UK membership of the single currency

An assessment of the five economic tests

June 2003
This document sets out 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 following detailed studies accompany the assessment:

- The five tests framework
- Analysis of European and UK business cycles and shocks
- Estimates of equilibrium exchange rates for sterling against the euro
- Housing, consumption and EMU
- EMU and the monetary transmission mechanism
- Modelling the transition to EMU
- Modelling shocks and adjustment mechanisms in EMU
- EMU and labour market flexibility
- The exchange rate and macroeconomic adjustment
- EMU and the cost of capital
- EMU and business sectors
- The location of financial activity and the euro
- EMU and trade
- Prices and EMU
- The United States as a monetary union
- Policy frameworks in the UK and EMU
- Submissions on EMU from leading academics
- Fiscal stabilisation and EMU – a discussion paper

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

[www.hm-treasury.gov.uk](http://www.hm-treasury.gov.uk)

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# Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive summary</td>
<td>1</td>
</tr>
<tr>
<td>Introduction</td>
<td>11</td>
</tr>
<tr>
<td>1. Convergence</td>
<td>25</td>
</tr>
<tr>
<td>2. Flexibility</td>
<td>81</td>
</tr>
<tr>
<td>3. Investment</td>
<td>137</td>
</tr>
<tr>
<td>4. Financial services</td>
<td>161</td>
</tr>
<tr>
<td>5. Growth, stability and employment</td>
<td>179</td>
</tr>
<tr>
<td>6. Conclusions to the assessment of the five economic tests</td>
<td>225</td>
</tr>
<tr>
<td>Annex A: The use of economic models in the assessment</td>
<td>229</td>
</tr>
<tr>
<td>Annex B: Assistance with the preliminary and technical work</td>
<td>231</td>
</tr>
<tr>
<td>Glossary</td>
<td>233</td>
</tr>
<tr>
<td>List of abbreviations</td>
<td>239</td>
</tr>
<tr>
<td>List of tables</td>
<td>241</td>
</tr>
<tr>
<td>List of charts</td>
<td>243</td>
</tr>
<tr>
<td>List of boxes</td>
<td>245</td>
</tr>
</tbody>
</table>
EXECUTIVE SUMMARY

GOVERNMENT POLICY ON EMU AND THE FIVE ECONOMIC TESTS

Government policy on EMU was originally set out by the Chancellor of the Exchequer in his statement to Parliament in October 1997 and is updated in the Government statement and decision on EMU membership, based on this assessment of the five economic tests.¹

EMU stands for Economic and Monetary Union. Membership of EMU would mean that the UK would adopt the euro as its currency and UK interest rates would be set by the European Central Bank (ECB), on the basis of economic conditions in the euro area as a whole. The Government’s decision on EMU membership reflects what it believes is best for the long-term economic interests of the British people and the performance of the UK economy.

When in 1997 the Government committed the UK to the principle of joining the single currency, the Chancellor stated that Government policy towards EMU is founded on four key building blocks:

• first, a successful single currency within a single European market would in principle be of benefit to Europe and to the UK: in terms of trade, transparency of costs and currency stability;

• second, the constitutional issue is a factor in the UK’s decision but it is not an overriding one, so long as membership is in the national interest, the case is clear and unambiguous and there is popular consent;

• third, the basis for the decision as to whether there is a clear and unambiguous economic case for membership is the Treasury’s comprehensive and rigorous assessment of the five economic tests; and

• fourth, whenever the decision to enter is taken by the Government, it should be put to a referendum of the British people.

The five economic tests

• Are business cycles and economic structures compatible so that we and others could live comfortably with euro interest rates on a permanent basis?

• If problems emerge is there sufficient flexibility to deal with them?

• Would joining EMU create better conditions for firms making long-term decisions to invest in Britain?

• What impact would entry into EMU have on the competitive position of the UK’s financial services industry, particularly the City’s wholesale markets?

• In summary, will joining EMU promote higher growth, stability and a lasting increase in jobs?

EMU’s development and the Government’s policy towards it reflect global trends which are shaping economic policy worldwide. Globalisation is moving the world towards greater integration through increased trade and investment.

¹ All available on the HM Treasury website at www.hm-treasury.gov.uk.
The stronger integration brought by globalisation also brings added uncertainty. Changes in economic circumstances (shocks) in one sector, region or country are now transmitted more rapidly around the world economic system. This puts increased demands on the world’s economies and the people and technologies which are the foundation of their success. To be successful in achieving high growth, employment and social inclusion, everyone who plays a role in the economy has to be adaptable both to shorter-term developments and longer-term change.

A world characterised by constant economic change and increasing uncertainty would not be good for growth, investment and jobs without the additional safeguard of stability. Stability anchors expectations and allows individuals and companies to plan ahead with confidence. Across the global economic system, there is a growing commitment to policies designed to deliver stability, and increasing evidence and recognition that this is best achieved through frameworks based on clear principles and objectives.

The UK in Europe

This is particularly the case across Europe, where there is increasingly a shared commitment to economic stability combined with wide-ranging economic reform designed to achieve full employment, high living standards and social cohesion. With more than half the UK’s trade with the EU and increasing integration of product, labour and capital markets, the UK’s economic interest is best pursued through a deepening cooperation with other European countries as part of the Government’s commitment to a strong EU and a successful EMU. As the Prime Minister said in November 2002:

“We should have more self-confidence because we are a leading European power, always have been and always will be.”

The Government’s objectives…

These global and European trends are mirrored in the Government’s central economic objective for the UK to build a stronger, more enterprising economy and a fairer society, extending economic opportunity and supporting those most in need to ensure that rising national prosperity is shared by all.

…and strategy

Stability, productivity and employment opportunity are the foundations of the Government’s economic strategy. Since 1997, the Government has taken tough decisions and introduced wide-ranging reforms to establish a platform of economic stability and to promote work and enterprise, tackle poverty and deliver sustained investment to modernise public services. The Government’s decision on UK membership of the single currency must contribute to these objectives and this strategy.

The implications of EMU

EMU membership would mean significant changes to the operation of UK macroeconomic policy. The exchange rate between sterling and the euro would be fixed irrevocably and the euro would become the UK’s national currency. The UK would be subject to the single interest rate set by the ECB for the euro area as a whole. And the UK would be required to comply fully with the terms of the EU’s Stability and Growth Pact (SGP).

A long-term approach

The development of the UK economy following the introduction of the Government’s monetary and fiscal policy frameworks since 1997 shows how stability has provided a foundation for a long-term improvement in the UK’s economic performance. This demonstrates why the Government’s decision on EMU membership focuses on what is right for the UK economy in the long term. A long-term approach is necessary because of the distinctive nature of the UK economy – a large economy in the EU with a global outlook – and the stop-go nature of the UK’s economic history.

1 ‘A clear course for Europe’, speech by the Prime Minister, 28 November 2002.
The Government’s five economic tests for UK membership of EMU cover convergence, flexibility, investment, financial services, and growth, stability and employment.

The five economic tests define whether a clear and unambiguous case for UK membership of EMU can be made. This sets a demanding standard, reflecting the long-term importance of the decision. The Government believes that to aim lower would fail to take full account of the particular nature and policy history of the UK economy, the irreversible nature of the decision and the constitutional issues which it raises.

Together, the assessment of the convergence and flexibility tests determines whether sustainable and durable convergence has been achieved between the UK and the euro area. Sustainable and durable convergence is the key precondition for realising the potential benefits that EMU membership offers.

To ensure that the assessment can support a decision of this importance, the Chancellor has said that: “the assessment will be the most robust, rigorous and comprehensive work the Treasury has ever done”. To this end, extensive use has been made of the latest analytical modelling techniques and approaches and the latest economic literature, which has been influential in shaping the Treasury’s analysis of the key issues. A major development since the 1997 assessment is that it is now possible to examine and analyse the experiences of the countries which have adopted the euro since 1999, enhancing the evidence base and the understanding of the operation of EMU.

The assessment of the five economic tests is the work of the Treasury. 18 EMU studies are published alongside the assessment and inform it. Experts from outside the Treasury have produced four of the studies, developing new work in key areas. Other outside experts have assisted the Treasury, in a consultancy capacity, on the studies and provided new insights on previous academic work.

It is important that the decision on whether to join EMU focuses on both the potential costs and benefits of joining at the present time. The potential benefits of membership have to be considered alongside an assessment of whether there is sustainable and durable convergence to enable the potential benefits to be secured.

The Treasury’s 1997 assessment concluded that the UK was not convergent with the prospective euro area, that flexibility was insufficient and that the lack of sustainable and durable convergence meant that the risks of membership were such that the UK would not be in a position for some time to reap the potential benefits of EMU in terms of higher investment, growth and jobs.

To highlight the key issues which form the analytical backbone of the assessment, a stylised exercise has been conducted re-evaluating the 1997 assessment conclusions and EMU decision by considering ‘what if’ the UK economy had joined EMU in 1999, at the same time as the 11 ‘first wave’ members. The exercise indicates that had the UK joined EMU in 1999, the UK economy could potentially have experienced greater economic instability than has actually been the case. However, since 1997 there has been significant progress made in addressing the issues raised in the 1997 statement.

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3 Mansion House Speech by the Chancellor of the Exchequer, 26 June 2002.
ASSessment of the Five Economic Tests

The assessment provides a detailed analysis of each of the Government's five economic tests for EMU entry.

When in 1997 the Government committed the UK to the principle of joining the single currency, the Chancellor stated that the advantages are lower transaction costs, less exchange rate volatility, more incentives for cross-border trade and investment, and potentially lower long-term interest rates. Part of the assessment is the finding that, with the euro, trade within the euro area has increased and that, inside the euro, UK trade with the euro area and UK national income could, over the long term, increase substantially.

The assessment shows that intra-euro area trade has increased strongly in recent years as a result of EMU, perhaps by as much as 3 to 20 per cent; that the UK could enjoy a significant boost to trade with the euro area of up to 50 per cent over 30 years; and that UK national income could rise over a 30-year period by between 5 and 9 per cent. A 9 per cent increase in national income would translate into a boost to potential output of around 1/4 percentage point a year, sustained over a 30-year period.

The assessment addresses the necessity for sustainable and durable convergence as a precondition for successful membership of EMU at the present time and the risks and costs from delaying the benefits of joining. The assessment of the convergence and flexibility tests together determines whether sustainable and durable convergence has been achieved. This is the basis for assessing whether UK economic stability – one of the central objectives of Government policy, providing the platform for delivering high levels of growth and employment – could be maintained if the UK were to join EMU.

The conclusions on each of the tests are as follows:

Convergence

Are business cycles and economic structures compatible so that we and others could live comfortably with euro interest rates on a permanent basis?

There has been significant progress on convergence since 1997, which marks a break with the UK’s past history of divergence and reflects greater stability of the UK economy and global trends towards integration. Indeed, the UK now exhibits a greater degree of cyclical convergence than some EMU members demonstrated in the run-up to the start of EMU in 1999 and remains more convergent than a number of EMU countries today. The UK meets the EC Treaty convergence criteria for inflation, long-term interest rates and government deficits and debt. But there remain structural differences with the euro area, some of which are significant, such as in the housing market. Because of the risks these factors pose, and the fact that any dynamic changes would take time to come through, we cannot yet be confident that UK business cycles are sufficiently compatible with those of the euro area to allow the UK to live comfortably with euro area interest rates on a permanent basis. Overall, at the present time, while the extent of convergence with the euro area has significantly increased, the convergence test is not met. The Government is committed to building on the platform of stability and has announced a wide-ranging forward-looking policy agenda to deliver high levels of output and employment. This will help to make the economy more convergent with the euro area for the future.
**Flexibility**

*If problems emerge is there sufficient flexibility to deal with them?*

UK labour market flexibility has improved markedly since 1997. Significant falls in unemployment have accompanied strong employment growth giving the UK one of the lowest levels of unemployment in the OECD, lower even than in the US. While considerable progress has been made to reform labour, product and capital markets in the UK and the euro area, more can be done to ensure the UK economy is resilient to deal with the risks identified in the convergence test and the challenges of EMU membership. Inflation volatility is very likely to increase inside EMU. Greater flexibility in the UK and throughout the euro area would minimise output and employment instability, helping to ensure convergence was durable and that the potential benefits of EMU could be fully realised. This underlines the importance of maintaining progress on a range of economic reform policies to enhance flexibility and resilience to shocks, particularly in labour markets. The less progress on flexibility that is achieved in the EU, the greater the premium on a high level of flexibility in the UK economy. Overall, at the present time, we cannot be confident that UK flexibility, while improved, is sufficient. Reflecting this, at the present time, the achievement of sustainable and durable convergence has not been demonstrated. But increased flexibility through the measures we set out will help to provide greater reassurance that the economy can meet the additional demands that EMU membership would pose and contribute to achieving sustainable and durable convergence.

**Investment**

*Would joining EMU create better conditions for firms making long-term decisions to invest in Britain?*

UK productivity has been held back by a legacy of long-term under-investment. EMU entry could reduce the cost of capital for UK firms if long-term interest rates fell further inside the euro area and if membership of a larger financial market reduced the cost of finance. These costs could fall for small and medium-sized enterprises (SMEs) in particular if joining EMU lowers the barriers which prevent SMEs accessing euro area financial markets and lowers the cost of bank lending. Over time, EMU is likely to boost cross-border investment flows and foreign direct investment (FDI) in the euro area. There has been a fall in the UK’s share of total EU FDI flows coinciding with the start of EMU, and a corresponding increase in the share of the euro area. But against the backdrop of many other influences on FDI flows, it is difficult to say with confidence that EMU has boosted FDI within the euro area. There can, however, be confidence that a successfully operating EMU, and UK membership of it on the right basis, would boost FDI over the longer term. There is a risk that the longer membership of the euro is delayed, the longer the potential gains in terms of increased inward investment are postponed. If sustainable and durable convergence is achieved, then we can be confident that the quantity and quality of investment would increase ensuring that the investment test was met.

**Financial services**

*What impact would entry into EMU have on the competitive position of the UK’s financial services industry, particularly the City’s wholesale markets?*

Over the four years since the start of EMU, the UK has attracted a significant level of wholesale financial services business. The strength of the City in international wholesale financial services activity should mean that it continues to do so, whether inside or outside...
Executive Summary

EMU. EMU entry should enhance the already strong competitive position of the UK’s wholesale financial services sector by offering some additional benefits. Again, while the UK’s retail financial services sector should remain competitive either inside or outside the euro area, entry would offer greater potential to compete and capture the effects of greater EU integration that would arise from the single currency and other efforts to complete the Single Market, in particular the Financial Services Action Plan (FSAP) – benefits which are postponed while the UK is not in EMU. Overall, the financial services test is met.

Growth, stability and employment

In summary, will joining EMU promote higher growth, stability and a lasting increase in jobs?

EMU membership could significantly raise UK output and lead to a lasting increase in jobs in the long term. As noted above, the assessment shows that intra-euro area trade has increased strongly in recent years as a result of EMU, perhaps by as much as 3 to 20 per cent; that the UK could enjoy a significant boost to trade with the euro area of up to 50 per cent over 30 years; and that UK national income could rise over a 30-year period by between 5 and 9 per cent. A 9 per cent increase in national income would translate into a boost to potential output of around \( \frac{1}{4} \) percentage point a year, sustained over a 30-year period. Despite the progress made since 1997, the lack of sustainable and durable convergence means that, for the UK, macroeconomic stability would be harder to maintain inside EMU than outside, were the UK to make a decision to join at the present time. The potential uncertainty created by the price stability objective of the European Central Bank (ECB) and the potential constraints on the use of fiscal policy for stabilisation under the current interpretation of the Stability and Growth Pact (SGP) increase the chances that output and employment would be less stable inside EMU. The Government supports the direction in which the EU macroeconomic framework is evolving. Enhancing the flexibility and dynamism of the European economy, building on the achievements of the economic reform programme agreed at Lisbon, will also be important if the full benefits of EMU are to be realised. Entering EMU on the basis of sustainable and durable convergence is essential so that the UK can benefit from the substantial increases in cross-border trade, investment, competition and productivity that EMU could provide. Lower prices would lead to a lower cost of living, a key potential benefit of EMU entry for households, but one that would only accrue if entry were on the basis of sustainable and durable convergence. Poorer households tend to spend a greater proportion of their income on goods and services, so lower prices could benefit such households relatively more than wealthier ones. Overall, we can be confident that the growth, stability and employment test would be met once sustainable and durable convergence has been achieved.

Overall the Treasury assessment is that since 1997 the UK has made real progress towards meeting the five economic tests. But, on balance, though the potential benefits of increased investment, trade, a boost to financial services, growth and jobs are clear, we cannot at this point in time conclude that there is sustainable and durable convergence or sufficient flexibility to cope with any potential difficulties within the euro area. So, despite the risks and costs from delaying the benefits of joining, a clear and unambiguous case for UK membership of EMU has not at the present time been made and a decision to join now would not be in the national economic interest.
POLICY REQUIREMENTS

Therefore, because it is right for the British economy in any event and because it will contribute to achieving the sustainable and durable convergence we need to enable Britain to prosper inside the euro area, the Government is entering into a wide programme of economic reform.

Key elements of this policy agenda are as follows:

Maintaining stability: Government's inflation target

- In terms of macroeconomic policy, the Government's announcement of its intention in the next Pre-Budget Report to give the Bank of England a symmetric inflation target as measured by the Harmonised Index of Consumer Prices will improve the quality of the UK inflation target and will also help ensure inflation expectations in the UK remain in line with those of the euro area.

Enhancing stability and flexibility: housing

- To deliver a more settled platform of stability in the future and a higher degree of convergence, the Government is committed to a comprehensive programme to improve the functioning of the housing market. Building on the reforms to deliver a step change in planning policy, the Government is undertaking further significant changes in the planning system, supply of housing and housing finance to tackle market failures, increase the responsiveness of supply to demand and reduce national and regional price volatility. These measures are beneficial in their own right to improve the stability and flexibility of the UK housing market and wider economy, but will also increase the housing market's compatibility with the euro area, encouraging greater convergence over time.

- This means implementing quickly and decisively past reforms to housing supply and going further to address both supply and demand in the housing market and macroeconomic stabilisation more generally:

  - on the supply side, the Government is requiring new Regional Spatial Strategies to take account of volatility in the housing market and promote macroeconomic stability as part of delivering sustainable development; tough and credible measures, including intervention, where local authorities are not delivering housing numbers in high demand areas; and exploring whether, in the medium term, achieving the Government's objectives will require a system of binding local plans. The Government has also commissioned a review of issues affecting the elasticity of supply in the UK, in particular to look at the role of competition, capacity and the financing of the house building industry and possible fiscal instruments, and the interaction of these with the planning system and sustainable development objectives;

  - on the demand side, through a review of the UK mortgage market to establish why the share of fixed rate mortgages is so low in the UK compared to many other EU countries and to identify ways of encouraging the market for longer-term fixed rate mortgages; and
EXECUTIVE SUMMARY

• at the macroeconomic level, given that housing is identified as a significant risk factor to the achievement of sustainable and durable convergence and, in the context of the Treasury discussion paper *Fiscal stabilisation and EMU*, to consider what additional reforms and measures might help deliver wider stability in the economy, including with reference to the housing market, to create the right conditions for convergence within EMU. The Government’s announcement of its intention in the next Pre-Budget Report to give the Bank of England a symmetric inflation target as measured by the Harmonised Index of Consumer Prices will help ensure inflation expectations in the UK remain in line with those of the euro area.

Proposals for enhancing stabilisation: fiscal stabilisation

• The degree of fiscal stabilisation may need to increase inside EMU where the absence of a UK-specific monetary policy may cause the degree of macroeconomic volatility to increase. The Treasury discussion paper *Fiscal stabilisation and EMU* 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 reforms to the institutional framework that EMU membership would require 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 and specific fiscal instruments that could be used for stabilisation purposes. The Treasury will conduct further analysis into these issues to ensure that the policy proposals deliver effective counter-cyclical stabilisation of the economy were the UK to join EMU.

UK flexibility: reform of markets

• Flexibility, the ability to respond to economic change efficiently and quickly in a way that maintains high employment, low inflation and unemployment, and continued growth in real incomes, ensures convergence is durable. Sufficient flexibility ensures shocks do not have long-lasting effects and that high levels of output and employment are maintained.

• In the labour market, the Government is continually working to enhance flexibility and is going further through a package of measures designed to increase wage flexibility in the public sector, improve skills, particularly at the basic and intermediate level, give greater local discretion in the delivery of employment policies and increase labour supply by helping more people to move from welfare to work and increasing cyclical economic migration.

• In the product market, the Government has announced the full independence of the UK competition authorities and is going further to enhance competition in specific markets, reform the planning system to make it work more efficiently and introduce a package of deregulatory reforms to ease the burden of regulation on small business.

• In the capital market, the Government will increase flexibility through reforms to improve access to finance for small enterprises with high growth potential and consultation on further reform to the corporation tax system.
In Europe there is increasingly a shared commitment to economic stability combined with wide-ranging economic reform designed to achieve full employment, high living standards and social cohesion. With more than half the UK’s trade with the EU and increasing integration of product, labour and capital markets, the UK’s economic interest is best pursued through a deepening cooperation with other European countries as part of the Government’s commitment to a strong EU and a successful EMU.

In its May 2003 review of monetary policy strategy, the ECB restated that: “Price stability is defined as a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area of below 2%. Price stability is to be maintained over the medium term”. The ECB review went on to state that: “At the same time, the Governing Council agreed that in the pursuit of price stability it will aim to maintain inflation rates close to 2% over the medium term”. At the present time, the potential for uncertainty that the ECB’s inflation objective creates could produce deflationary risks in certain countries, although the fact that, to date, euro area inflation has averaged 2 per cent suggests that in practice this risk has not materialised.

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.

All European countries have embarked on an ambitious programme to reform labour, product and capital markets and the Government supports policies to strengthen competition in the EU and the Single Market. However, it is important to make more progress at the European level, in particular on employment flexibility, trade and the Single Market in financial services. The less progress on flexibility that is achieved in the EU, the greater the premium on a high level of flexibility in the UK economy.

Many of the issues being considered in the European Convention could have far-reaching consequences for the future performance of EU economies, whether they are part of the euro area or not. The Government will continue to work with other European countries to ensure outcomes that will bolster stability and enhance the ability of European economies to raise productivity and employment levels. It will oppose proposals that would lead to unnecessary rigidities.

Although ECOFIN remains the decision-making body for the EU in economic and financial policy, in EMU the UK would be a member of and attend all – and not some – meetings of the Eurogroup, thereby participating fully in euro area decision making.
This introduction serves two purposes:

- it is a guide to Government policy on EMU and the five economic tests (listed in Box 1) and sets the scene for the assessment. The EMU study *The five tests framework* provides a much fuller account; and

- it highlights the key analytical themes which form the backbone of the assessment, through a detailed exercise re-evaluating the UK decision in 1997 not to join EMU in 1999 and the important lessons that can be drawn from that decision.

**GOVERNMENT POLICY ON EMU AND THE FIVE ECONOMIC TESTS**

Government policy on EMU was originally set out by the Chancellor of the Exchequer in his statement to Parliament in October 1997 and is updated in the Government statement and decision on EMU membership, based on this assessment of the five economic tests.¹

EMU stands for Economic and Monetary Union. Membership of EMU would mean that the UK would adopt the euro as its currency and UK interest rates would be set by the European Central Bank (ECB), on the basis of economic conditions in the euro area as a whole. The Government’s decision on EMU membership reflects what it believes is best for the long-term economic interests of the British people and the performance of the UK economy.

**Box 1: The five economic tests**

- Are business cycles and economic structures compatible so that we and others could live comfortably with euro interest rates on a permanent basis?
- If problems emerge is there sufficient flexibility to deal with them?
- Would joining EMU create better conditions for firms making long-term decisions to invest in Britain?
- What impact would entry into EMU have on the competitive position of the UK’s financial services industry, particularly the City’s wholesale markets?
- In summary, will joining EMU promote higher growth, stability and a lasting increase in jobs?

When in 1997 the Government committed the UK to the principle of joining the single currency, the Chancellor stated that Government policy towards EMU is founded on four key building blocks:

- first, a successful single currency within a single European market would in principle be of benefit to Europe and to the UK: in terms of trade, transparency of costs and currency stability;

- second, the constitutional issue is a factor in the UK’s decision but it is not an overriding one, so long as membership is in the national interest, the case is clear and unambiguous and there is popular consent;

- third, the basis for the decision as to whether there is a clear and unambiguous economic case for membership is the Treasury’s comprehensive and rigorous assessment of the five economic tests; and

¹ All available on the HM Treasury website at www.hm-treasury.gov.uk.
fourth, whenever the decision to enter is taken by the Government, it should be put to a referendum of the British people.

EMU in a global setting

EMU’s development and the Government’s policy towards it reflect global trends which are shaping economic policy worldwide. Globalisation is moving the world towards greater integration through increased trade and investment. More and more countries are joining the international trading system, adopting World Trade Organisation free trade principles and looking to secure the benefits of trade free from legal, regulatory and economic obstacles. At the same time, global investment flows have increased significantly in the last 50 years, and particularly in the last decade.

6 Economic theory and evidence show conclusively that increases in trade and investment encourage competition and raise incomes and welfare. This is why the Government strongly supports economic integration at the global, regional and national level through its strong and constructive commitment to the EU.

7 The stronger integration brought by globalisation also brings added uncertainty. Changes in economic circumstances (shocks) in one sector, region or country are now transmitted more rapidly around the world economic system. This puts increased demands on the world’s economies and the people and technologies which are the foundation of their success. To be successful in achieving high growth, employment and social inclusion, everyone who plays a role in the economy has to be adaptable both to shorter-term developments and longer-term change.

8 A world characterised by constant economic change and increasing uncertainty would not be good for growth, investment and jobs without the additional safeguard of stability. Stability anchors expectations and allows individuals and companies to plan ahead with confidence. Across the global economic system, there is a growing commitment to policies designed to deliver stability, and increasing evidence and recognition that this is best achieved through frameworks based on clear principles and objectives.

9 This is particularly the case across Europe, where there is increasingly a shared commitment to economic stability combined with wide-ranging economic reform designed to achieve full employment, high living standards and social cohesion. With more than half the UK’s trade with the EU and increasing integration of product, labour and capital markets, the UK’s economic interest is best pursued through a deepening cooperation with other European countries as part of the Government’s commitment to a strong EU and a successful EMU. As the Prime Minister said in November 2002:

“We should have more self-confidence because we are a leading European power, always have been and always will be.”

The UK in Europe

10 These global and European trends are mirrored in the Government’s central economic objective for the UK to build a stronger, more enterprising economy and a fairer society, extending economic opportunity and supporting those most in need to ensure that rising national prosperity is shared by all.

The Government’s objectives…

11 Stability, productivity and employment opportunity are the foundations of the Government’s economic strategy. Since 1997, the Government has taken tough decisions and introduced wide-ranging reforms to establish a platform of economic stability and to promote work and enterprise, tackle poverty and deliver sustained investment to modernise public services. The Government’s decision on UK membership of the single currency must contribute to these objectives and this strategy.

1 ‘A clear course for Europe’, speech by the Prime Minister, 28 November 2002.
The implications of EMU

The key implications of a decision to join EMU are set out in Box 2. EMU membership would mean significant changes to the operation of UK macroeconomic policy. The exchange rate between sterling and the euro would be fixed irrevocably and the euro would become the UK’s national currency. The UK would be subject to the single interest rate set by the ECB for the euro area as a whole. And the UK would be required to comply fully with the terms of the EU’s Stability and Growth Pact (SGP).

Box 2: The implications of EMU

The 12 Member States of the European Union* which have joined EMU have replaced their national currencies with the euro. The key implications for the countries of the euro area are:

- nominal exchange rates between these countries are fixed irrevocably at the entry rate;
- there is a single official short-term interest rate which is set for the euro area as a whole by the ECB; and
- fiscal policy remains the responsibility of Member States subject to the requirement to avoid excessive deficits and comply fully with the terms of the SGP.

If the UK were to join EMU then the key implications would be:

- sterling would be replaced by the euro as the UK’s national currency. The UK would no longer have a floating nominal exchange rate with other members of the euro area. The level of the euro would determine the UK’s exchange rate with non-euro area countries, which would continue to move;
- official short-term interest rates would be the same in the UK as in the euro area and set by the ECB; and
- the UK Government and Parliament would remain responsible for fiscal policy, subject to the full terms of the SGP for EMU members.

Adoption of the euro as the UK’s national currency would therefore entail important economic and institutional changes, both in terms of the frameworks for the operation of monetary and fiscal policy and the coordination of economic policies more generally. This is discussed in detail in the EMU study *Policy frameworks in the UK and EMU*.

It is also important to emphasise that EMU is not static. Sweden will have a referendum on membership in September 2003 and the imminent enlargement of the EU will increase by ten the number of prospective members of EMU.

The E in EMU

EMU stands for Economic and Monetary Union. Many of the potential benefits associated with a common currency depend on well-functioning and integrated product, labour and capital markets. The EU Single Market Programme has been a key driver towards delivering a more dynamic and open Europe and is further advanced by the ten-year European Economic Reform strategy launched at the Lisbon European Council in 2000.*

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* The current 12 members of the euro area are: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain. Eleven members joined on 1 January 1999 while Greece joined on 1 January 2001.

The development of the UK economy since 1997 following the introduction of the Government’s monetary and fiscal policy frameworks shows how stability has provided a foundation for a long-term improvement in the UK’s economic performance. The economy has grown steadily with low and stable inflation and rising levels of employment. This demonstrates why the Government’s decision on EMU membership focuses on what is right for the UK economy in the long term. A long-term approach is necessary because of the distinctive nature of the UK economy – a large economy in the EU with a global outlook – and the stop-go nature of the UK’s economic history. The EC Treaty convergence criteria, which were the basis for the decisions on membership of other EU Member States, are not a sufficient basis for assessing the case for UK entry. The EC Treaty convergence criteria are a key input into the process at the EU level whereby the Council decides whether countries have met the ‘necessary conditions’ to join EMU and are embodied in the assessment of cyclical convergence, as part of the convergence test.

The Government’s five economic tests for UK membership of EMU cover convergence, flexibility, investment, financial services, and growth, stability and employment.

The five economic tests define whether a clear and unambiguous case for UK membership of EMU can be made. This sets a demanding standard, reflecting the long-term importance of the decision. The Government believes that to aim lower would fail to take full account of the particular nature and policy history of the UK economy, the irreversible nature of the decision and the constitutional issues which it raises. As the Chancellor said in his 2002 Mansion House speech:

“The case for the five economic tests is not just that we must avoid the economic policy mistakes of the past but, when the decision is not just momentous but irreversible, affecting every industry and all people, that the national economic interest – full employment, high and sustainable levels of investment and growth, long term prosperity – is, and should be seen to be, the decisive factor.”

To ensure that the assessment can support a decision of this importance, the Chancellor also said in this speech that: “the assessment will be the most robust, rigorous and comprehensive work the Treasury has ever done”. To this end, extensive use has been made of the latest analytical modelling techniques and approaches and the latest economic literature, which has been influential in shaping the Treasury’s analysis of the key issues. Annex A describes the use of economic models in the assessment. A major development since the 1997 assessment is that it is now possible to examine and analyse the experiences of the countries which have adopted the euro since 1999, enhancing the evidence base and the understanding of the operation of EMU.

The assessment of the five economic tests is the work of the Treasury. 18 EMU studies are published alongside the assessment and inform it. Experts from outside the Treasury have produced four of the studies, developing new work in key areas. Other outside experts have assisted the Treasury, in a consultancy capacity, on the studies and provided new insights on previous academic work, as collected together in the EMU study Submissions on EMU from leading academics. Annex B lists those outside experts who have assisted in various ways with the preliminary and technical work.

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2 Mansion House Speech by the Chancellor of the Exchequer, 26 June 2002.
The economic theory underlying the five tests was originated by Professor Robert Mundell, one of the contributors to the EMU study *Submissions on EMU from leading academics*. The basic insight of the theory is that membership of EMU brings potential costs and benefits, or ‘pros and cons’ as Professor David Currie described them in his 1997 publication for HM Treasury.5

19 These costs and benefits reflect the broader drivers of global economic change:

- the costs relate to the loss of monetary policy as a domestic instrument to achieve stability and the loss of the potential adjustment mechanism of the nominal exchange rate to help maintain stability. The means of minimising these costs is through convergence in economic performance – so that interest rates set for the single currency area as a whole are appropriate for individual members – and through having the flexibility to adjust to divergence and to change. These issues are addressed by the convergence and flexibility tests; and

- the gains come from the benefits of increased integration, enhancing competition, productivity and growth. The means of maximising these gains is through having a monetary union that covers as large an area as possible, made up of countries which are already close economic partners and which have joined on a sustainable basis. These issues are addressed in the investment, financial services and growth, stability and employment tests. To the extent that the nominal exchange rate can generate instability, then joining EMU would be of benefit, an issue addressed in the convergence test.

20 The convergence test asks: *Are business cycles and economic structures compatible so that we and others could live comfortably with euro interest rates on a permanent basis?* The test goes to the heart of what EMU entails. For a single interest rate to be suitable across the whole single currency area, it requires the regions and countries of the area to have economies which are compatible in terms of how they evolve and develop.

21 The structures which make up the different sectors and parts of an economy are always evolving and changing, as economies are hit by shocks and their effects. The convergence test assesses the likelihood that the UK and the euro area will be prone to different shocks or to different responses to common shocks.

22 Shocks can benefit the economy. For example, discoveries of primary products such as oil or sudden advances in technology can improve productive efficiency. Other shocks can have less benign effects, such as a sudden shift in consumer demand away from the output of an industry or a fall in equity markets which reduces demand through its effect on wealth. Any changes in circumstances, particularly if negative, require rapid changes to reallocate resources and maintain high and stable levels of growth and employment across the economy.

23 Economic policies can be a source of shocks, either for the good if they stabilise the economy or improve its performance, or for the bad if they reduce stability or worsen economic performance.

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5 The pros and cons of EMU, publication for HM Treasury by Professor David Currie, July 1997.
As the Chancellor stressed in his October 1997 statement, convergence must be achieved: “which is sustainable and settled rather than transitory”. This means that convergence has to be shown:

- to be settled on the basis of an analysis of past history and current conditions, not just at a point in time; and
- to be sustainable to ensure the economy can withstand changes or developments which, while uncertain, will inevitably occur in the future.

The flexibility test asks: If problems emerge is there sufficient flexibility to deal with them? Flexibility is about the resilience of the economy; its ability to respond to change quickly and at the minimum cost in terms of disruption. So the level of flexibility determines the durability of convergence.

Crucially, flexibility focuses on the remaining adjustment mechanisms which exist to deal with any problems that emerge from changing circumstances caused by shocks or the responses to them.6

In practice there are many different ways that workers and firms can adjust to economic change. For the worker, adjustment may require having to accept a lower wage increase, moving into a different job in the same firm or even changing employer. For firms, adjustment may involve adjusting prices or changing a product line in response to changing market conditions. Flexibility is all about minimising the costs of adjustment.

All of these facets of flexibility are being demonstrated all of the time, in response to change in the economy. But because of the loss of the domestic interest rate and of nominal exchange rate flexibility with the euro area, as a consequence of EMU membership, it becomes even more important to be able to adapt to changing economic circumstances in EMU.

The convergence and flexibility tests are practical tests to inform the decision on EMU membership:

- the convergence test requires structures and cycles between the UK and the euro area to be compatible; and
- the flexibility test asks whether there is sufficient flexibility to cope with problems resulting from changes in economic circumstances.

It is therefore important to analyse existing monetary unions to gauge the extent of compatibility and sufficiency that is needed. Economic cycles and structures within a monetary union will never be perfectly compatible, as the long histories of the United States (US) and UK show, and as the emerging evidence from the euro area demonstrates. But as the evidence also indicates, and as now recognised throughout the EU, to make a sustained success of EMU requires a high degree of flexibility.

Together the assessment of the convergence and flexibility tests determines whether sustainable and durable convergence has been achieved. The 1997 assessment7 concluded that:

“…we need to demonstrate sustainable and durable convergence before we can be sure that British membership of EMU would be good for growth and jobs. Joining before such convergence is secured would risk harming both.”

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6 See ‘The Road to Full Employment: Economic Reforms for a More Flexible and Dynamic Britain and Europe’, speech by the Chancellor of the Exchequer to the Centre for European Reform, 10 March 2003.

7 UK membership of the single currency: an assessment of the five economic tests, HM Treasury, October 1997.
Sustainable and durable convergence is the key precondition for successful UK membership of EMU, to ensure that the potentially significant gains from further integration can be realised.

If US states (or UK regions or countries) had separate currencies, overall incomes and output would be lower. Even in a world of increasingly free trade between countries, separate currencies remain a barrier. The euro removes this barrier across an economic area the size of the US and complements the EU Single Market Programme aimed at eliminating the remaining barriers to trade in goods, services and capital. If macroeconomic stability is safeguarded, membership of EMU should:

- stimulate investment through limiting uncertainty, reducing the cost of capital and encouraging cross-border investment;
- boost UK financial services activity; and
- stimulate trade which, with higher cross-border investment, should enhance competition and increase productivity and output.

The investment test asks: Would joining EMU create better conditions for firms making long-term decisions to invest in Britain? Economic theory and empirical evidence both show that investment in capital is a key driver of productivity, growth and overall economic performance. As a result of decades of under-investment, the UK is significantly less capital-intensive than its major competitors, contributing to the productivity gap with them.

The Government's strategy for closing the productivity gap has two broad strands: ensuring and safeguarding macroeconomic stability to help businesses and individuals plan for the future; and implementing microeconomic reforms to remove the barriers that prevent markets from functioning efficiently. These microeconomic reforms include encouraging investment to improve the UK's stock of physical capital in every sector and industry.

It is important that the EMU decision contributes to the Government's strategy for encouraging investment. The investment test considers the potential impact of EMU on total business investment, including foreign direct investment (FDI) into the UK. FDI plays an important role in the UK economy and could be particularly affected by the EMU decision.

The financial services test asks: What impact would entry into EMU have on the competitive position of the UK's financial services industry, particularly the City's wholesale markets? The UK has a significant comparative advantage in wholesale financial services and, on most measures, the City is by some distance the pre-eminent financial centre in Europe.

A number of factors make the UK an attractive place for the financial services industry to locate, such as a favourable tax and regulatory environment, a large pool of skilled labour and large and liquid capital markets. Given the importance of the financial services sector to the UK, both in terms of employment and invisible earnings, it is vital that the decision on whether to join the single currency enhances the sector's competitiveness.

Reflecting the dynamic nature of the financial services sector, the assessment includes a detailed analysis of the changes which have occurred in the sector since the advent of the euro in 1999.

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1 The 1997 assessment said: "Sustainable and durable convergence is the touchstone and without it we cannot reap the benefits of a successful EMU."
Introduction

**Growth, stability and employment test**

40 The growth, stability and employment test asks: *In summary, will joining EMU promote higher growth, stability and a lasting increase in jobs?* This test considers the critical overall question of whether joining EMU would enhance the prospect of meeting the Government's central economic objective of high and stable levels of growth and employment delivered from a platform of long-term economic stability.

41 Growth, stability and employment are of central importance to the living standards of everyone in the UK. High levels of economic growth foster greater innovation and increase wealth. High levels of employment mean that more of the population is able to share in this wealth. High levels of stability mean that the economy is no longer subject to damaging fluctuations that create uncertainty and hinder long-term planning.

42 The growth, stability and employment test examines the potential impact of EMU on UK trade, competition, productivity and growth. It examines how EMU would affect UK employment both in the short and long term. It also considers how the EMU macroeconomic framework would affect UK economic stability.

**Costs and benefits**

43 It is important that the decision on whether to join EMU focuses on both the potential costs and benefits of joining at the present time. The potential benefits of membership have to be considered alongside an assessment of whether there is sustainable and durable convergence to enable the potential benefits to be secured.

44 The Treasury’s 1997 assessment concluded that the UK was not convergent with the prospective euro area, that flexibility was insufficient and that the lack of sustainable and durable convergence meant that the risks of membership were such that the UK would not be in a position for some time to reap the potential benefits of EMU in terms of higher investment, growth and jobs.

**Lessons from the past and key themes for the assessment**

45 To highlight the key themes which form the analytical backbone of the assessment, a stylised exercise has been conducted re-evaluating the 1997 assessment conclusions and EMU decision by considering ‘what if’ the UK economy had joined EMU in 1999, at the same time as the 11 ‘first wave’ members (see Box 3).

**Box 3: Modelling ‘what if’ the UK had joined EMU in 1999**

The results of this type of modelling exercise require careful interpretation and, as with all ‘what if’ exercises, should be regarded as indicative rather than exact. Over and above the usual uncertainties, and in the context of the lessons drawn, they do not allow for any offsetting policy action from fiscal policy, nor do they reflect an explicit judgement on the sustainable exchange rate, except to the extent that one is embodied in the adopted forecast baseline. Nor can modelling incorporate the potential benefits from increased trade, competition and employment.
Chart 1 illustrates the paths of six key economic and policy variables over the period from 1998 to 2006. Each panel plots two lines; the lighter one shows the actual and projected path of economic and policy variables outside EMU, while the darker line plots the possible evolution of these variables if the UK had joined EMU in 1999 on the terms assumed.9

Some commentators have suggested that joining EMU in 1999 would have had only limited, and transitory, adverse effects on UK output, inflation and employment. The results of this exercise and the lessons they provide demonstrate that such a view seriously underestimates the important economic issues raised by EMU membership in 1997 and again today. On the assumptions used in the stylised model, reducing UK interest rates by nearly 4 percentage points to euro area levels and fixing the nominal exchange rate at the 1.46 €/£ prevailing on 1 January 1999 would have destabilised UK demand and the wider economy. There would have been significant risks in the short term which could well have persisted into the medium to long term.

In the short to medium term, the five years up to the end of 2002, the main effects implied by this exercise are:

- output growth could potentially have been over 2 percentage points higher during 2000, at 5 1/2 per cent, particularly benefiting the traded goods and manufacturing sectors. But this would have been followed by growth which was 1 1/2 percentage points lower at the end of 2002 (2 1/4 per cent compared to 2 3/4 per cent) and which remained significantly lower into the medium term;

- inflation would have been predicted to increase, reaching 4 1/2 per cent at the end of 2000. Perhaps more realistically, capacity constraints would have prevented growth from rising to the extent shown or the feed-through from consumption to inflation would have been greater. In this case, inflation would have risen by even more, requiring a larger fall in output with the risk of tipping the economy into recession;

- the rise in inflation would have implied much lower real interest rates than outside EMU, with real interest rates actually turning negative during 2001. This would have provided a further stimulus to the economy at a time when it was already growing strongly and actually requiring higher real interest rates to tighten monetary conditions; and

- with a fixed nominal exchange rate, the real exchange rate – the competitiveness of the economy – would have appreciated more slowly than it actually did.10 This would have closed off much of the potential dampening effect of the exchange rate appreciation on inflation which actually occurred. Although if inflation had picked up more sharply than predicted by the model, the rate of adjustment would have been quicker.

