporary rise in government expenditure) under the current framework and in EMU to illustrate the importance of the assumed monetary policy regime.

The charts below show the impact on output and inflation of a 1 per cent shock to demand (returning to zero with an autoregressive parameter of 0.5) over time, in this case twenty quarters. This could be interpreted as a temporary increase in government spending. Outside EMU, with interest rates set to meet the inflation target, both output and inflation rise. Nominal interest rates rise to counter higher inflation and there is an initial appreciation in the exchange rate. The combination of crowding out via the higher interest rate and stronger exchange rate starts to offset the initial increase in output and inflation. The higher interest rate relative to the euro area will, via the uncovered interest parity condition, result in a subsequent depreciation in the nominal exchange rate, restoring competitiveness in the UK economy.

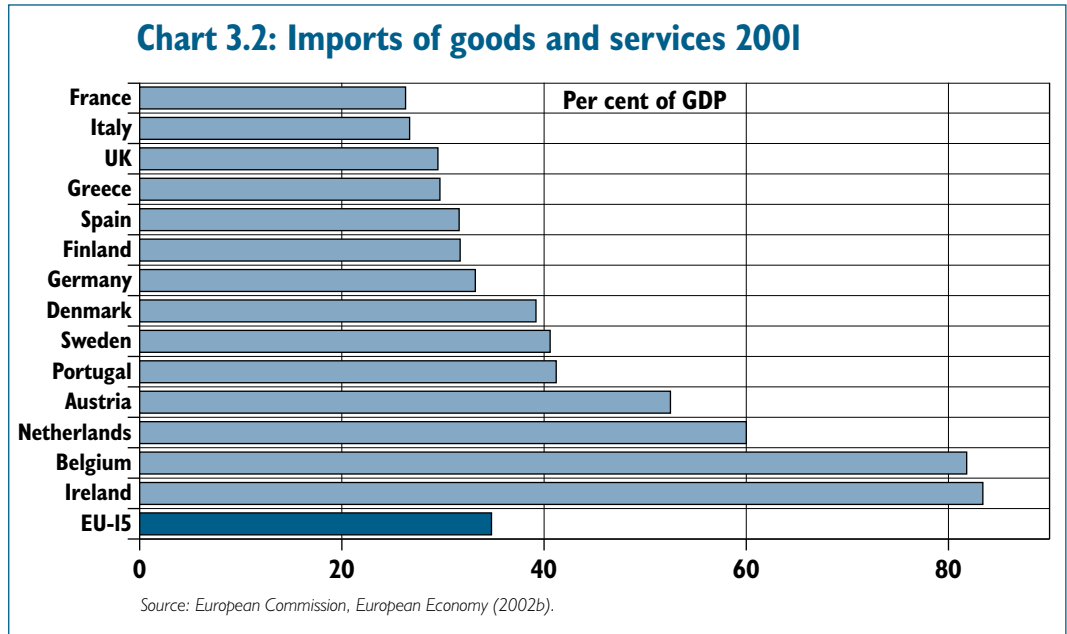
Within EMU, with interest rates set by the European Central Bank in response to euro area economic developments, there will be a more muted interest rate response. This results in sharper initial rises in both output and inflation, i.e. a higher fiscal multiplier.



Differences among EU countries

3.31 The large differences in the size and openness of different EU countries might make fiscal stabilisation more effective in some countries than others. The higher the share of imports in aggregate demand, the higher the import leakage will be from an expansionary fiscal policy. A larger part of a tax cut which increases consumption will be met through imports and less from domestic output. So small, open economies will tend to find that fiscal policy is relatively ineffective at changing the demand conditions their country faces. This may not be a problem from a stabilisation perspective to the extent that the demand conditions in small countries are well-represented by the euro area average that the European Central Bank influences.

3.32 The ‘import leakage’ effect is likely to be less significant for larger countries. As Chart 3.2 suggests they have smaller shares of imports in GDP. However, the extent that the share of imports continues to increase over time will become another constraint on the effectiveness of fiscal policy as a demand management tool.



Credibility and the possibility of negative fiscal multipliers

3.33 The above analysis has been based on the premise that expansionary fiscal policy has expansionary effects on output in the short run. In other words, short-run fiscal multipliers are positive. However, under certain circumstances, the fiscal multipliers may be negative. That is, expansionary fiscal policy may have contractionary effects on demand (or contractionary fiscal policy may have expansionary effects).

3.34 A permanent increase in government spending would have to be funded by a higher tax burden in the future. This would reduce permanent income and could lower consumer spending. In addition, there could be crowding out effects via higher interest rates. The crowding out effect is likely to be more pronounced if the government has a perceived debt sustainability problem and the fiscal framework lacks credibility. Increased debt accumulation could lead to higher risk premia on interest rates, reflecting the potential increase in risk of debt default or greater inflation risk. Therefore, with a debt sustainability problem, it is more likely that an expansionary fiscal policy will have no effect or even a contractionary effect on demand. This effect is particularly important for developing countries that have limited access to domestic and external finance.

3.35 Empirical evidence as outlined in Box 3.5 below supports the view that negative fiscal multipliers are most likely at times when fiscal sustainability is in doubt. Given that the UK fiscal rules as well as the Stability and Growth Pact provide a framework to ensure long-term sustainability of the public finances, such scenarios are not discussed further in this paper.

Box 3.5: Empirical Studies of Fiscal Contractions

Several studies have specifically tried to identify episodes in which fiscal contractions have proved expansionary. The seminal study by Giavazzi and Pagano (1990) identified two clear instances of expansionary fiscal contractions: in Denmark between 1983 and 1986 and Ireland between 1987 and 1989.⁸ Subsequent studies have often looked at a cross section of episodes over a 10-35 year period where fiscal consolidation had occurred and found further evidence of other expansionary fiscal contractions, but the Danish and Irish cases remain the clearest instances of expansionary fiscal contractions.