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9 For the purposes of this modelling exercise, it is assumed that the UK announced on 1 May 1998 that it would join EMU in the first wave at the prevailing exchange rate on 1 January 1999 (1.46 €/£) and with interest rates as set by the ECB (with allowance made for how UK membership might have affected the ECB’s actions through the assumed impact on euro area inflation). This exercise has been conducted on the National Institute for Economic and Social Research’s NiGEM model, described in Annex A and in more detail in the EMU study Modelling the transition to EMU.

10 The real exchange rate is the nominal exchange rate adjusted for differences in inflation rates at home and abroad. If trade prices are used to convert nominal rates, then the real exchange rate is equivalent to a measure of international or bilateral competitiveness. A rise in inflation at home relative to abroad equates to an appreciation in the real exchange rate which translates into a loss of competitiveness.
**Chart I: What if the UK had joined EMU in 1999: paths of key variables in and out of EMU**

(a) UK real output growth

(b) UK RPIX inflation

(c) UK short-term nominal interest rate

(d) UK real interest rate

(e) Sterling-euro nominal exchange rate

(f) Sterling-euro real exchange rate

Source: EMU study: Modelling the transition to EMU.
These effects would not have been short-lived and would have continued to have a real impact on growth and jobs in the economy over the longer-term horizon:

- output growth would have continued to fluctuate and only have begun to stabilise a decade after the decision to join (by 2007 in this exercise), with ongoing implications for stability and jobs;
- inflation would still be fluctuating to stabilise the economy, compensating for the absence of other adjustment mechanisms;
- real interest rates would remain more cyclical, staying negative until mid 2003; and
- given the movements in real interest rates, competitiveness – as measured by the real exchange rate – would have to take on more of the adjustment burden, appreciating over the medium term to help curb demand and so squeezing profitability and employment in the traded goods and manufacturing sectors in the long term.

As noted, this modelling exercise cannot incorporate the potential benefits from increased trade, competition or employment resulting from EMU membership.

Results such as these can seem abstract and unconnected to the real world. But it is very important that the real world consequences are understood. If the UK had joined EMU in 1999, it would not have remained on a path of stability. Instead, it would have repeated the economic policy mistakes of the past and suffered as a result. Instability would have damaged output and job prospects – possibly on a permanent basis – if, for example, long-term unemployment had risen sharply; an example of what is termed hysteresis or path dependency.

The results of this stylised simulation can be contrasted with the actual experience of the UK economy since the 1997 assessment. Over the past five and a half years, UK GDP growth has been close to its potential rate, inflation has been close to target and unemployment has fallen substantially. These favourable outcomes have been achieved with UK interest rates remaining consistently higher than those in the euro area and the sterling-euro exchange rate having strengthened significantly from its 1997 level.

The comparison of the ‘what if’ findings with the actual path of the UK economy confirms the conclusion of the 1997 assessment that sustainable and durable convergence had not been achieved. As a result of the decision taken then, the UK economy is now in a position of strength from which to assess the five economic tests again.

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11 If the UK had joined EMU in 1999, it would have made the operation of EMU more difficult; in particular, the task of the ECB in setting monetary policy via a single interest rate for the euro area as a whole.
As well as validating the 1997 assessment conclusions, this exercise establishes several key general lessons for this assessment of the five economic tests:

- **one-off economic events can have long-lasting economic consequences.** As already emphasised, shocks from outside the economy or the transition effects of a decision to join EMU in the wrong way or at the wrong time can have a long-lasting and potentially permanent adverse effect on the economy;

- **adjustment in EMU is different.** EMU membership puts particular demands on the economy. Inside EMU, inflation and competitiveness have to take the strain of adjustment previously undertaken outside EMU by an independent monetary policy and the nominal sterling-euro exchange rate, especially as real interest rate movements can be destabilising inside EMU. These adjustment issues have to be resolved to minimise the impact on output and employment and ensure the economy can move onto the higher potential output path which is the prize of successful EMU membership;

- **flexibility is crucial.** A greater degree of market flexibility allows a faster reallocation of resources to contain and limit the costs of adjustment. Wage and price flexibility is particularly important, but functional flexibility through skills, geographic flexibility through employment mobility and risk sharing through capital markets all play a valuable role. In principle, with perfect flexibility, there would be no adverse effects on jobs and output either in the transition to EMU membership or in the longer term inside EMU. In practice, the degree of flexibility was not sufficient in 1997 and the crucial lesson is that it needs to be high to make a sustained success of EMU membership for the UK;

- **EMU would have distributional consequences.** Joining EMU or maintaining the current position outside EMU would have different distributional consequences. If the UK had joined in 1999, exporters to the euro area would have benefited from nominal exchange rate stability with the euro area in the short term. But they and everyone else in the economy – homeowners, savers and investors – would have had to contend with greater economic instability which would have prevented the potential benefits of membership from being realised in the medium term;

- **whatever the decision on membership, there are policy implications.** For example, encouraging more effective microeconomic market adjustment mechanisms to develop and the potential for an enhanced role for fiscal policy in adjustment at the macroeconomic level. These would serve as additional insurance against the risks inherent in EMU. Since 1997, the Government has undertaken an extensive programme of policy reforms to secure economic stability and increase productivity and employment. Budget 2003 set out the Government’s policy reform agenda. A further wide-ranging macroeconomic and microeconomic policy agenda which is in the long-term economic interest of the UK economy is described in the assessment;
• EMU now means a real choice between policy frameworks. In 1997, the new UK macroeconomic framework was only just being established and the EMU framework had not been set up, so this was not a practical issue. Now that the UK has established a track record for delivering macroeconomic stability and sound public finances on the basis of a framework which has symmetry at its heart, the choice between the two potential routes to stability open to the UK economy is important;

• the past may not be a good guide to the future. These findings are open to the criticism that they are not forward looking. Hence the importance of examining the performance of the euro area in practice and also the experience and operation of long-standing monetary unions such as the US and UK to evaluate how EMU might develop. A particular issue highlighted by many is the possibility of convergence after entry or endogenous convergence. This contrasts with convergence prior to entry;12

• uncertainties must be factored in. The requirement that the case for UK membership must be clear and unambiguous means that uncertainties such as those relating to the sustainable level of the sterling-euro exchange rate must be fully analysed and their implications understood and factored into the assessment. The degree of uncertainty has a particular bearing on the option of joining at a later date, both to allow for the necessary convergence and to learn more about these uncertainties;

• EMU’s performance matters. While the lessons apply primarily to the UK assessment and decision on EMU, they are also relevant to the countries which have already joined EMU and the different growth and inflation outcomes they have experienced. The emphasis put on the performance of EMU at the time of the 1997 decision still applies; and

• the importance of the potential benefits of EMU. As noted, the ‘what if’ analysis is not designed to capture the potential dynamic benefits of membership of a successful EMU. The experience of EMU to date sheds significant light on these. As Professor Jacques Mélitz stresses in his contribution to the EMU study Submissions on EMU from leading academics: “both the economic benefits and the economic costs of entry [are] higher than they seemed only a while back”.

The right decision for the UK

The assessment draws on these lessons and provides a sound basis for the Government to make the right decision on EMU membership in the UK’s long-term economic interests.

12 Professor Peter Kenen emphasises this distinction in his contribution to the EMU study Submissions on EMU from leading academics.
**Convergence**

Are business cycles and economic structures compatible so that we and others could live comfortably with euro interest rates on a permanent basis?

The assessment of convergence is key to the overall assessment of the five economic tests. It was the most critical test in 1997 and there is strong evidence that the 1997 assessment was right to conclude that settled and sustainable convergence had not been achieved due to the lack of both cyclical and structural convergence.

**Key points:**

- There has been significant progress on cyclical convergence since 1997. But robust growth in consumer spending has continued to provide substantial support to GDP growth in the UK, supported by a buoyant housing market. UK short-term interest rates remain 1¼ percentage points above those in the euro area and have consistently been above euro area rates since 1999. With interest rates higher in the UK and with the sterling-euro exchange rate remaining above sustainable levels throughout this period, inflation, measured on a harmonised basis, has averaged ¾ percentage point less in the UK than in the euro area. Financial markets and the forecasts by international organisations suggest that monetary conditions need to remain tighter in the UK than in the euro area into the medium term. However, the UK now exhibits a greater degree of cyclical convergence than some EMU members demonstrated in the run-up to the start of EMU in 1999 and while some EMU countries still demonstrate substantially more cyclical convergence than the UK, some demonstrate substantially less. The lack of cyclical convergence with the euro area constitutes a risk factor, particularly given the considerable degree of global uncertainty at present.

- On past performance, UK business cycles have been much less compatible with the euro area average than has been the case in other countries such as Germany and France. There is some evidence that compatibility may have increased in recent years, reflecting greater macroeconomic stability in the UK and increased convergence between the business cycles of all the advanced economies. Over the last five years, the UK output gap cycle has been more highly correlated with the German cycle than that in the US, although the UK has fluctuated around a higher growth trend. France, Germany and Italy have experienced output gaps on average close to the euro area aggregate, at an average absolute deviation of between ¼ and ¾ per cent of GDP over the last decade. The average UK deviation is larger at almost 1 per cent of GDP, but not as large as some of the existing euro area countries and not out of line with the sort of regional deviations seen within countries. However, the UK’s history of divergence remains a risk factor.

- Certain structural differences between the UK and the euro area are risk factors for the achievement of settled and sustainable convergence. Differences in the UK and euro area housing markets are high risk, differences in investment linkages and financial structures are low to medium risk and sectoral and trade differences are lower risk. In terms of industrial specialisation the UK is quite similar at the aggregate level to other large EU countries.

- Distinct supply and demand features of the UK housing market mean that both the relationship between house prices and household consumption, and the underlying rate of real house price growth, are stronger in the UK than in the euro area. The structure of the UK mortgage market is such that UK households are more sensitive to interest rates, which has implications for the transmission of monetary policy.

- Analysis of monetary transmission suggests that the UK may be more sensitive to monetary policy through some channels, and less sensitive through others: the pass-through of interest rate changes from official rates to bank lending rates is faster in the UK; the household sector in the UK may react more strongly to interest rate changes than in euro area countries; the UK is potentially more sensitive to monetary policy through its impact on the exchange rate; but there is little to suggest that the corporate sector in the UK will react more strongly than in the euro area. The UK’s relatively low levels of nominal wage rigidity will tend to reduce the impact of monetary policy on output.
The process by which membership of EMU encourages convergence gives grounds for optimism about the future compatibility of UK structures, including housing. However, these effects are only likely to be realised over time and so will not compensate for current short to medium-term cyclical and structural differences between the UK and the euro area economies.

If the UK were to enter EMU now, other things equal, a transitional shock of a 1 1/4 percentage point cut in interest rates (the differential between the UK and the euro area), could have a destabilising effect, working in particular through the UK housing market and consumption. It is too early to judge the paths of growth and inflation resulting from the recent sharp movements in the euro-US dollar and sterling-euro exchange rate. In addition, there are significant future uncertainties in the current economic and political climate, for example, trends in global financial markets, in the US dollar and euro and in the relative growth paths of the UK and the euro area. All these suggest that there are clear risks associated with transition to EMU membership at the present time and emphasise the importance of sustainable and durable convergence and increasing the flexibility of the economy through the measures the Government is setting out.

Alongside settled and sustainable convergence, there needs to be sufficient flexibility to ensure that the economy can respond and adjust quickly to divergences which emerge, minimising the adverse impact on growth, stability and employment. The question of whether convergence and flexibility together provide the necessary degree of sustainable and durable convergence is answered after the assessment of the flexibility test.

The overall conclusion of the convergence test is:

There has been significant progress on convergence since 1997, which marks a break with the UK’s past history of divergence and reflects greater stability of the UK economy and global trends towards integration. Indeed, the UK now exhibits a greater degree of cyclical convergence than some EMU members demonstrated in the run-up to the start of EMU in 1999 and remains more convergent than a number of EMU countries today. The UK meets the EC Treaty convergence criteria for inflation, long-term interest rates and government deficits and debt. But there remain structural differences with the euro area, some of which are significant, such as in the housing market. Because of the risks these factors pose, and the fact that any dynamic changes would take time to come through, we cannot yet be confident that UK business cycles are sufficiently compatible with those of the euro area to allow the UK to live comfortably with euro area interest rates on a permanent basis. Overall, at the present time, while the extent of convergence with the euro area has significantly increased, the convergence test is not met. The Government is committed to building on the platform of stability and has announced a wide-ranging forward-looking policy agenda to deliver high levels of output and employment. This will help to make the economy more convergent with the euro area for the future.

Policy requirements:

In terms of macroeconomic policy, the Government’s announcement of its intention in the next Pre-Budget Report to give the Bank of England a symmetric inflation target as measured by the Harmonised Index of Consumer Prices will improve the quality of the UK inflation target and will also help ensure inflation expectations in the UK remain in line with those of the euro area.

To deliver a more settled platform of stability in the future and a higher degree of convergence, the Government is committed to a comprehensive programme to improve the functioning of the housing market. Building on the reforms to deliver a step change in planning policy, the Government is undertaking further significant changes in the planning system, supply of housing and housing finance to tackle market failures, increase the responsiveness of supply to demand and reduce national and regional price volatility. These measures are beneficial in their own right to improve the stability and flexibility of the UK housing market and wider economy, but will also increase the housing market’s compatibility with the euro area, encouraging greater convergence over time.

This means implementing quickly and decisively past reforms to housing supply and going further to address both supply and demand in the housing market and macroeconomic stabilisation more generally:

on the supply side, the Government is requiring new Regional Spatial Strategies to take account of volatility in the housing market and promote macroeconomic stability as part of delivering
sustainable development; tough and credible measures, including intervention, where local authorities are not delivering housing numbers in high demand areas; and exploring whether, in the medium term, achieving the Government’s objectives will require a system of binding local plans. The Government has also commissioned a review of issues affecting the elasticity of supply in the UK in particular to look at the role of competition, capacity and the financing of the house building industry and possible fiscal instruments, and the interaction of these with the planning system and sustainable development objectives;

- on the demand side, through a review of the UK mortgage market to establish why the share of fixed rate mortgages is so low in the UK compared to many other EU countries and to identify ways of encouraging the market for longer-term fixed rate mortgages; and

- at the macroeconomic level, given that housing is identified as a significant risk factor to the achievement of sustainable and durable convergence and in the context of the Treasury discussion paper Fiscal stabilisation and EMU, to consider what additional reforms and measures might help deliver wider stability in the economy, including with reference to the housing market, to create the right conditions for convergence within EMU. The Government’s announcement of its intention in the next Pre-Budget Report to give the Bank of England a symmetric inflation target as measured by the Harmonised Index of Consumer Prices will help ensure inflation expectations in the UK remain in line with those of the euro area.

### THE IMPORTANCE OF CONVERGENCE

#### The convergence test...

1.1 Membership of Economic and Monetary Union (EMU) entails having a permanently fixed nominal exchange rate with the euro area and a common monetary policy (a single interest rate across all members of the euro area). The convergence test addresses the issue of whether a single interest rate will be suitable for all euro area members over time:

> Are business cycles and economic structures compatible so that we and others could live comfortably with euro interest rates on a permanent basis?

1.2 As the Introduction has highlighted, both the convergence test and the flexibility test are concerned with economic structures which determine the likelihood of economic disturbances or ‘shocks’ and their possible impact, and what this implies for the cyclical behaviour of the economy in terms of output, inflation and other key indicators.

#### ...requires that convergence is settled and sustainable

1.3 Importantly, the convergence test does not require complete convergence at all times. That would be an impossible standard, and one not met in existing and successful monetary unions. But UK and euro area business cycles and economic structures must be compatible. Convergence must be settled and sustainable. It is not enough to have achieved convergence at a particular point in time. There must be a past track record of achieving convergence and a high degree of confidence that this performance will be sustained into the future.

1.4 In 1997, the convergence test was the “most critical” test and it remains very important. Many of the lessons from re-evaluation of the 1997 assessment described in the Introduction are key themes for the assessment of the convergence test.

1.5 The assessment of the convergence and flexibility tests together determines whether sustainable and durable convergence has been achieved. This is the basis for assessing, including as part of the fifth test, whether UK economic stability – one of the central objectives of Government policy, providing the platform for delivering high levels of growth and employment – could be maintained if the UK were to join EMU.

#### Understanding convergence

1.6 Convergence is best understood by its implications for membership of a monetary union, as described in the EMU study The five tests framework:

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1 The Chancellor of the Exchequer’s October 1997 statement to Parliament.
prospective candidates for a monetary union are convergent if they have similar economic structures, so will respond to the same shocks in a similar way, and are unlikely to be hit by a large number of country-specific shocks; and

they are non-convergent if they have different structures which imply differing responses to common shocks, greater vulnerability to asymmetric shocks, or that the monetary policy stance suited to one country or region does not suit the others.

The assessment of the convergence test is structured as follows:

- **Cyclical convergence** answers the question: **Is there more cyclical convergence than in the past?**
  Analysis of the current economic conjuncture in the UK and the euro area provides the evidence base for the assessment of the current state of cyclical convergence, relative to the past, with a particular focus on developments since 1997.

- **Historical convergence** answers the question: **What does past history demonstrate about the extent of convergence?**
  The history of cyclical behaviour and the nature and correlation of shocks in the UK and the euro area (as well as within the US and UK) is analysed, drawing on the EMU studies *Analysis of European and UK business cycles and shocks* by Professor Michael Artis and *The United States as a monetary union* by HM Treasury.

- **Structural convergence** answers the question: **Which differences in structures are important?**
  Economic structures in the UK and the euro area are compared and the implications in terms of shocks and their impact are assessed, with a particular focus on the risks which differences in structures carry for the achievement of settled and sustainable convergence. This section draws on the analysis in the EMU studies *EMU and business sectors, EMU and the monetary transmission mechanism* and *Housing, consumption and EMU*.

- **Endogenous convergence** answers the question: **How strong are endogenous convergence effects likely to be and how rapidly could they occur?**
  Endogenous convergence describes the convergence that may occur as a result of joining EMU. The analysis is forward looking, considering whether membership of a single currency may in itself result in the pattern of shocks and their impact becoming more similar, and lead to greater integration of economic structures. The discussion is informed by the analysis in the EMU studies *EMU and trade, EMU and business sectors* and *The exchange rate and macroeconomic adjustment*.

- **The transition to sustainable convergence and the exchange rate** answers the question: **How important are transitional issues at present?**
  The transition to EMU entry and the sustainability of convergence thereafter are assessed, based on the analysis in the EMU studies *The exchange rate and macroeconomic adjustment* by HM Treasury, *Modelling the transition to EMU* by Dr Peter Westaway and *Estimates of equilibrium exchange rates for sterling against the euro* by Professor Simon Wren-Lewis.
The Conclusions assess all the evidence on different forms of convergence to answer the question: How much convergence is there, and is it sufficient in terms of compatibility of cycles and structures for the convergence test to be met?

This paves the way for the overall assessment of the sustainability and durability of convergence, which depends on – and is therefore presented after – the conclusion to the assessment of the flexibility test.

**CYCLICAL CONVERGENCE**

1.8 This section addresses the question of whether there is more convergence in economic cycles than in the past. A lack of cyclical convergence on entry to EMU would put an even greater premium on a high degree of flexibility, in particular on adjustment in UK wages and prices. As the ‘what if’ analysis in the Introduction demonstrates, this could well be disruptive to the economy depending on the extent of divergence and subsequent adjustment needed. These issues are returned to in the assessment of transition later in this chapter.

1.9 The Budget 2003 forecasts used in the analysis of cyclical convergence and throughout the assessment assume that the UK remains outside EMU. They provide a baseline for assessing the short-term impact that EMU membership could have on the UK economy. Moreover, because the analysis of cyclical convergence is forward looking, there are inherent uncertainties – as with any forecasting exercise – and the implications of these are emphasised. These uncertainties are particularly marked in the current climate of global uncertainty.

1.10 The following key economic indicators are examined, with a particular focus on changes since 1997:

- **official short-term interest rates** – the main monetary policy variable for the monetary authorities in both the UK and the euro area. Differences in short-term interest rates indicate disparities in either inflation targets or perceived inflationary pressures;

- **real short-term interest rates** – the nominal rate of interest adjusted for inflation;

- **GDP growth** – used widely as a basic indicator of cyclical convergence;

- **the output gap** – the difference between actual and potential output. This is a more sophisticated measure of the cycle, providing the most commonly used indicator of how inflationary pressures vary over time. It is an important analytical tool for forward-looking monetary policy;

- **components of GDP** – focusing on consumption. The output gap is an aggregate measure and so may hide imbalances between different sectors of the economy;

- **labour market conditions** – labour market indicators also usefully supplement aggregate indicators of demand pressures in the economy;

- **inflation** – divergences of inflation from target will influence monetary policy decisions. But inflation divergences within EMU may reflect the requirements of adjustment within EMU, as discussed later in this chapter in terms of the transition to sustainable convergence and also in the flexibility test;
- long-term interest rates and inflation expectations – indicate the success and credibility of monetary policy and macroeconomic policy more generally; and
- the exchange rate – a further important indicator of the current state of the economy.

1.11 Another perspective on cyclical convergence is provided by Treasury calculations using a ‘Taylor rule’; a commonly used technique for assessing the extent of cyclical convergence, but one which – as with any other single indicator – has limitations and gives only a partial picture. It combines inflation and output gap indicators into a composite measure – an approximate estimate of the appropriate interest rate for a country given prevailing economic conditions.

1.12 The EC Treaty’s convergence criteria are also examined to enable as complete a picture of the current state of cyclical convergence to be built up as possible.

Cyclical convergence: key current indicators

Interest rates 1.13 The differential between UK and euro area short-term interest rates has narrowed substantially since the October 1997 assessment. Official base rates in May 2003 were 3¾ per cent in the UK and 2½ per cent in the euro area, a difference of 1¼ percentage points (Chart 1.1). This is much lower than the differential of almost 4 percentage points between UK and German short-term interest rates prevailing at the time of the 1997 assessment. Information from financial markets implies that, consistent with outside economic forecasts, the differential will be sustained at just over 1 percentage point over the next two years. This points to a structural difference in UK and euro area monetary conditions, reflecting underlying differences which are revisited and analysed throughout the assessment of the convergence test.
1.14 Chart 1.1 also shows the differential between UK and euro area real short-term interest rates. There has been a high degree of convergence since early 2000, consistent with the achievement of price stability in the UK by the Bank of England’s Monetary Policy Committee (MPC) and in the euro area by the ECB. Real interest rate differentials are expected to remain at around 1 percentage point over the next two years.

GDP growth 1.15 GDP growth is a simple measure of the business cycle. Chart 1.2 shows the Treasury’s Budget 2003 GDP growth forecasts. UK growth is expected to exceed growth in the euro area as a whole in 2003, 2004 and 2005. As shown in Chart 1.4, UK growth is also expected to exceed that in Germany, France and Italy. The difference between the UK and euro area GDP growth rates in 2003 and 2004 is forecast to be around 1 percentage point, similar to the growth differential seen in 2002 and during the mid 1990s. The uncertainties surrounding these projections are particularly acute at the present time because of the high degree of global uncertainty, manifesting itself in a range of upside and downside risks to the forecasts.

The output gap 1.16 Growth rate comparisons do not distinguish between movements in output caused by short-term factors and movements in output caused by changes in the long-term productive potential of the economy. Shocks may lead to a gap opening up between the actual output of the economy and the long-run level of potential output: the output gap.\(^2\) From a monetary policy perspective, the output gap is a more relevant measure of inflationary pressure in the economy than the rate of GDP growth alone. It is also more relevant to the analysis of cyclical convergence.

\(^2\) The rationale for particular emphasis on the output gap is set out in the EMU study *The five tests framework*. 
1.17 Chart 1.3 indicates that the difference between the UK and the euro area output gap has narrowed since 1997. Both UK and euro area output was below trend in 2002 as growth slowed, significantly so in the euro area. A further year of below trend growth is forecast in both the UK and the euro area for 2003, causing both output gaps to widen. Within the euro area aggregate there are some differences; for example, Germany’s output gap is slightly more negative than that of the euro area as a whole. Above-trend growth in the UK and the euro area in 2004, as forecast in Budget 2003, would imply the negative output gaps narrowing to around 1 per cent in each case. Both output gaps are forecast to close in the medium term, in line with the general forecasting convention of economies returning to trend. However, as noted above, the uncertainties surrounding these projections imply large risks to the forecasts, particularly as far out as 2006.

1.18 The view that output gaps are expected to diminish and converge implies nothing about the appropriateness, or otherwise, of the level of trend output at which the output gap is eliminated. Greater structural rigidities in some countries mean that a zero output gap is associated with higher unemployment than in the UK. These issues are discussed further in the flexibility test. At the same time, it is not the case that levels of trend output must converge in a monetary union, because they are largely independent from the monetary policy stance.

![Chart 1.3: Output gaps](image)

Note: The UK economy was on trend in mid 1999, the output gap averaging 0.1% per cent for the calendar year.

1.19 GDP growth and the output gap are aggregate measures. The sectoral composition of output growth could potentially be very different across countries. Some sectoral differences may be desirable, acting as a valuable mechanism for sharing risk across sectors or countries, as discussed in the assessment of the flexibility test. But larger differences will increase the probability of a single monetary policy being inappropriate for some members of the monetary union, imposing a greater potential cost.
The main factor behind stronger growth in the UK economy relative to the euro area in 2001 and 2002 was the resilience of UK consumption. Against the background of underlying global weakness, affecting prospects for investment and trade, robust growth in consumer spending continued to provide support to UK GDP growth. As Chart 1.4 illustrates, this trend is forecast to continue in 2003, though to a lesser extent, as growth in the UK becomes more balanced. UK GDP growth is forecast to exceed euro area growth in 2003 and 2004.

The buoyancy of the UK housing market is key to explaining strong consumption growth in the UK. The influence of housing market structures on consumption in the UK and the euro area, and the implications for convergence, are considered further in the assessment of structural convergence and also in detail in the EMU study *Housing, consumption and EMU.*

Although sharp falls in the global stock market since 2000 have adversely affected UK households’ net financial wealth, house prices in the UK have continued to rise strongly and are currently well above their long-run average relative to earnings. Sharp house price increases may to some extent be a consequence of investors switching from equities into housing assets in search of higher returns, but house prices have also been supported by other fundamentals, including a marked rise in the employment rate and historically low interest rates. Strong house price growth has increased homeowners’ housing equity, which they have accessed through the mortgage market to help support consumption.
Labour market conditions 1.23 Labour market conditions provide additional information on an economy’s cyclical position. But for the purpose of assessing convergence it is important to focus on the right indicators. Much is made of differences in overall unemployment rates between the UK and the euro area, but the focus should be on the unemployment gap – the difference between actual unemployment and the sustainable rate of unemployment or NAIRU\(^3\) – as an indicator of the degree of spare capacity in the labour market and thus inflationary pressure. Latest data suggest that UK unemployment is close to OECD estimates of the NAIRU, and the same is true for the euro area. Other things being equal, this implies increases in labour demand are likely to generate similar wage pressures in the UK and the euro area.

Inflation 1.24 As measured by the Harmonised Index of Consumer Prices (HICP), inflation was 0.6 percentage points lower in the UK than in the euro area in April 2003 (see Chart 1.5). A key reason for the divergence in UK and euro area inflation rates since late 1999 has been the relative weakness of the euro against both sterling and the US dollar, which has kept import prices low in the UK and pushed them up in the euro area.

Inflation divergences 1.25 With interest rates higher in the UK and with the sterling-euro exchange rate remaining above sustainable levels throughout the period since EMU started, inflation, measured on a harmonised basis, has averaged \(\frac{3}{4}\) percentage point less in the UK than in the euro area since 1999. With HICP inflation at 1.5 per cent in April 2003, the UK is currently towards the bottom of the range of inflation rates across the EU. Ireland had the highest inflation rate in April 2003 at 4.6 per cent while Germany had the lowest at 1.0 per cent (and German inflation could fall further in the short term). Divergence of inflation rates is to be expected within EMU because inflation is a key adjustment mechanism, as discussed in the assessment of the flexibility test.

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1. The non-accelerating inflation rate of unemployment, as shown in Chart 2.3 in Chapter 2.
In practice, HICP inflation is typically lower than inflation as measured by the Retail Prices Index excluding mortgage payments (RPIX) in the UK. Differences in the basket of goods and services included in each measure and the way that individual prices are weighted together in the aggregate mean that, over the long term, RPIX inflation exceeds HICP inflation by around $\frac{1}{2}$ percentage point.

In terms of macroeconomic policy, the Government’s announcement of its intention in the next Pre-Budget Report to give the Bank of England a symmetric inflation target as measured by the Harmonised Index of Consumer Prices will improve the quality of the UK inflation target and will also help ensure inflation expectations in the UK remain in line with those of the euro area.

Long-term bond yields have converged since the 1997 assessment, with the gap closing to within $\frac{1}{4}$ percentage point by mid 1999 (Chart 1.6). Analysis in the investment test and the EMU study *EMU and the cost of capital* shows that long-term bond yields between the UK and euro area countries have converged across a range of maturities. This reflects the UK’s improved inflation performance and outlook.

Inflation expectations can be calculated using ‘break-even inflation rates’ which measure the difference between yields on nominal and index-linked bonds. UK inflation expectations have fallen by almost 2 percentage points since early 1997 and have been firmly anchored around the 2$\frac{1}{2}$ per cent RPIX inflation target in recent years. Similarly, French inflation expectations are anchored by the ECB’s medium-term price stability objective and have moved between 1 and 2 per cent on the HICP measure in the period since 1999. The ECB’s latest (April 2003) survey of inflation expectations in the euro area puts them at 2.0 per cent in 2003, 1.7 per cent in 2004 and 1.9 per cent in the longer term.

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**Chart I.6: UK long-term bond yield differential with the euro area**

*Note: Long-term yields are for 10-year maturity government bonds.*

*Source: Eurostat and Bank of England.*
Sterling has strengthened significantly relative to the euro since late 1996. This partly reflects the weakness of the euro against the US dollar, although sterling has also been stronger in terms of effective exchange rates, as shown in Chart 1.7. Since late 1996, sterling has been above estimates of the medium-term exchange rate consistent with sustainable convergence.

The nominal exchange rate provides information about the current state of the economy and the extent of convergence in the short to medium term. The strengthening of sterling since late 1996 is therefore, to some extent, the counterpart to the relative strength of UK consumption and domestic demand already described. The implications of this are assessed in the section on the transition to sustainable convergence.

Information on expectations of UK convergence with the euro area can also be extracted from financial market indicators. The key indicators generally analysed are exchange rate movements, currency correlations and forward interest rate differentials between the UK and the euro area interest-rate swap-market curves. Where relevant, these indicators are utilised in the analysis of convergence over the short term, but may add little independent information to the overall assessment of convergence. This is because they will implicitly reflect the probability attached by financial markets to UK EMU entry.
Cyclical convergence: the ‘Taylor rule’

1.33 The ‘Taylor rule’ provides a simple rule of thumb for estimating the appropriate short-term nominal interest rate for the prevailing output and inflation conditions at a given point in time. As such it is a commonly used summary measure of cyclical convergence.\(^4\)

1.34 Chart 1.8 shows Taylor rule estimates produced by the Treasury for the UK and the euro area economies in 2003 and 2004 on the basis of certain simplifying assumptions.\(^5\) The UK and euro area interest rates projected by the Taylor rule are broadly similar. Germany is projected to require lower interest rates than average, reflecting the extent of the negative output gap and low inflation forecast. But simple estimates of this sort may not provide an accurate estimate of the appropriate level of UK and euro area interest rates and in no sense are the estimates presented here any kind of forecast of UK interest rates as set by the Bank of England’s MPC. The MPC has set UK base rates at 3\(^{3/4}\) per cent in May 2003, whereas these Taylor rule projections are slightly lower on average for 2003 as a whole. The ECB’s setting of euro area base rates at 2\(^{1/2}\) per cent is somewhat lower than the simple Taylor rule suggests. The ECB judge that the weakness of domestic demand in the euro area warrants a lower interest rate in the euro area than the Taylor rule calculations suggest.

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**Chart 1.8: Taylor rule estimates of the nominal short-term interest rate for the UK and euro area countries**

Note: Calculations based on the HICP measure of inflation, assuming an inflation target of 2 per cent; HICP inflation forecasts for 2003 and 2004 refer to the 4th quarter.

Source: HM Treasury calculations based on Budget 2003 forecasts.

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\(^{4}\) The basic form of the original Taylor rule is given by: \(i = r + \pi^* + \frac{1}{2} (\pi - \pi^*) + \frac{1}{2} (y - y^*)\) where \(i\) is the nominal interest rate, \(r\) is the neutral (equilibrium) real interest rate, \(\pi^*\) is the inflation target, \((\pi - \pi^*)\) is the deviation of actual inflation from target and \((y - y^*)\) is the deviation of actual output from trend (the output gap). The weights on output and inflation can be varied according to the monetary authority’s preferences. The EMU study *Policy frameworks in the UK and EMU* provides more detail.

\(^{5}\) The equilibrium real interest rate is assumed to be 2\(^{1/2}\) per cent and the inflation target is assumed to be 2 per cent on the HICP measure for all countries.
However, the UK now exhibits a greater degree of cyclical convergence than some EMU members demonstrated in the run-up to the start of EMU in 1999 and while some countries still demonstrate substantially more cyclical convergence than the UK, some demonstrate substantially less.

While Taylor rule estimates are currently similar for the UK and the euro area, this must be considered against the experience of recent years when interest rates set by the MPC for the UK have been consistently higher than those set by the ECB for the euro area, largely on the basis of cyclical conditions. The degree of cyclical convergence is not therefore as high as the simple Taylor rule estimates imply.

Ultimately, Taylor rule calculations are based on a set of stylised and simplified assumptions about how monetary policy is conducted. In particular, they rely on estimates of equilibrium real interest rates and output gaps which are inherently uncertain. This is particularly true at present, given the current high degree of uncertainty about global economic prospects.

Some of the cyclical indicators analysed in this section are the focus of the EC Treaty convergence criteria. The criteria are a key input into the process at the EU level whereby the Council decides whether countries have met the ‘necessary conditions’ to join EMU. Box 1.1 summarises the UK’s current performance against the criteria for inflation, long-term interest rates and government deficits and debt, and shows that the UK meets these criteria. Exchange rate stability is also one of the Treaty criteria. As Box 1.1 indicates, the Government believes that the exchange rate should be seen as the outcome of all other economic policies.

Box 1.1: The EC Treaty convergence criteria

The convergence criteria, set out in the EC Treaty, are concerned with nominal convergence and refer to inflation, long-term interest rates, the exchange rate and government deficits and debt.

With higher short-term official interest rates, the UK has been able to fulfil the convergence criterion on price stability. On the HICP measure, inflation in the UK over the past year has been well within the reference range set by the inflation levels of the three lowest inflation countries in EMU.

The UK also fulfils the convergence criterion on durability of convergence. Long-term bond yields between the UK and the euro area have continued to converge since the 1997 assessment and are well within the reference range set by the long-term interest rates of the three lowest inflation countries in EMU.

Budget 2003 projections for the fiscal balances meet the convergence criteria reference values of 3 per cent of GDP for the general government financial deficit and 60 per cent of GDP for general government gross debt. The UK’s cyclically-adjusted Treaty deficit remains below 3 per cent throughout the forecast horizon and general government gross debt is projected to remain low, ensuring that the public finances remain sound and sustainable. This is consistent with a prudent interpretation of the Stability and Growth Pact (SGP), which takes into account the economic cycle, sustainability and the important role of public investment (see Chapter 5 for discussion of the SGP).

Exchange rate stability is also one of the convergence criteria. The Government believes that exchange rate stability can only be achieved on the basis of sound economic fundamentals, in particular low and stable inflation, steady and sustainable growth and sound public finances. The exchange rate should therefore be seen as the outcome of all other economic policies.

European Commission, 1999, Article 121 (ex Article 109) of the Treaty establishing the European Community.
Conclusion: is there more cyclical convergence than in the past?

1.39 There has been significant progress on cyclical convergence since 1997. But robust growth in consumer spending has continued to provide substantial support to GDP growth in the UK, supported by a buoyant housing market. UK short-term interest rates remain 1¼ percentage points above those in the euro area and have consistently been above euro area rates since 1999. With interest rates higher in the UK and with the sterling-euro exchange rate remaining above sustainable levels throughout this period, inflation, measured on a harmonised basis, has averaged 3¼ percentage point less in the UK than in the euro area. Financial markets and the forecasts by international organisations suggest that monetary conditions need to remain tighter in the UK than in the euro area into the medium term. However, the UK now exhibits a greater degree of cyclical convergence than some EMU members demonstrated in the run-up to the start of EMU in 1999 and while some EMU countries still demonstrate substantially more cyclical convergence than the UK, some demonstrate substantially less. The lack of cyclical convergence with the euro area constitutes a risk factor, particularly given the considerable degree of global uncertainty at present.

1.40 In terms of macroeconomic policy, the Government’s announcement of its intention in the next Pre-Budget Report to give the Bank of England a symmetric inflation target as measured by the Harmonised Index of Consumer Prices will improve the quality of the UK inflation target and will also help ensure inflation expectations in the UK remain in line with those of the euro area.

HISTORICAL CONVERGENCE

1.41 Historical evidence is important for establishing the long-term track record of convergence between the UK and the euro area, putting the current state of cyclical convergence into perspective. The degree of convergence within the US and UK monetary unions provides further context. This section answers the question – what does past history demonstrate about the extent of convergence?

Historical convergence: business cycles and shocks

1.42 The EMU study Analysis of European and UK business cycles and shocks surveys the existing literature on comparative business cycle experiences and updates key findings.

1.43 Chart 1.9 shows the output gap business cycle for the UK, EU15, Germany and the US. The basic story about the UK’s cyclical history is as reported in the 1997 assessment:

- the UK cycle has been relatively volatile. The boom in the late 1980s was particularly strong and the recessions in the early 1980s and early 1990s were relatively deep, reflecting UK specific factors such as financial liberalisation and the behaviour of the housing market, compounded by serious macroeconomic and microeconomic policy mistakes;

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* The EMU study Analysis of European and UK business cycles and shocks by Professor Michael Artis discusses the methodological issues associated with identifying business cycles and also the rationale for comparison with the EU15 aggregate, as the proxy for the appropriate cycle for monetary policy to respond to if the UK were in EMU. Professor Artis’ estimates of the output gap differ from those shown in Chart 1.3.
the UK cycle has not been highly synchronised with that of the EU15. The UK moved out of step with the EU15 over the 1980s and in the early 1990s. This was related to UK specific factors and specific features of other EU economies linked, for example, to the effects of German reunification; and

- by contrast, the UK has maintained a generally consistent and stronger co-movement with the US over the 1980s and much of the 1990s, though again this might be exaggerated by the similar timing of one-off events such as financial liberalisation and policy decisions.

Measuring the degree of similarity between business cycles by calculating simple correlation coefficients has become a widely-used measure of co-movement or ‘sympathy’ between cycles in different countries, and such comparisons were included in the 1997 assessment. A limitation of using correlation coefficients is that it is possible for two countries to appear perfectly correlated if they fluctuate together around trend, even if the amplitude of one cycle is significantly different from the other. So it is important to distinguish between correlation and volatility. Correlation measures the degree of synchronisation of the timing of cycles. Volatility measures the variation or amplitude of cycles around the trend.

Table 1.1 shows that over the period 1970 to 2002, the UK business cycle correlation with the EU15 cycle has been reasonably high at 0.66, but the correlation with the euro area cycle is lower at 0.45 and the correlation with Germany has been much lower. By comparison, the UK and US cycles have been highly correlated over the period 1970 to 2002, with a coefficient of 0.78.7

A correlation coefficient of 1.00 would represent a perfect degree of correlation.
...and over shorter time frames

Correlations calculated over a long period can mask both large fluctuations in the degree of correlation and improvements in correlations towards the end of the sample period. Table 1.1 also indicates how correlations have changed over time:

- over the sub-periods 1976-86 and 1997-2002, the correlations between the UK and euro area output gap cycles have been higher than over the whole period;
- the very low correlation between the UK and the euro area and the negative correlation between the UK and Germany during the period 1986-97 is in part explained by exceptional country-specific shocks such as financial liberalisation in the UK and German reunification effects in Europe; and
- over the last five years, the UK output gap cycle has been more highly correlated with the German cycle than that in the US, although the UK has fluctuated around a higher growth trend.

Table 1.1: Correlations of business cycles over time

<table>
<thead>
<tr>
<th>Correlation coefficients</th>
<th>UK/EU15</th>
<th>UK/euro area</th>
<th>UK/Ger</th>
<th>UK/US</th>
<th>Ger/euro area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970-2002</td>
<td>0.66</td>
<td>0.45</td>
<td>0.12</td>
<td>0.78</td>
<td>0.84</td>
</tr>
<tr>
<td>Sub-periods</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1976-1986</td>
<td>0.77</td>
<td>0.61</td>
<td>0.62</td>
<td>0.78</td>
<td>0.98</td>
</tr>
<tr>
<td>1986-1997</td>
<td>0.43</td>
<td>0.11</td>
<td>-0.58</td>
<td>0.93</td>
<td>0.72</td>
</tr>
<tr>
<td>1997-2002</td>
<td>0.66</td>
<td>0.64</td>
<td>0.79</td>
<td>0.73</td>
<td>0.96</td>
</tr>
</tbody>
</table>

Note: Business cycles calculated using Hodrick-Prescott filtered annual real GDP data. Source: European Commission’s AMECO database and HM Treasury calculations.

Correlations of shocks

Research into the co-movement of shocks attempts to identify the main sources of shocks to economies and then consider how far they are correlated. This recognises that monetary policy is most suited to dealing with demand shocks. If demand shocks are relatively unimportant, or if they are highly correlated with euro area countries, the costs to the UK of giving up an independent monetary policy and a flexible nominal exchange rate against the euro would be correspondingly lower.

The EMU study Analysis of European and UK business cycles and shocks calculates updated demand shock correlations for the UK with euro area countries and the US. Professor Artis finds substantial variation in UK shock correlations over time, with a general decline to negative values during the late 1980s indicating a strong idiosyncratic divergence of the UK cycle during these years. The correlation with the EU15 falls considerably in the late 1990s, despite the higher correlation with Germany over the last decade.

Output gap deviations

Analysis of absolute output gap deviations as in Chart 1.10 usefully supplements these other approaches and does not suffer from some of their limitations. In particular, it provides a measure of the amplitude of the cycle. France, Germany and Italy have experienced output gaps on average closer to the euro area aggregate than the UK, with an average absolute deviation of between 1/4 and 3/4 per cent of GDP over the last decade. The average UK deviation is larger at almost 1 per cent of GDP, but not as large as for some of the existing euro area countries and not out of line with the sort of regional deviations seen within countries. This is partly a reflection of relative size, which matters because the ECB’s remit relates to the average performance for the euro area as a whole.

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8 The EMU study Modelling shocks and adjustment mechanisms in EMU discusses the limitations of various techniques in identifying shocks.
Early studies of convergence were conducted when it appeared that EMU would start with a small membership. The notion of a small ‘core’ of countries centred around Germany, with the other countries falling into some kind of ‘periphery’, became popular. Now that a larger EMU has been achieved, it makes more sense to assess the convergence of the UK against the euro area as a whole, as in this assessment.

The finding of the assessment supports the conclusions of most analyses of convergence, which place the UK outside the core of countries in the euro area. In his EMU study, Professor Artis describes this as the ‘UK idiosyncrasy’.

However, as Professor Artis acknowledges, all empirical work on shocks and cycles can be criticised for being backward looking. The past may not be a good guide to the future because:

- shocks in the historical sample period may be one-offs. For example, financial liberalisation in the US and the UK in the 1980s and German reunification after 1989;
- equally, there could be shocks specific to the UK or the euro area in the future, which could contribute to renewed divergence;
- for at least part of the sample period, monetary policy in the euro area operated independently and fiscal policies were not coordinated. Membership of the Exchange Rate Mechanism (ERM) could have affected the degree of convergence of some EU economies, while UK history until the post-ERM period reflects a failure of macroeconomic policies to contain cycles of ‘boom and bust’; and

Source: European Commission and HM Treasury calculations.
since 1999 there has been an important regime change for euro area countries, and obviously the UK regime would change again if the UK entered the single currency. Apart from a change in policy responses, EMU membership might also cause a change in private sector behaviour.\(^9\)

These issues are considered further in the assessment of endogenous convergence later in this chapter.

**Historical convergence: output and consumption volatility**

Features specific to the UK cycle have affected cyclical convergence with the euro area. The UK’s past growth performance has been poor compared with other industrialised countries and both output and inflation have been highly volatile. This high volatility was identified in the 1998 Treasury paper *Delivering Economic Stability: Lessons from Macroeconomic Policy Experience*, which showed that over the period 1980-1998 the UK exhibited the highest degree of output volatility of any of the large EU countries (see Chart 1.11, replicated on latest data for the original period). The EMU study *Analysis of European and UK business cycles and shocks* provides further evidence that the UK has experienced significantly more volatile output cycles than the other major EU economies.

Consumption is the largest component of GDP and changes in consumption therefore have a significant impact on GDP. Chart 1.11 also updates the earlier work on consumption volatility and shows that UK private consumption growth exhibited the highest volatility among major EU economies between 1980 and 1998.

---

\(^9\) The essence of the ‘Lucas critique’ of econometrically-estimated models is that private sector responses will be conditioned by their expectation of the policy reactions. It is difficult to say with any precision how data generated in the past under a certain regime will change when the new regime of monetary union is fully established.
In the past, the failure of macroeconomic policy to be sufficiently forward looking and transparent has often contributed to increased volatility in the UK. Policy responses typically came too late, exacerbating the original problems and then requiring excessive corrective action. Chart 1.12 shows that since the Government implemented a new macroeconomic framework to create a platform of stability, the UK has enjoyed the lowest level of volatility of the major EU economies, albeit in a period when volatility generally has been lower than in previous periods.

The new macroeconomic framework has played a particularly important role in reducing inflation expectations and encouraging less volatility in UK consumption and output. As foreshadowed in the 1997 assessment, achieving greater stability has provided an essential platform for closer convergence of the UK and the euro area economies. The growth, stability and employment test assesses the role of macroeconomic frameworks in the UK and the euro area in safeguarding economic stability.

**Historical convergence: lessons from the US and UK regions**

There is nothing in the theory underlying the analysis of correlations of shocks and cycles to establish what is a satisfactory degree of convergence – what Professor Artis terms the problem of ‘sufficiency’ of convergence. How well correlated do business cycles and shocks need to be before they are compatible? The viability demonstrated by existing currency unions – for example, regions within the UK and the US – can provide some guidance, though they exist in very different institutional and historical settings.
Evidence suggests that the majority of UK regions have been well correlated with the UK aggregate over the last decade, although Chart 1.13 shows that differences between regional output gaps and the output gap for the UK as a whole have been higher on average in the North East, Scotland and Northern Ireland. The variation across regions reflects an increasing regional divergence in output growth rates, in part due to variation in the sectoral mix of regional output. London, the East and South East are relatively more specialised in service sector activities which have grown relatively quickly over the last decade, while the North East and Wales rely more heavily on manufacturing.

![Chart 1.13: UK regional output gaps, absolute deviations from the UK aggregate, 1990-1999](image)

Source: ONS Regional Accounts and HM Treasury calculations.

The limited academic research undertaken on regional convergence concludes that correlations in UK regional cycles are greater than correlations in EU country cycles, which are in turn greater than correlations between UK regions and EU countries. It has also been estimated that correlations in demand and supply shocks have been far higher between UK regions than between EU countries.

The US example shows how a large, industrialised economy successfully functions with a single currency, and how different regions, quite disparate in terms of geography, climate, industry and heritage, develop within a monetary union.

The EMU study *The United States as a monetary union* analyses the extent to which regions within the US are subject to region-specific shocks. The key conclusions are that:

- supply and demand shocks have varied widely in their incidence and impact on the regions of the US. Similarly, analysis of business cycles suggests that some regions have displayed highly idiosyncratic business cycles;

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1. The general issues relating to estimating output gaps are compounded by poor availability of regional data in this exercise. Regional output gaps are estimated using nominal regional GDP deflated by the national GDP deflator and are Hodrick-Prescott filtered.
this implies that a monetary union can prosper with quite varied regional business cycles and in the presence of asymmetric shocks; but

the degree of divergence between US regions is, on average, smaller than that which tends to be exhibited between countries of the EU. This may represent evidence of endogeneity – monetary union may have increased regional convergence in the US.

1.63 Various adjustment mechanisms play a key part in helping US regions to adjust smoothly and these are discussed in the assessment of the flexibility test. But a direct comparison between the US (or the UK) and the euro area is difficult because of the way in which the institutions and policy frameworks of each monetary union have evolved and because the political context is very different, as discussed in the assessment of the growth, stability and employment test.

1.64 The evidence of the first four years of EMU provides another standard. There have been divergences since the start of monetary union, which are considered both in the analysis of the transition to sustainable convergence and further in the flexibility test. But there are reasons for thinking that this backward-looking analysis taken in isolation might be an unreliable guide to the future and must be complemented by a forward-looking dynamic analysis.

**Conclusion: what does past history demonstrate about the extent of convergence?**

1.65 On past performance, UK business cycles have been much less compatible with the euro area average than has been the case in other countries such as Germany and France. There is some evidence that compatibility may have increased in recent years, reflecting greater macroeconomic stability in the UK and increased convergence between the business cycles of all the advanced economies. Over the last five years, the UK output gap cycle has been more highly correlated with the German cycle than that in the US, although the UK has fluctuated around a higher growth trend. France, Germany and Italy have experienced output gaps on average close to the euro area aggregate, at an average absolute deviation of between $\frac{1}{4}$ and $\frac{3}{4}$ per cent of GDP over the last decade. The average UK deviation is larger at almost 1 per cent of GDP, but not as large as some of the existing euro area countries and not out of line with the sort of regional deviations seen within countries. However, the UK’s history of divergence remains a risk factor.

**STRUCTURAL CONVERGENCE**

1.66 Even if cyclical convergence were assessed to be achieved at a particular point in time, the structure of the UK and euro area economies could mean there would be country-specific developments causing divergence with the euro area in the future. This is because differences in structures could make the UK more vulnerable to shocks that do not affect the rest of the euro area (for example, volatility in house prices) and the UK could react differently to changes in economic circumstances that affect the whole of the monetary union (for example, changes in interest rates). This highlights the importance of achieving settled and sustainable convergence through having UK structures which are compatible with the euro area over time. Compatibility of structures will limit the extent of divergences, either from country-specific shocks or responses to such shocks. This section addresses the question of which differences in structures are important.
Both shocks and responses are conditioned by the structural features of the economy such as sectoral composition, trade patterns, investment linkages and financial structures, and housing markets. The assessment of structural convergence considers particular features of the UK economy that might cause the UK to:

- experience different shocks;
- have a different response to a shock that affects both the UK and the euro area; or
- have a different response to ECB monetary policy changes.

All of these could lead to future divergence between the UK and euro area business cycles. Much of the literature focuses on different shocks, but different responses to a shock are also important. In particular, in the context of EMU, if ECB monetary policy affected the UK economy in a different way from other euro area economies, this could generate a different cyclical path for the UK relative to the rest of the euro area and greater volatility of output and inflation.

Structural convergence: sectors

The UK's composition of output determines how shocks affecting particular sectors might affect the UK relative to other euro area countries and whether this would imply divergent behaviour in the future. The EMU study *EMU and business sectors* analyses the distribution of output and employment across sectors and also specialisation measures to compare industrial structures of countries.

The UK's sectoral structure is similar in many respects to that of the euro area as a whole. Table 1.2 summarises the composition of output in the UK, Germany, France and Italy. In the UK, 74 per cent of output is accounted for by the services sector. This is comparable to France but slightly larger than for Germany and Italy, where the service sector accounts for around 70 per cent of total output. Germany has the largest manufacturing, mining and utilities sector, accounting for around a quarter of total output.

**Table 1.2: Sectoral share of output, 2002**

<table>
<thead>
<tr>
<th>Per cent of total output</th>
<th>UK</th>
<th>Germany</th>
<th>France</th>
<th>Italy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, hunting, forestry, fishing</td>
<td>0.9</td>
<td>1.1</td>
<td>2.8</td>
<td>2.6</td>
</tr>
<tr>
<td>Manufacturing, mining, utilities</td>
<td>19.9</td>
<td>24.2</td>
<td>20.1</td>
<td>22.4</td>
</tr>
<tr>
<td>Construction</td>
<td>5.5</td>
<td>4.4</td>
<td>4.7</td>
<td>4.9</td>
</tr>
<tr>
<td>Distribution, hotels, transport, communications</td>
<td>22.9</td>
<td>18.6</td>
<td>19.3</td>
<td>23.7</td>
</tr>
<tr>
<td>Finance, real estate, other business activities</td>
<td>27.9</td>
<td>30.1</td>
<td>30.1</td>
<td>26.8</td>
</tr>
<tr>
<td>Public admin, social security, education, health, defence</td>
<td>22.8</td>
<td>21.6</td>
<td>23.1</td>
<td>19.6</td>
</tr>
<tr>
<td>Services total</td>
<td>73.6</td>
<td>70.2</td>
<td>72.4</td>
<td>70.1</td>
</tr>
</tbody>
</table>

*Note: Output measured by gross value added. French data for 2001. Figures may not sum due to rounding. Source: Eurostat.*

Shocks are discussed in the contributions of Professor Barry Eichengreen and Professor Jeffrey Frankel to the EMU study *Submissions on EMU from leading academics*. In the same study, the contribution of Professor Andrew Hughes Hallett focuses on the transmission of shocks. The literature is considered in detail in the EMU study *The five tests framework*.

For example, the agricultural sector can be subject to severe supply disturbances (such as adverse weather conditions) that result in volatile prices.
1.71 As with output, the composition of employment by sector reveals broad similarities and some national differences. The EMU study *EMU and business sectors* highlights the smaller share of agricultural employment in the UK and the significantly larger share of employment in the German manufacturing sector compared to France and the UK. The UK has a greater share of employment in the services industry, particularly in finance and business activities, though differences are not great.

**Industrial specialisation** 1.72 Measures of industrial specialisation indicate how specialised an economy is in certain sectors, relative to other countries. The main findings of the EMU study *EMU and business sectors* on specialisation are:

- the UK is closest in terms of industrial structure to France;
- the UK is less specialised than most of its EU counterparts, implying the UK is relatively well placed to withstand sector-specific shocks because it has a diversified industrial structure; and
- Germany is more exposed than the UK to interest rate sensitive sectors – possibly reflecting its capital goods orientation. But the UK is more exposed to exchange rate sensitive sectors than France or Germany.13

1.73 This analysis confirms that in terms of industrial specialisation the UK is quite similar at the aggregate level to other large EU countries, an issue returned to in the assessment of endogenous convergence.

**Oil and financial services** 1.74 Greater differences are apparent at a more disaggregated level:

- within production industries, mining and quarrying of energy-producing materials accounts for 2.7 per cent of UK output, compared to less than 0.5 per cent in the major euro area countries, largely due to production of oil and natural gas. The UK and Denmark are the only net oil exporting countries in the EU; and
- the UK has a relatively large financial services sector, as discussed in the assessment of the financial services test.

1.75 Both oil and financial services can be subject to shocks of significant magnitude and so have the potential to affect the whole economy, despite their relatively small share of total output. However, the analysis in Box 1.2 – based on a simulation exercise using the NiGEM macroeconomic model14 – confirms that it would take an extremely large oil price shock to generate a significant difference in output between the UK and the euro area at the aggregate level.

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13 The contribution by Professor Wendy Carlin and Dr Andrew Glyn to the EMU study *Submissions on EMU from leading academics* finds that UK exports are relatively cost sensitive compared to other EU countries.

14 NiGEM is a model of the world economy maintained and developed by the National Institute for Economic and Social Research. NiGEM is described in greater detail in Annex A.
Structural convergence: trade exposure

The UK’s relative patterns of trade and the degree of openness to trade have an important role in determining how global shocks might affect the UK relative to euro area countries. Exports are driven by demand conditions in the rest of the world and any change in exports will have a direct effect on a country’s GDP. Imports will be primarily determined by conditions in the domestic economy, so they are not likely to be a first line source of shocks to the domestic economy. However, factors such as changing capacity constraints in an exporting country will affect the price and availability of imports. Patterns of trade can change over time and the act of joining EMU could stimulate increased trade linkages (see the EMU study EMU and trade). Whether this is likely to promote convergence is discussed in the section on endogenous convergence.

Trade integration

Chart 1.14 shows trade integration with the EU as a percentage of GDP. UK trade in goods and services (exports plus imports) with the EU is equal to nearly 30 per cent of UK GDP. This is in line with Italy but slightly lower than in Germany and France.

Box 1.2: The potential differential impact of an oil price shock

The UK and Denmark are the only two net oil exporters among the 15 EU Member States. This means that changes in oil prices can have different effects on the current account balance in the UK compared to the euro area.

The decline in real oil prices since the 1970s has reduced the share of oil output in GDP. The oil production sector in the UK accounts for only 2 3/4 per cent of total output, and so a rise in oil prices will affect the majority of UK businesses and consumers in the same way as those in the euro area, for example through increased costs of production and higher petrol and domestic heating fuel costs.

The NiGEM model has been used to simulate the effects on the UK and the euro area economies of a 50 per cent rise in world oil prices for one year. The UK is assumed to experience the same monetary policy and exchange rate responses as the euro area – in order to isolate the effects from any structural differences.

The chart shows the impact of the oil price shock on output levels in the UK and the euro area. The UK response is different to that in the euro area, reflecting the UK’s different structure. But a very large shock to oil prices only results in a short-lived divergence between the UK and the euro area output responses relative to base of less than 1/2 percentage point.
Patterns of trade 1.78 Table 1.3 shows the geographical breakdown of current account trade. The UK appears to be more exposed to trade shocks from North America and Asia than the large euro area economies. Germany has a much larger exposure to trade with non-EU European economies.

Table 1.3: Geographical breakdown of current account trade\(^1\): goods and services, 1999-2001

<table>
<thead>
<tr>
<th>Per cent of GDP</th>
<th>EU15</th>
<th>Other Europe(^2)</th>
<th>Asia</th>
<th>NAFTA(^3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>29.4</td>
<td>2.2</td>
<td>8.6</td>
<td>10.1</td>
</tr>
<tr>
<td>Germany</td>
<td>36.3</td>
<td>7.3</td>
<td>7.6</td>
<td>7.2</td>
</tr>
<tr>
<td>France</td>
<td>33.6</td>
<td>2.3</td>
<td>5.3</td>
<td>5.8</td>
</tr>
<tr>
<td>Italy</td>
<td>29.5</td>
<td>4.6</td>
<td>5.6</td>
<td>5.2</td>
</tr>
<tr>
<td>EU15</td>
<td>42.0</td>
<td>4.6</td>
<td>7.5</td>
<td>8.1</td>
</tr>
</tbody>
</table>

\(^1\)Credits plus debits.

\(^2\)Non-EU or EFTA Europe.

\(^3\)North American Free Trade Agreement.

Source: Eurostat.

Shocks to trade 1.79 As with the shock to the oil sector already considered, the scale of trade shocks will determine whether differences in trade exposures can generate cyclical divergences. The largest negative trade shocks to imports into the NAFTA region were experienced in 1985 and 2001 – on each occasion import growth fell by around 15 percentage points. Another significant trade shock was experienced in 1998 when growth of imports into Asia fell by a similar magnitude. Box 1.3 illustrates the differential impact on the UK and the euro area of a temporary fall in US imports of 15 per cent, based on the same type of simulation exercise as in Box 1.2. The results confirm that while there are differences between the UK and the euro area in patterns of trade, it would take an extremely large shock in the US economy to be the source of a significant cyclical divergence between the UK and the euro area economies. Overall, trade structures, like sectoral structures, are a lower risk factor to the achievement of settled and sustainable convergence.
Structural convergence: non-housing financial structures

1.80 Investment and financial market linkages are an important channel by which regional shocks are transmitted globally. These links have grown stronger in recent years along with increasing asset market interdependence through cross-border asset diversification. While trade linkages are increasingly important for the real economy, investment and financial linkages also play a role in explaining close business cycle correlations among industrialised economies. For example, an economy with a higher exposure to US foreign direct investment (FDI) might be more affected by US growth prospects.

1.81 Financial structures also determine how external shocks affect the domestic economy and the transmission of monetary policy. For example, economic disturbances that affect world equity prices will have a greater impact on countries with larger equity markets.
The UK’s pattern of financial market and investment linkages is distinct from that of the euro area in some respects but less so in others:

- the UK has higher levels of foreign assets and liabilities, relative to GDP, than the large euro area countries. However, UK foreign asset and liability positions largely reflect intermediation by the banking sector, a consequence of London’s position as a large international banking centre, and most may net out in the financial system and not impact on the real economy;

- Table 1.4 shows differences between the UK and the large euro area countries in cross-border flows of FDI (discussed in more detail in the assessment of the investment test). The UK has a higher level of FDI flows as a percentage of GDP than the large euro area economies and more of these flows are with North America than is the case for the EU; and

- with increasing cross-border merger and acquisition activity and expansion of existing overseas operations, there is increasing economic interdependence between businesses. External shocks can affect firms’ revenues from foreign affiliates. UK firms are not exceptional compared with those in other large EU countries in terms of their share of sales from foreign affiliates. International Monetary Fund (IMF) research shows that on average over 1995-2000, revenue of listed companies from foreign sales was almost equivalent to that from domestic sales in the UK, slightly less in Germany and Italy and significantly more in France.\textsuperscript{15}

### Table 1.4: Geographical breakdown of FDI flows\textsuperscript{1}, 1997-2001

<table>
<thead>
<tr>
<th>Per cent of GDP</th>
<th>EU15</th>
<th>Other Europe\textsuperscript{2}</th>
<th>Asia</th>
<th>NAFTA\textsuperscript{3}</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>7.6</td>
<td>0.3</td>
<td>0.4</td>
<td>5.4</td>
<td>14.8</td>
</tr>
<tr>
<td>Germany</td>
<td>4.9</td>
<td>0.3</td>
<td>0.3</td>
<td>1.5</td>
<td>7.3</td>
</tr>
<tr>
<td>France</td>
<td>6.7</td>
<td>0.2</td>
<td>0.3</td>
<td>2.0</td>
<td>9.9</td>
</tr>
<tr>
<td>Italy</td>
<td>1.7</td>
<td>0.1</td>
<td>0.0</td>
<td>0.3</td>
<td>2.3</td>
</tr>
<tr>
<td>EU15</td>
<td>7.5</td>
<td>0.3</td>
<td>0.3</td>
<td>2.7</td>
<td>12.0</td>
</tr>
</tbody>
</table>

\textsuperscript{1} Inward flows plus flows abroad.
\textsuperscript{2} Non-EU or EFTA Europe.
\textsuperscript{3} North American Free Trade Agreement.


Source: Eurostat.

Stock market movements

Stock market movements are particularly relevant to the UK. The UK has one of the largest equity market capitalisations in the EU as a percentage of GDP. Correlations between stock market movements indicate how domestic shocks to equity prices are likely to be transmitted to other economies. IMF research\textsuperscript{16} shows that UK equity price movements appear to be most closely correlated with the US, but correlations with the major euro area economies are also high.

Financial structures in the household and corporate sectors determine how equity price movements affect the real economy via their impact on household income or wealth and the cost of capital. The EMU study \textit{EMU and the monetary transmission mechanism} reviews household and corporate financial structures.

\textsuperscript{15} IMF \textit{World Economic Outlook}, October 2001.

\textsuperscript{16} IMF \textit{World Economic Outlook}, May 2000.
The EMU study shows that the UK household sector has a high level of net financial assets relative to the large euro area countries. However, the proportion of assets that are sensitive to short-term interest rate changes are similar across countries, so the impact of monetary policy changes on interest income and thus household consumption are likely to be broadly the same. Equity holdings are higher in the UK than in Germany and Italy. This implies that UK consumers are more sensitive to variations in financial asset prices and world equity price movements. But UK households hold a high share of their equity wealth indirectly in life assurance and pension funds rather than through direct ownership.

Household spending in the UK has not, to date, reacted strongly to changes in the value of life and pension fund assets, as individuals may earmark it as retirement income. However, recently improved regulations on disclosure, for example through pension and endowment projections, and gravitation from defined benefit to defined contribution occupational pension schemes, will have made individuals more aware of the value of their indirect institutional assets holdings. These developments, and associated publicity, have strengthened the link between changes in indirect wealth holdings and consumer spending.

The level of financial assets and liabilities in the corporate sector will affect how domestic investment reacts to changes in interest rates and asset prices through the cost of capital. The UK non-financial corporate sector has a high level of financial liabilities and a large negative net financial asset position, similar to that in France but higher than that in Germany or Italy. Loans to the corporate sector as a percentage of GDP are very similar across the four economies. A key difference is that the UK and France have much higher levels of equity financing. This implies that the UK and French corporate sectors will be particularly sensitive to equity price movements.

Equity price movements can affect the real economy through their impact on private consumption and investment. A fall in equity prices reduces households’ financial wealth and may lead to a fall in consumer confidence – affecting prospects for private consumption. A fall in equity prices also raises the cost of capital – discouraging business investment.

In general, results of empirical studies, reported in Box 1.4, suggest that the equity ‘wealth effect’ is higher in the US, Canada and the UK than in the other G7 countries, due to the greater size of their equity markets. The propensity to consume out of financial wealth may also be lower in France and Germany because high-income and older households dominate equity holdings to a much larger degree than in the UK and the US.

Overall, the UK exhibits some differences in non-housing financial structures and investment linkages which could feed through to the real economy. Together these structural differences represent a low to medium risk factor to the achievement of settled and sustainable convergence.
Box 1.4: The potential differential impact of an equity price shock

Research reported in the April 2002 IMF World Economic Outlook concludes that the impact on consumption of changes in equity wealth tends to be higher in economies which it classifies as using market-based financial systems (for example, the US, UK and Canada), than in economies which it classifies as using bank-based financial systems (for example, Germany, France and Italy). The table below presents the key findings.

### Equity wealth effect on consumption

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Market-based</td>
<td>3.0</td>
<td>4.3</td>
</tr>
<tr>
<td>Bank-based</td>
<td>−0.2</td>
<td>0.9</td>
</tr>
<tr>
<td>Full sample</td>
<td>0.9</td>
<td>2.0</td>
</tr>
</tbody>
</table>

1 Per US dollar increase in equity prices.
Source: IMF Economic Outlook, April 2002.

Over the period 1984–2000, consumption in market-based economies has been on average over four times more responsive to changes in equity wealth than in bank-based economies. The IMF also concludes that the impact of changes in equity wealth has increased over time in both groups of countries.

The European Commission’s 2002 review of the EU Economy contains simulations of the impact of a 20 per cent fall in equity prices on output, through the private consumption channel. The results show that the impact on euro area GDP is only about half to a third of the impact on US GDP. The Commission concludes that the direct impact of equity prices on consumption and investment in the euro area is probably not very large. But indirect effects via the availability of credit could be much greater. This is consistent with the findings of the EMU study *EMU and the monetary transmission mechanism*.

As in the case of shocks to oil and trade, the NiGEM model has been used to test whether the UK is more susceptible to world equity market shocks than the euro area. A 20 per cent rise in G7 equity prices is simulated.

In this simulation, equity prices are assumed to have risen due to a fall in the perceived risk associated with equity holdings. A rise due to other influencing factors, such as improved prospects for corporate profits, might be expected to have a different impact on UK and euro area output.

The results show that the initial output response in the euro area is greater than in the UK. In the longer term, the NiGEM results are more consistent with the IMF and Commission findings, with the impact on UK output 1/2 percentage point greater than in the euro area.
Structural convergence: housing markets

1.91 Pronounced cycles in the housing market have been a striking feature of the UK economy over the past three decades. In 2002, house prices rose strongly and the state of the housing market and its influence on households’ spending was an important consideration in the MPC’s decisions on interest rates. If households’ spending is significantly more sensitive to interest rate changes in the UK than in the euro area as a whole, monetary policy set by the ECB would generate relative instability in the UK economy. A key conclusion of the 1997 assessment was that the housing market would be a source of instability to the UK economy in EMU.

1.92 This assessment revisits these conclusions, drawing on the detailed analysis and conclusions of the EMU study Housing, consumption and EMU. This highlights four important housing market structures:

• differences in long-run house price trends or cycles due to supply-side factors may affect household consumption;

• the level of mortgage debt and the nature of mortgage interest rates, in particular whether they are variable or fixed, will affect households’ interest rate sensitivity;

• high rates of owner occupation, as compared to private or social renting, are likely to increase the impact of changes in housing wealth on consumption; and

• the ability of households to withdraw equity from housing is important in determining the impact of changes in housing wealth on consumption.

House price trends

1.93 House price behaviour in the UK has been different from the other large EU countries. The UK has seen a long-term trend rise in real house prices of around 2 1⁄2 per cent a year over the last 30 years. This is at least double that in France and Italy, while in Germany real house prices have been stable. Faster house price growth has made housing a better investment asset in the UK. Insofar as the gains can be accessed, this has increased homeowners’ wealth available for consumption.

1.94 The differing behaviour of house prices reflects both demand and supply factors. A number of studies suggest that the responsiveness of housing supply to demand pressures is particularly low in the UK. This reflects long-term under-investment in housing. The UK has, on average, invested a low proportion of its national income in housing compared to other EU countries since 1960. A low supply response would help to explain the much stronger upward trend in real house prices in the UK. It would also tend to accentuate house price volatility – increased supply should help to check house price rises when demand for housing expands.

Mortgage markets

1.95 Mortgage markets differ significantly across Europe with important implications for the sensitivity of household spending to interest rate changes. For homeowners, the rate of interest helps to determine the immediate burden of mortgage payments. High levels of mortgage debt and/or a high reliance on variable as opposed to fixed-rate mortgage financing is likely to mean that interest rate changes have a stronger short-term impact on disposable income and hence spending:

• owner occupation, at 69 per cent, is not very different in the UK from the EU average. It is, however, higher than in Germany and France, although lower than in Spain;

• mortgage debt in the UK, at almost 60 per cent of GDP, is above the EU average and exceeded only in Denmark and the Netherlands; and
most strikingly, over 60 per cent of new UK mortgages are variable rate and most others are short-term fixes of one to five years. In Germany, 80 per cent of mortgages are at long-term fixed rates of over five years, with all the rest shorter-term fixed rates. Among the larger EU countries only Italy – where the level of mortgage debt is low – has an appreciable proportion of variable rate mortgages, at 34 per cent.

The UK’s level of mortgage debt and its greater reliance on variable rate mortgages imply that the sensitivity of housing-related interest payments to changes in interest rates is far higher in the UK than in the other large EU countries. As a result, household disposable income and thus spending is likely to be more sensitive to interest rate changes in the UK than in many other European countries. This conclusion is in line with that reached by academic experts on the UK housing market. The contributions of Professor John Muellbauer and Professor Geoffrey Meen to the EMU study Submissions on EMU from leading academics both note that the UK’s high mortgage debt and reliance on variable rate mortgages may make the UK more interest rate sensitive than other EU countries.

The link between the housing market and household spending also depends on the extent to which housing wealth can be accessed and, in particular, the extent to which homeowners are able to borrow against their housing wealth (known as mortgage equity withdrawal). The UK has a liberalised and competitive mortgage market and the Scandinavian countries have followed a similar path. Mortgage equity withdrawal has been strong in the UK and in Sweden but, as shown in Table 1.5, it has been negative in France, Germany and Italy. This reflects both the relative ease of securing mortgage equity withdrawal in less regulated mortgage markets and trends in housing equity itself, largely reflecting house price movements.

Table 1.5: Key features of housing markets

<table>
<thead>
<tr>
<th></th>
<th>UK</th>
<th>Germany</th>
<th>France</th>
<th>Italy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term trend real house price inflation (per cent a year, 1971-2001)</td>
<td>2.4</td>
<td>0.0</td>
<td>0.8</td>
<td>1.2</td>
</tr>
<tr>
<td>Value of outstanding residential mortgage debt (per cent of GDP, 2001)</td>
<td>59</td>
<td>55</td>
<td>19</td>
<td>10</td>
</tr>
<tr>
<td>New residential mortgage lending on variable rates (per cent of total, 1999)</td>
<td>64</td>
<td>0</td>
<td>5</td>
<td>34</td>
</tr>
<tr>
<td>Owner occupation rate (per cent, 2000)</td>
<td>69(^1)</td>
<td>42</td>
<td>55(^2)</td>
<td>68</td>
</tr>
<tr>
<td>Mortgage equity withdrawal (per cent of household disposable income, 1979-1999)</td>
<td>2.6</td>
<td>-5.7(^3)</td>
<td>-6.3</td>
<td>-6.1</td>
</tr>
</tbody>
</table>

\(^1\) 2001; \(^2\) 1999; \(^3\) 1979-1997.

Note: Mortgage equity withdrawal averaged 5.8 per cent of household disposable income in the UK in 2002.

Source: EMU study Housing, consumption and EMU.

On the overall question of whether UK households are more sensitive to interest rate changes than euro area households, the EMU study Housing, consumption and EMU concludes that:

- real house price growth has been stronger in the UK than in the large euro area countries, and the low response of housing supply in the UK appears to be an important reason for this;
- high levels of mortgage debt in the UK, combined with the dominance of variable rate mortgages, implies that the sensitivity of household interest payments, and thus disposable income, is higher in the UK than in euro area countries;
the UK owner occupation rate is close to the EU average, though above the levels in Germany and France, while lower than in Spain and a number of smaller EU countries; and

• the competitive, liberalised mortgage market in the UK makes it easier for households to access their housing wealth than is the case in the larger euro area countries and UK households have been active in taking advantage of these opportunities, as shown by the higher levels of equity withdrawal.

1.99 The EMU study *Housing, consumption and EMU* also examines empirical studies of consumption functions and presents Treasury modelling of the consumption function. While the results are not as clear cut as the evidence of structural differences, on balance they support the view that the sensitivity of household spending to housing wealth and house prices is higher in the UK than elsewhere. Other work also suggests that the link between interest rates and house prices may also be more sensitive in the UK, tending to enhance any response of household spending to interest rates.

1.100 If the UK were to enter EMU, established patterns of behaviour might change, leading to convergence in the interest rate sensitivity of household spending in the UK and the euro area. However, there is little evidence of significant convergence of euro area housing and mortgage markets to date. While mortgage rates have converged, mortgage markets remain segmented with little tendency for the types of mortgage product available to become more similar across the different countries. This issue is discussed further in the next section on endogenous convergence.

The detailed analysis of housing…

1.101 Overall, the analysis in the EMU study *Housing, consumption and EMU* reveals high sensitivity of incomes (after mortgage payments) to interest rate changes in the UK and high house price growth and volatility, reflecting to a significant extent the low supply response of house building in the UK. This is a combination which may mean that deviations in UK interest rates from their appropriate level could lead to particularly large swings in the housing market (implying correspondingly large swings in the distribution of wealth between homeowners and others) and hence in the wider economy in the UK, while similar deviations would be less problematic in some other EU countries. In EMU, interest rates are set in relation to conditions in the euro area as a whole rather than in relation to conditions in any individual country. The resulting gap between what is appropriate for the euro area and what would be appropriate nationally could matter more in the UK than elsewhere.

…shows it is a high risk factor

1.102 In terms of the assessment, this incompatibility of housing structures means that the housing market is a high risk factor to the achievement of settled and sustainable convergence.

1.103 Since 1997, the Government has recognised that reforms to the planning and supply of housing are needed to reduce volatility and promote stability in the wider economy. The Deputy Prime Minister set out a wide-ranging programme of reforms in the February 2003 Communities Plan17 including: proposals for significant development in four growth areas in the South East; new regional housing bodies to better coordinate funding at the regional level; and action in areas facing a surplus of housing backed by an additional £1.1 billion a year by 2005-06 to support a substantial increase in affordable housing. Through the tax system, successive Governments have recognised the distortion in treatment of owner occupied housing and from April 2000 the Government announced the complete abolition of mortgage interest tax relief (MIRAS).18 The Government has also taken action (since its 1998

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Modernising Planning Initiative\textsuperscript{19}) to make the planning system work more quickly, predictably and effectively by speeding up the processing of applications, ensuring, through intervention if necessary, that local authorities in areas of high demand deliver housing numbers set out in Regional Planning Guidance\textsuperscript{20} and committing to build at higher densities.

1.104 To deliver a more settled platform of stability in the future and a higher degree of convergence, the Government is committed to a comprehensive programme to improve the functioning of the housing market, as set out at the end of this section.

**Structural convergence: monetary policy transmission**

1.105 Taken together, all the structural features discussed above will influence how monetary policy affects the real economy: the monetary policy transmission mechanism. If a change in interest rates causes a different response in the UK compared to euro area countries, in terms of the speed of response or its overall effect on output and inflation, this might result in a divergent cyclical path or greater volatility of output and inflation in the UK.

1.106 The transmission of monetary policy is complex in both theory and practice. The EMU study EMU and the monetary transmission mechanism takes a wide-ranging approach to consider both the workings of the transmission mechanism and the overall speed and strength of the UK transmission mechanism when compared to other countries.

1.107 Monetary policy affects output and prices through a wide variety of channels and numerous structural factors will influence the speed and extent of the transmission mechanism through these channels. Analysis of these structures suggests that when compared to other countries, the UK may be more sensitive to monetary policy through some channels and less sensitive through others:

- the pass-through of interest rate changes from official rates to bank lending rates is faster in the UK, potentially making the UK more sensitive to monetary policy changes;
- the household sector in the UK may react more strongly to interest rate changes than in euro area countries due to: higher levels of mortgage debt in the UK, combined with the dominance of variable rate mortgages; UK house prices being potentially more responsive to interest rate changes due to the low supply response of UK house building; and UK households being more sensitive to changes in housing and financial wealth;
- there is little to suggest the corporate sector in the UK will react more strongly than in the euro area. The structure of production is service intensive, whereas monetary policy has a stronger effect on investment and durable goods sectors which are more important in the German economy. UK banks are relatively large and firms use a range of financial products and so are less likely to face credit supply constraints at a time of monetary tightening;
- the UK is potentially more sensitive to monetary policy through its impact on the exchange rate as the UK has a larger stock of foreign assets and liabilities than major euro area countries; although this may be a reflection of the UK’s role as an international financial centre and so have limited implications for the behaviour of consumption; and

\textsuperscript{19} Modernising Planning: A policy statement by the Minister for the regions, regeneration and planning, Department for the Environment, Transport and the Regions, 24 February 1998.

\textsuperscript{20} Regional Planning Guidance can be found at http://www.planning.odpm.gov.uk/rpg/index.htm.
• anticipating the analysis in the flexibility test chapter, the UK is seen to have relatively low levels of nominal wage rigidity. Nominal wage and price rigidity strengthens the impact of monetary policy on output (and temporarily reduces the impact on inflation).

1.108 The UK’s overall sensitivity to monetary policy relative to euro area countries will depend on how these effects add up.

Findings of empirical work... 1.109 The EMU study *EMU and the monetary transmission mechanism* examines empirical studies which attempt to model cross-country differences in the monetary transmission mechanism at the macroeconomic level, to identify the overall sensitivity of output or inflation to a monetary policy change. The findings are:

• when comparing cross-country responses to a monetary policy shock using different country-specific macroeconomic models, the UK appears to have a significantly stronger output response than euro area countries; however

• when the same theoretical model is applied across countries, studies often find that differences in transmission mechanisms are quite low and the UK does not appear to be an obvious outlier. Treasury work using the NiGEM model finds some differences in the compositional impact, but no significant difference between the overall impact on output and inflation between the UK and the euro area.

1.110 There are significant problems with each of these approaches. Using different models for each country may mean variations in responses are due to theoretical differences in model specification. On the other hand, imposing a common theoretical model across countries will mean that real structural differences such as housing are not fully captured. Although the NiGEM model has recently been developed to include a consumption channel via housing wealth effects for the UK, the scale of the effects are small. The detailed structural analysis of the housing sector already presented shows important differences between the UK and euro area housing structures, implying that the degree of asymmetry between the UK and the euro area is likely to be greater than indicated by the NiGEM model.

1.111 The wide range of structures which influence the transmission mechanism have distributional implications. For example, the structure of the housing market in the UK suggests that homeowners will be affected differently to non-homeowners by the level of interest rates and by interest rate changes, an issue returned to in the assessment of the growth, stability and employment test.

**Conclusion: which differences in structures are important?**

1.112 Certain structural differences between the UK and the euro area are risk factors for the achievement of settled and sustainable convergence. Differences in the UK and euro area housing markets are high risk, differences in investment linkages and financial structures are low to medium risk and sectoral and trade differences are lower risk. In terms of industrial specialisation the UK is quite similar at the aggregate level to other large EU countries.
1.113 Distinct supply and demand features of the UK housing market mean that both the relationship between house prices and household consumption, and the underlying rate of real house price growth, are stronger in the UK than in the euro area. The structure of the UK mortgage market is such that UK households are more sensitive to interest rates, which has implications for the transmission of monetary policy.

1.114 Analysis of monetary transmission suggests that the UK may be more sensitive to monetary policy through some channels and less sensitive through others: the pass-through of interest rate changes from official rates to bank lending rates is faster in the UK; the household sector in the UK may react more strongly to interest rate changes than in euro area countries; the UK is potentially more sensitive to monetary policy through its impact on the exchange rate; but there is little to suggest that the corporate sector in the UK will react more strongly than in the euro area. The UK’s relatively low levels of nominal wage rigidity will tend to reduce the impact of monetary policy on output.

1.115 To deliver a more settled platform of stability in the future and a higher degree of convergence, the Government is committed to a comprehensive programme to improve the functioning of the housing market. Building on the reforms to deliver a step change in planning policy, the Government is undertaking further significant changes in the planning system, supply of housing and housing finance to tackle market failures, increase the responsiveness of supply to demand and reduce national and regional price volatility. These measures are beneficial in their own right to improve the stability and flexibility of the UK housing market and wider economy, but will also increase the housing market’s compatibility with the euro area, encouraging greater convergence over time.

1.116 This means implementing quickly and decisively past reforms to housing supply and going further to address both supply and demand in the housing market and macroeconomic stabilisation more generally:

- on the supply side, the Government is requiring new Regional Spatial Strategies to take account of volatility in the housing market and promote macroeconomic stability as part of delivering sustainable development; tough and credible measures, including intervention, where local authorities are not delivering housing numbers in high demand areas; and exploring whether, in the medium term, achieving the Government’s objectives will require a system of binding local plans. The Government has also commissioned a review of issues affecting the elasticity of supply in the UK in particular to look at the role of competition, capacity and the financing of the house building industry and possible fiscal instruments, and the interaction of these with the planning system and sustainable development objectives;

- on the demand side, through a review of the UK mortgage market to establish why the share of fixed rate mortgages is so low in the UK compared to many other EU countries and to identify ways of encouraging the market for longer-term fixed rate mortgages; and

- at the macroeconomic level, given that housing is identified as a significant risk factor to the achievement of sustainable and durable convergence and in the context of the Treasury discussion paper *Fiscal stabilisation and EMU*, to consider what additional reforms and measures might help deliver wider stability in the economy, including with reference to the housing market, to create the right conditions for convergence within EMU. The Government’s announcement of its intention in the next Pre-Budget Report to give the Bank of England a symmetric inflation target as measured by the Harmonised Index of Consumer Prices will help ensure inflation expectations in the UK remain in line with those of the euro area.
**ENDOGENOUS CONVERGENCE**

1.117 The act of joining EMU may in itself lead to changes in economic structures and business cycles. This concept is known as endogenous convergence. If the economic structures and business cycles of countries in a monetary union converge over time, this reduces the potential costs of membership of monetary union. However, while convergence of structures can help to reduce the incidence of future shocks after entry has occurred, it cannot help with the potential shock of entry to EMU itself. This section addresses the question of how strong endogenous convergence effects are likely to be and how rapidly they could occur.

1.118 Different drivers of endogenous convergence potentially operate over different time periods:

- the **immediate effects** of EMU entry change the macroeconomic policy environment – a common monetary policy and a permanently fixed nominal sterling-euro exchange rate;

- over the **short to medium term** firms and households would gradually adapt their behaviour to the new economic environment – for example, the removal of barriers such as exchange rate transaction costs is likely to promote trade and investment within the currency union; and

- over the **longer term** an increase in cross-border trade and investment will lead to greater integration of economic structures. This might induce a change in the industrial landscape with more specialisation in production.

**Endogenous convergence: immediate effects of EMU entry**

1.119 UK membership of EMU would immediately mean adopting a common monetary policy and greater fiscal policy coordination through the full application of the SGP. If previous national policies were misdirected, causing greater business cycle volatility than there might otherwise have been, then a common monetary policy could lead to greater convergence between countries. In this case, a single monetary policy may lead to a greater degree of business cycle co-movement.

1.120 However, if independent monetary policies are set to pursue broadly similar objectives, as has been the case for the UK and the euro area since 1997, then different policy responses to country needs may have contributed to convergence. If transmission mechanisms are very different, then diverse national policy responses may be required to achieve the same objective. In such circumstances, a common monetary policy may lead to increased divergence. These important considerations are returned to in the assessment of the flexibility test.

1.121 In the EMU study *Analysis of European and UK business cycles and shocks*, Professor Artis updates earlier influential work to examine how the policy commitments made as part of the ERM (which *de facto* resulted in a single monetary policy based on Germany as the anchor) affected the correlations of business cycles of the member countries. Professor Artis’ work confirms that most of the ERM countries developed a closer connection with the German cycle during the first ERM period (1979-93), which could indicate a convergence effect through policy discipline. However, the direction of causation is not clear. The UK left the ERM at least in part because of a lack of convergence. Success in the ERM may have reflected prior convergence just as much as increased convergence reflected the impact of ERM membership.
Interestingly, the existence of a separate European cycle is not apparent in Professor Artis' updated work for the post-1992 period presented in his EMU study. Instead it confirms the findings of the IMF and others that in the past ten years there has been a general increase in the global co-movement of business cycles. But it may also be the case that the run-up to EMU membership saw greater convergence with the euro area than seen in the period since, as discussed in the assessment of transition.