Studies have debated the relative importance of characteristics and circumstances which could lead to an expansionary fiscal contraction. The literature has identified a number of factors, which in some combination may make a fiscal contraction expansionary. Some studies have found the size, duration and composition of the fiscal consolidation to be important. Others have found that initial conditions such as the country's debt position and the circumstances surrounding the consolidation (such as the behaviour of the exchange rate, whether additional structural reform is being undertaken, and the response of investment) to be significant. The studies suggest that an expansionary fiscal contraction is most likely when a country is facing a critical fiscal situation and takes strong action by cutting unproductive spending, and this is accompanied by further structural reform and an exchange rate depreciation.

Lambertini and Tavares (2002) and Hjelm (2002) examined the importance of the exchange rate effect. Lambertini and Tavares argue that significant nominal and real depreciations of the exchange rate have accompanied fiscal contraction periods associated with a reduction in the debt to GDP ratio, and Hjelm argues a significant real depreciation has accompanied fiscal contraction periods associated with a 'favourable' macroeconomic outcome (performance above the OECD and/or own country average in a number of macroeconomic areas). Real depreciations could improve individuals' expectations about future income, leading to higher private consumption growth and further flow on effects. However, the studies note a government within EMU would not be able to perform a nominal devaluation prior to a fiscal contraction. Only movements in relative prices, which would take longer to adjust, could change the real exchange rate. Therefore participation in EMU could potentially lessen the favourable effects of a fiscal consolidation through this particular channel.

C: THE LONG-TERM IMPACT OF FISCAL STABILISATION

3.36 The focus of the discussion so far has been on the short-term impact of different fiscal instruments on demand and inflation, as this is what is relevant for stabilisation policy. However, unlike monetary policy, fiscal policy instruments can also have a potentially significant long-run impact on living standards or economic growth.⁹ Furthermore, different fiscal instruments are likely to have very different effects in the long term as well as in the short term.

⁸ The cyclically-adjusted deficits fell by 9.5 and 7.2 percentage points of GDP in Denmark and Ireland respectively relative to the pre-consolidation year, yet consumer spending rose by a cumulative 17.7 and 14.5 per cent.

⁹ In the standard neo-classical growth model, steady state growth is a function of technical progress and population growth. Changes in fiscal policy can only affect the rate of growth in the transition to the steady state and hence the level of output in the steady state. Endogenous growth models allow for the possibility that fiscal policy can affect the steady state growth rate. In what follows 'living standards' is referred to, although this can be substituted for 'growth' in endogenous growth models.

3.37 The first consideration is simply the long-term impact of debt. There are two basic approaches in the literature:

- in the first approach (often referred to as Barro-type models) Ricardian equivalence holds and government debt just redistributes the tax burden among generations. However, as one generation cares about the income of the subsequent generation (parents care about the income of their children), consumption smoothing actually takes place between generations and so they reverse the effect of any redistribution through bequests. Hence, government deficits and debt are completely neutral and have no impact on the incomes of different generations; and
- in the second approach (the so-called ‘overlapping generations model’¹⁰) people smooth consumption over their own lifetimes but there are no bequests. So as Mankiw observes: “*When the government issues debt, it enriches some generations at the expense of others, crowds out capital and reduces steady state living standards.*”¹¹

3.38 Secondly, there is the issue of how different fiscal policy instruments affect the long-run growth rate of the economy, and therefore impact on future living standards. This is, however, complex as while some of the likely effects can be set out there is a great deal of uncertainty about their relative importance.

3.39 To further complicate the picture, the economic literature usually assesses the effect of a change in a particular fiscal instrument, by assuming an off-setting tax or benefit change so that the budget balance is unchanged. These off-setting changes are usually taken to be a non-distortionary ‘lump-sum’ transfer of money. This helps to isolate the impact of just that one instrument, but in reality such lump sum transfers rarely exist.

3.40 Nonetheless, the tentative conclusions from the literature¹² are, that under certain circumstances:

- very high income taxes will negatively affect long-run living standards through their impact on the incentives to save, invest and work;
- consumption taxes will not affect the relative price of consuming today against tomorrow and so they will not affect incentives to save and invest. If the labour supply were exogenous then consumption taxes would have no effect on long-run living standards;

¹⁰ Diamond (1965).

¹¹ Mankiw (2000), page 1. Mankiw observes that even in the Barro model things change if taxes are distortionary. In this case higher debt leads to higher debt service which requires a higher tax rate. This in turn leads to a higher before-tax interest rate and hence a smaller steady state capital stock. So with non-lump sum taxes, government debt crowds out capital just as in the Diamond-Samuleson overlapping generations model although the mechanism is different.

¹² Empirical studies have found it difficult to establish robust conclusions, examples include Engen and Skinner (1992), Levine and Renelt (1992) and Easterly and Rebelo (1994). The latter concluded: “*The evidence that tax rates matter for growth is disturbingly fragile. This empirical fragility contrasts sharply with the robustness of the theoretical predictions: most growth models predict that income and investment taxes are detrimental to growth,*” page 21.

- to the extent that government investment has a positive impact on productivity it can raise living standards; and
- government consumption will have a zero effect on living standards unless it affects the productivity of the private sector, in other words higher government consumption will 'crowd out' private sector expenditure. However, some types of government consumption, such as spending on education, can have a powerful long-run impact on living standards because it promotes the accumulation of human capital.

3.4I This suggests that the effects of a combination of tax and expenditure measures are ambiguous. An increase in government spending on education financed by higher income taxes, for example, could improve living standards in the long run.