Analysis in the next section and in the flexibility test considers the role of the exchange rate as an adjustment mechanism. Movements in the real exchange rate provide one of the adjustment mechanisms that brings the demand for UK goods and services into balance with supply. Outside EMU, nominal exchange rate movements can provide a means of facilitating real exchange rate adjustment. If the UK were in EMU and a shock occurred that required a change in the real exchange rate between the UK and the rest of the euro area, this could only be achieved if UK inflation differed from inflation in the rest of the euro area for a period of time. However, some nominal exchange movements may be unwarranted by economic conditions. Joining EMU would eliminate this source of country-specific shocks between the UK and euro area economies. Professor Willem Buiter and Dr Clemens Grafe, in their contribution to the EMU study *Submissions on EMU from leading academics* argue that: “For the UK the exchange rate during the 1990s and until well into 2002 has been a source of competitive misalignment and persistent imbalances in the structures of production and demand”. Were this the case, EMU entry would encourage convergence between the UK and the euro area. But this depends on whether exchange rate movements tend to be stabilising or destabilising.

Treasury analysis in the EMU study *The exchange rate and macroeconomic adjustment* shows that large exchange rate movements have not had a disruptive impact on the overall level of UK output or prices, although they have undoubtedly had a differential impact on individual sectors of the economy. The study concludes that exchange rate changes themselves generally reflect changes that are occurring in the underlying structure of demand and supply in the economy and appear to be more the symptom than the cause of underlying imbalances. In particular, the strength of sterling since 1996 has been associated with strong domestic demand in the UK compared with the euro area.

In the absence of any nominal exchange rate movement these developments would have generated greater inflationary pressure in the UK and greater deflationary pressures in the rest of the euro area, a key lesson of the stylised exercise presented in the Introduction considering ‘what if’ the UK economy had joined EMU in 1999.

If the UK were to enter EMU this would not, in itself, remove a significant source of shocks to the economy. Instead, it could remove one of the mechanisms by which the economy currently absorbs underlying shocks. This need not necessarily be a problem, provided that other adjustment mechanisms can compensate for the loss of nominal exchange rate flexibility without additional disruption. This could be the case if the economy has sufficient alternative channels of flexibility, as assessed in the flexibility test.

**Endogenous convergence: short to medium-term effects of EMU**

The immediate effects of EMU entry could promote important dynamic changes over the short to medium term. The removal of currency barriers should promote greater trade and investment integration. This reduces the probability of members of the currency union experiencing country-specific shocks, thus leading to greater convergence of business cycles:
• the EMU study *Analysis of European and UK business cycles and shocks* reports that a positive association between increased bilateral trade and cyclical co-movement is widely accepted, and as Professor Jeffrey Frankel states in his contribution to the EMU study *Submissions on EMU from leading academics*: "Along with trade links, cyclical correlations rise";

• the EMU study *EMU and trade* concludes that trade intensity within the euro area has increased since the start of EMU. Since the majority of trade in developed countries is intra-industry, increases in trade will tend to promote convergence; and

• increases in cross-border investment should also result over the short to medium term. The investment test concludes that EMU entry on the basis of sustainable convergence would allow the UK to participate in a more active cross-border investment market.

### Endogenous convergence: longer-term effects of EMU

1.128 By their nature, the longer-term consequences of these short to medium-term effects are harder to forecast. Greater trade and investment within a monetary union, combined with higher levels of competition as a result of price transparency and more integrated markets, may result in increased industrial specialisation, where regions specialise in certain types of economic activity. With the permanent elimination of exchange rate risk, firms will have greater certainty about relative costs and may have less need to locate plants across Europe in order to manage exchange rate risk. In these circumstances, firms may concentrate production where they have a comparative advantage and can best exploit economies of scale.

1.129 Specialisation of production might increase the likelihood of sector specific shocks having differential effects across countries, potentially leading to divergence of business cycles in the monetary union. A counter-argument, highlighted by Professor Barry Eichengreen in the EMU study *Submissions on EMU from leading academics*, is that growth in intra-industry trade, as opposed to growth in inter-industry trade, could imply that trade could rise without a comparable increase in sector specialisation. This would suggest that the removal of barriers to trade might have only limited implications for the vulnerability to sector-specific shocks.

1.130 To assess the probable impact of the single currency on specialisation, the EMU study *EMU and business sectors* takes into account trends in EU specialisation and specialisation in other currency unions, such as the US. 21 The EU appears less specialised than the US, though a very gradual increase in EU specialisation has been apparent over recent decades. However, as discussed in the assessment of structural convergence, the large EU countries have relatively diversified industrial structures and so are unlikely to be affected by sector-specific shocks. This argument has less force for the smaller, more specialised euro area countries that engage in less intra-industry trade, notably the relatively low income countries such as Greece and Portugal.

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21 Comparability is complicated by the reliability and availability of data, the size of the regions sampled and also the fact that specialisation calculations can be based on different levels of aggregation.
Another source of potential medium and long-term convergence is in financial structures. Greater financial market integration and greater similarity of financial structures could promote convergence of business cycles:

- the integration of financial markets between euro area countries is considered in the EMU studies *The location of financial activity and the euro* and *EMU and the cost of capital*. The evidence so far indicates that the euro has had a considerable impact on financial markets, with rising cross-border activity. However, full integration is still some way off with regulatory constraints remaining in place;

- financial market integration in EMU may promote the development of UK-style capital markets across the euro area. A rise in institutional investment in the euro area, which is being driven by an increasing need for the provision of private pensions, has been occurring for several years;

- over time, a common monetary policy may affect the structure of credit, as considered in the EMU study *Housing, consumption and EMU*. The UK now has a macroeconomic framework which is delivering stability and low inflation. This has led to periods in which fixed rate mortgages have been attractive to UK borrowers, although the length of fix remains below that of much of the rest of Europe; but

- evidence from the euro area, in particular Ireland, suggests that the structure of the UK mortgage market would be unlikely to change quickly if the UK were to join EMU. Borrowers in Ireland have continued to switch between fixed and variable rate mortgages depending on which is expected to be cheaper. There are also serious impediments to the development of a single EU mortgage market at this early stage. Differences in market structures, regulation, interest rate terms and risks of default are likely to act as a barrier to the development of cross-border competition. To date, as highlighted in the assessment of structural convergence, there is little evidence of mortgage market convergence in the euro area.

**Conclusion: how strong are endogenous convergence effects likely to be and how rapidly could they occur?**

The process by which membership of EMU encourages convergence gives grounds for optimism about the future compatibility of UK structures, including housing. However, these effects are only likely to be realised over time and so will not compensate for current short to medium-term cyclical and structural differences between the UK and the euro area economies.
THE TRANSITION TO SUSTAINABLE CONVERGENCE AND THE EXCHANGE RATE

1.133 All the aspects of convergence assessed so far come together in the assessment of the transition to settled and sustainable convergence – and the particular risks it poses, the issues raised and the potential policy responses to them. Together these factors determine the scale of the transition challenge and the ‘transition strategy’ of policymakers to deal with it, including the fiscal and monetary policy options available for managing transition and the option of delaying entry until the transition conditions are more amenable:\(^2\)

- cyclical factors are important to transition. The transition conditions are marked out by the extent of the interest rate differential and by the divergence of the exchange rate from the level consistent with long-term sustainable convergence and overall competitiveness;

- history matters because past exchange rate decisions such as the decision to join the ERM in 1990 (and to rejoin the Gold Standard in 1925) and the ‘what if’ exercise revisiting the decision not to join EMU taken in 1997 indicate the scale of the problems, both immediate and longer term, likely to be encountered if transition conditions are not taken seriously;

- structures matter because of the potential for the economic impact or ‘shock’ of the transition to have longer lasting, and possibly permanent, effects via their impact on and interaction with the structures of the economy; and

- endogenous convergence effects in the future matter to the extent that, if they were to come through quickly and to a significant extent, they may lessen the longer-term consequences of the transition shock.

1.134 In his contribution to the EMU study *Submissions on EMU from leading academics*, Professor Robert Mundell notes: “The issue of timing is important... If Britain enters when its economy is in a strong boom compared to Europe, the pound would be high against the euro, and that might in the long run put Britain at a competitive disadvantage; the opposite would be true if Britain's economy was relatively weak.”

1.135 This section assesses how important transition issues are to the overall assessment of sustainable convergence at the present time for the UK economy. It does this by considering:

- the difference in adjustment mechanisms in EMU, anticipating the analysis of the flexibility test;

- the exchange rate level consistent with sustainable convergence;

- the reasons for the strength of sterling in recent years; and

- the options for entering EMU if the prevailing market exchange rate differs from this sustainable level and if there is an interest rate differential.

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\(^2\) The importance of transition was discussed by Ed Balls, Chief Economic Adviser to the Treasury, in ‘Why the five tests?’, the December 2002 Cairncross lecture.
Outside EMU, experience shows exchange rate stability can only be achieved on the basis of sound economic fundamentals, in particular low and stable inflation, steady and sustainable growth and sound public finances. As has already been emphasised, the Government sees the exchange rate as the outcome of all other policies. However, in the context of the assessment of EMU membership, although the sustainable real exchange rate is still determined by fundamentals, the nominal sterling-euro exchange rate becomes a policy variable in the transition strategy.

In terms of its eventual impact, the shock of transition is the same as any other demand shock. The difference is that policy choices which go to make up the transition strategy can potentially influence its nature and lessen any damaging impact in terms of the transition costs. This was a clear lesson from the ‘what if’ analysis in the Introduction.

The EMU study Modelling the transition to EMU provides a substantive analytical framework for assessing the transition to sustainable convergence, which is drawn on in this section. In order to motivate the later discussion of the practical considerations of managing the transition, the analysis starts by establishing some key analytical themes, drawing on various EMU studies.

Real exchange rate adjustment inside and outside EMU

The role of the real exchange rate in adjustment is a key theme running throughout the assessment and is a focus of the assessment of flexibility. As already established, the real exchange rate is the nominal rate adjusted for the differences between measures of domestic and overseas prices. As entry to monetary union only involves fixing the nominal exchange rate, differences in inflation rates between countries will still enable relative prices, real exchange rates and competitiveness between countries to change inside a single currency area.

From any starting point for the UK economy, the UK’s real exchange rate will eventually return to its sustainable equilibrium level which is determined by the fundamentals of the real economy. The way that the economy adjusts to reach this sustainable equilibrium would be different if the UK were to join EMU:

- **inside EMU** real exchange rate changes between the UK and euro area occur entirely through changes in relative prices via national inflation rates. If there were excess demand for UK production, then there would be upward pressure on UK inflation and hence on the UK-euro area real exchange rate. UK products would become less competitive, encouraging some switching of demand towards euro area production. This process would continue until the initial excess demand had been eliminated; or

- **outside EMU** the same eventual shift in relative prices would need to take place but the adjustment could also come about through a change in the nominal exchange rate. Nominal exchange rates tend to adjust more rapidly than prices and are potentially less disruptive to growth and jobs in the adjustment phase, as described in more detail in the EMU studies The exchange rate and macroeconomic adjustment by HM Treasury and Modelling shocks and adjustment mechanisms in EMU by Dr Peter Westaway.
Only the nominal sterling-euro exchange rate can be chosen on entry to EMU. If the real exchange rate, which represents price competitiveness, is initially too high or too low then this divergence will eventually be corrected by changes in relative price levels, with no long-run effect on the economy, in principle. In practice, key lessons from the ‘what if’ analysis in the Introduction are that:

- the costs associated with the misalignment may be potentially large and long-lasting, and would depend on the size of the initial misalignment and the flexibility of wage and price adjustment;
- if the misalignment of the exchange rate were sufficiently large in terms of an entry rate far above the sustainable rate, there may be permanent damage to the real economy since trade opportunities may be permanently lost and resources devoted elsewhere; and
- the adverse effect of going in at too high a rate, in terms of the impact on growth and jobs, is likely to be greater than the effects of going in at too low a rate. The costs are potentially asymmetric.

The sustainable exchange rate for entry

Getting the entry rate at the time of entry right is obviously a key factor in achieving sustainable convergence. But this is not straightforward because the medium-term sustainable exchange rate is not directly observed and because of the many uncertainties in estimating it, which are complicated by the significant movements in sterling and other exchange rates since 1996.

Another example of hysteresis, as discussed in the Introduction.
The EMU study *Estimates of equilibrium exchange rates for sterling against the euro* by Professor Simon Wren-Lewis reviews a number of alternative concepts of the equilibrium exchange rate and the methodologies that have been used to estimate each concept, and provides updated estimates on the basis of the ‘macroeconomic balance’ approach, described along with other approaches in Box 1.6.

**Box 1.6: Measures and estimates of the sustainable exchange rate**

There are two main approaches to measuring the equilibrium exchange rate:

- the purchasing power parity (PPP) approach, which gives the exchange rate that equates the price of a basket of goods and services when expressed in a common currency. The OECD estimates that the PPP exchange rate was 1.36 €/£ in 2002. However, in practice, exchange rates tend to deviate from PPP levels for long periods of time. The costs of transportation and distribution limit the speed and extent to which the demand for goods and services responds to divergences between the actual exchange rate and its PPP level. This slow response enables such divergences to persist. PPP exchange rates also make no allowance for savings and investment flows which may have a significant influence on exchange rates in both the short and medium term; and

- another more general approach is to estimate the level of the exchange rate that both balances the national supply of and demand for goods and services (internal balance) and ensures that the desired flow of net national savings is consistent with the net trade position (external balance) in the medium term. This is sometimes known as the ‘macroeconomic balance’ approach.

A wide range of estimates for the equilibrium sterling-euro exchange rate have been proposed in recent years using a variety of techniques. These estimates are plotted in the chart below. In general, estimates derived using statistical and econometric methods have tended to be at the lower end of the spectrum. The estimates have ranged from around 1.15 to over 1.60 €/£.
1.144 Professor Wren-Lewis considers 1.37 €/£ to be the current medium-term sustainable sterling-euro exchange rate, a slightly higher rate for sterling than in his earlier work reflecting trends in recent years. On the basis of this, and reflecting the uncertainties inherent in calculations of this sort, the assessment is based upon a medium-term estimate of the sustainable sterling-euro exchange rate in a range around 1.37 €/£. But on different assumptions about the recent and future sustainable trade performance of the UK and other countries, equilibrium exchange rate estimates vary significantly.

1.145 Professor Wren-Lewis’ EMU study also highlights the need to take account of the euro-US dollar exchange rate. This matters because if the UK were to join EMU, then price competitiveness of UK exports to the US dollar area would depend on future movements in the euro-US dollar exchange rate. Professor Wren-Lewis estimates the equilibrium sterling-US dollar exchange rate at 1.59 $/£, close to the actual level in May 2003. Professor Wren-Lewis estimates the equilibrium euro-US dollar exchange rate at around 1.15 $/€, in line with the level in May 2003.

1.146 If the UK were to join the euro, and the euro were subsequently to appreciate above its estimated equilibrium exchange rate against the US dollar, a consequence of this would be that sterling would be overvalued against the US dollar. Although half of the UK’s trade is with the euro area, a large proportion of UK trade is with the US, so this could have adverse consequences for UK companies exporting to the US at a time when the economy was already adjusting to EMU entry. This adds an additional uncertainty which a country that did more of its trade with the euro area would not face.

Why has sterling been strong in recent years?

1.147 A further important question which must be addressed is why the sterling-euro exchange rate strengthened so much after 1996, as shown in Chart 1.15. The EMU study The exchange rate and macroeconomic adjustment assesses whether this strengthening was warranted by the economic conditions in the UK and the euro area over this period. This has implications for the transition strategy, as assessed below.

1.148 The EMU study reviews a number of explanations for sterling’s strength:

- that it has simply been driven by a foreign-exchange market bubble which will eventually ‘burst’;

- that there may have been an improvement in the UK’s trade performance relative to the euro area since the mid 1990s. The EMU study Estimates of equilibrium exchange rates for sterling against the euro finds some recent empirical evidence to support this; and

- that there has been a fall in desired net saving by the private sector in the UK, driven in particular by the interaction between the housing market and consumer behaviour causing domestic demand to be unusually strong. This behaviour, while financially unsustainable in the longer term as consumers’ ability to borrow becomes increasingly constrained by high levels of debt, may have been sufficiently strong and sufficiently persistent to warrant an exchange rate appreciation to enable the economy to absorb the demand pressures in the interim.
The review in the EMU study *The exchange rate and macroeconomic adjustment* suggests that, of these, the financial market bubble explanation is least plausible. Had an appreciation of this magnitude and this duration been unwarranted, then UK output and employment would not have remained as strong for as long as in fact occurred. More generally, and importantly, as discussed in the assessment of endogenous convergence, the EMU study's analysis of the relationship between exchange rate changes, output and prices does not support the proposition that the exchange rate has been a destabilising source of shocks across the whole economy.

Sterling's appreciation absorbed some of the inflationary pressures that might otherwise have been generated by the strength of demand for UK goods and services. And it alleviated some of the deflationary pressures in the euro area generated by relatively weak demand for euro area goods and services. If the UK had joined EMU in 1999, these underlying pressures would have had greater effects on price levels as the nominal exchange rate would not have been available as a safety valve. This would have led to higher inflation in the UK than actually occurred, a key lesson from the 'what if' analysis in the Introduction.

The analysis so far clearly suggests that the divergence of sterling from its equilibrium rate in recent years, while warranted by economic conditions, is evidence of a lack of sustainable convergence. Up until the end of 2002, sterling remained very strong (it averaged 1.56 £/€ in December 2002). Sterling has subsequently fallen back against the euro, increasing the likelihood that sterling's strength may have reflected cyclical pressures rather than longer-term trends. But explaining past exchange rate movements is inherently difficult – forecasting the future path is harder still – and so this uncertainty complicates further the assessment of the transition.
Managing the transition in practice

A decision to enter EMU means:

- the differential between short-term interest rates in the UK and the euro area would need to be eliminated by or on the date of entry; and
- the sterling-euro nominal exchange rate would be permanently fixed at an agreed rate at the date of entry. 24

Central to the practical implications of transition are the reasons for the transition conditions which exist and the choices they pose for policymakers. In a world where price and wage flexibility is not total, the adjustment required for transition will never be either costless or without risk. The transition strategy followed by policymakers needs to be designed to minimise the costs of transition, as analysed in the EMU study Modelling the transition to EMU.

The EMU study investigates a number of scenarios designed to provide a toolkit for policymakers faced with the practical question of assessing the costs and risks associated with different approaches to managing the transition. As with any work based on an empirically estimated model of the economy, its findings are illustrative rather than definitive, based on a range of assumptions summarised in Box 1.7.

By their very nature, the importance of transitional issues will vary over time according to the cyclical position of the economy at the point of entry, the degree of cyclical convergence and the level of the exchange rate relative to its longer-run equilibrium sustainable level. In addition the more flexible the economy the smaller any transitional cost would be.

At the present time, the assessment of cyclical convergence shows that UK short-term interest rates are currently 1 1/4 percentage points higher than in the euro area, and are expected to remain so in the short to medium term, reflecting differences in cyclical conditions and the reasons for them. So, other things equal, if the UK were to join EMU during this period, some of the analysis from the ‘what if’ simulation of joining EMU in 1999 is potentially relevant (albeit on a materially different scale, since the interest rate differential is 1 1/4 percentage points compared with nearly 4 percentage points at the time of the 1997 assessment). On the basis of this stylised model:

- lowering UK interest rates by 1 1/4 percentage points compared with the level that the MPC has set them at would stimulate UK domestic demand with risks for the economy;
- this would lead to higher output and prices in the short run, which would have a further destabilising effect through the decline in real interest rates it would generate;
- these developments would not be sustainable and the increase in inflation would serve to bring the UK economy back towards trend, but this would require reduced demand and output growth; and
- the flexibility of prices would determine how much disruption continued into the medium term and whether it had permanent effects.

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24 As set out in Article 123(5) of the EC Treaty, if the UK were to decide to join EMU and the ECOFIN Council of Economic and Finance Ministers decided that the UK met the ‘necessary conditions’ to join EMU, the finance ministers of the euro area countries plus the UK would subsequently adopt, by unanimity, the rate at which the euro would be substituted for sterling.
In May 2003, the sterling-euro nominal exchange rate had fallen to within the medium-term estimate of the range for the sustainable sterling-euro exchange rate which is the basis for the assessment, around 1.37 €/£ (or 2.68 DM/£). But on different assumptions about the recent and future sustainable trade performance of the UK and other countries, equilibrium exchange rate estimates vary significantly. Moreover, it is too early to judge the impact on the paths of growth and inflation in the UK and the euro area from the recent sharp movements in the euro-US dollar and sterling-euro exchange rates.

Box 1.8 draws on the analysis in the EMU study Modelling the transition to EMU. The box illustrates some alternative policy options for dealing with different possible transition conditions of joining EMU for different combinations of interest rate differentials and exchange rate overvaluation relative to a sustainable exchange rate. It is important to recognise, as the box makes clear, that these simulations are illustrative and dependent on a series of stylised assumptions.
The type of model-based analysis described in the EMU study *Modelling the transition to EMU* has been drawn on, adopting similar stylised assumptions to examine a range of possible transition scenarios for different combinations of interest rate differentials and exchange rate overvaluations at the time of the decision on entry relative to what is required on entry. For the purposes of this exercise, it is assumed that entry would take place in 2005Q1. The table shows two different transition policies designed to return the output gap to zero in 2005Q1 to illustrate the issues:

- one where, over and above the automatic stabilisers, government spending is cut over the period up to 2005Q1; and
- a second where UK monetary policy is actively tightened in the 18 months before EMU entry to dampen domestic demand.

It is important to recognise that these simulations are illustrative scenarios, based on linear economic models, and are dependent on a series of stylised assumptions including starting positions and the stabilisation objective. Subject to these caveats, the table illustrates that:

- output can be stabilised in the short run as specified, but potentially only by significant changes in fiscal or monetary policy as modelled, with monetary policy the more effective tool reflecting the difficulties in using fiscal policy in particular to achieve stabilisation over such a short period of time; and
- the greater the interest rate differential or exchange rate overvaluation, the greater the policy adjustment required as modelled.

Clearly in practice the more flexible the economy is, the less significant any transitional issues will be.

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**Box 1.8: Illustrative options for the transition strategy to EMU**

<table>
<thead>
<tr>
<th>Initial interest rate differential (percentage points)</th>
<th>0</th>
<th>5</th>
<th>10</th>
<th>0</th>
<th>5</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required percentage cut in government spending sustained over the period 2003Q3 to 2005Q1</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>8</td>
<td>0</td>
<td>1(\frac{1}{2})</td>
</tr>
<tr>
<td>Estimated percentage point interest rate differential sustained over the period 2003Q3 to 2004Q4</td>
<td>0</td>
<td>3</td>
<td>7</td>
<td>11</td>
<td>1(\frac{1}{4})</td>
<td>2(\frac{3}{4})</td>
</tr>
<tr>
<td>Degree of exchange rate overvaluation relative to sustainable level prior to entry (per cent)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>5</td>
<td>10</td>
<td>0</td>
<td>5</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3</td>
<td>7</td>
<td>11</td>
<td>1(\frac{1}{4})</td>
<td>2(\frac{3}{4})</td>
<td>4(\frac{1}{4})</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>10</td>
<td>14</td>
<td>2(\frac{1}{2})</td>
<td>4</td>
<td>5(\frac{1}{2})</td>
</tr>
</tbody>
</table>

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\(a\) The earlier description of the properties of the NiGEM model in the structural convergence section applies to the results from this exercise which draw on the NiGEM based simulations used in the EMU study *Modelling the transition to EMU.*
As illustrated in Box 1.8, fiscal and monetary policy could be used to ease the transition problem. Fiscal tightening, through either higher taxes or lower government spending, would offset the stimulatory impact of lower interest rates and a lower exchange rate on entry. Alternatively, monetary policy could be tightened in the run up to entry through higher interest rates. But the necessary policy tightening would be more modest if the transitional costs were spread over a longer period, including the initial years of membership which was the approach adopted by some countries (see Box 1.9). Clearly in practice the greater the degree of sustainable and settled convergence and flexibility the less significant the impact of the transition will be.

The performance of the current euro area in the transition phase sheds valuable light on the importance of transition and what it entails. Box 1.9 describes the transition phase for some of the current euro area countries.

There are additional uncertainties for the UK at present reflecting both the current state of the global economy and how it will evolve, relating to:

- the current uncertainty in global markets, which might impact disproportionately on the UK given the UK’s strong global investment and financial linkages;
- the future evolution of the US dollar and the euro. If the US dollar were to fall against the euro (overshooting its equilibrium level on Professor Wren-Lewis’s estimates) this would affect the transition evaluation for the UK; and
- the economic performance of the euro area, and in particular the German economy. Financial market and forecast expectations are conditioned on the German economy recovering with growth picking up. If this does not happen and there are knock-on effects for the rest of the euro area, then ECB rates would be lower for longer than expected.

The transition is always an uncertain period, reflecting the inherent permanence of the EMU decision. This also means that the scale of any policy tightening is uncertain, but at the current time, although transition issues are less acute than they have been in the past, a policy tightening would still be necessary.

Given all the uncertainties, the first best solution is to ensure economic conditions are sustainable at entry: this minimises the risk of a difficult and prolonged adjustment once locked into EMU.
Box 1.9: Transition in the first wave of EMU membership

The experience of current euro area members illustrates the importance of transition issues. In terms of nominal interest rates and exchange rates, Germany and France experienced a fairly smooth transition: interest rates converged two years prior to entry and no exchange rate revaluations were made in the years prior to January 1999.

In contrast, Ireland and Greece experienced fairly pronounced transitions to EMU. The need to meet the inflation convergence criterion necessitated a sharp adjustment prior to entry as both countries needed tight monetary conditions for as long as possible to keep inflationary pressures in check. In Ireland interest rates fell by 3½ percentage points in the four months prior to entry, and in Greece they fell by 5 percentage points in the year prior to entry in 2001.

There is considerable debate over whether Germany joined EMU at an overvalued exchange rate, which may have contributed to the relatively weaker performance of the German economy since the beginning of EMU. In their contribution to the EMU study Submissions on EMU from leading academics, Professor Willem Buiter and Dr Clemens Grafe state that: “The D-Mark was almost surely overvalued and the Irish Punt undervalued on December 31, 1998...”.

Since the start of EMU, relatively low inflation in Germany has led to a significant fall in the real effective exchange rate.

At the start of EMU, Ireland and the Netherlands were in more cyclically advanced positions, with both experiencing positive and rising output gaps. In contrast, both Germany and France had slightly negative gaps that were closing. Since 1999, Ireland and the Netherlands have experienced a more pronounced cycle than Germany or France.

Inflation differentials narrowed to historical lows in the lead up to EMU, partly reflecting the need to fulfil the EC Treaty convergence criteria. Once inside EMU differentials widened again. Ireland and the Netherlands have experienced relatively high inflationary pressures, which have reduced competitiveness and helped in the adjustment process of returning the economies to trend. Economies such as Germany, with relatively weak growth, have experienced weaker inflationary pressures.
Conclusion: how important are transitional issues at present?

If the UK were to enter EMU now, other things equal, a transitional shock of a 1\(\frac{3}{4}\) percentage point cut in interest rates (the differential between the UK and the euro area), could have a destabilising effect, working in particular through the UK housing market and consumption. It is too early to judge the paths of growth and inflation resulting from the recent sharp movements in the euro-US dollar and sterling-euro exchange rate. In addition, there are significant future uncertainties in the current economic and political climate, for example, trends in global financial markets, in the US dollar and euro and in the relative growth paths of the UK and the euro area. All these suggest that there are clear risks associated with transition to EMU membership at the present time and emphasise the importance of sustainable and durable convergence and increasing the flexibility of the economy through the measures the Government is setting out.
CONCLUSIONS: THE CONVERGENCE TEST

1.165 There has been significant progress on cyclical convergence since 1997. But robust growth in consumer spending has continued to provide substantial support to GDP growth in the UK, supported by a buoyant housing market. UK short-term interest rates remain 1½ percentage points above those in the euro area and have consistently been above euro area rates since 1999. With interest rates higher in the UK and with the sterling-euro exchange rate remaining above sustainable levels throughout this period, inflation, measured on a harmonised basis, has averaged ¾ percentage point less in the UK than in the euro area. Financial markets and the forecasts by international organisations suggest that monetary conditions need to remain tighter in the UK than in the euro area into the medium term. However, the UK now exhibits a greater degree of cyclical convergence than some EMU members demonstrated in the run-up to the start of EMU in 1999 and while some EMU countries still demonstrate substantially more cyclical convergence than the UK, some demonstrate substantially less. The lack of cyclical convergence with the euro area constitutes a risk factor, particularly given the considerable degree of global uncertainty at present.

1.166 On past performance, UK business cycles have been much less compatible with the euro area average than has been the case in other countries such as Germany and France. There is some evidence that compatibility may have increased in recent years, reflecting greater macroeconomic stability in the UK and increased convergence between the business cycles of all the advanced economies. Over the last five years, the UK output gap cycle has been more highly correlated with the German cycle than that in the US, although the UK has fluctuated around a higher growth trend. France, Germany and Italy have experienced output gaps on average close to the euro area aggregate, at an average absolute deviation of between ¼ and ¾ per cent of GDP over the last decade. The average UK deviation is larger at almost 1 per cent of GDP but not as large as some of the existing euro area countries and not out of line with the sort of regional deviations seen within countries. However, the UK’s history of divergence remains a risk factor.

1.167 Certain structural differences between the UK and the euro area are risk factors for the achievement of settled and sustainable convergence. Differences in the UK and euro area housing markets are high risk, differences in investment linkages and financial structures are low to medium risk and sectoral and trade differences are lower risk. In terms of industrial specialisation the UK is quite similar at the aggregate level to other large EU countries.

1.168 Distinct supply and demand features of the UK housing market mean that both the relationship between house prices and household consumption, and the underlying rate of real house price growth, are stronger in the UK than in the euro area. The structure of the UK mortgage market is such that UK households are more sensitive to interest rates, which has implications for the transmission of monetary policy.

1.169 Analysis of monetary transmission suggests that the UK may be more sensitive to monetary policy through some channels, and less sensitive through others: the pass-through of interest rate changes from official rates to bank lending rates is faster in the UK; the household sector in the UK may react more strongly to interest rate changes than in euro area countries; the UK is potentially more sensitive to monetary policy through its impact on the exchange rate; but there is little to suggest that the corporate sector in the UK will react more strongly than in the euro area. The UK’s relatively low levels of nominal wage rigidity will tend to reduce the impact of monetary policy on output.
1.170 The process by which membership of EMU encourages convergence gives grounds for optimism about the future compatibility of UK structures, including housing. However, these effects are only likely to be realised over time and so will not compensate for current short to medium-term cyclical and structural differences between the UK and the euro area economies.

1.171 If the UK were to enter EMU now, other things equal, a transitional shock of a 1¼ percentage point cut in interest rates (the differential between the UK and the euro area), could have a destabilising effect, working in particular through the UK housing market and consumption. It is too early to judge the paths of growth and inflation resulting from the recent sharp movements in the euro-US dollar and sterling-euro exchange rate. In addition, there are significant future uncertainties in the current economic and political climate, for example, trends in global financial markets, in the US dollar and euro and in the relative growth paths of the UK and the euro area. All these suggest that there are clear risks associated with transition to EMU membership at the present time and emphasise the importance of sustainable and durable convergence and increasing the flexibility of the economy through the measures the Government is setting out.

1.172 Alongside settled and sustainable convergence, there needs to be sufficient flexibility to ensure that the economy can respond and adjust quickly to divergences which emerge, minimising the adverse impact on growth, stability and employment. The question of whether convergence and flexibility together provide the necessary degree of sustainable and durable convergence is answered after the assessment of the flexibility test.

1.173 There has been significant progress on convergence since 1997, which marks a break with the UK’s past history of divergence and reflects greater stability of the UK economy and global trends towards integration. Indeed, the UK now exhibits a greater degree of cyclical convergence than some EMU members demonstrated in the run-up to the start of EMU in 1999 and remains more convergent than a number of EMU countries today. The UK meets the EC Treaty convergence criteria for inflation, long-term interest rates and government deficits and debt. But there remain structural differences with the euro area, some of which are significant, such as in the housing market. Because of the risks these factors pose, and the fact that any dynamic changes would take time to come through, we cannot yet be confident that UK business cycles are sufficiently compatible with those of the euro area to allow the UK to live comfortably with euro area interest rates on a permanent basis. Overall, at the present time, while the extent of convergence with the euro area has significantly increased, the convergence test is not met. The Government is committed to building on the platform of stability and has announced a wide-ranging forward-looking policy agenda to deliver high levels of output and employment. This will help to make the economy more convergent with the euro area for the future.

1.174 In terms of macroeconomic policy, the Government’s announcement of its intention in the next Pre-Budget Report to give the Bank of England a symmetric inflation target as measured by the Harmonised Index of Consumer Prices will improve the quality of the UK inflation target and will also help ensure inflation expectations in the UK remain in line with those of the euro area.

1.175 To deliver a more settled platform of stability in the future and a higher degree of convergence, the Government is committed to a comprehensive programme to improve the functioning of the housing market. Building on the reforms to deliver a step change in planning policy, the Government is undertaking further significant changes in the planning system, supply of housing and housing finance to tackle market failures, increase the responsiveness of supply to demand and reduce national and regional price volatility. These measures are beneficial in their own right to improve the stability and flexibility of the UK housing market and wider economy, but will also increase the housing market’s compatibility with the euro area, encouraging greater convergence over time.
1.176 This means implementing quickly and decisively past reforms to housing supply and going further to address both supply and demand in the housing market and macroeconomic stabilisation more generally:

- on the supply side, the Government is requiring new Regional Spatial Strategies to take account of volatility in the housing market and promote macroeconomic stability as part of delivering sustainable development; tough and credible measures, including intervention, where local authorities are not delivering housing numbers in high demand areas; and exploring whether, in the medium term, achieving the Government’s objectives will require a system of binding local plans. The Government has also commissioned a review of issues affecting the elasticity of supply in the UK, in particular to look at the role of competition, capacity and the financing of the house building industry and possible fiscal instruments, and the interaction of these with the planning system and sustainable development objectives;

- on the demand side, through a review of the UK mortgage market to establish why the share of fixed rate mortgages is so low in the UK compared to many other EU countries and to identify ways of encouraging the market for longer-term fixed rate mortgages; and

- at the macroeconomic level, given that housing is identified as a significant risk factor to the achievement of sustainable and durable convergence and in the context of the Treasury discussion paper *Fiscal stabilisation and EMU*, to consider what additional reforms and measures might help deliver wider stability in the economy, including with reference to the housing market, to create the right conditions for convergence within EMU. The Government’s announcement of its intention in the next Pre-Budget Report to give the Bank of England a symmetric inflation target as measured by the Harmonised Index of Consumer Prices will help ensure inflation expectations in the UK remain in line with those of the euro area.
If problems emerge is there sufficient flexibility to deal with them?

The assessment of the flexibility test is key to the overall assessment of the five tests. Flexibility is the ability to respond to economic change efficiently and quickly while safeguarding fairness. Sufficient flexibility ensures that shocks do not have long-lasting effects and that high levels of output and employment are maintained. Flexibility ensures convergence is durable. The 1997 assessment judged that the UK and EU as a whole needed to develop more flexibility, particularly in labour markets. This is why the UK Government has been at the forefront of promoting flexibility in both the UK and EU. Flexibility is now recognised as being even more important than it was in 1997.

If there were a high degree of convergence, then the degree of UK flexibility required, though still high, would be less. But the assessment of the convergence test is that there is not this degree of settled and sustainable convergence.

Key points:

- Inside EMU, loss of national monetary policy and the nominal sterling-euro exchange rate means that other adjustment mechanisms would have to work harder. Wage and price adjustment are the most effective adjustment mechanisms available, but there is also a potentially enhanced role for fiscal policy. National monetary unions, including the UK, have been successful without high internal mobility.

- UK labour market flexibility has improved markedly since 1997. Significant falls in overall unemployment and long-term unemployment have accompanied strong employment growth giving the UK one of the lowest levels of unemployment in the OECD, lower even than the US. The 1997 assessment observed that the UK already had a relatively high degree of employment flexibility. This has been maintained, as demonstrated by a high incidence of part-time employment and flexible working practices. Moreover, evidence since 1997 points to an underlying improvement in wage flexibility. However, important challenges remain in the UK to reduce inactivity and repeated spells of worklessness and to enhance skill levels and improve mobility. Adjustment mechanisms have not been fully tested in recent years as the UK has had a relatively stable macroeconomic environment. If the UK decided to join EMU, wage movements would need to play a greater role in adjustment.

- EMU membership puts a premium on the need for institutional structures to cope with shocks. Therefore, while the positive reforms to the institutional and policy framework in the UK suggest that recent improvements can be sustained, more progress on labour market reform would enhance flexibility in the UK and advance the Government’s long-term goal of employment opportunities for all. In the context of EMU, it would also increase the durability of convergence between the UK and the euro area.

- A decision to join EMU would increase the need for rapid price movements and would also make it necessary for firms to be able to respond effectively to shocks and adapt to the competitive opportunities that the single currency will bring. The UK has a reasonable degree of price flexibility with relative prices both rising and falling within the overall inflation aggregate. Moreover, the UK generally exhibits a competitive business environment and the Government is committed to further sharpening competition forces and improving opportunities for entrepreneurship in all areas of the community. Since the 1997 assessment there has been much effort to promote competition at the EU level. Despite progress, the degree of competition and market flexibility falls short of what might be achievable as measured by the US.

- Capital markets play an important role in stabilising the impact of shocks between regions in the US, facilitated by highly integrated financial markets. Although cross-border risk sharing is not significant in Europe at present, greater financial market integration would enhance the scope for risk sharing across the EU, and bolster its role as an adjustment mechanism.
- The experiences of EMU members to date illustrate the role that adjustment mechanisms can play, in particular regarding the implications of inflation differences within EMU. There are some signs that EMU membership has facilitated euro area wage flexibility. As a large monetary union with a high degree of diversity between states, the US also shows the importance of a high degree of market flexibility and capital market integration.

- Fiscal policy has the potential to support market adjustment mechanisms inside EMU. But enhanced stabilisation mechanisms would need to meet a range of criteria to ensure their worth and be implemented when the understanding of the mechanisms by which fiscal policy affects the real economy has increased.

The overall conclusion of the flexibility test is:

- UK labour market flexibility has improved markedly since 1997. Significant falls in unemployment have accompanied strong employment growth giving the UK one of the lowest levels of unemployment in the OECD, lower even than in the US. While considerable progress has been made to reform labour, product and capital markets in the UK and the euro area, more can be done to ensure the UK economy is resilient to deal with the risks identified in the convergence test and the challenges of EMU membership. Inflation volatility is very likely to increase inside EMU. Greater flexibility in the UK and throughout the euro area would minimise output and employment instability, helping to ensure convergence was durable and that the potential benefits of EMU could be fully realised. This underlines the importance of maintaining progress on a range of economic reform policies to enhance flexibility and resilience to shocks, particularly in labour markets. The less progress on flexibility that is achieved in the EU, the greater the premium on a high level of flexibility in the UK economy. Overall, at the present time, we cannot be confident that UK flexibility, while improved, is sufficient. Reflecting this, at the present time, the achievement of sustainable and durable convergence has not been demonstrated. But increased flexibility through the measures we set out will help to provide greater reassurance that the economy can meet the additional demands that EMU membership would pose and contribute to achieving sustainable and durable convergence.

Policy requirements:

- Flexibility, the ability to respond to economic change efficiently and quickly in a way that maintains high employment, low inflation and unemployment, and continued growth in real incomes, ensures convergence is durable. Sufficient flexibility ensures shocks do not have long-lasting effects and that high levels of output and employment are maintained.

- In the labour market, the Government is continually working to enhance flexibility and is going further through a package of measures designed to increase wage flexibility in the public sector, improve skills, particularly at the basic and intermediate level, give greater local discretion in the delivery of employment policies and increase labour supply by helping more people to move from welfare to work and increasing cyclical economic migration.

- In the product market, the Government has announced the full independence of the UK competition authorities and is going further to enhance competition in specific markets, reform the planning system to make it work more efficiently and introduce a package of deregulatory reforms to ease the burden of regulation on small business.

- In the capital market, the Government will increase flexibility through reforms to improve access to finance for small enterprises with high growth potential and consultation on further reform to the corporation tax system.

- The degree of fiscal stabilisation may need to increase inside EMU where the absence of a UK-specific monetary policy may cause the degree of macroeconomic volatility to increase. The Treasury discussion paper Fiscal stabilisation and EMU 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 reforms to the institutional framework that EMU membership would require 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 and specific fiscal instruments that could be used for stabilisation purposes. The Treasury will conduct further analysis into these issues to ensure that the policy proposals deliver effective counter-cyclical stabilisation of the economy were the UK to join EMU.

**Stability in Europe - policy frameworks:**

- All European countries have embarked on an ambitious programme to reform labour, product and capital markets and the Government supports policies to strengthen competition in the EU and the Single Market. However, it is important to make more progress at the European level, in particular on employment flexibility, trade and the Single Market in financial services. The less progress on flexibility that is achieved in the EU, the greater the premium on a high level of flexibility in the UK economy.

## THE IMPORTANCE OF FLEXIBILITY

### The flexibility test

2.1 Flexibility is the ability to respond to economic change efficiently and quickly while safeguarding fairness. Changes include the impact of innovation and changing technology, shifts in consumer preferences and external shocks to the UK economy, such as the recent global slowdown. A high degree of flexibility means that the UK will be resilient in the face of such shocks and will minimise costs in terms of lost output and jobs. The central question in this test is, were the UK to enter EMU:

*If problems emerge is there sufficient flexibility to deal with them?*

2.2 In practice, there are many different ways that workers and firms can adjust to economic change, as discussed in the Introduction. For the worker, adjustment may require having to accept a lower wage increase, moving into a different job in the same firm or even changing employer. For firms, adjustment may involve adjusting prices or changing a product line. Flexibility is about minimising the costs of adjustment.

2.3 Flexibility matters whether or not the UK joins EMU. It ensures that the UK is able to make the most of trade and investment opportunities and new technologies. It also means that, within the UK, regions have the ability to adjust to meet changing and differing needs at the local level. Flexibility is also important in ensuring the Government meets its objective of achieving high and stable levels of growth and employment.

2.4 But flexibility would be particularly important if the UK joined the single currency. As noted by the Chancellor in a recent speech:

> “Indeed in a single currency area where the old flexibilities to adjust exchange rates and interest rates are no longer available at a national level, labour, product and capital market flexibilities are even more essential. Adjusting to shocks without putting at risk high and stable levels of growth and employment demands even greater market flexibility.”

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1. The Road to Full Employment: Economic Reforms for a More Flexible and Dynamic Britain and Europe, speech by the Chancellor of the Exchequer to the Centre for European Reform, 10 March 2003.
2.5 The experience of EMU to date shows that, in order to make a success of the single currency, countries need even more resilience to unexpected events since the ability to vary national interest rates and the nominal exchange rate between euro area countries no longer exists. As the test highlights, it is crucial to the membership decision that the UK economy has sufficient flexibility to deal with problems that might emerge in EMU. Sufficient flexibility means a high level of flexibility, both for existing members of EMU but also for countries which wish to join.

2.6 A successful single currency within a successful single market is of benefit to Europe. A recent Treasury paper makes clear that EMU membership puts a premium on ongoing reform of EU labour, product and capital markets, delivered through the Lisbon agenda. The Government will continue to argue that employability, flexibility and stronger competition policies must be a top priority, so that EMU can be a sustained success. This will be particularly important as EMU expands to take in the new Member States joining the EU in 2004.

2.7 The 1997 assessment judged that the UK did not yet have sufficient flexibility to cope with the challenges of monetary union and to compensate for the lack of convergence. In particular, the 1997 assessment noted that the UK and EU labour markets needed greater flexibility. Entry in these circumstances – without sufficient flexibility – would have been extremely costly, as demonstrated in the ‘what if’ exercise described in the Introduction. A key lesson from this is that flexibility would also be important for the transition to EMU. The impact of entry would be less likely to feed through to the real economy if there were sufficient flexibility.

2.8 The assessment of the convergence test has concluded that a high degree of settled and sustainable convergence has still not been achieved. The key question for the flexibility test, therefore, is whether there is a sufficient degree of flexibility to compensate for this and minimise the risks of entering EMU on this basis. Flexibility is now recognised as being even more important than it was at the time of the 1997 assessment, reflecting the challenges of the global economy and the increased demands that EMU membership would make on the UK economy.

2.9 Even if cycles and structures had been assessed in the convergence test to be compatible, there would still be times when the UK would be more likely to experience different shocks – or different transmission of common shocks – to the euro area.

2.10 As flexibility relates to the resilience of the economy and its ability to adjust rapidly while minimising disruption, it determines the durability of convergence. Consequently, the convergence and flexibility tests together determine whether there is sustainable and durable convergence between the UK and the euro area. As emphasised in the Introduction, sustainable and durable convergence is a precondition for realising the potential benefits of EMU membership for the UK.

2.11 High levels of flexibility will mean that workers and firms are able to take advantage of the opportunities that EMU membership would offer. Flexibility complements and supports productivity, particularly in supporting the key drivers of productivity through skills, competition, enterprise and innovation, and is a key element in the assessment of the fifth test on growth, stability and employment. The assessment of the fifth test also considers the broader issue of the impact of the UK decision on EMU on employment levels.

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The assessment of the flexibility test considers the following key issues and questions:

- **Flexibility and adjustment mechanisms in EMU** answers the questions: **How would adjustment differ inside EMU? Which types of flexibility matter? How much flexibility is needed in principle? How might joining EMU affect overall stability?**

  The section considers how joining EMU might change adjustment to shocks and what types of flexibility would be most important inside EMU. The implications of different degrees of flexibility and how EMU might impact on macroeconomic stability are also considered. It draws on the EMU study *Modelling shocks and adjustment mechanisms in EMU* and the analysis in the EMU study *The exchange rate and macroeconomic adjustment.*

- **Market flexibility** answers the question: **How flexible are UK and euro area labour, product and capital markets?**

  Flexibility in all three markets is assessed with a focus on the types of adjustment most important inside EMU: wages for labour markets; prices for product markets; and risk sharing for capital markets. The framework adopted ensures a structured assessment, not just of flexibility in individual markets and regions, but also of how markets can interact and evolve and what this implies for the priorities for making a success of EMU. The assessment draws on the EMU studies *EMU and labour market flexibility*, *Prices and EMU* and *EMU and the cost of capital.*

- **How flexibility and adjustment works in practice** answers the question: **How much adjustment and flexibility is experienced in practice in monetary unions?**

  This section considers how existing monetary unions such as the US and UK adjust in practice, and also examines the experience of euro area countries since 1999. Evidence on how the US adjusts in practice draws on the EMU study *The United States as a monetary union.*

- **The potential for fiscal flexibility** answers the question: **What role does fiscal policy play in adjusting to shocks and might this be enhanced inside EMU?**

  Fiscal policy is an important tool available to policymakers within a monetary union. The fiscal policy section is informed by the Treasury discussion paper *Fiscal stabilisation and EMU.*

- **The Conclusions** assess the evidence on different forms of flexibility to answer the question: **Is the degree of flexibility sufficient for the flexibility test to be met?**

  These conclusions go on to address the question of whether the assessment of the convergence and flexibility tests together show that the achievement of sustainable and durable convergence has been demonstrated.
FLEXIBILITY AND ADJUSTMENT MECHANISMS IN EMU

2.13 This section develops important insights which frame the subsequent assessment of the flexibility test. It draws on the EMU study *Modelling shocks and adjustment mechanisms in EMU* and the analysis in the EMU study *The exchange rate and macroeconomic adjustment*. The section considers four questions:

- how would adjustment differ inside EMU?
- which types of flexibility matter?
- how much flexibility is needed in principle?
- how might joining EMU affect overall stability?

**How would adjustment differ inside EMU?**

2.14 The economy continually needs to adjust to changing circumstances, affecting the competitiveness and profitability of the goods and services that it produces. The UK has experienced a number of such disturbances or shocks in recent years. Some are specific to parts of the UK, such as the foot and mouth crisis in early 2001. Others affect the UK as a whole, for example the strong rise in consumer spending in the late 1980s caused by financial market liberalisation. And others are global in nature, such as the ICT boom in the late 1990s and the heightened uncertainty following the recent global slowdown.

2.15 In or out of EMU, economic flexibility determines how costly adjustment to such shocks is likely to be in terms of unnecessary disruption to the real economy. In a flexible economy, rapid market adjustment, supplemented if necessary by effective policy action, ensures that any adverse impact is minimised. In an inflexible economy, little or no adjustment will cause disruption to the real economy. For example, if the UK economy were to experience a fall in demand for its exports, the resulting fall in the demand for labour would lead to higher unemployment. If workers find it difficult to re-enter the workforce, unemployment might stay higher for some time. There could therefore be a more sustained impact on the economy which, in the worst case, could have permanent effects.

2.16 Determining which aspects of flexibility matter most for a monetary union requires an understanding of how an economy adjusts to shocks in general inside and outside EMU. Box 2.1 illustrates, in a simplified form, how the UK economy might respond to the case, already highlighted, of a fall in external demand for UK export products. Possible adjustment channels include market adjustment, such as wage movements or labour mobility, and policy adjustment including monetary and fiscal policy and movements in the exchange rate.

2.17 In comparing how the economy adjusts inside EMU compared to outside, the key difference is that interest rates can no longer be set for national circumstances and the nominal sterling-euro exchange rate can no longer move to facilitate adjustment. Removal of these adjustment mechanisms means that the remaining ones have to work harder. If there is little or no flexibility, and therefore little or no adjustment, unemployment will rise.
Loss of these adjustment mechanisms inside EMU would not be a matter of concern if a shock affected the UK and the euro area equally and if the UK and the euro area had broadly similar responses to interest rate changes. In this case, the ECB’s interest rate response would be the same as that of the Bank of England if the UK were outside EMU, and the sterling-euro exchange rate would not need to adjust in response to the shock. So changes in inflation and output in the UK would be broadly similar whether inside or outside EMU.

But in the face of a shock specific to the UK, the situation is different. Box 2.2 explains this in more detail, focusing on the case of a temporary positive shock to UK demand, based on analysis in the EMU study *Modelling shocks and adjustment mechanisms in EMU*.

The different way that the economy responds to this (or any country-specific) shock inside and outside EMU importantly depends on the role of the interest rate and the exchange rate in helping the economy to adjust.
2.21 Outside EMU with an independent monetary policy and nominal sterling-euro exchange rate:

- interest rates could be raised to moderate demand in the UK economy; and
- the nominal sterling-euro exchange rate could appreciate, increasing the price of UK exports and lowering the competitiveness of the UK economy vis-à-vis euro area countries, measured by the real exchange rate.

2.22 Together, these two key channels would help to ensure that inflation remained close to target and output returned to trend.

Inside EMU the adjustment path to a country-specific demand shock (for example, of the sort that might originate in the UK housing market) is very different. The example in Box 2.2 reinforces many of the lessons from the decision not to join EMU in 1999, highlighted in the Introduction:

- interest rates no longer play a primary adjustment role. In fact, because inflation rises due to strong demand, real interest rates actually fall significantly, exacerbating inflationary pressures and destabilising the economy;
- the nominal sterling-euro exchange rate is fixed but the real exchange rate still adjusts through price and wage movements, although this now happens much more slowly. This becomes the primary market adjustment mechanism inside EMU;
- moreover, inside EMU the euro area price level, rather than the UK price level, now effectively acts as a nominal anchor for the UK price level, with only a small degree of slippage allowed. Any period of high inflation in the UK relative to the euro area must be followed by a period of lower inflation in the UK relative to the euro area. Unless prices are completely flexible, this requires a period of UK output falling below potential; and
- since the adjustment mechanisms inside EMU are less effective, and in the absence of anything less than complete price flexibility, the responses of inflation and output to shocks are more protracted and volatile with adverse consequences for growth and employment.

2.24 However, it is important not to exaggerate the role that an independent monetary policy can play in helping the economy to adjust. Permanent shocks to demand or supply reflecting a change in economic fundamentals require structural changes or permanent shifts in relative prices whether the UK is inside or outside EMU. An increase in interest rates or an appreciation of the nominal exchange rate can only support the adjustment process. Neither can shocks that require adjustment between regions or industries within the UK be helped by an independent monetary policy.

2.25 It is also important to emphasise that medium-term inflation in the UK would still be guaranteed by the price stability objective of the ECB. But the inflation paths are likely to be very different inside and outside EMU. Outside EMU, price levels between the UK and the euro area can diverge in principle for sustained periods. Inside EMU, UK prices would be anchored by the price level in the euro area, with little scope for slippage.³

³For a very small EMU member which comprises a negligible share of EMU output, this response to a country-specific shock is strongly analogous to price level targeting.
Box 2.2: Adjustment to a temporary positive demand shock

Charts (a)-(d) illustrate the responses of the UK economy in the years following a temporary positive demand shock. The immediate effect is that UK output rises above potential – both inside and outside EMU (see Chart (b) below).

Outside EMU, when output rises above trend, the UK inflation rate increases in response and the Bank of England reacts by increasing interest rates. Two key adjustment mechanisms act to help return inflation to target:

- a rise in the real interest rate; and
- a rise in the nominal and real sterling-euro exchange rate.

As a result of this adjustment, the UK price level is permanently higher, offset by a permanently lower nominal exchange rate. This is termed price level slippage (see Chart (c)).

(a) Inflation

(b) Output

(c) Exchange rates and relative prices

(d) Real interest rates
Inside EMU, the adjustment is very different. The ECB also responds to the demand shock in the UK, but now only to the extent that it affects euro area-wide inflation (the UK weight would be roughly one fifth). But neither of the key adjustment mechanisms already highlighted work in the same way inside EMU:

- real interest rates will initially fall rather than rise, potentially exacerbating the adjustment process (see the dashed line in Chart (d)); and
- the real exchange rate appreciates but more slowly than when the nominal exchange rate was available, relying entirely on relative prices to take on the burden of adjustment.

Without the initial restraint from real interest rates or the nominal exchange rate appreciation, UK inflation initially rises more strongly. This generates a bigger but later real exchange rate appreciation. However, inside EMU, the euro area price level now effectively acts as an anchor for the UK price level. So the period of high inflation in the UK must be followed by a period of low inflation relative to the euro area. In the model this is achieved by a period where UK output is below potential. Overall, this process makes the adjustment path of inflation more cyclical and protracted.

The later discussion in this chapter clarifies how the degree of price flexibility in the UK, both in absolute terms and relative to the euro area, has implications for the degree of inflation and output volatility.

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The later discussion in this chapter clarifies how the degree of price flexibility in the UK, both in absolute terms and relative to the euro area, has implications for the degree of inflation and output volatility.

2.26 These findings highlight the importance of wage and price flexibility in EMU, especially for shocks that require an adjustment in the relative price level between the UK and other countries. Wage and price flexibility are also important in facilitating adjustment within the UK.

2.27 The degree of wage and price adjustment needed to respond to a shock depends on how easy it is for workers to move between different types of employment and between different locations. For example, a worker with transferable skills will be able to move easily from one job to another. Price and wage adjustment could also be less if businesses were able to create jobs easily when there is excess labour supply. Equipping the workforce with appropriate skills and facilitating entrepreneurship allows for a flexible redeployment of labour and capital in response to changing market conditions, contributing to the overall flexibility of the economy.

2.28 The ability of an economy to respond to shocks depends not only on how readily wages, price and quantities can adjust, but also on the effectiveness of demand stabilisation mechanisms. Stabilisation may occur through private sector responses: for example, firms and households may either draw on their savings or borrow in order to maintain their spending when incomes fall. The role of capital markets in facilitating adjustment is discussed in detail in a later section. Macroeconomic policy can also assist stabilisation, through changes in monetary and fiscal policy. Inside EMU, monetary policy would no longer operate at the national level, so fiscal policy would have a potentially greater role to play in macroeconomic stabilisation. The potential role of fiscal policy is discussed in detail in the penultimate section of this chapter.
How much flexibility is needed in principle?

2.29 To help answer the central question posed by the flexibility test – is the degree of flexibility sufficient – it is important to address the issue of how much is needed in principle. The straightforward answer is that a high degree of flexibility for all economies implies faster adjustment in response to shocks and better outcomes in terms of output and employment. Inside EMU, a higher degree of flexibility will also allow all economies to successfully reap the benefits of currency union.

2.30 In practice, some countries may be more flexible than others, so they may respond more quickly to shocks. This increases the likelihood that euro area-wide interest rates will not be appropriate for UK conditions even when faced with shocks that are common to the UK and the euro area. On the basis of the analytical work in the EMU study *Modelling shocks and adjustment mechanisms in EMU*, Box 2.3 discusses the implications of different degrees of flexibility, in absolute and relative terms, if the UK were to join EMU.

2.31 The key conclusions from this analysis are that:

- if price flexibility were low in both the UK and the euro area, output and inflation would tend to suffer from long drawn out responses in the face of shocks – with sustained periods of output and employment below potential;

- if prices in the UK were more flexible than prices in the euro area, output stability in the UK would be much improved. But this advantage would be offset by greater inflation volatility. This occurs because the ECB would need to take account of sluggish euro area price adjustment when setting euro area monetary policy. So interest rates would not be appropriate for the UK and UK inflation would be needlessly volatile, even when faced with similar shocks to the euro area. This price volatility might have adverse consequences for the real economy in the UK and therefore makes it even more important that the UK achieves high levels of flexibility; but

- if prices were highly flexible in both the UK and the euro area, this would represent the best outcome. Now, output volatility would be lower and inflation would be well controlled at target levels. Inflation differentials between the UK and the rest of the euro area would only emerge when relative price changes were warranted, and they would take place promptly.

2.32 In his contribution to the EMU study *Submissions on EMU from leading academics*, Professor Andrew Hughes Hallett notes similarly: “Put simply, rigidities in one place spill over to constrain the performance of others. Hence asymmetries in the capacity of labour markets to adjust, asymmetric shocks, or asymmetric transmissions, all cause spill over which damage others (unless price flexibility is perfect).”

2.33 The assessment of the degree of flexibility needed in principle must be closely linked to the assessment in the convergence test of compatibility, because even if the UK is highly flexible, or better still both the UK and the euro area are highly flexible, without settled and sustainable convergence the costs of membership may still be prohibitively high compared to a policy of staying outside EMU.
Box 2.3: The implications of different degrees of flexibility

The charts below show the impact of a temporary common positive demand shock in the UK when the UK is assumed to be in EMU, drawing on the simulation responses of the model introduced earlier. Different assumptions about the degree of relative price flexibility are illustrated:

- when both the UK and the euro area have relatively inflexible or ‘sticky’ prices, UK inflation rises only slowly in response to the shock and output rises above potential (see dark solid lines in Charts (a) and (b)). Because the shock affects the euro area symmetrically, the effect on the real sterling-euro exchange rate is small;

- when the UK is assumed to have perfectly flexible prices but euro area prices are still sticky, UK output now stays at potential (see Chart (b)) but prices now respond more quickly than in the euro area. So UK inflation rises significantly (see dashed line in Chart (a)) and the real exchange rate appreciates vis-à-vis the euro area (see the dashed line in Chart (c)). This occurs despite the common nature of the shock; but

- in the case where both UK and euro area prices are highly flexible, the required movement in the real exchange rate between the UK and the euro area is very small (see light line in Chart (c)) since the impact of the shock is symmetric and the effect on UK output and inflation is minimal (see Charts (a) and (b)). This is the first best outcome of the three shown.

\[ a \] The variables are plotted in terms of percentage difference from base except for inflation and interest rates which are defined in terms of percentage points relative to base.
How might joining EMU affect overall stability?

2.34 Macroeconomic stability matters whether or not the UK joins EMU. Large and unpredictable fluctuations in output, employment and inflation impose significant economic and social costs and, if sustained, can hold back the economy’s long-term growth potential. The current UK macroeconomic framework is designed to promote long-term stability by ensuring low inflation and sound public finances. This has helped the UK to maintain steady and stable growth in times of uncertainty, such as the recent global slowdown.

2.35 As discussed above, a decision to join EMU would mark a substantial change in the UK’s macroeconomic framework and the mechanisms through which the economy adjusts to shocks. Professor Ray Barrell notes in his contribution to the EMU study *Submissions on EMU from leading academics* that: “Choosing the best framework for a country requires that we can decide which volatilities matter most and which framework reduces those volatilities at least cost”. Any decision on EMU must take into account the expected impact of EMU on stability.

2.36 It is not clear in principle how joining EMU would affect overall stability, although the analysis of adjustment mechanisms has framed consideration of the issues. The analysis in Box 2.2 establishes that macroeconomic adjustment tends to be more protracted inside EMU in the face of a particular type of shock; it illustrates the case of a temporary demand shock specific to the UK economy. But it is important to understand how macroeconomic stability would be affected in the face of the full range of shocks that might be expected inside EMU.

2.37 Joining EMU would immediately provide one source of stability: the nominal sterling-euro exchange rate would be fixed. To the extent that this has been volatile in the past, joining EMU would eliminate this volatility. However, since the exchange rate can also act as an adjustment mechanism, cushioning the impact of shocks, joining EMU might act to increase volatility elsewhere.

2.38 Two academic studies have attempted to weigh up these different influences. They tend to give contradictory messages – one finds that volatility increases inside EMU while the other finds that it falls. Box 2.4 summarises the findings.

2.39 The EMU study *Modelling shocks and adjustment mechanisms in EMU* uses the same illustrative model featured in Boxes 2.2 and 2.3 to reconcile these different findings. It does so by producing new estimates of the potential effects of EMU membership on UK volatility. And it examines the sensitivity of the conclusions to different assumptions about the structural characteristics of the UK and euro area economies and the types of shocks likely to be experienced inside EMU.
Box 2.4: How volatile would inflation and output be inside EMU?

The table below presents the predicted macroeconomic volatility inside EMU from two academic studies. A ratio greater than 1.0 implies volatility is higher inside EMU than outside, while a ratio less than 1.0 implies lower volatility inside EMU.

<table>
<thead>
<tr>
<th></th>
<th>Ratio of volatility</th>
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<tbody>
<tr>
<td></td>
<td>UK inside EMU compared to outside EMU</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inflation</td>
<td>Output</td>
</tr>
<tr>
<td>Barrell, Hurst and Kirsanova (2003)</td>
<td>0.96</td>
<td>1.06</td>
</tr>
<tr>
<td>Minford (2001)</td>
<td>3.12</td>
<td>1.12</td>
</tr>
</tbody>
</table>


- Barrell, Hurst and Kirsanova (2003) conclude that inflation volatility would be lower inside EMU, but output volatility would be higher. Using estimates of exchange rate shocks based on the experience of the 1990s partly explains this result. This may be because the sterling-euro exchange rate was more volatile than the euro-US dollar exchange rate over this period.

- Minford (2001) finds that both output and inflation volatility would be higher inside EMU. A high degree of price flexibility in his model helps to explain the greater inflation volatility. Also, using a longer time period, Minford estimates that euro-US dollar shocks have been more volatile. These assumptions also partly explain why this study predicts an overall increase in volatility.

Assumptions about the role of the sterling-euro exchange rate are a key driver of these results. If the sterling-euro exchange rate is found to be excessively volatile – that is a source of shocks to the economy in itself – then joining EMU eliminates this.

However, as discussed in the convergence test and in the EMU study The exchange rate and macroeconomic adjustment, the sterling-euro exchange rate has not primarily been a source of shocks in recent years, suggesting that EMU would not immediately lower volatility from this source.

Volatility analysis of a wider range of scenarios in the EMU study Modelling shocks and adjustment mechanisms in EMU clarifies how different assumptions about market flexibility and other adjustment mechanisms, such as fiscal policy, affect the results. The main results are presented in the table below.

<table>
<thead>
<tr>
<th></th>
<th>Ratio of volatility</th>
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<tbody>
<tr>
<td></td>
<td>UK inside EMU compared to outside EMU</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inflation</td>
<td>Output</td>
</tr>
<tr>
<td>Main model</td>
<td>1.36</td>
<td>1.20</td>
</tr>
<tr>
<td>More UK price flexibility</td>
<td>1.41</td>
<td>1.09</td>
</tr>
<tr>
<td>Augmented fiscal policy in UK</td>
<td>1.11</td>
<td>0.92</td>
</tr>
<tr>
<td>Highly volatile nominal sterling-euro exchange rate</td>
<td>0.84</td>
<td>0.99</td>
</tr>
</tbody>
</table>

Source: EMU study Modelling shocks and adjustment mechanisms in EMU plus new results.

In the main model case, both inflation and output volatility is expected to rise inside EMU. But different assumptions can change this:
The main findings on macroeconomic volatility from the EMU study *Modelling shocks and adjustment mechanisms in EMU*, also summarised in Box 2.4, are that:

- macroeconomic volatility is expected to be higher inside EMU on a wide range of assumptions;
- if price flexibility is assumed to be higher in the UK than in the euro area, this magnifies the deterioration in inflation volatility inside EMU but makes the deterioration in output variability much smaller (this is consistent with the earlier analysis of the effects of flexibility in Box 2.3);
- an augmented role for fiscal policy can help to mitigate the increased volatility inside EMU; and
- macroeconomic volatility is only likely to fall inside EMU if volatility in the sterling-euro exchange rate has been a significant source of shocks in the past.

The above discussion strongly implies that greater inflation volatility would be a feature of EMU membership. Inflation volatility has potentially important implications. For example, it may make it harder to separate relative price signals – important for resource allocation – from more general inflationary pressures. In turn, this makes it difficult to plan ahead and undertake sensible resource decisions to invest and save for the future. This could threaten the realisation of the potential benefits of EMU.

Inflation also has distributional effects. It can interact adversely with the tax and benefit system as many payments are linked directly to measured inflation. High inflation lowers the real value of interest payments made to savers but makes borrowing more attractive. This sometimes leads people to invest in certain types of assets, like property, which tend to retain value better in times of high inflation. Other things being equal, this inflation effect could unhelpfully serve to boost demand further and could intensify the risks identified in the convergence test.
In order to limit to the short term the adverse effects of higher inflation volatility, medium-term expectations would need to be firmly anchored to the euro area aggregate. The evidence in the convergence test shows that inflation expectations in the euro area are anchored by the ECB’s medium-term price stability objective and are around 2 per cent on the HICP measure.

As well as requiring a clear medium-term euro area-wide anchor, the Government would have several national policy options to minimise risks to overall stability inside EMU. Ensuring a high degree of market flexibility would lower overall volatility and imply that interest rates were more appropriate for more EMU members more of the time. Fiscal policy could also play a greater role in stabilising the economy and support market adjustment. Together, greater market and fiscal flexibility would help to ensure macroeconomic stability inside EMU.

Conclusion: flexibility and adjustment mechanisms in EMU

These findings highlight important issues that frame the assessment of the flexibility test. Inside EMU, loss of national monetary policy and the nominal sterling-euro exchange rate means that other adjustment mechanisms would have to work harder. Wage and price adjustment are the most effective adjustment mechanisms available, but there is also a potentially enhanced role for fiscal policy. National monetary unions, including the UK, have been successful without high internal mobility. The discussion motivates the next three sections on supply-side flexibility in labour, product and capital markets. The assessment then considers monetary unions in practice, including the experiences of the UK, the US and EMU to date. Finally, the issue of how fiscal policy may need to play a greater role in adjustment in EMU is discussed.

MARKET FLEXIBILITY: ADJUSTMENT THROUGH WAGES AND LABOUR MARKETS

This section examines the flexibility of UK and EU labour markets. An efficient and flexible labour market that creates jobs, increases competitiveness and raises productivity is essential to the UK, irrespective of whether it is a member of EMU or not. The analysis of the previous section shows that any decision to join the single currency places a premium on adjustment mechanisms such as prices. In the labour market this equates to wage flexibility. EMU membership also has the potential to create higher levels of employment through greater trade opportunities and market integration. Sufficient wage flexibility, as well as other forms of labour market flexibility, would be necessary to realise the gains.

An appraisal of the UK labour market was central to the 1997 assessment of the flexibility test, which concluded:

“…in labour markets particularly, the UK has not yet achieved sufficient flexibility to meet the challenges of EMU membership.”

This section assesses detailed evidence of labour market flexibility, particularly wage flexibility. It is based on the comprehensive analysis in the EMU study EMU and labour market flexibility and complements the quantitative analysis of adjustment mechanisms discussed earlier. There is a particular focus on labour market performance since 1997.
The analysis uses a new framework developed for the assessment to analyse the flexibility of labour, product and capital markets, covering:

- **characteristics** – the mechanisms through which the labour market adjusts in response to a shock. Wage flexibility is particularly important. However, EMU puts a premium on flexibility in all aspects of the labour market, including the ability of workers to increase their level of training, to adapt their skills and to be more mobile, and the ability of firms to offer diverse working practices;

- **outcomes** – the key indicators of how well labour markets are functioning, both in aggregate and across different socio-economic groups and regions. This includes an appraisal of job creation, unemployment, wage pressures and job matching; and

- **the institutional environment** – the policy and social environment in which the labour market operates. The key institutional factors influencing labour market adjustment are analysed and drawn together into a comparative indicator of labour market flexibility in the UK and other countries.

## Characteristics of flexible labour markets

### The importance of flexible wages in EMU

- **Relative wage flexibility**

  The 1997 assessment observed that relative wages in the UK were able to reflect new and changing demands in the economy. This remains the case today. The EMU study *EMU and labour market flexibility* notes that between 1999 and 2001, regional wages in the UK grew faster in regions of low unemployment, such as the South East. This contributed to the continued narrowing of unemployment rates between regions of the UK. Similarly, the wages of skilled workers have been rising relatively faster than those of workers with lower skills.

- **Real wage flexibility**

  Historically, real wage flexibility has appeared relatively low in the UK and may have contributed to the high levels of unemployment experienced in the 1980s and early 1990s. Real wages have tended to be rigid in the face of high levels of unemployment but have grown strongly when unemployment has fallen. The 1997 assessment noted that the UK had reached a critical point in the economic cycle where typically wage inflation would have accelerated as unemployment fell further, and that it was too soon to tell whether labour market performance had improved or would revert to past patterns.

### 2.50 Adjustment of wages inside a monetary union is vital because changes in external competitiveness will be driven by inflation differentials alone. A sufficient level of wage flexibility – the ability of wages to eliminate imbalances between the supply of and demand for labour – is therefore necessary to ensure economic stability within EMU. Wage adjustment can occur at the sectoral level – **relative wage flexibility** – or the aggregate level – **real wage flexibility**, which in turn is influenced by **nominal wage flexibility**.

### 2.51 The 1997 assessment observed that relative wages in the UK were able to reflect new and changing demands in the economy. This remains the case today. The EMU study *EMU and labour market flexibility* notes that between 1999 and 2001, regional wages in the UK grew faster in regions of low unemployment, such as the South East. This contributed to the continued narrowing of unemployment rates between regions of the UK. Similarly, the wages of skilled workers have been rising relatively faster than those of workers with lower skills.

### 2.52 Historically, real wage flexibility has appeared relatively low in the UK and may have contributed to the high levels of unemployment experienced in the 1980s and early 1990s. Real wages have tended to be rigid in the face of high levels of unemployment but have grown strongly when unemployment has fallen. The 1997 assessment noted that the UK had reached a critical point in the economic cycle where typically wage inflation would have accelerated as unemployment fell further, and that it was too soon to tell whether labour market performance had improved or would revert to past patterns.

### Evidence detailed in the EMU study *EMU and labour market flexibility* points to an improvement in real wage flexibility in the UK. Importantly, these results are consistent with a wide range of academic work comparing real wage flexibility across countries. New analysis undertaken for the assessment finds that UK real wages have become more responsive to the level of unemployment (see Box 2.5). The analysis on its own is insufficient to conclude with certainty that real wage flexibility has increased because identifying significant changes with confidence is difficult. However, the fact that unemployment has declined sharply in the UK in recent years without igniting inflationary pressures in the labour market suggests this improvement is genuine.
2.54 At the same time, the OECD has recently noted that EMU membership may have increased wage moderation in the euro area, while the IMF has noted how the recent resilience of the EU jobs market reflects greater wage moderation.\footnote{Economic Survey of the Euro Area, OECD, 2002; Staff Report on Monetary and Exchange Rate Policies of the Euro Area and the Trade Policies of the EU, IMF, 2002.}

2.55 Real wages adjust either through a change in the nominal money wage or through changes in the price level. In a low inflation environment, nominal wage rigidities (barriers that prevent nominal wages from changing) may become a more important source of real wage rigidity. This could be a particular problem in EMU, since wage adjustment would be an important adjustment mechanism.

2.56 Nominal wages are generally adjusted annually in UK wage negotiations, potentially allowing for a relatively high degree of nominal flexibility, although at the expense of some short-term adjustment. Moreover, bonus payments have allowed the private sector to be more flexible in the recent downturn, as reflected in the low growth in average private sector earnings over 2001 and 2002.

**Box 2.5: Has UK real wage flexibility improved?**

Treasurer analysis undertaken for the assessment and reported in the EMU study *EMU and labour market flexibility* assesses whether real wage flexibility – the sensitivity of real wages to unemployment – has increased in the UK in recent years.\footnote{See the EMU study *EMU and labour market flexibility* for a detailed explanation.}

The estimate of real wage flexibility, derived from the wage equation used in the Treasury’s macroeconomic model, is shown in the chart below. If real wage flexibility has increased, the value of the long-run coefficient on unemployment in the wage equation should have fallen over time, with any given level of unemployment having a greater (offsetting) impact on real wages.

The results show a fall in the long-run coefficient on unemployment in recent years, suggesting an increase in real wage flexibility.

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2.57 In all countries, downward nominal wage rigidity is an issue. Employees are resistant to a cut in nominal wages and many employers reluctant to impose one. The extent to which this became a problem would depend on whether nominal wage cuts were necessary to adjust to a shock.
2.58 The EMU study *EMU and labour market flexibility* notes that many individuals in the UK do not experience a change in their nominal wage from one year to the next. This suggests that downward nominal rigidities may interfere with labour market adjustment in the UK. However, the degree to which this is a constraint has not been fully tested to date. In recent years, inflation has been close to its target of 2½ per cent a year and average earnings have increased by around 4½ per cent a year, providing considerable scope for movements in real and relative wages even in the face of any resistance to nominal wage cuts.

2.59 Overall, relative and real wage flexibility seem to be reasonably high in the UK and appear to have improved in some areas since 1997. However, this has not been fully tested in recent years. Wage flexibility would be more severely tested by a decision to join EMU, where price movements would need to play a greater role in adjustment to shocks. There are some signs that EMU membership has facilitated euro area wage flexibility. Because of its key role in adjustment, the level of real wage flexibility in the UK and the euro area poses a risk to successful UK membership of EMU. Budget 2003 announced the Government’s intention to increase wage flexibility in the public sector labour market through a stronger local and regional dimension to the setting of public sector pay.

2.60 EMU places a premium on flexibility in all aspects of the labour market. One such adjustment mechanism is the ability of individuals to move residence in order to find employment – geographic labour mobility. A number of commentators have suggested that high levels of geographic mobility in the US have been important in allowing it to function effectively as a single currency area, as discussed in the EMU study *The United States as a monetary union*.

2.61 Geographic mobility in the EU is much lower than in the US. This is also true of geographic mobility within countries, including the UK. Many of the barriers to geographic mobility, particularly across borders, relate to family commitments, career progression and benefits and property. As such, it is unlikely that mobility in the UK or the EU will increase quickly. In his contribution to the EMU study *Submissions on EMU from leading academics*, Professor Barry Eichengreen notes: “The creation of a single market and the transparency created by the single currency . . . will facilitate greater labor mobility over time. There is some anecdotal evidence of this already . . . but one’s main impression is that movement in this direction is slow”.

2.62 Geographic mobility, both across borders and within countries, is undoubtedly desirable and would support a successful EMU for existing members and for the UK and other countries should they decide to join. However, as set out in the EMU study *EMU and labour market flexibility*, low geographic labour mobility is unlikely to be a primary risk inside EMU, for a number of reasons. National monetary unions, including the UK, have been successful without high internal mobility. Dr Daniel Gros notes in his contribution to the EMU study *Submissions on EMU from leading academics* that the difference between international and inter-regional mobility in Europe is low, such that: “EMU should thus not be much more difficult to manage than the existing monetary unions in Europe that member states represented up to 1999”. Moreover, a decision to migrate often entails significant costs, so geographic mobility is a more suitable adjustment mechanism to permanent shocks. It is not a key substitute for the role of monetary policy, which responds only to temporary or cyclical shocks.

2.63 Geographic labour mobility is low both within and between EU Member States. However, because geographic mobility would be an imperfect substitute for a national monetary policy, this is not likely to be a significant risk to the viability of EMU either for existing members or for the UK. However, policy measures to increase geographic mobility would improve the performance of the UK labour market and help UK performance in EMU, as well as the performance of existing members. It is therefore a priority for the Government.
**Functional flexibility**

2.64 Functional flexibility is the ability of the workforce to perform different tasks and acquire and apply different skills. It is complementary to, but can also act as a substitute for, geographic labour mobility. Inside or outside EMU, but particularly within a single currency area, functional flexibility is important to ensure that individuals have the skills to adapt to increased competition and to compete for a wide range of jobs in a changing economic environment.

2.65 The 1997 assessment of the flexibility test concluded that the level of skills in the UK might constrain the ability of the economy to respond to the structural changes brought about by EMU. The steady decline in unemployment and the absence of a strong pick up in skilled labour shortages since then (see Chart 2.1) may mean that functional flexibility has been less of a constraint for firms than was feared, although EMU membership would still bring additional challenges.

2.66 However, evidence suggests that, relative to the US, France and Germany, the UK still suffers from significant skills imbalances. While the number of people in the UK with high skill levels compares well internationally, the level of intermediate skills is low and a large proportion of the UK population possesses low skills. While progress has been made since 1997, the stock of low-skilled workers is only being reduced slowly. A continual improvement in skill levels, particularly among those with the lowest skills, is necessary in order for the UK economy to respond to technological change.5

2.67 A highly educated workforce with a culture of lifelong learning is more likely to be able to adapt to economic change. While skills shortages may not have been as large a constraint as previously feared, imbalances still remain in the UK’s skills base. Improving the level of skills, particularly among those with the lowest skills, is therefore a focus of the Government’s agenda for enhancing flexibility in the UK.

2.68 It is important that employers are willing and able to adopt flexible patterns of working. Employment flexibility boosts the available supply of labour by ensuring that employees can combine employment with other activities and responsibilities.

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5 The Government’s strategy for tackling skill shortages is set out in Developing workforce skills: piloting a new approach, HM Treasury and Department for Education and Skills, April 2002.
2.69 The 1997 assessment emphasised that the UK is relatively successful at matching the demands of the market to the needs of workers. Part-time workers make up around 25 per cent of the UK workforce, generally as a result of workers’ choice. This is high in comparison to much of Europe, although the incidence of part-time employment has also increased in other EU countries during the 1990s. Compared to the EU as a whole there is also a relatively high number of employees with flexible working patterns in the UK, such as shift, night and weekend working, although these are also becoming more widespread in the rest of the EU.

2.70 The European Commission has recently noted that the liberalisation of temporary contracts across the EU may have been an important reason behind the recent strong growth in employment. However, as the EMU study EMU and labour market flexibility notes, caution is needed in drawing conclusions about the relationship between temporary contracts and labour market flexibility.

2.71 The 1997 assessment observed that the UK already had a relatively high degree of employment flexibility. This has been maintained, as demonstrated by a high incidence of part-time employment and flexible working practices.

**Conclusion: employment flexibility**

**Outcomes in flexible labour markets**

2.72 The EMU decision must be consistent with the UK Government’s objective since 1997 to extend employment opportunity to all in a changing labour market: the modern definition of full employment. High levels of employment help deliver fairness and social inclusion in any economy, irrespective of whether it is a member of a currency union or not. High levels of long-term unemployment or economic inactivity can also prevent the labour market from working effectively, for example if they lead to supply bottlenecks and skills shortages. This may be more of a constraint in EMU where the need for labour market adjustment is greater.

This section focuses on employment and unemployment outcomes in relation to adjustment. The assessment of the growth, stability and employment test considers the broader issue of the potential impact of EMU on employment levels.

2.73 The Government’s policies to tackle structural weaknesses in the UK labour market have helped to raise employment to its highest ever level. Between the third quarter of 1997 and the first quarter of 2003, the number of people in work in the UK increased by nearly 1.4 million and the employment rate rose from 72.9 per cent to 74.6 per cent. That said, more progress can be made. Employment rates remain low in the most deprived areas of the country and for people from ethnic minorities; and while overall employment has risen, overall inactivity has fallen by less.  

2.74 The 1997 assessment noted that Europe as a whole needed to be able to create jobs and tackle its problem of high unemployment in order to make EMU work. There has been an improvement in the employment performance of the EU labour market since 1997, a period which has also seen a pick up in economic growth (see Box 2.6).

2.75 However, more still needs to be done. The challenge of invigorating European labour markets is considerable and reform will require imagination and ambition on the part of employees, employers and policymakers. The paper Towards Full Employment in the European Union identifies priority areas for action along with policy recommendations for how these might be addressed.

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It is arguable whether the recent improvements go beyond a purely cyclical effect or whether they would unwind if a large shock were to hit the European economy. Historically, Europe’s experience has been one of negative shocks raising unemployment temporarily from its equilibrium rate, but slow labour market adjustment then resulting in much of the increase in unemployment becoming entrenched.

Chart 2.2 indicates that following negative unemployment shocks in the 1970s and 1980s, the unemployment rate remained higher in the euro area and, until recently, the UK than in the US, which has experienced more stable unemployment rates. In other words, shocks have had long-lasting effects on the labour market. As discussed in the Introduction, such effects can become permanent. Most recent data show that the UK currently has one of the lowest rates of unemployment in the OECD, lower even than the US.

Shocks can have long-term consequences

Box 2.6: Employment opportunity across the EU

Employment is at the heart of economic and social reform in Europe. At the Lisbon European Council in March 2000, EU leaders set out their aspirations for a Europe that would be “the most competitive and dynamic knowledge-based economy in the world, capable of sustaining economic growth with more and better jobs and greater social cohesion”. Ambitious ten-year targets were set for total and female employment rates, with a separate target for older workers set one year later in Stockholm.

Much has been achieved since 1997, as set out in more detail in the EMU study EMU and labour market flexibility and the recent progress report on economic reform in Europe. In particular, between 1997 and 2001, over 10 million jobs were created in Europe.

Progress has been particularly strong in some of the smaller EU Member States, such as the Netherlands and Ireland (see the above chart). Spain has also seen strong employment growth, although the employment rate remains low by EU standards. While larger euro area economies such as Germany, France and Italy have seen their employment rates rise since 1997, the EU average employment rate remains some way below the Lisbon target of 70 per cent.

Analysis of the structural component of unemployment indicates the extent to which a fall in unemployment reflects greater structural labour market flexibility rather than a purely cyclical effect. Chart 2.3 presents OECD estimates of one measure of structural unemployment. This shows that:

- structural unemployment in the UK has fallen from nearly 8 per cent in the early 1990s to around 5½ per cent at present;
- progress in the other large EU Member States has been slower. Structural unemployment has been relatively stable since 1990 and remains high; and
- there have been significant falls in structural unemployment in some of the smaller EU Member States such as Ireland and the Netherlands.

This mixed picture suggests that shocks can still have long-lasting effects in EU countries.

Note: The measure of structural unemployment is the non-accelerating inflation rate of unemployment -- or NARU -- the unemployment rate consistent with stable inflation.

Source: OECD, Economic Outlook, December 2002.
2.80 Earnings growth is a simple and timely labour market outcome measure. The recent profile of average earnings growth suggests supply side improvement in the UK and is supportive of there having been a gentle fall in structural unemployment. Since 1997 unemployment has fallen to rates last seen in the 1970s, yet average earnings growth has remained consistent with the current inflation target and estimates of trend productivity growth (see Chart 2.4). In the past, when unemployment has fallen to such a low level, wage inflation has accelerated significantly.

![Chart 2.4: Average earnings growth and unemployment rate](chart)

Note: Earnings data are the headline rate for Great Britain (latest 3 months on 3 months a year earlier). Unemployment is the ILO unemployment rate for the UK.
Source: ONS.

2.81 The UK labour market is also now better able to adapt to imbalances across market segments:
- the relationship between unemployment and vacancy rates appears to have improved in the late 1990s, indicating better job matching.
- Across Europe the evidence is mixed, with the relationship worsening in Germany and France in the mid to late 1990s, suggesting that job mismatch has increased; and
- the dispersion of regional unemployment rates in the UK has fallen since the beginning of the 1990s. Each region has seen sharp falls in unemployment, although localised pockets of unemployment remain. However, regional unemployment dispersion is more pronounced in other parts of Europe.

2.82 The 1997 assessment emphasised the importance of ensuring that specific groups did not become permanently detached from the labour market. This is necessary to ensure that the economy does not run into labour supply bottlenecks and skills shortages. Since 1997, previously marginalised groups have been reintegrated into the labour market. In particular, the level of long-term unemployment, which averaged 710,000 in 1997, had fallen to 324,000 by February 2003.

2.83 However, challenges remain to ensure employment opportunities for all in the UK. The employment rates of lone parents, the over 50s, ethnic minorities and people with disabilities remain below the national average, while certain deprived areas continue to endure unacceptably high levels of worklessness.

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8 The EMU study *EMU and labour market flexibility* notes that the change in the monetary policy regime, and its impact on reducing inflation expectations, may also have helped improve the trade-off between unemployment and inflation.
9 The ‘Beveridge Curve’ depicts the relationship between unemployment and vacancies, and is discussed in the EMU study *EMU and labour market flexibility*. 

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104
The institutional environment

2.84 The discussion has highlighted how negative shocks to European labour markets have historically led to long-lasting increases in unemployment. Evidence summarised in the EMU study *EMU and labour market flexibility* indicates that this is a result of the institutional environment interacting with the shocks that hit the economy. This slows the speed at which unemployment returns to its sustainable level, and in some cases can lead to permanent increases in equilibrium unemployment. In EMU, the loss of national monetary policy and the nominal sterling-euro exchange rate as adjustment mechanisms increases the need for an institutional environment that is conducive to flexibility.

2.85 The interaction of the tax and benefit system influences labour market flexibility through its impact on labour supply, unemployment and wages. While maintaining fairness and social inclusion, it is important that the interaction of the tax and benefit system does not erode the incentive to seek work.

2.86 Since the 1997 assessment, the Government has introduced a number of reforms to the tax and benefit system in order to make work pay, particularly for those on low incomes. Reforms to income tax, national insurance and the introduction of a system of targeted tax credits have:

- increased the minimum income that people can expect when moving into work. The introduction of the Child and Working Tax Credits has increased the gains to work for households with children. The extension of in-work support to workers aged 25 and over without children or a disability will significantly increase work incentives for this group too; and
- increased incentives to move up the earnings ladder, with the number of households facing marginal deduction rates of over 70 per cent falling by over half a million since 1997.

2.87 OECD figures show that the UK has gross replacement rates for different groups (the ratio of out-of-work to in-work income) comparable to the US and lower than many European countries.

2.88 Increasing the effective labour supply by improving work skills and disciplines can reduce the need for employers to raise wages and therefore increase the medium to long-run responsiveness of wages to unemployment. Although spending on active labour market policies in the UK is low by international standards, it appears to be well targeted. The evaluations of the various New Deal programmes in the UK have shown positive results in terms of reducing long-term and youth unemployment as well as unemployment among those aged over 50.

2.89 Well-designed employment protection legislation (the rules governing hiring and firing) offers clear benefits to employees. Badly designed protection legislation can impose excessive costs on employers and deter them from offering jobs where the returns from creating the job are too low in relation to the associated cost. Where this is the case, protection legislation acts as a barrier to labour market flexibility. Studies suggest that employment protection legislation in the UK is less heavy-handed than in many other OECD countries, and more conducive to market flexibility, although other European economies have also generally improved over the 1990s.

2.90 The National Minimum Wage underpins the Government’s tax and benefit reforms. By setting a wage floor, it is one piece of regulation since 1997 that might hold back the ability of the labour market to adjust to shocks. This would be the case if it reduced employment or set an inappropriate going rate for wage increases across the economy. However, the evidence so far suggests that the National Minimum Wage is set below the level at which the employment constraint starts to bite and that there has been a negligible impact on the pay of those not directly affected by its introduction.
Since the 1980s the UK has moved to a more decentralised and uncoordinated wage bargaining system. This structure means that relative wages can adjust more readily to industry, sector and regional conditions. However, maintaining balanced pay claims will be essential to ensuring this positive performance can be sustained going forward.

Collective bargaining structures differ greatly across the EU. Both trade unions and employers’ associations are organised in very different ways. However, collective bargaining outcomes in the 1990s, in terms of real wage growth, have shown both long-term moderation and convergence compared with previous decades.

The EMU study *EMU and labour market flexibility* presents an estimated summary indicator of labour market flexibility. The indicator confirms that the institutional environment affecting the performance of the UK labour market compares favourably with that in many other countries and is consistent with the improved labour market performance observed in recent years being sustained – see Box 2.7.

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### Box 2.7: An indicator of labour market flexibility

The EMU study *EMU and labour market flexibility* presents a summary comparative indicator of labour market flexibility, based on the main institutional characteristics of the EU labour market.

Countries that are more flexible than the average score a value less than 7 in the chart below, and countries that are less flexible than the average score more than 7.

Consistent with other composite indicators of labour market performance, this suggests that flexibility is relatively high in countries outside the euro area. The indicator confirms that the institutional environment for the UK labour market compares favourably with many other countries and is consistent with the improved UK labour market performance observed in recent years being sustained.

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Note: A lower value implies a more flexible institutional environment.

Source: HM Treasury.

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*For a full explanation of the indicator’s derivation, see Annex B of the EMU study *EMU and labour market flexibility*. 
2.94 The changes to the institutional and policy framework in the UK – in particular, the reforms to the tax and benefit system in order to make work pay, the introduction of active labour market policies and the enhanced UK regulatory environment – are conducive to labour market flexibility and imply that the recent improvements in the UK labour market can be sustained.

**Conclusion: how flexible are UK labour markets?**

2.95 UK labour market flexibility has improved markedly since 1997. Significant falls in overall unemployment and long-term unemployment have accompanied strong employment growth, giving the UK one of the lowest levels of unemployment in the OECD, lower even than the US. The 1997 assessment observed that the UK already had a relatively high degree of employment flexibility. This has been maintained, as demonstrated by a high incidence of part-time employment and flexible working practices. Moreover, evidence since 1997 points to an underlying improvement in wage flexibility. However, important challenges remain in the UK to reduce inactivity and repeated spells of worklessness and to enhance skill levels and improve mobility. Adjustment mechanisms have not been fully tested in recent years as the UK has had a relatively stable macroeconomic environment. If the UK decided to join EMU, wage movements would need to play a greater role in adjustment.

2.96 EMU membership puts a premium on the need for institutional structures to cope with shocks. Therefore, while the positive reforms to the institutional and policy framework in the UK suggest that recent improvements can be sustained, more progress on labour market reform would enhance flexibility in the UK and advance the Government’s long-term goal of employment opportunities for all. In the context of EMU, it would also increase the durability of convergence between the UK and the euro area.

2.97 It is now recognised across Europe that to realise the full benefits of EMU membership requires more progress on a range of economic reform policies to enhance flexibility and resilience to shocks, particularly in labour markets. Europe as a whole, and especially the larger EU economies, needs to match the impressive flexibility record of some of the smaller EU Member States. The less progress on flexibility that is achieved in the EU, the greater the premium on a high level of flexibility in the UK economy.

2.98 In the labour market, the Government is continually working to enhance flexibility and is going further through a package of measures designed to increase wage flexibility in the public sector, improve skills, particularly at the basic and intermediate level, give greater local discretion in the delivery of employment policies and increase labour supply by helping more people to move from welfare to work and increasing cyclical economic migration.
This section considers the flexibility of UK and EU product markets. A flexible product market, that promotes competition and encourages innovation and research, is important irrespective of whether or not the UK joins EMU. However, a decision to join EMU would increase the need for rapid price and factor movements and would also make it necessary for firms to be able to respond effectively to shocks and adapt to the competitive challenges that the single currency would bring. Product markets also play an important role in supporting productivity, particularly through competition, enterprise and innovation. This is discussed in more depth in the assessment of the growth, stability and employment test.

Product market flexibility complements labour and capital market flexibility. In the labour market, firms need employees to be able to adapt readily to economic change. Firms also require capital markets to be flexible to ensure access to a wider range of financing options.

The 1997 assessment observed that:

“The liberalisation of product markets has progressed further in the UK than in many other EU countries...But some problems remain and new measures are planned to make further improvements, particularly to competition policy.”

This section looks at product market flexibility in more detail with a particular focus on price flexibility – a key adjustment mechanism in EMU in the absence of the nominal sterling-euro exchange rate and independent national monetary policy. It draws on the evidence presented in the Government’s White Paper on EU economic reform Realising Europe’s Potential: Economic Reform in Europe and the subsequent progress report (HM Treasury, 2002 and 2003). The role that inflation can play as an adjustment mechanism is discussed in the EMU studies Modelling shocks and adjustment mechanisms in EMU and Prices and EMU.

The analysis adopts the same framework as for labour markets:

- characteristics – the mechanisms through which the product market adjusts to a shock. The focus is on the important role of price flexibility;
- outcomes – key indicators of the operation of product markets such as price differentials and mark-ups; and
- the institutional environment in the product market and how it influences the adjustment process.

Flexible product markets play a key role in promoting price flexibility – a particularly important adjustment mechanism for an economy inside a monetary union. Inside EMU, relative price adjustments are the only means for changes in competitiveness between countries to occur. For example, a country with an overheating economy will have more inflationary pressure, while a country with weaker demand will have less; higher inflation in the rapidly growing economy will lower its relative competitiveness and reduce overheating pressures.
The experiences of Ireland and the Netherlands in EMU provide interesting case studies. Both economies grew strongly over the mid to late 1990s and inflation rates rose well above the euro area average. The resulting real exchange rate appreciation helped their economies to absorb and adjust to the overheating pressures (see Box 2.8).

Box 2.8: Inflation as an adjustment mechanism – Ireland and the Netherlands

Ireland and the Netherlands have both experienced inflation rates above the euro area average as well as strong property price inflation inside EMU. Not surprisingly, both economies also experienced strong growth in output above potential and tight labour markets.

In both cases, inflationary pressures played a role in helping the economies adjust to shocks within EMU. The European Commission\(^a\) has noted that: “In the event of country-specific circumstances, though, the nominal interest rate and exchange rate can no longer provide for cyclical and structural adjustment. Therefore, price pressures will arise, changing the real exchange rate and, as a consequence, relative competitiveness . . . such a deterioration of relative competitiveness within EMU is not per se undesirable, as relative prices and wages are an essential economic adjustment mechanism in the monetary union.”

Blanchard\(^b\) argues that a higher rate of inflation in Ireland inside EMU was part of the optimal adjustment package as it was difficult to make the case for tightening fiscal policy. Similarly, the OECD\(^c\) notes that wage-price inflation in the Netherlands was part of the normal adjustment process within a single currency area and appropriate to realigning the competitive position of the Netherlands with other euro area economies.

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Price flexibility in the UK... 2.106 Adjustment differs in the UK where, outside EMU, interest rates together with exchange rate movements ensure that inflation remains at target. Nonetheless, relative price movements between regions and industries ensure adjustment and competitive resource allocation within the UK.
Like wage adjustment, price adjustment will not be instantaneous. Prices are sticky or slow to adjust due to the costs involved in changing prices, or firms might be reluctant to lower their prices leading to downward nominal price rigidity.

A low and stable inflation environment might lead firms to lengthen the time between price changes. However, analysis of RPIX inflation shows that there have been relative price movements in the UK during the 1990s when the inflation rate was much lower and more stable than in the past (see Box 2.9). In recent years, a high proportion of price movements have been negative, suggesting that UK firms are willing to cut prices as demand conditions change. Evidence from the euro area shows that price falls are also present within the euro area inflation aggregate.

Box 2.9: Price flexibility in the UK

The chart below shows the distribution of weighted price movements in the annual UK Retail Prices Index excluding mortgage interest payments (RPIX) averaged over different time periods. Each bar shows the proportion of goods and services that have inflation rates within a given range: for example, on average between 1999 and 2002 the prices of a small proportion of goods and services rose by more than 14 per cent annually, while the prices of around a fifth of goods and services rose by between 2 and 4 per cent.

The chart clearly illustrates that the whole distribution has shifted to the left since 1992, reflecting the relatively lower inflation environment and greater macroeconomic stability in the UK. A significant number of price movements within the distribution are negative, in other words price falls are not uncommon. Indeed, in 2002 around a quarter of the distribution was negative. The Bank of England\(^a\) notes that the increasing prevalence of price cuts suggests that the efficient allocation of resources in a low-inflation environment has not been hampered by a lack of downward flexibility in prices.

Price flexibility can also be considered by examining how firms alter their margins or mark-ups in response to shocks. The mark-up is the profit margin that a firm charges over the cost of producing a product or service. Studies have found that the correlation between mark-ups and output is positive in the UK – that is, firms raise their mark-up when output is high and lower it when output is low. This is one source of stabilisation for output and employment in response to shocks.

Survey evidence suggests that firms typically review prices at set intervals rather than responding to particular events, which may lead to price stickiness. But surveys also show that prices are determined primarily with regard to market conditions and that greater competition increases the frequency of price reviews.

Competitive and open markets enhance price flexibility. These features are difficult to quantify but recent reforms and progress towards greater Single Market integration suggests that the EU is doing better than it was. Yet, on many indicators, the UK and the EU still underperform the US. As illustrated in Chart 2.5, it is estimated that around 5½ per cent of working-age adults are engaged either in starting a new business or in running a young firm in the UK, although start-up rates tend to vary widely across different communities. This figure is close to the European average, but is barely over half the US level.

The evolution of prices is important in EMU because price transparency is one of the potential benefits of a successful single currency, as discussed in the assessment of the growth, stability and employment test. Such transparency can improve the signals for firms when deciding whether to move resources away from inefficient areas to more productive and innovative uses, or when to enter and exit particular markets. This increases the dynamism and flexibility of the product market. The product market also influences labour market outcomes – for example, competitive product markets create an incentive to use labour efficiently, increasing the flexibility of the labour market.
Markets with greater flexibility should exhibit low price differentials between regions or countries as competitive forces help to erode price differentials. The EMU study *Prices and EMU* discusses price differentials in the EU and finds that:

- price dispersion in the US is lower than in the EU, suggesting there is considerable scope for further price convergence both in the EU and between the UK and other European economies;
- prices across the EU are generally higher than in the US, implying there are still barriers to fully realising the benefits of the Single Market within the EU; and
- prices vary widely between EU countries. No country is uniformly expensive or uniformly cheap, although the UK tends to be relatively more expensive for a number of products.

The relative price level (RPL) is the ratio of domestic to foreign prices adjusted for the exchange rate between domestic and foreign currency. Chart 2.6 shows the relative aggregate price levels for the large EU countries. In the mid 1990s, the price level in the UK moved from being below the EU average to above it. The EMU study *Prices and EMU* argues that much of this increase can be explained by the rise in the nominal sterling-euro exchange rate over the same period. Because prices are not fully flexible, the nominal exchange rate can determine relative prices for several years.

A closely related indicator is the size of margins or mark-ups. Greater competition is associated with lower mark-ups, as high margins are a signal for firms to enter the market. Studies typically find evidence that markets are not perfectly competitive and that mark-ups in the UK are similar to the US but are higher in large European countries and Japan. For example, in one study average US mark-ups were 10 to 15 per cent, while in other countries they were 15 to 30 per cent.
The institutional environment

2.116 For the potential benefits of EMU to be fully realised it is important that the institutional and policy environment promotes price flexibility, supports businesses and entrepreneurs and ensures that there is effective competition in all markets.

2.117 Summary indicators, such as those produced by the OECD, show that the UK has the least restrictive regulation in product markets of those studied (see Chart 2.7). Germany’s product market also has relatively less restrictive regulation, but France and Italy are more restrictive.

2.118 Other research organisations support these findings:

- the Economist Intelligence Unit (EIU) global business environment rankings score the UK well, both retrospectively (1998 to 2002), and looking forward (2003 to 2007) where the UK is ranked the fourth most attractive business environment out of 60 countries; and
- the Global Competition Review recently ranked the UK as equal second in its world league table.

2.119 Removing obstacles to new firms setting up in business is particularly important for promoting competition and innovation. Evidence on business start-ups shows that the UK performs well in this area. It takes around seven working days to set up a business in the UK – the shortest time in the EU (see Chart 2.8). The UK also has the second lowest costs needed to set up a new business.
These indicators are largely static and do not reflect reform initiatives in the UK or the EU in recent years. The UK Government is committed to improving competition and enterprise and has announced a wide range of measures to progress this agenda.

Alongside measures to improve investment, innovation and skills, the Government has sought to strengthen competition by radically overhauling the competition regime to ensure that it is among the best in the world, while addressing the barriers to entrepreneurship in many communities.

Through the Competition Act 1998 and the Enterprise Act 2002, the Government has made competition policy a key element of its microeconomic strategy. The reforms grant full independence to the UK competition authorities, giving the Office of Fair Trading (OFT) a clear proactive role to keep markets under review and new powers to impose criminal penalties for individuals engaging in hard core cartel activity.

The Government’s strategy for building an enterprise society in which people from all backgrounds can consider and act on opportunities for enterprise was set out in Enterprise Britain: a modern approach to meeting the enterprise challenge, published in November 2002.

The Government is committed to removing obstacles to entrepreneurship, especially in disadvantaged areas. The measures that it has introduced include cutting the corporation tax rate to 30 per cent, the small companies rate to 19 per cent and the starting rate to zero. It has designated 2,000 Enterprise Areas where social attitudes, market failures and the business environment generate particular problems, and is taking additional steps to break down barriers to enterprise in these areas.

The Single Market Programme and more recently the economic reform agenda initiated by European leaders at Lisbon in 2000 have acted as significant drivers of market integration and competition in the EU.
The Government reported earlier this year on progress on reforms in EU economies in *Meeting the Challenge: Economic Reform in Europe*. There have been substantial developments, including progress on the liberalisation of energy and communications markets, research and innovation initiatives, ongoing work on European competition policy and changes to the state aid regime. However, European economic performance in recent years has remained weaker on many counts than that of the US.

The importance of a large integrated single market in promoting competition in the US is highlighted in the EMU study *The United States as monetary union*. Indeed, the relatively greater dynamism and flexibility of the US economy has been a feature of much of this section. The Government’s 2002 White Paper, *Realising Europe’s Potential: Economic Reform in Europe* noted:

“For the full potential of the Single Market to be realised, Member States need first to remove the remaining legal, administrative, technical and other barriers which hamper Single Market integration, and which prevent Europe from attaining the levels of competition and growth enjoyed by the US.”

**Conclusion: how flexible are UK product markets?**

A decision to join EMU would increase the need for rapid price movements and would also make it necessary for firms to be able to respond effectively to shocks and adapt to the competitive opportunities that the single currency will bring. The UK has a reasonable degree of price flexibility with relative prices both rising and falling within the overall inflation aggregate. Moreover, the UK generally exhibits a competitive business environment and the Government is committed to further sharpening competition forces and improving opportunities for entrepreneurship in all areas of the community.

Since the 1997 assessment there has been much effort to promote competition at the EU level. Despite progress, the degree of competition and market flexibility falls short of what might be achievable as measured by the US.

In the product market the Government has announced the full independence of the UK competition authorities and is going further to enhance competition in specific markets, reform the planning system to make it work more efficiently and introduce a package of deregulatory reforms to ease the burden of regulation on small business.

**MARKET FLEXIBILITY: ADJUSTMENT THROUGH RISK SHARING AND CAPITAL MARKETS**

This section examines the flexibility of UK and EU capital markets. Risk sharing through capital markets can also play a role facilitating adjustment in EMU. A flexible and integrated capital market can provide financial instruments that help those consumers and firms with sufficient wealth to smooth or stabilise their consumption following a shock, compensating for the loss of national monetary policy and the nominal sterling-euro exchange rate. More generally, highly flexible and efficient financial markets ensure that capital is allocated to where it earns the highest returns for a given level of risk, raising growth. Well developed capital markets offer a range of funding options for investment and a supply of capital for new projects or business start-ups. The key driver of efficient capital markets is the institutional environment, particularly regulation.
The EMU studies *The United States as a monetary union, The location of financial activity and the euro and EMU and the cost of capital* provide a comprehensive overview of the substantial body of literature on the impact of EMU on financial markets that has emerged since 1997.

Drawing on these studies, this section assesses capital market flexibility using the same framework as for labour and product markets:

- **characteristics** – the mechanisms through which the capital market adjusts to a shock. The key focus is on the important role of risk sharing;
- **outcomes** – the indicators of how well capital markets are functioning, in particular the level of financial market integration; and
- **the institutional environment** and the extent to which it will influence the adjustment process. The regulatory framework in which capital markets operate is a central issue.

### Characteristics of flexible capital markets

Capital markets can help risk sharing between countries and regions, which may be particularly important in EMU. There are two types of capital market risk sharing:

- first, if firms or households hold a diversified portfolio of assets spread across regions and sectors, they can use the income from these assets to insure against a fall in income that is specific to their own region or sector; and
- second, households can borrow or lend on credit markets to smooth fluctuations in income.

The reason why risk sharing across geographical areas is important in the context of EMU is because it provides one mechanism with which to adjust to the type of shocks that an independent monetary policy and the nominal sterling-euro exchange rate would normally address. To be effective, risk sharing requires appropriately regulated financial markets that allow capital to flow across countries, regions and industries to smooth adjustment to shocks, and which offer a diverse range of financing options to investors and borrowers.

Risk sharing is one of the key mechanisms available to smooth the impact of regional or sectoral shocks in the US. The EMU study *The United States as a monetary union* finds that market risk sharing between US states is higher than between national economies (see Box 2.10).

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**Box 2.10: Risk sharing in the US**

The EMU study *The United States as a monetary union* discusses how capital markets have become increasingly important as a channel for smoothing shocks in the US. It reviews a number of studies that show that risk sharing is an important adjustment mechanism in the US, and perhaps more important than fiscal transfers. Estimates suggest that between 35 per cent and 60 per cent of shocks are smoothed through risk sharing in the US.

Research finds that market risk sharing between US states is higher than that found between countries in the EU, largely because capital and credit markets in EU countries are less well integrated than those in the US. This is consistent with 'home bias' (where investors hold portfolios which are heavily weighted to domestic assets) at the national level leading to less international diversification than would be predicted by models of optimal portfolio allocation. If EMU prompts increased capital market integration it could reduce home bias within the euro area and so facilitate greater risk sharing.

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116 Portfolio and physical capital are both considered, although the focus is on portfolio capital. Physical capital is focused on in the assessment of the investment test.
2.137 EMU could have a number of effects on investment strategies, increasing capital market integration and the potential for greater risk sharing within the euro area. In his contribution to the EMU study *Submissions on EMU from leading academics*, Professor Jean Dermine states: "A single currency in Europe changes fundamentally the competitive structure of the corporate bond and equity markets, since one key source of competitive advantage, namely home currency, disappears".

2.138 Portfolio diversification means that investors hold claims on other regions' output, for example through equity ownership. In his contribution to the EMU study *Submissions on EMU from leading academics*, Professor Peter Kenen notes: "By fostering the integration of capital markets, a monetary union will enhance the ability and willingness of households to diversify their holdings of financial assets and thereby self-insure against asymmetric shocks".

2.139 The removal of currency costs on cross-border financial transactions in EMU removes one potential barrier to portfolio diversification in the euro area. Efforts to remove barriers in the EU capital market through measures contained in the Financial Services Action Plan (FSAP), which are complementary to appropriate regulation by national authorities, are particularly important in determining the degree to which individuals can take advantage of the benefits of portfolio diversification.

2.140 If the endogenous convergence effects discussed in the assessment of the convergence test promote economic convergence in euro area countries, this could reduce the benefits of country-based portfolio diversification for euro area investors. If national economies move together more closely, and currency risk is removed, then there is less advantage from diversifying across countries. In such circumstances, investors may find that portfolio allocation strategies will be dominated by sectoral, rather than country, considerations.

2.141 A high level of physical (or fixed) capital mobility can also help economic adjustment. For example, capital may flow to a region with high unemployment to take advantage of low wages, thus returning unemployment to trend. The extent to which capital is mobile in the euro area will be closely linked to the degree of wage flexibility and also to the remaining barriers in the Single Market. Capital is more mobile where wages adjust and where markets are efficient and offer a range of types of funding and a supply of capital for new projects or business start-ups. If these conditions are in place, capital can be quickly reallocated across regions, industries or countries in response to changing economic conditions.

2.142 As with geographic labour mobility, physical capital mobility is a relatively more effective adjustment mechanism in the face of long-term structural problems. It is not a suitable adjustment mechanism for short-term shocks – a key consideration when evaluating the case for UK entry.
Outcomes in flexible capital markets

Greater Single Market integration

2.143 The evidence to date is that EMU has affected euro financial market integration, for example:

- a direct consequence of the single currency has been the establishment of an efficient wholesale euro payment system that ensures a smooth flow of funds across the euro markets. The successful introduction of TARGET, the EU’s cross-border wholesale payments system, has allowed funds to move smoothly across the EU; and

- as discussed in the EMU studies The location of financial activity and the euro and EMU and the cost of capital, the euro-denominated corporate bond market grew strongly after the start of EMU and the average size of issue has increased.

Equity risk sharing: portfolio reallocation

2.144 Portfolio diversification is one measure of greater market integration and, in the US, has acted to smooth the impact of regional or sectoral shocks. The EMU study EMU and the cost of capital provides evidence that portfolio diversification has increased since the start of EMU, and investors have adopted portfolio allocation strategies which are less biased towards domestic assets and are spread more widely across EU countries and sectors.

2.145 However, for a variety of reasons, including market and regulatory constraints, which affect not only portfolio allocation but also wider efforts to integrate EU markets, portfolio diversification in the euro area has not reached its full potential. Because efforts to remove barriers in the Single Market will take some time, the benefits of risk sharing in the euro area may therefore appear gradually. Consequently, capital markets in the euro area will provide a limited adjustment mechanism in the near future, although if barriers are removed they should become more effective over time.

Foreign direct investment

2.146 An outcome of capital mobility is increased cross-border investment flows – for example, foreign direct investment (FDI) can flow more freely across borders in order to take advantage of market opportunities, as discussed in the assessment of the investment test and the EMU study EMU and business sectors. The UK has been a leading recipient of inward investment into the EU over recent years. In 2001, the UK was the most successful country in the EU at attracting inward investment and the second most successful in the world.

2.147 As the assessment of the investment test discusses, the removal of exchange rate volatility in EMU should promote cross-border investment flows within the euro area. This will allow capital mobility to play a greater role in economic adjustment to long-term structural change.

Institutional environment: market regulation

2.148 The appropriateness of the institutional and regulatory environment will be a major influence on the ability of consumers and firms to take advantage of the capital market mechanisms that enable them to spread risk and smooth or stabilise consumption. While the euro itself could be a further catalyst for financial market integration, this is only a complement to ensuring that policy-induced barriers do not hamper the integration of EU Member States’ markets.

11 T rans-European Automated Real-time Gross settlement Express Transfer system.
EU financial market infrastructure is undergoing a period of change. This is being driven by a strong business case for rationalising its fragmented nature rather than by the single currency (although EMU may have added additional impetus). One effect of the fragmented nature of the EU’s market infrastructure, as well as a number of regulatory barriers in individual Member States, has been to hold back portfolio diversification. It has increased the cost of cross-border financial transactions by keeping transaction costs on cross-border activity at much higher levels compared to domestic transactions. Trades made across EU borders are more expensive than domestic trades (although no more expensive than trades between the US and Europe).

Tackling these policy-induced barriers is therefore key to capital market integration and to the functioning of capital markets as an adjustment mechanism across borders in the EU and within EMU.

Expectations of the level of integration which the FSAP and other measures can achieve need to recognise evidence from the US, indicating that full integration may be unlikely to occur. As the assessment of the financial services test demonstrates, even if policy-induced barriers are removed through initiatives such as those contained in the FSAP, a number of ‘natural’ barriers are likely to segment the EU market, such as the differences in language, law and legal tradition.

Conclusion: how flexible are capital markets?

Capital markets play an important role in stabilising the impact of shocks between regions in the US, facilitated by highly integrated financial markets. Although cross-border risk sharing is not significant in Europe at present, greater financial market integration would enhance the scope for risk sharing across the EU and bolster its role as an adjustment mechanism.

In the capital market, the Government will increase flexibility through reforms to improve access to finance for small enterprises with high growth potential and consultation on further reform to the corporation tax system.

How flexibility and adjustment works in practice

The various aspects of flexibility considered in preceding sections can be illustrated by considering the experiences of existing monetary unions. This section examines how adjustment has occurred in practice, both within EMU and also within more long-standing monetary unions such as the US and the UK. The analysis in this section draws on the EMU studies *The United States as a monetary union* and *EMU and labour market flexibility*.

Experiences in the euro area since 1999

The experience of countries within EMU since 1999 illustrates how different economies have performed in the absence of national monetary policy and individual nominal exchange rates with other euro area countries. These experiences provide important lessons for the UK and confirm the insights of the earlier analysis.
2.156 Inside EMU, economic performance has varied considerably. Growth was initially stronger in Ireland and the Netherlands, generating overheating pressures in these countries. Growth has been weaker in Germany, which had a negative output gap in 1999 and again in 2002 (see Table 2.1).

2.157 Euro area economies had different experiences in the transition to EMU, as discussed in the assessment of the convergence test. In particular, Ireland’s transition entailed a sharp reduction in interest rates immediately prior to joining EMU. This added to domestic overheating pressures in Ireland at the start of EMU.

### Table 2.1: Euro area output gaps

<table>
<thead>
<tr>
<th></th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>-0.2</td>
<td>1.1</td>
<td>0.4</td>
<td>-0.9</td>
</tr>
<tr>
<td>Netherlands</td>
<td>2.8</td>
<td>3.3</td>
<td>1.8</td>
<td>-0.2</td>
</tr>
<tr>
<td>Ireland</td>
<td>4.4</td>
<td>6.0</td>
<td>3.7</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Source: European Commission spring 2003 forecasts.

2.158 Inside EMU, differences in cyclical positions can no longer be accommodated by national monetary policy and the nominal exchange rate. The convergence test presents ‘Taylor rule’ estimates of the appropriateness of short-term interest rates given the cyclical position of the individual euro area economies. Evidence suggests that price and wage movements have played a role in adjustment inside EMU. In their contribution to the EMU study *Submissions on EMU from leading academics*, Professor Willem Buiter and Dr Clemens Grafe note: “It is encouraging that differential national rates of price and unit cost inflation can be observed to be at work in the Euro area while the ECB ensures a low average inflation rate for the Euro area as a whole”. Inflation has been highest in countries where demand and output was initially strong – namely Ireland, the Netherlands and Spain, while economies such as Germany, with relatively weak growth, have seen low inflation – see Chart 2.9. The role of inflation in adjustment and the degree to which cyclical factors account for the degree of inflation divergence is analysed further in Box 2.11.
Overheating pressures in some EMU economies have also been evident in strong house price inflation (see Box 2.12). In his contribution to the EMU study *Submissions on EMU from leading academics*, Professor John Muellbauer notes property prices rose strongly in the most recent upswing in Spain, Ireland and the Netherlands. In contrast, property prices in Germany fell in real terms. These developments have to be seen in the context of the longer-term trends already discussed in the assessment of the convergence test.

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2.159 For analysis of housing markets in the UK and the Netherlands see the EMU study *Housing, consumption and EMU*. 
As the analysis in this chapter has highlighted, inside a currency union, changes in the real exchange rate between members are the consequence of inflation adjustment. Strong inflationary pressures in Ireland and the Netherlands have led to an appreciation in the real exchange rate and a decline in competitiveness vis-à-vis euro area partners, helping to alleviate excess demand – see Chart 2.10. By contrast, the real exchange rate in Germany fell in line with weaker inflationary pressures, improving its competitiveness relative to the euro area average.

Box 2.12: House price inflation and adjustment inside the EU

Several euro area economies have experienced strong house price inflation since the start of EMU, particularly Ireland, the Netherlands and Spain. Between 1997 and 2001, house prices in the Netherlands rose by just under 10 per cent a year, slightly higher than the rises experienced in the UK over the same period. Irish house prices grew by 12 per cent a year over the same period.

Strong fluctuations in house prices cause economic difficulties inside or outside EMU because of the potential for speculative bubbles. But, inside EMU, they might be particularly problematic since euro area interest rates would not respond to house price cycles that were only evident in particular countries. Consequently, other instruments would be needed to deal with housing market volatility. In his contribution to the EMU study Submissions on EMU from leading academics, Professor John Muellbauer notes that Denmark has a number of instruments that help to stabilise the market in times of pressure and that: “the Danish property tax proves a powerful automatic stabiliser, which can be activated if consumer spending needs to be stimulated or brought under control”.

Chart 2.10: Real effective exchange rates against the euro area (using nominal unit labour cost deflator)

Source: European Commission.

…and real exchange rate movements

2.160 As the analysis in this chapter has highlighted, inside a currency union, changes in the real exchange rate between members are the consequence of inflation adjustment. Strong inflationary pressures in Ireland and the Netherlands have led to an appreciation in the real exchange rate and a decline in competitiveness vis-à-vis euro area partners, helping to alleviate excess demand – see Chart 2.10. By contrast, the real exchange rate in Germany fell in line with weaker inflationary pressures, improving its competitiveness relative to the euro area average.
2.161 For countries outside EMU, nominal exchange rate movements may substitute for inflation differences as a means of achieving relative price level changes. The EMU study *The exchange rate and macroeconomic adjustment* suggests that the strength of the real exchange rate of the UK relative to the euro area in recent years was warranted by the strength of domestic demand in the UK. In addition, the EMU study *Prices and EMU* finds that the rise in the nominal sterling-euro exchange rate was the key factor driving the rise in the UK price level relative to the EU average in the late 1990s.

2.162 Fiscal policy can also support adjustment mechanisms inside EMU and is discussed in detail in the next section of this chapter. The operation of the automatic stabilisers helps to stabilise output in individual economies over the economic cycle. For example, during an upswing, unemployment benefit payments tend to fall and tax receipts tend to rise, dampening the cycle. In a downturn, unemployment benefit payments rise and tax receipts fall, moderating the slowdown.

2.163 The Treasury discussion paper *Fiscal stabilisation and EMU* provides estimates of the strength of automatic stabilisers in the EU. Some estimates suggest that volatility can be reduced by around a quarter on average in the EU, while others suggest these effects are lower (see Table 2.2).

### Table 2.2: Effectiveness of automatic stabilisers in large EU countries

<table>
<thead>
<tr>
<th>Consumption shock</th>
<th>Investment shock</th>
<th>Export shock</th>
<th>Productivity shock</th>
<th>OECD Interlink model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>17</td>
<td>9</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>France</td>
<td>23</td>
<td>13</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>Italy</td>
<td>21</td>
<td>11</td>
<td>12</td>
<td>17</td>
</tr>
<tr>
<td>UK</td>
<td>18</td>
<td>9</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>EU average (unweighted)</td>
<td>23</td>
<td>12</td>
<td>14</td>
<td>13</td>
</tr>
</tbody>
</table>

1. EC Quest model results show the percentage of GDP fluctuations that are smoothed.
2. OECD Interlink model results show the percentage of root mean squared (RMS) deviations of the output gap that have been smoothed from 1991 to 2000.


2.164 Further support can be provided through discretionary fiscal policy action at a national level. As discussed in the EMU study *Policy frameworks in the UK and EMU*, fiscal policy has generally not been counter-cyclical since the beginning of EMU, meaning that it has generally not helped to counter periods of below or above trend growth. During 2000, when the euro area economy was growing at above trend rates, the fiscal policy stance was expansionary in all three large euro area economies.

## Adjustment in long-standing monetary unions: UK and US

2.165 In terms of adjustment within a monetary union, UK regions are analogous to countries in EMU or states in the US. Flexibility at the regional level has enabled different parts of the UK to prosper with interest rates that are set with respect to national rather than local economic conditions.

2.166 Regional flexibility would become even more important if the UK decided to join EMU. The characteristics and institutions that promote economic adjustment between UK regions would also equip the UK to thrive within EMU. Moreover, inside EMU, regions would need more flexibility as monetary policy would be set for the euro area as a whole, making interest rates less responsive to regional needs than is currently the case.
2.167 Like EMU members and US states, UK regions rely mostly on market mechanisms to adjust to shocks specific to their region. The EMU study *EMU and labour market flexibility* shows that while geographic mobility between UK regions is not high, there is a reasonable degree of relative wage flexibility between regions.

2.168 Evidence also suggests that the UK has recently been better able to match the supply of and demand for labour in individual regions. While the recovery of the late 1980s was largely confined to the south of England, more recently every region in the UK has seen sharp falls in unemployment.

2.169 Nonetheless, there remain important differences between regional economic outcomes. At the sub-regional level, areas of high unemployment sit alongside areas with high vacancies. In some regions, output per person is nearly 40 per cent lower than in London, the region with the highest output per person in the UK. There have also been significant differences in local housing markets, and in particular in house price inflation, as discussed in the assessment of the convergence test.

2.170 The UK’s long-run growth and prosperity depends on every nation and region of the UK performing to its full economic potential. That is why the Government has recently launched a modern regional policy, which aims to facilitate a higher degree of flexibility within and between UK regions.

2.171 EMU membership would place an even greater premium on regional flexibility for the UK, as it does for existing members. This is why the Government also wants to ensure that, in the future, regional policy in the EU is substantially devolved to the regions, providing the flexibility for Member States to pursue the right regional policies to meet differing needs. The Government’s policy proposals are outlined in the paper *A modern regional policy for the United Kingdom* which is discussed further in Box 2.13.

2.172 The US’s experience as a large and successful monetary union demonstrates the importance of flexibility to ensure that monetary union works well. The US is the world’s largest economy and the regions of the US need to be able to adjust without independent monetary policies and nominal exchange rates between them.

2.173 The EMU study *The United States as a monetary union* discusses how labour markets play a key role in US adjustment, through both wage adjustment and mobility between regions. More generally, the US exhibits strong competitive pressures helping to ensure that prices adjust quickly and efficiently. As discussed in the section on product markets, it will take some time before the EU reaches the dynamism of the US.

2.174 The US also makes much greater use of financial markets in facilitating risk sharing. Diversified risk sharing across a broad and deep capital market helps to stabilise the economy in the face of shocks. The degree of risk sharing in the US is much greater than between members of the euro area but, as discussed in the earlier section on capital market flexibility, this may change as financial markets become more integrated.

2.175 The federal tax and benefit system in the US provides some inter-regional insurance against asymmetric shocks – although this is no more, and probably less, than is already provided, on average, at a Member State level in the EU. Within individual US states there is also provision for ‘rainy day’ funds, analogous to the idea of using ‘buffer funds’ at the Member State level inside EMU. Fiscal flexibility in the UK and the euro area is considered further in the next section.
Conclusion: how much adjustment and flexibility is experienced in practice in monetary unions?

2.176 The experiences of EMU members to date illustrate the role that adjustment mechanisms can play, in particular regarding the implications of inflation differences within EMU. There are some signs that EMU membership has facilitated euro area wage flexibility. As a large monetary union with a high degree of diversity between states, the US also shows the importance of a high degree of market flexibility and capital market integration.
THE POTENTIAL FOR FISCAL FLEXIBILITY

2.177 The assessment of the flexibility test has so far concentrated on how labour, product and capital markets help the economy to adjust to shocks. As such, it has focused on the actions of individual workers and firms. However, government can also help the economy to adjust to shocks and stabilise output, through the use of monetary and fiscal policy.

2.178 Inside EMU, national monetary policy would no longer be available. This would not necessarily act as a constraint if the shocks hitting the UK economy prompted a response from the ECB which was similar to that which the MPC of the Bank of England would have made outside EMU. But some shocks may require a policy response that is specifically tailored to the needs of the UK economy.

2.179 In EMU, fiscal policy is potentially able to play this role. Because it also impacts directly on aggregate demand at the macroeconomic level, it could provide a substitute for the loss of national monetary policy. This section considers the potential for fiscal flexibility to support market adjustment inside EMU, drawing extensively on the Treasury discussion paper *Fiscal stabilisation and EMU*.

2.180 In the current UK policy framework outside EMU, monetary policy is the main policy instrument available to support market adjustment. Fiscal policy supports monetary policy in this stabilisation role by helping to smooth the path of the economy to shocks. However, it is generally not used in a discretionary manner to stabilise output.

2.181 Any decision to join EMU would mark a substantial shift in the UK economic environment. With monetary policy no longer tailored for UK needs, the ability of the economy to respond to shocks would be reduced, all other things equal. This implies that the UK’s hard won stability could be put at risk by creating greater volatility, with possible adverse effects on growth and employment.

2.182 A high degree of flexibility minimises these risks and would help to compensate for the loss of some adjustment mechanisms inside EMU. The preceding analysis of labour, product and capital markets suggests a relatively high degree of flexibility in the UK. However, there are times when market flexibility might usefully be complemented and enhanced. As discussed in the assessment of the convergence test, there remain areas where the UK is not fully convergent with the euro area and to the extent that fiscal stabilisation can be enhanced effectively, any lack of convergence would correspondingly be less problematic.

2.183 This raises two questions of importance to the UK EMU decision:

- what role can fiscal policy play in stabilisation?
- could its role potentially be enhanced inside EMU?

2.184 These two questions are considered in the Treasury discussion paper *Fiscal stabilisation and EMU*. This section draws heavily on the results of that paper and also the EMU study *Policy frameworks in the UK and EMU* which analyses the robustness of the macroeconomic frameworks in operation in the UK and the euro area. The euro area fiscal framework is based around the Stability and Growth Pact (SGP) and is considered in detail in the assessment of the growth, stability and employment test.

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13 Fiscal policy was not covered extensively in the 1997 assessment. The experience since 1997 of the operation of new fiscal policy frameworks in the UK and the euro area make this an important issue for fuller consideration in this assessment.
The current UK macroeconomic framework

2.185 The UK macroeconomic framework is designed to promote long-term economic stability, with low and stable inflation and sound public finances. Within this framework monetary policy plays the primary stabilisation role in the economy. It has the responsibility to achieve price stability which helps support the Government’s objectives for advancing long-term economic prosperity.

2.186 Fiscal policy supports monetary policy in helping to stabilise the economy in the short term primarily via the full operation of automatic stabilisers, as discussed above.

2.187 The principal role of current UK fiscal policy is to ensure the sustainability of public finances over the medium term. Fiscal policy also addresses welfare and equity considerations and must be set so as to ensure fairness within and between generations. Box 2.14 summarises the UK macroeconomic framework for monetary and fiscal policy.

Box 2.14: The UK macroeconomic framework

Monetary policy framework

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

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.

The inflation target is symmetric which ensures that outcomes below the 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\(^a\) – 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.

The EMU study Policy frameworks in the UK and EMU provides a full description of the UK macroeconomic policy framework.

The macroeconomic framework within which UK monetary and fiscal policy operates is designed to allow the authorities the flexibility to respond to shocks, but also to ensure there are clear limits on what they can do. This has been referred to as the principle of ‘constrained discretion’ and is discussed further in the assessment of the growth, stability and employment test. The overall framework should thus constrain macroeconomic policy to achieve long-term and sustainable goals and thereby ensure the Government’s objectives are credible, but also allow for flexibility to ensure that policy can help to stabilise the economy. The UK framework places a premium on ensuring that the Government is accountable to Parliament and the public for its actions.

**Fiscal policy in stabilisation**

A key question inside a monetary union is whether fiscal policy can help to stabilise demand effectively in the absence of independent monetary policy. In many ways, fiscal and monetary policy are similar: they can both influence aggregate demand fairly directly and both are needed less when market flexibility is high. For example, if workers adjust to an adverse shock by accepting lower wages, then unemployment benefits (an automatic stabiliser) will not need to rise. Inside EMU, the impact of fiscal policy would also tend to be more powerful, as UK policy would have relatively little impact on euro area demand and hence there is less chance that a change in fiscal policy would be offset by a change in interest rates.

In the current UK macroeconomic framework outside EMU, the automatic stabilisers play a supporting stabilisation role. This mechanism would continue to operate inside EMU. Empirical evidence already presented suggests that the automatic stabilisers have had a stabilising impact in the UK and across the EU. However, evidence for the relative strength of automatic stabilisers across the EU is not clear cut. There are reasons to believe that the automatic stabilisers might be slightly weaker in the UK than in some other EU countries, for example because the government sector is relatively small in size.

In addition to the automatic stabilisers, the Government can use fiscal policy in a discretionary way. In principle, discretionary fiscal policy has the advantage that it can be tailored to meet macroeconomic targets and respond to specific shocks. In addition, discretionary fiscal policy does not suffer from the same problem as the automatic stabilisers, which can be destabilising in the face of a supply shock.

Analysis in the EMU study Modelling shocks and adjustment mechanisms in EMU shows that greater use of fiscal policy has the potential to reduce volatility inside EMU. However, discretionary fiscal policy is not without its problems, which were highlighted during the 1950s and 1960s when the UK used discretionary fiscal policy more actively. In particular:

- the incentive is for governments to loosen fiscal policy in downturns but not to tighten fiscal policy during booms, i.e. it is pro-cyclical, not symmetric; and
- there are lags between fiscal policy decisions and their implementation, and also their effect on demand.

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14 A fuller definition for this term can be found in Chapter 2 of Reforming Britain’s Economic and Financial Policy, HM Treasury, 2002 and also Macroeconomic frameworks in the new global economy, HM Treasury, November 2002.

15 For example, 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 boost output, but could raise inflation further.
The problems associated with the use of discretionary fiscal policy in the past can be addressed through careful choices in institutional design. A well-designed institutional framework promotes transparency, accountability and credibility in fiscal policy. These features are at the core of the Government’s new macroeconomic framework introduced since 1997. Key criteria for choosing fiscal policy in order for it to be effective are outlined in Box 2.15.

Box 2.15: Making fiscal policy effective

There are a number of criteria that can be used to improve institutional design when choosing fiscal policy instruments:

- 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.

Specific instruments should also aim to maximise the effect on activity, minimise lags and, as with all tax and spending interventions, governments will also be mindful of the implications for wider government objectives such as efficiency and equity.

Could the role of fiscal policy be enhanced?

The role of fiscal policy inside EMU could be enhanced in two ways:

- strengthening the automatic stabilisers; and
- developing the existing framework to make discretionary fiscal policy for stabilisation purposes more effective.

The case for strengthening the automatic stabilisers inside EMU is considered in the Treasury discussion paper *Fiscal stabilisation and EMU*. The basic features of the automatic stabilisers are attractive: they are automatic so do not involve implementation and decision lags; they are symmetric; and they can be separated from other aspects of fiscal policy.

However, the automatic stabilisers can also have an adverse impact on efficiency. Because they impact directly on taxes and benefits, they might affect incentives or 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.
Even if strengthened, the automatic stabilisers can generally 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 more active discretionary fiscal policy might be required. To achieve that, a new institutional framework might be needed. In his contribution to the EMU study *Submissions on EMU from leading academics*, Professor Lars Calmfors states that: “the effectiveness of fiscal policy as a stabilisation tool can probably be raised significantly through various institutional reforms establishing a more well-defined and transparent policy framework that borrows from the experiences of monetary policy making”.

A new institutional framework could potentially involve:

- modification of the fiscal objectives and fiscal rules to reflect better the stabilisation objective;
- better mechanisms to improve accountability and transparency; and
- reduction of lags by setting up new institutional structures or modernising the existing ones.

Making stabilisation a more explicit objective inside EMU would help facilitate use of a more active stabilisation policy. This would make explicit the Government’s pre-commitment to such an objective and help to ensure that policy operated in a symmetric way. The symmetric operation of discretionary fiscal policy over the economic cycle is at least partly enforced by the two current fiscal rules: the golden rule and the sustainable investment rule – set out in Box 2.16.

There is a case, however, for looking at an additional rule to enforce counter-cyclical fiscal policy. The Government could pre-specify a rule setting out exactly how it would respond to any deviation in output from trend or debt from its medium-term target. However, past experience also shows that it can be undesirable to focus policy too much on a pre-specified formula or an intermediate indicator rather than the target outcome itself. The most appropriate response will vary according to the type of shock that has occurred and the economic context, so some degree of flexibility would be preferable.

A credible option would be a rule under which the Government would commit to a discretionary fiscal policy response under particular circumstances, for example if the forecast of the output gap exceeded a certain level, say plus or minus 1 or 1½ per cent of GDP. That is, if the economy was expected to grow considerably above or below trend, the Government would respond symmetrically to large forecast positive or negative output gaps. The Government could also retain the flexibility not to act if it believed 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 explaining its actions (see Box 2.17).
Ensuring transparency

2.202 Implementing new fiscal rules or measures inside EMU would heighten the need to enhance fiscal transparency and accountability. A credible option would be for the Government to publish a regular Stabilisation Report on a pre-announced timetable.

Stabilisation Report in the UK...

2.203 The Stabilisation Report would provide an assessment of recent macroeconomic developments and indicate how the Government would meet its fiscal stabilisation objective. The report could set out:

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

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

...and independent audit

2.204 Given the complexities of operating a more active stabilisation policy, there is a clear case for enhancing independent audit. This could be achieved by increasing the role of independent analysis, particularly on the more technical aspects of policy, or strengthening the monitoring of fiscal policy through existing EU structures.

Stabilisation fund

2.205 Other governments have considered setting up a fiscal stabilisation fund. Such funds would effectively build up when the economy was performing well in order to provide funds to be used when the economy was performing less well. This would be kept separate from other parts of the public accounts in order to increase transparency and ensure it was only used for stabilisation purposes. However, such a fund would be unnecessary if other mechanisms existed to help avoid pro-cyclical outcomes and ensure sufficient transparency.

Box 2.17: An open letter to Parliament for fiscal policy

The open letter to Parliament for fiscal policy could be used to explain:

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

An open letter system currently operates within the UK monetary policy framework. If inflation deviates by more than 1 percentage point above or below the inflation target, the Governor of the Bank of England must send an open letter to the Chancellor of the Exchequer outlining why the deviation has occurred and how the Bank of England intends to respond.
Some commentators have considered the option of an independent Fiscal Policy Committee, which would be delegated the authority to change some fiscal instruments to pursue stabilisation policy objectives, analogous to the current arrangements for monetary policy. However, this would introduce some accountability problems and would not be consistent with parliamentary tradition in the UK, as it would challenge parliamentary sovereignty with respect to fiscal policy.

Greater use of discretionary fiscal policy would mean that the Government would have to choose the most effective instruments to achieve stabilisation. The instruments chosen would ideally overcome the well-known problems of lags involved with implementing discretionary fiscal policy. Importantly they would also need to have minimal adverse effects on income distribution and be easily reversed when economic conditions changed.

The Treasury discussion paper *Fiscal stabilisation and EMU* considers a range of fiscal instruments on both the tax and expenditure side. The most promising instruments for fiscal stabilisation policy would appear to be expenditure taxes, which could be relatively effective at stabilising output, with limited undesirable impacts on incentives, the supply side or the overall equity of the tax system. Expenditure tax rates can be changed using the existing tax regulators. The tax regulators can currently change a number of taxes including VAT and excise duties outside the annual Budget cycle although these have not been used in practice in recent years – see Box 2.18. Greater use of the existing tax regulator powers would help to minimise lags in the use of discretionary fiscal stabilisation policy and reforms could increase their suitability for this purpose.

Fiscal instruments that could help stabilise the housing market are another possibility. They could help to reduce volatility in this sector in the same way that the automatic stabilisers operate in the economy on aggregate, as well as potentially providing an additional discretionary stabilisation tool.

### Box 2.18: The existing tax regulators

The existing regulator powers are formalised in several pieces of legislation. Various regulators have the authority to change:

- VAT (by a maximum of 25 per cent of the existing rate);
- the rates of the majority of excise duties on alcoholic drinks, hydrocarbon oils, betting and gaming and Air Passenger Duty by up to 10 per cent of the existing rate; and
- the rates of duty on tobacco products by up to 10 per cent of the existing rate.

The regulators were originally introduced in the 1960s and 1970s to allow the Government to change indirect tax rates between Budgets for demand management purposes but they have not been used since the 1970s.

Regions in a currency union can in theory also borrow from each other; for example, countries or regions suffering from an adverse shock can borrow from the rest of the monetary union. This is usually referred to as fiscal federalism. The lack of potential for fiscal federalism among euro area countries in comparison with the US is sometimes cited as a reason why EMU will not be able to function as effectively as a monetary union.
2.211 Greater fiscal federalism is unnecessary if regions within a monetary union already have a high degree of stabilisation at the regional level. The EMU study *Policy frameworks in the UK and EMU* notes that euro area countries already have considerable scope for stabilisation at the national level, making greater use of a federal function unnecessary. This is discussed further in the assessment of the growth, stability and employment test.

2.212 Nevertheless, the US provides a good benchmark against which to consider fiscal stabilisation in practice among a group of diverse states, as discussed in Box 2.19. In the US, adjustment to shocks through fiscal policy could occur in one of two ways. First, federal level policies could redistribute income across regions. Second, state governments could run fiscal surpluses or deficits to adjust to shocks.

**Box 2.19: Fiscal stabilisation in the US**

Following a regional shock, the US federal government can provide stabilisation through the tax and transfer system and through grants and subsidies to regions. The stabilisation provided is lower than in many EU countries, in part because of the smaller share of the economy accounted for by the public sector. The EMU study *The United States as a monetary union* considers studies that attempt to quantify the degree of stabilisation provided by the US federal tax and transfer system – finding that the system possibly offsets around 15 per cent of shocks.

State governments in the US have relatively large budgets and so could attempt to use fiscal policy to stabilise the regional economy, for example by running a deficit in the face of a downturn. However, US states (unlike euro area countries) do not use their budgets as a stabilisation tool; almost without exception, they limit fiscal policy through balanced budget requirements. This behaviour is voluntary and not imposed by the federal government.

During the economic expansion of the 1990s, many states did set aside ‘rainy-day funds’ as a defence against a downturn. By the end of fiscal year 2001 (end September 2001), the National Association of State Budget Officers estimates that states had built up reserve balances totalling 7.7 per cent of annual expenditures. States such as Maine, Missouri, Ohio and Kentucky have used their funds to balance a shortfall in their budgets for the fiscal year 2002.

**Conclusion: what role does fiscal policy play in adjusting to shocks and might this be enhanced inside EMU?**

2.213 Fiscal policy has the potential to support market adjustment mechanisms inside EMU. But enhanced stabilisation mechanisms would need to meet a range of criteria to ensure their worth and be implemented when the understanding of the mechanisms by which fiscal policy affects the real economy has increased.

2.214 The degree of fiscal stabilisation may need to increase inside EMU where the absence of a UK-specific monetary policy may cause the degree of macroeconomic volatility to increase. The Treasury discussion paper *Fiscal stabilisation and EMU* 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 reforms to the institutional framework that EMU membership would require to ensure an enhanced fiscal stabilisation policy operates symmetrically, credibly and transparently and which policy levers are likely to prove most effective.
2.215 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 and specific fiscal instruments that could be used for stabilisation purposes. The Treasury will conduct further analysis into these issues to ensure that the policy proposals deliver effective counter-cyclical stabilisation of the economy were the UK to join EMU.

**CONCLUSIONS: THE FLEXIBILITY TEST**

2.216 Inside EMU, loss of national monetary policy and the nominal sterling-euro exchange rate means that other adjustment mechanisms would have to work harder. Wage and price adjustment are the most effective adjustment mechanisms available, but there is also a potentially enhanced role for fiscal policy. National monetary unions, including the UK, have been successful without high internal mobility.

2.217 UK labour market flexibility has improved markedly since 1997. Significant falls in overall unemployment and long-term unemployment have accompanied strong employment growth giving the UK one of the lowest levels of unemployment in the OECD, lower even than the US. The 1997 assessment observed that the UK already had a relatively high degree of employment flexibility. This has been maintained, as demonstrated by a high incidence of part-time employment and flexible working practices. Moreover, evidence since 1997 points to an underlying improvement in wage flexibility. However, important challenges remain in the UK to reduce inactivity and repeated spells of worklessness and to enhance skill levels and improve mobility. Adjustment mechanisms have not been fully tested in recent years as the UK has had a relatively stable macroeconomic environment. If the UK decided to join EMU, wage movements would need to play a greater role in adjustment.

2.218 EMU membership puts a premium on the need for institutional structures to cope with shocks. Therefore, while the positive reforms to the institutional and policy framework in the UK suggest that recent improvements can be sustained, more progress on labour market reform would enhance flexibility in the UK and advance the Government’s long-term goal of employment opportunities for all. In the context of EMU, it would also increase the durability of convergence between the UK and the euro area.

2.219 A decision to join EMU would increase the need for rapid price movements and would also make it necessary for firms to be able to respond effectively to shocks and adapt to the competitive opportunities that the single currency will bring. The UK has a reasonable degree of price flexibility with relative prices both rising and falling within the overall inflation aggregate. Moreover, the UK generally exhibits a competitive business environment and the Government is committed to further sharpening competition forces and improving opportunities for entrepreneurship in all areas of the community. Since the 1997 assessment there has been much effort to promote competition at the EU level. Despite progress, the degree of competition and market flexibility falls short of what might be achievable as measured by the US.

2.220 Capital markets play an important role in stabilising the impact of shocks between regions in the US, facilitated by highly integrated financial markets. Although cross-border risk sharing is not significant in Europe at present, greater financial market integration would enhance the scope for risk sharing across the EU, and bolster its role as an adjustment mechanism.
2.221 The experiences of EMU members to date illustrate the role that adjustment mechanisms can play, in particular regarding the implications of inflation differences within EMU. There are some signs that EMU membership has facilitated euro area wage flexibility. As a large monetary union with a high degree of diversity between states, the US also shows the importance of a high degree of market flexibility and capital market integration.

2.222 Fiscal policy has the potential to support market adjustment mechanisms inside EMU. But enhanced stabilisation mechanisms would need to meet a range of criteria to ensure their worth and be implemented when the understanding of the mechanisms by which fiscal policy affects the real economy has increased.

2.223 UK labour market flexibility has improved markedly since 1997. Significant falls in unemployment have accompanied strong employment growth giving the UK one of the lowest levels of unemployment in the OECD, lower even than in the US. While considerable progress has been made to reform labour, product and capital markets in the UK and the euro area, more can be done to ensure the UK economy is resilient to deal with the risks identified in the convergence test and the challenges of EMU membership. Inflation volatility is very likely to increase inside EMU. Greater flexibility in the UK and throughout the euro area would minimise output and employment instability, helping to ensure convergence was durable and that the potential benefits of EMU could be fully realised. This underlines the importance of maintaining progress on a range of economic reform policies to enhance flexibility and resilience to shocks, particularly in labour markets. The less progress on flexibility that is achieved in the EU, the greater the premium on a high level of flexibility in the UK economy. Overall, at the present time, we cannot be confident that UK flexibility, while improved, is sufficient. Reflecting this, at the present time, the achievement of sustainable and durable convergence has not been demonstrated. But increased flexibility through the measures we set out will help to provide greater reassurance that the economy can meet the additional demands that EMU membership would pose and contribute to achieving sustainable and durable convergence.

2.224 Flexibility, the ability to respond to economic change efficiently and quickly in a way that maintains high employment, low inflation and unemployment, and continued growth in real incomes, ensures convergence is durable. Sufficient flexibility ensures shocks do not have long-lasting effects and that high levels of output and employment are maintained.

2.225 In the labour market, the Government is continually working to enhance flexibility and is going further through a package of measures designed to increase wage flexibility in the public sector, improve skills, particularly at the basic and intermediate level, give greater local discretion in the delivery of employment policies and increase labour supply by helping more people to move from welfare to work and increasing cyclical economic migration.

2.226 In the product market the Government has announced the full independence of the UK competition authorities and is going further to enhance competition in specific markets, reform the planning system to make it work more efficiently and introduce a package of deregulatory reforms to ease the burden of regulation on small business.

2.227 In the capital market, the Government will increase flexibility through reforms to improve access to finance for small enterprises with high growth potential and consultation on further reform to the corporation tax system.
2.228 The degree of fiscal stabilisation may need to increase inside EMU where the absence of a UK-specific monetary policy may cause the degree of macroeconomic volatility to increase. The Treasury discussion paper *Fiscal stabilisation and EMU* 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 reforms to the institutional framework that EMU membership would require to ensure an enhanced fiscal stabilisation policy operates symmetrically, credibly and transparently and which policy levers are likely to prove most effective.

2.229 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 and specific fiscal instruments that could be used for stabilisation purposes. The Treasury will conduct further analysis into these issues to ensure that the policy proposals deliver effective counter-cyclical stabilisation of the economy were the UK to join EMU.

2.230 All European countries have embarked on an ambitious programme to reform labour, product and capital markets and the Government supports policies to strengthen competition in the EU and the Single Market. However, it is important to make more progress at the European level, in particular on employment flexibility, trade and the Single Market in financial services. The less progress on flexibility that is achieved in the EU, the greater the premium on a high level of flexibility in the UK economy.
Would joining EMU create better conditions for firms making long-term decisions to invest in Britain?

The investment test focuses on one of the key potential benefits for the UK economy of EMU membership: higher investment. Productivity growth is central to long-term economic performance and investment is a key driver of productivity. In or out of EMU, the Government places great importance on boosting the quantity and quality of UK investment.

Key points:

- EMU is promoting a deeper, broader and more integrated capital market across the euro area, which could lead to a reduction in the cost of capital for euro area firms. The removal of currency transaction costs and risk through EMU entry would increase access to this capital market for UK firms, although differences in regulation and infrastructure would remain important barriers to access. Progress made on lowering these barriers, for example through the Financial Services Action Plan (FSAP), will be to the benefit of UK investors whether or not the UK joins the single currency.

- The barrier to access to the EMU capital market created by currency transaction costs and risk is relatively more important for small and medium-sized enterprises (SMEs) than for large firms. Easier and cheaper access to euro area financing will mainly benefit those larger SMEs which currently raise funds through domestic capital markets, but are discouraged by exchange rate costs from tapping international markets. EMU will have a limited impact on smaller SMEs, which tend to raise capital through local retail banks. Over the long run, EMU entry could spur competition in the UK retail financial market.

- A lower cost of capital through lower real and nominal interest rates was a key economic benefit of EMU for many euro area countries. Over the medium to long term, euro area interest rates are not expected to be lower than those in the UK, reflecting the expectation that macroeconomic frameworks in both the UK and the euro area will maintain low and stable inflation. Due to the current cyclical positions of the UK and euro area economies, EMU entry at this stage would lead to a fall in UK short-term interest rates. But the assessment of the convergence test shows that this would be likely to come at the cost of greater macroeconomic instability.

- Overall, exchange rate volatility acts as a barrier to cross-border investment. EMU entry on the basis of sustainable and durable convergence, including at a sterling-euro exchange rate consistent with longer-term sustainability, would allow the UK to participate in a more active cross-border investment market, prompting greater foreign direct investment (FDI) flows into the UK from the euro area and greater outflows from the UK to the euro area.

- Over time, EMU is likely to boost FDI in the euro area. There has been a fall in the UK’s share of total EU FDI flows coinciding with the start of EMU and a corresponding increase in the share of the euro area. But against the backdrop of many other influences on FDI flows, it is difficult to say with confidence that EMU has boosted FDI within the euro area. There can, however, be confidence that a successfully operating EMU, and UK membership of it on the right basis, would boost FDI over the longer term.

- Investment will be higher if firms have greater certainty about returns. EMU entry would reduce nominal exchange rate volatility and lead to greater certainty about returns, particularly for firms which do business in the euro area. But the assessment of the convergence and flexibility tests has shown that at the present time the achievement of sustainable and durable convergence between the economies of the UK and euro area has not been demonstrated. In such circumstances, EMU entry at this stage would lead to greater macroeconomic instability in the UK which would be damaging for domestic investment.
INVESTMENT

The overall conclusion of the investment test is:

- UK productivity has been held back by a legacy of long-term under-investment. EMU entry could reduce the cost of capital for UK firms if long-term interest rates fell further inside the euro area and if membership of a larger financial market reduced the cost of finance. These costs could fall for SMEs in particular if joining EMU lowers the barriers which prevent SMEs accessing euro area financial markets and lowers the cost of bank lending. Over time, EMU is likely to boost cross-border investment flows and FDI in the euro area. There has been a fall in the UK’s share of total EU FDI flows coinciding with the start of EMU, and a corresponding increase in the share of the euro area. But against the backdrop of many other influences on FDI flows, it is difficult to say with confidence that EMU has boosted FDI within the euro area. There can, however, be confidence that a successfully operating EMU, and UK membership of it on the right basis, would boost FDI over the longer term. There is a risk that the longer membership of the euro is delayed, the longer the potential gains in terms of increased inward investment are postponed. If sustainable and durable convergence is achieved, then we can be confident that the quantity and quality of investment would increase ensuring that the investment test was met.

Policy requirements:

In a world of ever increasing cross-border investment flows the UK Government will continue to focus on policies to ensure more long-term and productive investment. In practice this means:

- the measures outlined in the convergence and flexibility tests aimed at ensuring continued stability and improving flexibility will complement the Government’s existing strategy for increasing the quantity and quality of investment by UK firms;

- the Government is committed to continuing efforts to create a single European market in financial services through the FSAP; and

- the Government will ensure that the UK retains its leading position as a destination for FDI, inside or outside of EMU, by continuing to maintain macroeconomic stability and encouraging flexibility in labour, product and capital markets.

THE IMPORTANCE OF INVESTMENT

3.1 The Government’s central economic objective is to achieve high and stable levels of growth and employment. Increasing the sustainable rate of UK productivity growth is an important driver of long-term economic performance. The investment test addresses the issue of whether EMU membership would be good for investment:

Would joining EMU create better conditions for firms making long-term decisions to invest in Britain?

3.2 Investment in physical and human capital is a key driver of productivity. The UK’s investment levels have historically lagged behind those of other major economies, leaving the UK less capital intensive than its major competitors. Increasing investment and reducing this gap between the UK and other major economies is central to achieving the Government’s long-term economic objectives. This is why it is vital that joining EMU would create better conditions for domestic and overseas firms making long-term decisions to invest in the UK.

3.3 Public sector investment is important for laying the foundations of a strong, productive economy. The impact of EMU, and in particular the Stability and Growth Pact (SGP), on public investment is covered in the growth, stability and employment test. The investment test concentrates on the impact of EMU on business investment, covering both domestic business investment and foreign direct investment (FDI).
3.4 In the past, macroeconomic instability and weaknesses on the supply side of the economy have discouraged UK firms from investing for the long term. The Government’s strategy for increasing the quantity and quality of investment by UK firms has two broad strands:

- maintaining macroeconomic stability to help businesses 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; and

- implementing targeted microeconomic reforms to address market failures and boost competition, including improving transport and the planning system, and taking forward the recommendations of the Myners review of institutional investment, the Sandler review of retail savings and the Higgs review of corporate governance.

3.5 EMU membership could complement this strategy and boost investment by firms in the UK. The removal of nominal exchange rate volatility with existing euro area countries would provide greater stability for firms that export goods to euro area customers or purchase inputs from euro area suppliers. By lowering barriers to market integration in the euro area, EMU should increase cross-border investment flows. In the longer term, these developments should boost competition and provide new opportunities for companies to invest. The integration of financial markets prompted by EMU would potentially increase the availability of capital for firms.

3.6 But for these potential benefits to be realised, the UK must join EMU on the basis of having achieved sustainable and durable convergence. If this was not achieved, the UK would be likely to experience greater macroeconomic instability. Firms would face a more uncertain environment, which would be damaging to investment and lead to lower output and growth over the long term.

3.7 Tables 3.1 and 3.2 indicate the relatively low levels of capital investment in the UK and the consequences this has had for productivity. Table 3.1 shows that the UK has a lower capital intensity – the amount of physical capital that labour has to work with – than the US, Germany and France. In 1999, capital per hour worked in Germany and the US was nearly 50 per cent higher than in the UK and in France it was over 75 per cent higher. Table 3.2 shows that UK labour productivity is lower than in Germany, France and the US. This holds whether productivity is measured on the basis of output per worker, which is the Government’s central measure of productivity, or on the basis of output per hour worked.

Table 3.1: Capital per hour worked, 1999

<table>
<thead>
<tr>
<th>UK = 100</th>
<th>Total</th>
<th>ICT¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>146</td>
<td>264</td>
</tr>
<tr>
<td>France</td>
<td>177</td>
<td>114</td>
</tr>
<tr>
<td>Germany</td>
<td>147</td>
<td>105</td>
</tr>
</tbody>
</table>

¹Information and communication technology.

Table 3.2: Labour productivity, 2001

<table>
<thead>
<tr>
<th>UK = 100</th>
<th>GDP per worker</th>
<th>GDP per hour worked</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>131</td>
<td>126</td>
</tr>
<tr>
<td>France</td>
<td>116</td>
<td>133</td>
</tr>
<tr>
<td>Germany</td>
<td>104</td>
<td>125</td>
</tr>
</tbody>
</table>

Source: HM Treasury and ONS.

¹ Budget 2003 provides details of the Government’s strategy to boost investment.
3.8 As Chart 3.1 shows, UK business investment as a per cent of GDP has risen over the past 20 years. The combination of a stable macroeconomic environment and targeted reform saw business investment reaching record levels in the late 1990s. But as Table 3.1 shows, this encouraging performance still leaves the UK with lower capital intensity than its major competitors. UK investment is forecast to rise up to 2005 but capital intensity in the UK is likely to remain below that in other major European countries. The Government is determined to continue to target reforms to increase UK investment levels and close this gap. The EMU decision must support this ambition.

![Chart 3.1: UK business investment ratio](chart.png)

Note: Includes investment by public corporations (except National Health Service Trusts) and investment under the Private Finance Initiative. Source: ONS and HM Treasury Budget 2003 forecasts.

3.9 UK business investment fell in 2001 and 2002 due to significantly heightened global uncertainty. Although there have been recent signs of business investment bottoming out, the subdued nature of the global recovery in 2002 together with ongoing international uncertainties have continued to discourage firms from undertaking new investment. The main catalyst for the forecast rebound in business investment in the second half of 2003 is a strengthening of the global recovery. Business investment in the UK is forecast to grow by 4 3/4 to 5 1/2 per cent in 2004 and by 5 3/4 to 6 per cent in 2005.

3.10 While the UK’s domestic investment performance still needs to improve, the UK has a consistently excellent track record of attracting FDI. The UK has been a leading destination for inward investment into the EU over recent years, though the UK’s share of EU FDI flows fell quite sharply after 1998, and the euro area countries saw a corresponding increase. A key issue for this assessment is whether this indicates that being outside EMU has damaged UK FDI flows.

3.11 Despite this fall, as recently as 2001 the UK was the most successful country in the EU at attracting inward investment and the second most successful in the world. Importantly, the UK is also a major investor overseas. Maintaining the UK’s strong FDI record is important to the Government’s aim of increasing the rate of productivity growth in the UK. Research shows that FDI boosts productivity in domestic firms, as it introduces new technologies, more efficient management practices and greater competition into the domestic economy.
The assessment of the investment test is divided into two sections: business investment and FDI. In each case, the assessment identifies the key determinants of investment for firms and then considers the potential impact of EMU entry on these determinants.

The assessment considers both issues on the basis that should the UK stay outside the single currency it would remain a strong and constructive member of the EU. This means that UK industry would continue to have full access to the Single Market in goods and services and to EU capital markets, both now and in the future in an enlarged EU.

- Implications of EMU for business investment addresses three questions:

  What would be the impact of EMU on the expected returns to investment?

  A firm will invest if it expects the returns from the investment to exceed the costs. Expected returns depend on long-term growth prospects and the degree of economic stability. To address this issue, the assessment draws on analysis of the impact of EMU on the business environment from the EMU study *EMU and business sectors*.

  What would be the impact of EMU on the cost of capital?

  The cost of capital is affected by the stability of the macroeconomic environment and the size and liquidity of financial markets. For this analysis, the assessment draws on the EMU study *EMU and the cost of capital*.

  Would small and medium-sized enterprises (SMEs) enjoy cheaper and easier access to finance?

  The impact of EMU entry on the cost of capital for SMEs could be different from that for larger firms. Transaction costs and exchange rate risk will be proportionately greater hurdles to accessing cross-border finance for SMEs. The assessment draws on the analysis of these issues in the EMU study *EMU and the cost of capital*.

- EMU and foreign direct investment addresses two questions:

  What is the impact of the exchange rate on FDI?

  By removing exchange rate volatility and transaction costs within the euro area and boosting price transparency, EMU could increase cross-border investment flows. This could have a significant effect on UK FDI inflows and outflows.

  Has there been an EMU effect on FDI flows and has the UK suffered?

  The UK’s share of EU FDI flows fell after 1998. A key issue is whether this indicates that being outside EMU has harmed UK inward investment flows. The assessment examines the impact of EMU on FDI patterns to date, drawing on detailed analysis in the EMU study *EMU and business sectors*.

- The Conclusions bring the analysis together to assess whether the investment test is met.
IMPLICATIONS OF EMU FOR BUSINESS INVESTMENT

3.14 To assess the potential implications of EMU entry for investment, it is necessary to identify the key drivers of business investment. The Government’s strategy for promoting investment in the UK is focused on maintaining macroeconomic stability and implementing microeconomic reforms targeted at addressing market failures and boosting competition. This strategy is based on the principle that firms need a stable economy in order to plan for the future, and that efficient and flexible capital, labour and product markets allow firms to identify and realise investment opportunities.

3.15 These principles are rooted in economic theories of investment. Box 3.1 outlines theoretical accounts of the determinants of investment, which are also discussed in the EMU study EMU and business sectors. Such models suggest firms will invest if the expected returns from investment exceed the cost of capital. Empirical studies often find a weak link between investment and the cost of capital, but a stronger relationship with output and profitability. This suggests that EMU entry would increase investment levels if it were to raise growth and boost UK output. EMU’s overall impact on growth is covered in the fifth test on growth, stability and employment.

Box 3.1: Theories of investment

The assessment is underpinned by various theoretical approaches to analysing investment.

**Accelerator models** assume that there is a desired capital stock for a given level of output and interest rates. A rise in output or a fall in interest rates would prompt investment as firms adjust to reach the new optimal capital stock level.

The **neoclassical theory of investment** suggests that a firm will invest until the marginal return from investment equals the marginal cost of capital. Two factors drive investment in this model: the return from investment, which is governed by the price and volume of output; and the cost of capital, which is determined by factors such as the interest rate, depreciation and tax.

More complicated models of investment recognise that the capital stock cannot always be adjusted immediately to its desired level because of adjustment costs. These include the cost of lost business due to installation of new equipment or the cost of retraining workers. And in some cases these costs may be dynamic, meaning that they increase with the size of the investment, with the result that a too rapid accumulation of capital may be inefficient. Adjustment costs imply that the optimal capital stock predicted under the neoclassical model may not be reached immediately, but will be a longer-run equilibrium that firms attempt to move towards.

They also imply that current investment decisions need to incorporate firms’ expectations of future profits. The **Tobin’s Q** model of investment embodies this approach. Tobin’s Q is the ratio of the stock market valuation of the firm (which can be viewed as the market’s estimate of the present value of new investment) to the price of new equipment (which approximates to the marginal cost of capital). This relationship can be viewed as the ratio of the present value of marginal investment to the marginal cost of the investment. If Tobin’s Q is greater than one, i.e. if the marginal value of investment exceeds marginal cost, then it makes sense for firms to invest more. The optimal level of investment, which corresponds to the neoclassical optimal capital stock, is where Tobin’s Q equals one.
3.16 Recent economic research has extended the theoretical models discussed in Box 3.1 to include a wider range of determinants, such as the level of innovation, the availability of skilled labour, capital market imperfections and uncertainty. The impact of uncertainty on the expected returns to investment is particularly important to this analysis. EMU entry could have a significant impact on expected returns through its impact on macroeconomic stability and the exchange rate.

3.17 In most cases, firms may not recover the full value of an investment if future economic conditions turn out to be worse than expected. For example, the cost of building a new production plant cannot be fully recouped if demand for the plant’s output turns out to be lower than expected. This implies that in an unstable and uncertain environment, firms may not undertake some investment projects. Or they may delay them until they have greater confidence in future economic prospects. In the economic literature this effect is captured by ‘option value’ theory. Firms have the option to delay investment until there is more information on future conditions. This option effectively increases the rate of return which a firm requires to invest. The value of the option increases with economic uncertainty.

3.18 The importance of stability for investment has been confirmed by a series of empirical studies which examine the link between investment and economic uncertainty using data from across countries and business sectors. These studies are considered in more detail in the EMU study EMU and business sectors. The result that stability is important for investment is found to stand across a range of different indicators of uncertainty, including inflation, output and exchange rate volatility. Other work has also suggested that more competitive markets reduce the impact of uncertainty on investment. Firms in a competitive market may risk losing business to competitors if they delay investment.

3.19 The CBI Industrial Trends survey provides further evidence that uncertainty about demand is a constraint on investment for UK firms. The survey results for July 2002 to April 2003 show that over 50 per cent of respondents reported that uncertainty about demand was a factor likely to limit their investment plans over the next year.

3.20 Overall, evidence from the UK and other countries suggests that increased uncertainty has a negative long-run effect on fixed capital investment. As Professor Ray Barrell states in his contribution to the EMU study Submissions on EMU from leading academics: “In a more uncertain world the level of investment in the stock of capital assets (knowledge, skills and structures and equipment) is likely to be lower, and they will be used less effectively.”

3.21 The central message of economic theory and the evidence from economic studies and business surveys is that investment is determined by the relationship between the expected returns from investment and the expected cost of financing the investment:

- the expected returns from investment are determined by the demand for and the price of the output generated by the investment and by the costs of production. Expectations of demand, prices and costs over the lifetime of the investment are therefore key determinants of expected returns. The degree of uncertainty attached to these expectations is extremely important; and

- the cost and availability of internal and external finance is important, as higher costs of finance require greater returns from the investment to ensure that it is profitable.

3.22 The remainder of this section considers the potential impact of EMU on these two key determinants of investment.
Expected returns to investment

3.23 If EMU membership does not impair macroeconomic stability, the quantity and quality of investment could increase. In practice, the assessment of the convergence and flexibility tests has shown that sustainable and durable convergence has not been achieved. Box 3.2 discusses the implications of EMU entry for uncertainty in the context of investment, drawing on the analysis in several EMU studies. Because sustainable and durable convergence has not been achieved at the present time, EMU membership would risk leading to increased inflation and output volatility due to the loss of the stabilising role for a UK-specific interest rate and the loss of a shock absorbing role for the exchange rate.

Box 3.2: EMU’s impact on uncertainty and investment

The starting point for the assessment is that the quality and quantity of business investment is affected by uncertainty. Two sources of uncertainty relating to EMU membership are particularly relevant to aggregate investment: expectations of macroeconomic stability and expectations of future movements in the relevant exchange rate.

The implications of EMU membership for macroeconomic volatility have already been considered in the assessment of flexibility and are detailed in Box 2.4, drawing on analysis in the EMU study Modelling shocks and adjustment mechanisms in EMU.

To recap:

- macroeconomic variability might increase due to the loss of a stabilising role for a UK-specific interest rate and the loss of a shock absorbing role for the sterling-euro exchange rate; but
- the economy may become less volatile if EMU membership involves the removal of shocks to the sterling-euro exchange rate that, outside EMU, had been a source of macroeconomic volatility.

The EMU study Modelling the transition to EMU finds that the transition to entry to EMU and the uncertainty associated with the appropriate entry rate have risks for macroeconomic volatility.

The assessment of the convergence and flexibility tests concludes that sustainable and durable convergence has not been achieved at the present time. In other words, macroeconomic volatility would be higher in the UK inside EMU than outside.

Some commentators have highlighted the reduction in uncertainty within EMU for the UK resulting from the elimination of the exchange rate against euro area countries. By itself, this would boost investment in industries which trade with the euro area. But this effect needs to be offset against the impact on investment targeted on domestic sales, and the effect on exchange rate volatility against other currencies.

The causes of volatility in the sterling-euro exchange rate are also important. Analysis in the EMU study The exchange rate and macroeconomic adjustment suggests that this volatility reflects underlying shifts in the demand for and supply of goods and services in the UK and the euro area, and as such has been a symptom rather than a cause of the lack of sustainable and durable convergence. Within EMU, the absence of a sterling-euro exchange rate would mean that the effect of such shifts in demand and supply would have a greater impact on output and inflation. Hence the effects of reduced exchange rate volatility cannot be considered in isolation.
3.24 The removal of nominal exchange rate volatility between the UK and the euro area countries would remove one source of uncertainty for firms that trade with the euro area. The value of exports from UK firms to the euro area was 13.3 per cent of GDP on average in 1999-2001. Imports from the euro area accounted for 14.2 per cent of GDP on average over the same period.

3.25 Where part of the return from an investment accrues from trade with the euro area, EMU entry would allow firms to forecast with more accuracy the expected returns from an investment. In principle, by removing this source of uncertainty, EMU entry would benefit these firms.

3.26 The EMU study *EMU and business sectors* examines how the impact of exchange rate volatility on investment varies across industrial sectors. Firms with long lags between production and sale or long production times would benefit from a greater ability to plan ahead if exchange rate volatility were reduced. Reduced exchange rate uncertainty may have less impact on investment by firms with market power, for example where goods are differentiated due to branding or to national preferences. Such firms would have a greater ability to compensate for exchange rate movements by changing prices without losing sales. Empirical studies show that firms which have low profit margins are more sensitive to uncertainty from exchange rate volatility. Small firms may benefit to a greater extent from reduced exchange rate volatility because the costs of hedging are likely to be proportionally higher for them than for large firms.

3.27 Firms which are highly exposed to international trade would be affected more by reduced exchange rate volatility inside EMU than those which focus on domestic markets. The impact on firms which trade with non-euro area countries would depend on how EMU entry affected exchange rate volatility with other currencies. The EMU study *EMU and trade* shows that around half of UK goods and services trade was with countries outside the euro area in the period 1999-2001. Some studies have suggested that the elimination of exchange rate volatility with euro area countries could be outweighed by increased volatility of the euro against the US dollar. Analysis in the EMU study *The exchange rate and macroeconomic adjustment* and in the assessment of the convergence test concludes that this is unlikely to be the case, and that overall exchange rate volatility would be lower if the UK were to join EMU. But it is the case that the volatility of the euro against the US dollar has tended to be greater than the volatility of sterling against the US dollar in recent years. If this were to continue, firms which do business with the US or with currencies linked to the US dollar could find that exchange rate volatility would increase if the UK were to join EMU.

3.28 Expectations of demand are also important to overall expected returns. Reduced barriers to trade and investment across the euro area, driving competition and the more efficient allocation of resources, should prompt increased economic growth. Higher growth in the euro area will benefit the UK economy and boost levels of investment, inside or outside EMU. As approximately half of UK trade is with the euro area, a successful EMU has clear benefits in terms of greater demand for UK exports. The accelerator model of investment, outlined in Box 3.1, shows that a rise in output brings about an increase in investment, as firms add to their capital stock in order to meet the increase in demand. For the UK to reap these benefits, EMU itself must be successful and UK membership of EMU must not impair domestic macroeconomic stability.
Conclusion: what would be the impact of EMU on the expected returns to investment?

3.29 Investment will be higher if firms have greater certainty about returns. EMU entry would reduce nominal exchange rate volatility and lead to greater certainty about returns, particularly for firms which do business in the euro area. But the assessment of the convergence and flexibility tests has shown that at the present time the achievement of sustainable and durable convergence between the economies of the UK and euro area has not been demonstrated. In such circumstances, EMU entry at this stage would lead to greater macroeconomic instability in the UK which would be damaging for domestic investment.

3.30 The measures outlined in the convergence and flexibility tests aimed at ensuring continued stability and improving flexibility will complement the Government’s existing strategy for increasing the quantity and quality of investment by UK firms.

The cost of capital

3.31 Businesses will invest if the returns from an investment exceed its cost. In or out of EMU, the Government aims to boost investment through microeconomic reform designed to improve the conditions in which firms raise capital. The assessment of how EMU entry would affect the cost of raising finance for UK firms draws on analysis in the EMU study EMU and the cost of capital.

What is the cost of capital?

3.32 Firms generally raise finance for investment through either internal finance (retained profits) or external finance (debt or equity). The external cost of finance is given by the weighted average of a firm’s costs of debt and equity. The costs of both debt and equity can be broken down into two components:

- an economy-wide credit risk-free rate of return, determined in part by inflation expectations and inflation risk. Investors will demand a rate of return which compensates for the risk of inflation eroding the value of their investment; and
- the market risk premium, which reflects the risk that the market attaches to a specific sector, firm or project. In part this is determined by the size and efficiency of financial markets.

3.33 For example, corporate bonds are often expressed in terms of the spread (the market risk premium) over the national government bond (a proxy for the credit risk-free rate). The cost of equity can also be viewed in this way.

3.34 Observed measures of the cost of capital, such as corporate bond yields, are typically expressed in nominal terms. But there is an important distinction between the real and the nominal cost of capital. It is the real cost of capital – which is the nominal cost adjusted for inflation expectations – which matters for firms’ investment decisions.

The credit risk-free rate

3.35 In major industrialised countries with sustainable debt-to-GDP ratios, the credit risk-free rate of return can be proxied by the interest rate on government bonds. Government bond yields fell sharply in some current euro area countries as they prepared to join EMU. Chart 3.2 shows that euro area nominal government bond yields converged and were very similar by the start of EMU in January 1999.

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1 The EMU study EMU and the cost of capital explains why government bonds may not always be a good proxy for the credit risk-free rate, and considers alternative measures. However, the broad conclusions of the analysis are not affected by the choice of proxy.
3.36 This convergence has lowered nominal credit risk-free rates in those countries, such as Spain and Italy, where inflation expectations had been historically relatively high. The expectation that EMU would deliver more stable inflation in these countries may also have reduced the inflation risk premium and so the real cost of capital. This was a key economic benefit of EMU membership for these countries. As the 1997 assessment noted: “For many countries a lasting fall in nominal and real interest rates is one of the main economic reasons for joining EMU.”

![Chart 3.2: 10-year government bond yields in euro area countries (annual average)](chart)

3.37 Current market expectations are that the UK macroeconomic framework will maintain low and stable inflation. This means nominal credit risk-free rates in the UK are already low and close to those of the euro area. This represents a marked change in the situation compared with conditions at the time of the 1997 assessment. In October 1997, there was a significant difference between UK and German bond yields over a range of bond maturities (see Table 3.3). In part, this reflected expectations of lower long-term inflation in Germany than in the UK at that time. Due to the success of the UK macroeconomic framework introduced since 1997, the differential between German and UK bond yields has fallen over all maturities. UK yields are now below those of Germany in 30-year government bonds.

**Table 3.3: The differential between UK and German government bond yields**

<table>
<thead>
<tr>
<th>Basis points</th>
<th>5-year</th>
<th>10-year</th>
<th>30-year</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 1997</td>
<td>+226</td>
<td>+133</td>
<td>+63</td>
</tr>
<tr>
<td>October 1997</td>
<td>+145</td>
<td>+88</td>
<td>+28</td>
</tr>
<tr>
<td>April 2003</td>
<td>+72</td>
<td>+25</td>
<td>−25</td>
</tr>
</tbody>
</table>

Note: Averages for the month. A positive differential indicates higher UK yields.
Source: Bloomberg.
3.38 The EMU study *EMU and the cost of capital* focuses on the implications of joining EMU for the UK cost of capital over the medium and long term, in line with the horizon of most business investment. As shown above, UK nominal credit risk-free rates are low and close to those of the euro area over the medium and long term. The study also examines the impact of EMU entry on the cost of capital by looking at UK forward interest rates. Forward rates are the market’s expectation of the short-term interest rates expected to prevail at some point in the future. Forward rates are arguably a better indicator of structural interest rates than the long-term interest rates in Table 3.3, which are partly affected by a country’s current cyclical position. UK forward interest rates on government bonds are lower than euro area rates from around five years in the future onwards. This suggests that the market does not expect the euro area to have lower interest rates than the UK in the medium to long term.

3.39 This is not a surprising result. Credit risk-free interest rates are in large part determined by two components, the real interest rate and inflation expectations. Both would be expected to tend broadly to the same level in the UK and the euro area. Free flows of capital should equate real interest rates. Inflation expectations, and any associated inflation risk, should converge, as both the UK and the euro area macroeconomic policy frameworks are expected to deliver low and stable inflation in the future, at around the same average level.

3.40 While EMU entry would not deliver a significant fall in the cost of capital through its impact on the credit risk-free rate, there would be changes to UK interest rates if the UK were to enter EMU at the current time. Because of the cyclical positions of the UK and the euro area economies, short-term nominal interest rates are currently lower in the euro area. This is highlighted in the discussion of cyclical convergence as part of the assessment of the convergence test. If the UK were to join EMU at the present time, nominal and real interest rates would fall, leading to a lower cost of capital for UK firms over the short run. However, the assessment of the convergence test shows that the transition to lower interest rates would come at the cost of greater macroeconomic volatility.

3.41 The market risk premium component of the cost of capital reflects the risk that investors attach to a particular market, sector or firm, over a credit risk-free asset. This is determined partly by the size and efficiency of capital markets:

- a **deeper** market, defined as a market where assets are heavily traded, reduces market participants’ liquidity risk – the risk involved in finding a counterpart for a desired transaction; and
- a **broader** market, defined as a market where a wide range of assets are traded, allows participants to diversify holdings, so reducing credit risk.

3.42 A deeper and broader market could also allow for the expansion of particular market segments, such as high-risk bonds, which were previously constrained by a narrow investor base. A well-developed market for high-yield bonds would increase access and potentially lower the cost of capital for firms that may not previously have been able to borrow on the bond market.

3.43 Inside or outside EMU, the Government places great importance on the successful integration of EU capital markets through reform programmes such as the Financial Services Action Plan (FSAP), which aims to reduce regulatory and institutional barriers to cross-border financial transactions in the EU. The gains from full financial market integration in the EU are potentially large. A recent European Commission sponsored analysis estimated that full integration of financial services in the EU could lead to a fall in the cost of capital which would boost the level of EU GDP by around 1.1 per cent in the long run.
3.44 To consider the potential impact of EMU entry on the UK market risk premium, two related factors need to be considered:

- the extent to which EMU will promote a more integrated financial market, over and above continuing progress that is being made through the FSAP; and
- whether by remaining outside EMU, UK access to this market would be restricted.

3.45 A single monetary policy and the removal of exchange rate transaction costs and risk on cross-border financial activity will promote financial market integration. Trends in euro financial markets since the start of EMU are analysed in the EMU studies EMU and the cost of capital and The location of financial activity and the euro. Key developments include:

- the ECB’s single interest rate and TARGET cross-border wholesale payment system have led to the convergence of national money market rates around a single yield curve;
- bond and equity issuance rose after 1999 in the euro area, although both have been affected by changes in market sentiment in more recent years;
- there have been a significant number of banking and finance mergers in the euro area, although cross-border mergers have so far been limited; and
- there has been some consolidation of financial market institutions and infrastructure, such as trading and settlement systems.

3.46 Professors Francesco Giavazzi and Carlo Favero in their contribution to the EMU study Submissions on EMU from leading academics state: “The introduction of the Euro has quickened the pace of financial restructuring in the Euro area: the market for corporate bonds, in particular, previously almost non-existent, has grown significantly.”

3.47 There is some evidence that these developments have led to a fall in market transaction costs. Euro-denominated bond underwriting fees have fallen significantly. There is also evidence of falling equity commissions. Another sign of increased market integration is that euro area investment funds have shifted away from domestic holdings to become more heavily weighted in pan-European and euro area assets.

3.48 However, differences in regulation and infrastructure remain a restraint on full market integration. There is still considerable progress to be made on lowering these barriers, which will benefit UK investors and businesses whether or not the UK joins the single currency.

3.49 The EMU study EMU and the cost of capital examines the evidence to date on whether the market risk premium in the euro area is now lower than that in the UK by comparing the spread of a range of interest rates on commercial bonds over government bond yields. It also compares measures of risk in equity markets in the UK and the euro area. This analysis does not find conclusive evidence that spreads are lower in the euro area than in the UK. One reason is that numerous factors affect such spreads and isolating an EMU effect is very difficult. Overall, the study finds that, after only a few years of EMU, it is difficult to identify an EMU effect on the market risk premium.
If EMU entry were to significantly increase access to a more integrated euro area market, this could reduce the cost of capital for UK firms. However, currency barriers are only one of a number of issues that affect cross-border financial transactions. Uncertainty about exchange rates can be hedged through a variety of financial products. Currency risk may not be undesirable; it may enable investors to diversify risk in their portfolio. More important barriers to cross-border financial transactions are the significant transaction and information costs associated with dealing in overseas financial assets. EMU will only reduce transaction and information costs to the extent that it removes currency exchange costs and increases price transparency.

Indeed, many UK firms are already able to access euro financial markets with little constraint. The EMU study *The location of financial activity and the euro* finds that the City has participated fully in euro financial markets since the introduction of the single currency. Large firms have the knowledge and reputation to tap into international financial markets. They are also able to hedge against exchange rate risk at relatively low cost. For small firms, the costs of hedging against exchange rate risk and the impact of exchange rate transaction costs are likely to be relatively higher. This is an issue returned to below.

**Conclusion: what would be the impact of EMU on the cost of capital?**

EMU is promoting a deeper, broader and more integrated capital market across the euro area, which could lead to a reduction in the cost of capital for euro area firms. The removal of currency transaction costs and risk through EMU entry would increase access to this capital market for UK firms, although differences in regulation and infrastructure would remain important barriers to access. Progress made on lowering these barriers, for example through the FSAP, will be to the benefit of UK investors whether or not the UK joins the single currency.

A lower cost of capital through lower real and nominal interest rates was a key economic benefit of EMU for many euro area countries. Over the medium to long term, euro area interest rates are not expected to be lower than those in the UK, reflecting the expectation that macroeconomic frameworks in both the UK and the euro area will maintain low and stable inflation. Due to the current cyclical positions of the UK and euro area economies, EMU entry at this stage would lead to a fall in UK short-term interest rates. But the assessment of the convergence test shows that this would be likely to come at the cost of greater macroeconomic instability.

The Government is committed to continuing efforts to create a single European market in financial services through the FSAP.

**Access to finance for small and medium-sized enterprises**

The impact of EMU entry on the cost of capital for SMEs could be very different from that experienced by larger firms. This is an issue considered in the EMU study *EMU and the cost of capital*. The reduction in exchange rate transaction costs and volatility could be of relatively greater benefit to smaller firms. EMU entry could also reduce the cost of capital for small firms if it leads to greater competition in retail banking services.
Exchange rate transaction costs faced by small firms may be proportionately higher:

- because of their relative lack of financial knowledge and expertise, SMEs do not necessarily go to the best provider;
- the size of deals they require means they have less leverage with financial institutions to negotiate a better deal; and
- for forward transactions, they may be thought of as worse credit risks than larger firms.

Smaller SMEs in particular tend to raise funds locally and do not usually access wholesale capital market funding. SMEs tend to rely more heavily than large firms on bank lending, which is the largest source of external SME finance in the UK, accounting for over 60 per cent of the total. Cross-border competition in bank financing may be constrained by the importance of local information in lending to SMEs.

This suggests there is more scope for EMU entry to affect the cost of finance for those larger SMEs which already access domestic wholesale finance. Such firms have knowledge of raising capital through domestic wholesale financial markets but may have been discouraged from using international markets because of exchange rate costs. The analysis in the EMU studies *EMU and the cost of capital* and *EMU and business sectors* suggests that UK firms generally access more equity and bond finance than firms in other European countries. UK firms would therefore be well placed to take advantage of reduced transaction costs and the removal of currency volatility to access euro financial markets.

EMU entry would be unlikely to have an immediate effect on the majority of smaller SMEs that raise funds through local retail finance. In the longer term, EMU entry could act as a spur to competition in retail financial markets by encouraging euro area firms to enter the UK market, for example through merger and acquisition (M&A) activity, as discussed in the assessment of the financial services test. Retail financial services in the euro area are still largely segmented on national lines and evidence indicates the dominant trend has been toward increased concentration in the domestic banking sector. Professor Jean Dermine’s contribution to the EMU study *Submissions on EMU from leading academics* highlights that so far there have been only a few significant cross-border mergers in banking. The importance of local knowledge about domestic economic conditions and national regulations act as barriers to cross-border retail banking. New entrants are also likely to be put off by a reluctance on the part of small firms to switch banks.

**Conclusion: would SMEs enjoy cheaper and easier access to finance?**

The barrier to access to the EMU capital market created by currency transaction costs and risk is relatively more important for SMEs than for large firms. Easier and cheaper access to euro area financing will mainly benefit those larger SMEs which currently raise funds through domestic capital markets, but are discouraged by exchange rate costs from tapping international markets. EMU will have a limited impact on smaller SMEs, which tend to raise capital through local retail banks. Over the long run, EMU entry could spur competition in the UK retail financial market.
The UK has been a leading recipient of inward investment into the EU over recent years. The detailed analysis of FDI data in the EMU study *EMU and business sectors* demonstrates that in 2001 the UK was the most successful country in the EU and the second most successful in the world at attracting inward investment. Importantly, the UK is also a large outward investor in other countries. The UK's success at attracting FDI over recent years can be attributed to its favourable regulatory and tax regime; a stable macroeconomic environment; flexible labour and product markets; innovative capital markets; and a skilled labour force. Many of these factors will not be affected directly by the decision on EMU and will continue to contribute to the attractiveness of the UK to overseas investors.

Maintaining the UK's strong track record in attracting FDI is important because of the particular benefits of FDI. Analysis shows that firms investing overseas tend to have higher productivity than domestic firms. Research also shows that the presence of foreign firms raises productivity in domestic firms, for example through the dispersion from foreign to domestic firms of new technologies, improved management practices and skilled labour. There may also be indirect spillovers from foreign firms through the creation of greater competition in product markets, increased innovation and improved export performance.

Several drivers of FDI

The range of factors which make the UK an attractive location reflects the fact that firms invest overseas for a number of reasons. Three main motives for FDI can be identified:

- **resource seeking** – FDI which seeks specific resources which are unavailable in the home country, for example an overseas company investing in North Sea oil production;

- **efficiency seeking** – FDI which aims to produce goods and services more efficiently than in the home country. This could include firms seeking to benefit from spillovers in a specific location or firms seeking a more productive workforce. For example, a bank may locate in London in order to benefit from the critical mass of financial expertise already present in the City; and

- **market seeking** – FDI which seeks to gain access to overseas markets. For example, a US or Japanese car manufacturer investing in an EU country to gain access to the wider EU market.

Another way of classifying FDI is as either vertical or horizontal:

- **vertical** FDI is where a company splits its production process across a number of locations depending on where costs are lowest, for example locating the labour-intensive part of production in a low-wage country and the research-intensive part where there are high skill levels. Nokia produces mobile phone components and batteries in Hungary and assembles the completed phones in Germany and Finland, where it also has research and development facilities; and

- **horizontal** FDI is where a company locates the same production process in a number of different locations, for example car manufacturers which invest in several European countries. General Motors has car plants in the UK, Germany and Spain, all producing its Vauxhall and Opel brand cars.

Empirical research has shown that most FDI tends to be horizontal and between industrialised countries.
The exchange rate and FDI

3.66 Membership of EMU would not change many of the factors which underpin the UK’s attractiveness as a destination for FDI. However, some factors would be affected:

- the stability of the macroeconomic environment affects FDI in the same way that it affects overall business investment;
- EMU would affect the relative microeconomic attractiveness of the UK, for example by lowering transaction costs and increasing competition; and
- an important impact of EMU on FDI would come from lower exchange rate volatility against the euro area.

3.67 The current exchange rate and expectations of its future level are significant determinants of the decision to invest overseas. Two exchange rate issues are important:

- exchange rate volatility, where a currency moves with high frequency around a stable longer-term value; and
- persistent exchange rate deviation from its medium or long-term sustainable equilibrium.

3.68 As discussed previously, a number of factors influence FDI flows. Where FDI is undertaken to establish an export base, exchange rate volatility may reduce FDI as it increases the costs of trade. On the other hand, if exchange rate volatility acts as a barrier to trade then firms may choose to use FDI as an alternative way to access markets. Firms may choose to locate production in several different countries specifically in order to diversify risk. In this case, exchange rate volatility might increase FDI. Empirical studies on the link between FDI and exchange rate volatility are inconclusive. Some find that exchange rate volatility is a constraint on FDI but others reach the opposite conclusion.

3.69 This highlights the importance of examining the different sources of exchange rate uncertainty faced by different firms, an issue discussed in the EMU study EMU and business sectors. UK membership of EMU would have less impact on the exchange rate risk faced by an overseas firm which invests in the UK solely to serve UK markets; for example, FDI by providers of retail banking services. But membership could have a more significant impact on the exchange rate risk faced by a firm which aims to establish a base for exports to other EU countries. A third-country firm looking to export from an EU base would face currency volatility on exports to the euro area if they located in the UK while it was outside EMU, as well as volatility on their repatriated profits.

3.70 In EMU, reduced volatility through the permanent elimination of exchange rate uncertainty will boost cross-border investment. The permanent elimination of exchange rate volatility is very different from the situation considered in most empirical studies on exchange rate volatility and FDI. This is comparable to some extent to the analysis of the impact of EMU on trade which is a focus of the assessment of the growth, stability and employment test. This notes that research examining the impact of currency volatility on trade finds only a relatively small effect. But more recent studies on the impact of currency unions on trade find a much larger effect.

3.71 Economic research suggests that the effect of prolonged exchange rate appreciations and depreciations on FDI is straightforward – a persistent depreciation will increase FDI and a persistent appreciation will decrease it. A lower exchange rate can make a country’s assets relatively cheap to overseas firms. Joining EMU at an appropriate exchange rate would therefore be essential to prevent inefficiently low or high flows of inward investment.
Overall, the analysis suggests that EMU membership under the right circumstances, including the appropriate exchange rate, would raise the *quality* of inward investment as well as affecting the *quantity* of investment. An increase in trade and competition, induced by a reduction in uncertainty and transaction costs, increases allocative efficiency. This should result in a shift in the pattern of inward investment towards activities where comparative advantage exists, thereby increasing efficiency and welfare. In his contribution to the EMU study *Submissions on EMU from leading academics*, Professor Robert Mundell states that by eliminating exchange rate changes a single currency: "reduces investment risk and improves the distribution of foreign direct investment."

**Conclusion: what is the impact of the exchange rate on FDI?**

Overall, exchange rate volatility acts as a barrier to cross-border investment. EMU entry on the basis of sustainable and durable convergence, including at a sterling-euro exchange rate consistent with longer-term sustainability, would allow the UK to participate in a more active cross-border investment market, prompting greater FDI flows into the UK from the euro area and greater outflows from the UK to the euro area.

**EMU and FDI flows**

The UK experienced a fall in its share of FDI into the EU in 1999, while some countries in the euro area saw a corresponding increase. This section examines the UK’s FDI performance relative to the EU since the introduction of the single currency, drawing on detailed analysis in the EMU study *EMU and business sectors*, to answer the question of whether there has been an EMU effect on FDI flows and whether the UK has suffered as a result of being outside EMU.

The UK’s success in attracting FDI is shown by its large stock of FDI and its continuing record of attracting strong inward flows each year. In 2001, the UK had the second largest stock of FDI in the world and the largest stock of any EU country.³

The UK received the second largest amount of inward investment flows in the world in 2001. At almost US$54 billion, this was higher than any other European country and second only to the US. The UK also has an excellent outward FDI record, investing US$39 billion abroad in 2001. The UK stock of outward investment was over US$940 billion in 2001; around 14 per cent of global investment stocks and more than a quarter of the total EU outward investment stock.

Examining whether there has been an EMU effect within this overall strong performance is made more difficult by the volatility of FDI. FDI flows surged in the late 1990s, more than trebling between 1997 and 2000, followed rapidly by a sharp downturn as flows halved in 2001. Much of the boom in FDI flows in the 1990s is accounted for by M&A activity, in particular by a few very large deals. The analysis is also complicated by the difficulties involved in interpreting FDI data, which are outlined in Box 3.3.

The recent global downturn in FDI, which saw world investment flows falling by 50 per cent in 2001, has inevitably affected the UK. FDI flows into the UK fell by around half in 2001 and by 60 per cent in 2002. Although full 2002 data are not yet available for all other countries, it is clear that the recent downturn in UK inflows was mirrored in other major economies. For example, the US saw a drop in inflows of 81 per cent in 2002, following a fall of 59 per cent in 2001. German inward FDI rose by around 14 per cent in 2002, but this followed a sharp decline of over 80 per cent in 2001. In France, inflows fell by around 9 per cent in 2002, following a rise in 2001 of around 25 per cent.

¹The latest full year of data available from UNCTAD.
Against this volatile global background, Chart 3.3 examines the UK share of total EU inward FDI with that of France and Germany. The UK’s share fell from 28 per cent in 1998 to an average of 16 per cent over 1999 to 2001, followed by a sharp decline to 6 per cent in 2002. In France, the share fell from an average of 19 per cent between 1990 and 1996 to 5 per cent in 2000 but has since risen and was 13 per cent in 2002. Apart from the strong rise in 2000, reflecting one-off factors, the German share has been more stable at around 10 per cent since 1997. Over and above the general volatility in flows data, recent years have been characterised by particular factors, for example the UK’s substantial negative FDI flow in the first quarter of 2002 and strong performance by Belgium and Luxembourg (see Box 3.3) bringing their share of EU inward investment flows to 38 per cent in 2002.

**Box 3.3: Difficulties with interpreting FDI data**

The focus of this section is on FDI flows but where relevant it draws on data on stocks which can give a better indication of the long-term cumulative position. The EMU study *EMU and business sectors* contains a fuller account of the different types of FDI data available.

There are significant lags associated with investment decisions, which means in the short time period since the introduction of the euro it is difficult to draw conclusions about the impact of EMU on FDI.

There are also difficulties with the data on FDI, as ‘greenfield’ FDI – for example, the construction of new manufacturing capacity – is often not included in the statistics on FDI. In addition, very large M&A deals can often dominate data on FDI flows.

FDI data do not always indicate its ultimate origin, as capital may be routed through another country, for example from a firm’s European headquarters. Such countries are typically characterised by large FDI stocks and flows relative to GDP. Belgium and Luxembourg, for example, had inward and outward stocks of more than 300 per cent of GDP in 2000.

Moreover, there are particular difficulties in drawing conclusions from the FDI trends since 1999 because of the short time period involved.

The UK share of EU flows has fallen since the start of EMU

3.79 Against this volatile global background, Chart 3.3 examines the UK share of total EU inward FDI with that of France and Germany. The UK’s share fell from 28 per cent in 1998 to an average of 16 per cent over 1999 to 2001, followed by a sharp decline to 6 per cent in 2002. In France, the share fell from an average of 19 per cent between 1990 and 1996 to 5 per cent in 2000 but has since risen and was 13 per cent in 2002. Apart from the strong rise in 2000, reflecting one-off factors, the German share has been more stable at around 10 per cent since 1997. Over and above the general volatility in flows data, recent years have been characterised by particular factors, for example the UK’s substantial negative FDI flow in the first quarter of 2002 and strong performance by Belgium and Luxembourg (see Box 3.3) bringing their share of EU inward investment flows to 38 per cent in 2002.

**Chart 3.3: Country shares of total EU inward investment flows**

<table>
<thead>
<tr>
<th>Year</th>
<th>UK</th>
<th>Germany</th>
<th>France</th>
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<td>1990-1996</td>
<td>25</td>
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</tr>
<tr>
<td>2002</td>
<td>5</td>
<td>10</td>
<td>15</td>
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</tbody>
</table>

**Note:** UNCTAD data are only available up to 2001; Eurostat data are used for 2002. Source: UNCTAD, Eurostat, and HM Treasury calculations.
Disaggregated data, showing FDI inflows from within the EU and FDI inflows from outside the EU, are not yet available for 2002. The latest data on FDI split by source show that the UK’s share of investment from within the EU remained broadly constant between 1995 and 2001 and kept pace with that of France and Germany.

The UK is a major recipient of investment from non-EU countries, its share peaking at almost 50 per cent of total outside flows into the EU in 1998, having increased sharply since 1995 (see Chart 3.4). While this share has since been eroded, the bulk of the decline was concentrated in 1999, and from then to 2001 the share appears to have stabilised at around 25 per cent.

It is unlikely that the UK could have expected to attract around half of all outside investment into the EU over the medium term; even at 25 per cent, the UK’s share in 2001 remains large (Germany and France each attracted less than 10 per cent in both 2000 and 2001). In line with global trends, US FDI outflows have fallen significantly from their peak in 1999. The UK’s share of US FDI into the EU has fallen back from its peak in 1999, but rose slightly in 2002 to stand at 32 per cent.

FDI flows have been increasingly dominated by M&A activity in recent years and individual deals have been significant contributors to volatility. The decline in the UK’s share of EU FDI flows also reflects Vodafone’s acquisition of Mannesmann in 2000, an extremely large deal which boosted Germany’s share of EU FDI. Other M&A deals also affected UK figures, including the purchase of Orange by France Telecom in 2000. While it is not possible, using official statistics, to extract M&A data directly from FDI data, the EMU study EMU and business sectors uses proxies for M&A activity and suggests that UK underlying FDI continued to grow in 2001, although it fell back in 2002 reflecting the specific factors discussed in paragraph 3.79 (see Chart 3.5). Of course, the introduction of the euro may itself be a factor in increased M&A activity in the euro area.

**Chart 3.4: Country shares of inward investment flows from outside the EU**

Note: French data not available pre-1997.
Source: Eurostat and HM Treasury calculations.
The assessment takes particular account of qualitative evidence from Japanese, other Asian, US and European investors. Many have said that UK membership of EMU would be beneficial for FDI. Surveys of investors are a further source of qualitative evidence. Some surveys suggest that euro area investors do not view UK entry as an important factor in FDI decisions. In a survey by the German-British Chamber of Commerce in January 2003, nearly 80 per cent of German investors into the UK reported that the UK remaining outside EMU would have no impact on their investment decisions. On the other hand, a survey by AT Kearney in 2001 reported that over half of European executives questioned would be dissuaded from investing in the UK by a decision not to join EMU. More generally, investors typically cite a range of factors which affect their decisions on whether to locate overseas, including issues relating to macroeconomic stability, labour markets, tax and regulation and infrastructure, as well as the exchange rate and EMU.

**Conclusion: has there been an EMU effect on FDI flows and has the UK suffered?**

Over time, EMU is likely to boost FDI in the euro area. There has been a fall in the UK’s share of total EU FDI flows coinciding with the start of EMU and a corresponding increase in the share of the euro area. But against the backdrop of many other influences on FDI flows, it is difficult to say with confidence that EMU has boosted FDI within the euro area. There can, however, be confidence that a successfully operating EMU, and UK membership of it on the right basis, would boost FDI over the longer term.

**Policy requirements**

The Government will ensure that the UK retains its leading position as a destination for FDI, inside or outside of EMU, by continuing to maintain macroeconomic stability and encouraging flexibility in labour, product and capital markets.
CONCLUSIONS: THE INVESTMENT TEST

3.87 EMU is promoting a deeper, broader and more integrated capital market across the euro area, which could lead to a reduction in the cost of capital for euro area firms. The removal of currency transaction costs and risk through EMU entry would increase access to this capital market for UK firms, although differences in regulation and infrastructure would remain important barriers to access. Progress made on lowering these barriers, for example through the FSAP, will be to the benefit of UK investors whether or not the UK joins the single currency.

3.88 The barrier to access to the EMU capital market created by currency transaction costs and risk is relatively more important for SMEs than for large firms. Easier and cheaper access to euro area financing will mainly benefit those larger SMEs which currently raise funds through domestic capital markets, but are discouraged by exchange rate costs from tapping international markets. EMU will have a limited impact on smaller SMEs, which tend to raise capital through local retail banks. Over the long run, EMU entry could spur competition in the UK retail financial market.

3.89 A lower cost of capital through lower real and nominal interest rates was a key economic benefit of EMU for many euro area countries. Over the medium to long term, euro area interest rates are not expected to be lower than those in the UK, reflecting the expectation that macroeconomic frameworks in both the UK and the euro area will maintain low and stable inflation. Due to the current cyclical positions of the UK and euro area economies, EMU entry at this stage would lead to a fall in UK short-term interest rates. But the assessment of the convergence test shows that this would be likely to come at the cost of greater macroeconomic instability.

3.90 Overall, exchange rate volatility acts as a barrier to cross-border investment. EMU entry on the basis of sustainable and durable convergence, including at a sterling-euro exchange rate consistent with longer-term sustainability, would allow the UK to participate in a more active cross-border investment market, prompting greater FDI flows into the UK from the euro area and greater outflows from the UK to the euro area.

3.91 Over time, EMU is likely to boost FDI in the euro area. There has been a fall in the UK’s share of total EU FDI flows coinciding with the start of EMU and a corresponding increase in the share of the euro area. But against the backdrop of many other influences on FDI flows, it is difficult to say with confidence that EMU has boosted FDI within the euro area. There can, however, be confidence that a successfully operating EMU, and UK membership of it on the right basis, would boost FDI over the longer term.

3.92 Investment will be higher if firms have greater certainty about returns. EMU entry would reduce nominal exchange rate volatility and lead to greater certainty about returns, particularly for firms which do business in the euro area. But the assessment of the convergence and flexibility tests has shown that at the present time the achievement of sustainable and durable convergence between the economies of the UK and euro area has not been demonstrated. In such circumstances, EMU entry at this stage would lead to greater macroeconomic instability in the UK which would be damaging for domestic investment.
Overall conclusion 3.93 UK productivity has been held back by a legacy of long-term under-investment. EMU entry could reduce the cost of capital for UK firms if long-term interest rates fell further inside the euro area and if membership of a larger financial market reduced the cost of finance. These costs could fall for SMEs in particular if joining EMU lowers the barriers which prevent SMEs accessing euro area financial markets and lowers the cost of bank lending. Over time, EMU is likely to boost cross-border investment flows and FDI in the euro area. There has been a fall in the UK’s share of total EU FDI flows coinciding with the start of EMU, and a corresponding increase in the share of the euro area. But against the backdrop of many other influences on FDI flows, it is difficult to say with confidence that EMU has boosted FDI within the euro area. There can, however, be confidence that a successfully operating EMU, and UK membership of it on the right basis, would boost FDI over the longer term. There is a risk that the longer membership of the euro is delayed, the longer the potential gains in terms of increased inward investment are postponed. If sustainable and durable convergence is achieved, then we can be confident that the quantity and quality of investment would increase ensuring that the investment test was met.

Policy requirements 3.94 In a world of ever increasing cross-border investment flows the UK Government will continue to focus on policies to ensure more long-term and productive investment. In practice this means:

- the measures outlined in the convergence and flexibility tests aimed at ensuring continued stability and improving flexibility will complement the Government’s existing strategy for increasing the quantity and quality of investment by UK firms;
- the Government is committed to continuing efforts to create a single European market in financial services through the FSAP; and
- the Government will ensure that the UK retains its leading position as a destination for FDI, inside or outside of EMU, by continuing to maintain macroeconomic stability and encouraging flexibility in labour, product and capital markets.
What impact would entry into EMU have on the competitive position of the UK’s financial services industry, particularly the City’s wholesale markets?

The assessment of the financial services test examines the costs and benefits of EMU entry for the UK financial services sector as well as those associated with remaining outside the euro area. The assessment is based on the evidence of four years’ operation of euro financial markets since the start of EMU and the City’s relative performance, and the detailed analysis of longer-term trends in the EMU study *The location of financial activity and the euro*.

**Key points:**

- Inside or outside EMU, the competitive strength of the City should mean that the UK continues to attract a significant level of wholesale financial services activity. The international nature of the City’s markets and the foundations of its competitive position imply that the achievement of sustainable and durable convergence to safeguard stability in EMU is less of a determinant of the likely success of wholesale financial services activity than it is of other aspects of the UK economy. Entry might strengthen London’s position as a leading financial centre. To the extent that the euro proved to be a factor in the location of wholesale financial services activity, entry would remove any unease firms might have about locating in a financial centre outside the euro area. Entry could also improve the UK’s ability to compete for the new, contestable business that can be expected to arise from EU enlargement, an ageing EU population and the continued development of euro financial markets. Changeover costs arising from entry for the sector would not be significant.

- Entry would improve the competitive position of the UK’s retail financial services sector if other barriers are also removed. Benefits to the retail financial services sector from entry would include lower costs on euro area transactions, the possibility for a more optimal allocation of investment portfolios and potential scale economies for investment funds. Assuming markets are competitive, these benefits should be passed on to consumers and offset the one-off changeover costs for the retail financial services sector that would arise from entry.

- The dynamic effects of the single currency can be expected to be gradual. With other changes, the euro will encourage integration of retail financial services in the Single Market over the longer term and, importantly, greater competition in the sector. Being outside the euro area would mean that these effects would be more muted in the UK sector although the barriers are regulatory and legal rather than related to currency. The business case for greater cross-border merger and acquisition activity could strengthen as retail financial services firms seek to make the most of new opportunities in a single market with no currency barriers. Outside the euro area, the business case for UK retail financial services firms to capitalise on these opportunities could be weaker.

- Compared to wholesale financial services activity, realisation of these gains for retail financial services is more conditional on the achievement of sustainable and durable convergence and the safeguarding of stability, just as it is for other UK business sectors that serve the domestic market.

- The UK’s influence over EU financial services policy should remain strong whether inside or outside the euro area. Concerns prior to the start of EMU that the UK’s influence would diminish outside EMU have not been realised: the UK has had an influential say over EU financial services issues. In part because of the position of the City as the major international financial services centre in the EU and the transaction of a significant proportion of euro business in London, the UK’s influence should remain strong in or out of EMU. The Government is aware that it will need to be more vigilant in the face of any risks that might arise while the UK remains outside EMU and will be fully engaged in the debate about the future regulatory framework for EU financial services. Using its strong influence, the Government will work with the UK’s financial services sector to ensure that the UK’s competitive advantage in many retail and wholesale financial services activities is safeguarded and, wherever possible, enhanced.
The importance of financial services

4.1 The financial services test asks:

What impact would entry into EMU have on the competitive position of the UK's financial services industry, particularly the City's wholesale markets?

The 1997 assessment

4.2 Compared to the 1997 assessment, this assessment has the benefit of over four years' experience of the euro on which to draw. The 1997 assessment concluded that EMU offered considerable benefits to the UK financial services sector whether the UK was inside or outside the euro area. However, the benefits and the opportunities would be more easily tapped from inside the euro area than outside.

4.3 The UK's wholesale markets were expected to remain competitive following the introduction of the single currency whether or not the UK joined, because the City held a number of significant competitive advantages relative to other EU financial centres. Prospects for the UK retail financial services sector were also generally positive. Compared to other European markets, the UK sector had undergone early and significant structural reforms, with consumers feeling the benefits of innovation stimulated by competition.

The financial services sector's importance to the UK economy

4.4 The financial services sector continues to play an important direct role in the UK economy:¹

- in 2001, financial services accounted for 5.2 per cent of UK output, compared to 5.6 per cent of output in 1997;
- the financial services sector continues to be a significant source of employment for the UK economy. It provided over 1 million jobs in 2002, a level largely unchanged since 1997; and
- the sector is a significant source of overseas earnings for the economy. In 2001, financial services net overseas earnings (including insurance) amounted to around £13.2 billion. In 1997, the surplus was around £9.7 billion. The large surplus suggests that the UK continues to hold a significant competitive advantage in financial services activity relative to its competitors.

1 More detailed evidence on the UK financial services sector and its performance relative to other countries is provided in an annex to the EMU study The location of financial activity and the euro.
4.5 The financial services sector also has an important wider role in the UK economy. A well functioning and efficient financial sector contributes to increased investment, productivity and growth – issues that are at the core of the investment test and the growth, stability and employment test. Financial markets:

- lower the cost of capital, as large and liquid markets lead to lower risk premia. The investment test examines this important issue and the potential for EMU to lower the cost of capital;
- allocate capital to where it earns the highest returns, raising growth;
- increase information flows to investors and consumers, allowing them to manage risk and allocate capital to where they believe returns are highest;
- add to economic efficiency by lowering transaction costs; and
- can exert financial discipline on companies, maximising returns for shareholders.

4.6 The importance of the financial services industry to the UK economy and its dynamic nature mean that there are no grounds for complacency in this assessment. The severity of the global equity market downturn since 2000 has created a level of uncertainty not seen in the financial services sector for many years, and there are as yet few signs of a rapid recovery in market sentiment. Other significant long-term forces are also shaping the sector – the EMU decision adds to the already complex environment for the UK financial services sector. It has some direct and, perhaps more importantly, indirect effects on existing trends, with potential long-term implications for both the UK’s wholesale and retail financial services sectors.

4.7 The assessment of the financial services test is structured as follows:

- The future drivers of EU financial services answers the question: What are the drivers shaping the development of the EU financial services sector?
  Five key drivers are assessed, drawing on the EMU study The location of financial activity and the euro.

- The assessment of UK wholesale financial markets answers the question: What would be the costs and benefits of entry for UK wholesale financial markets?
  London remains by some distance the leading wholesale financial centre in Europe. The factors which have resulted in this position and the potential impact of EMU membership on wholesale markets are considered.

- The assessment of UK retail financial services answers the question: What would be the costs and benefits of entry for UK retail financial services?
  The potential impact of EMU on the UK’s well developed retail financial services sector is analysed, considering both the short-term changeover costs and the long-term benefits including greater competition.

- Regulation and influence answers the question: Would the UK be better placed to influence the course of financial market regulation inside or outside the euro area?
  The UK has a strong influence over EU financial services regulation, in part reflecting the position of the City as the major international financial services centre in the EU and the transaction of a significant proportion of euro business in London. The potential impact of EMU membership on the UK’s influence over EU financial services policy is assessed.

- The Conclusions bring together the analysis to assess whether the financial services test has been met.

No room for complacency
THE FUTURE DRIVERS OF EU FINANCIAL SERVICES

4.8 This section examines the drivers shaping the development of the EU financial services sector identified in the EMU study *The location of financial activity and the euro*. Against a backdrop of changing financial structures in the euro area, these five drivers have implications for the EU financial services sector going forward:

- a changing **business environment** in the EU, most notably driven by the regulatory approach reflected in the Financial Services Action Plan (FSAP);
- the increasingly **global nature** of the financial services industry;
- on the **supply side**, the continued effects of technology, in particular on firms’ location decisions;
- **new business strategies**, for example in response to the opportunities created by greater market integration and new technology; and
- **currency**, in this context the euro and its impact on financial centres’ development.

4.9 The 1990s saw a marked increase in demand for equity-backed investments in the euro area and a gradual shift from a bank-based to a market-based financial structure, outlined in the analysis of endogenous convergence in the assessment of the convergence test. The increasing appetite of euro area investors for equities encouraged privatisation and other equity issues targeted at retail investors, as well as merger and acquisition (M&A) activity funded by share issues rather than cash.

4.10 The severity of the downturn in global equity markets since 2000 has clearly dented investor confidence and put on hold the trend towards an equity-based culture in the euro area. A strong recovery in investor confidence is unlikely in the short term and, at this stage, it is not clear how the recent downturn might shape perceptions of equities as investment vehicles over the longer term. A shift in the EU from a bank-based to a market-based financial structure should however continue, encouraged by the trend towards disintermediation and the securitisation of assets and, at some point, the return of investors to equity markets.

4.11 An ageing EU population and EU enlargement will also have important effects on EU financial services. Less state support for pensions and the closure of some company defined benefit schemes will mean citizens are encouraged to turn to capital markets for retirement incomes. Member States are exploring options to switch from unfunded pay-as-you-go state pension schemes to funded schemes that invest in assets such as equities. Demand for institutional asset management services should increase as a result.

4.12 The FSAP will be a major influence on the size, structure and competitive position of the EU financial services sector. The Government has strongly supported the FSAP’s objectives and will continue to seek outcomes that are compatible with both the strengths of London's way of doing business and the achievement of economic reform in Europe. Dismantling further the policy-induced barriers in the Single Market will offer a variety of benefits to both corporate and personal consumers of financial services as well as financial intermediaries, flowing from increased competitive pressures in domestic markets.
Greater cross-border activity should be encouraged, for example through greater cross-border M&A activity and increased cross-border trade in retail financial services. Both will help to promote integration in the EU’s retail financial services sector. Estimates of the overall gains from full Single Market integration in financial services vary. But, according to recent estimates produced for the European Commission already highlighted in the assessment of investment, such gains could amount to an increase in the level of EU GDP of around 1.1 per cent in the long run.

Regulatory changes have been one of the main reasons behind the increasingly global nature of the financial services sector. Exchange and capital controls have been removed and changes in cross-border investment rules and foreign ownership have allowed large investment houses to build up interests globally and enter foreign markets. Combined with the effects of technology that facilitate the instant transfer of funds across the globe, the result has been a massive increase in global capital flows. Once the global economy picks up and confidence returns to markets, these trends look set to continue, subject to ongoing liberalisation of capital markets and the willingness of investors to take risks and invest across borders and currencies.

Technology should continue to influence the structure of the financial services industry and where financial services activity is located. As competitive pressures in the financial services sector increase, retail financial services firms in particular can be expected to take advantage of the opportunities offered by technology to relocate lower value added activities to lower cost locations. In some cases, this may mean locating activity outside the EU altogether. Technology may also encourage some further concentration of activity. Where they have not done so, financial firms may continue to harness the potential of technology, gather operations at one site and offer their services widely from a single location. This reduces costs and allows internal scale economies to be captured.

Some reversal of the trend towards building financial services conglomerates may be seen as firms focus on core activities and buy in services where they lack expertise or sufficient market presence to compete. Consolidation should continue in domestic markets, particularly in the retail banking sector where average bank size in many Member States remains small compared to that in the UK. In the longer term, greater cross-border M&A activity in the EU might also be seen as domestic merger opportunities become more limited. This may be more pronounced in the euro area.

The advent of the single currency has highlighted the potential for greater competition within Europe in financial services. It has been one of a number of factors that has encouraged European financial services providers, in particular investment banks, to try to establish sufficient critical mass to compete with larger US institutions. As economies of scale have dominated, so the tendency has been for activity to be increasingly undertaken by a smaller number of firms or markets and, by implication, at fewer locations. This has reinforced a trend towards greater concentration of wholesale financial services activity in fewer financial centres, though not necessarily in the euro area.

Larger, more liquid markets have developed since the introduction of the euro, for example the increase in liquidity and average size of issue in the corporate and sovereign bond markets. Recent consolidation of EU market infrastructure (trading, clearing and settlement systems), driven largely by factors other than the euro, has added further weight to the concentration of liquidity on fewer, larger exchanges. Ongoing consolidation of market infrastructure seems likely, but still faces a number of obstacles.
4.19 In his contribution to the EMU study *Submissions on EMU from leading academics*, Professor Jean Dermine puts forward the view that: “A single currency in Europe changes fundamentally the competitive structure of the corporate bond and equity markets, since one key source of competitive advantage, namely home currency, disappears. Indeed, savers will diversify their portfolio across European markets, now that the exchange rate risk has been eradicated. If access to a Europe-wide investor base facilitates placement, and if access to information on the supply/demand order flows seems essential to operate on the secondary market, operations on a large scale and at a European-wide level are likely to become a necessity, and one should observe a consolidation on the capital markets.”  

4.20 Looking ahead, the trend towards greater concentration still has some scope to continue, in part encouraged by the single currency, as Professor Dermine argues, but also by regulatory developments, technology and changing business strategies as already outlined. If the trend towards concentration continues, then larger financial centres such as London, Paris and Frankfurt might expect to be the main locus of international and regional wholesale business, even more than they are today.  

4.21 Other financial centres that have established niche markets can also expect to attract business. Scottish financial centres, with experience in institutional fund management, are likely to benefit from the expected increase in demand for fund management services that should flow from an ageing EU population and changes to pension arrangements. While smaller financial centres may continue to lose liquidity to larger financial centres, they should still have a role, albeit more limited and focused on serving the needs of their national markets and local clients.  

THE ASSESSMENT OF UK WHOLESALE FINANCIAL MARKETS  

4.22 In order to assess the costs and benefits of EMU entry for UK wholesale markets, it is important to establish first the current position and the reasons for it. The overview of global shares of wholesale financial markets in Table 4.1 shows that the UK remains by some distance the leading financial centre in Europe, largely due to the very high levels of wholesale financial services activity in London. Scottish financial centres also make an important contribution to the UK’s position in wholesale financial activity through their significant presence in institutional asset management services. Scotland is now the sixth largest institutional equity management centre in Europe.  

### Table 4.1: Global market share held by major financial centres in selected wholesale markets

<table>
<thead>
<tr>
<th>Per cent – rounded</th>
<th>UK</th>
<th>US</th>
<th>Japan</th>
<th>France</th>
<th>Germany</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-border bank lending (Jun 2002)</td>
<td>19</td>
<td>10</td>
<td>9</td>
<td>6</td>
<td>10</td>
<td>46</td>
</tr>
<tr>
<td>Foreign equities turnover (Jan – Aug 2002)</td>
<td>56</td>
<td>26</td>
<td>–</td>
<td>–</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Foreign exchange dealing (Apr 2001)</td>
<td>31</td>
<td>16</td>
<td>9</td>
<td>3</td>
<td>5</td>
<td>36</td>
</tr>
<tr>
<td>Over-the-counter derivatives turnover (Apr 2001)</td>
<td>36</td>
<td>18</td>
<td>3</td>
<td>9</td>
<td>13</td>
<td>21</td>
</tr>
<tr>
<td>Gross insurance premium income (2000)</td>
<td>10</td>
<td>35</td>
<td>21</td>
<td>5</td>
<td>5</td>
<td>24</td>
</tr>
<tr>
<td>Marine insurance net premium income (1999)</td>
<td>19</td>
<td>13</td>
<td>14</td>
<td>5</td>
<td>12</td>
<td>37</td>
</tr>
<tr>
<td>Aviation insurance net premium income (1999)</td>
<td>39</td>
<td>23</td>
<td>4</td>
<td>13</td>
<td>3</td>
<td>18</td>
</tr>
</tbody>
</table>

Source: IFSL and BIS; latest available data.
The EMU study *The location of financial activity and the euro* helps to explain why London has maintained its strong position in wholesale financial services activity over the first four years of EMU. The study focuses on the factors driving the location of wholesale financial services activity. It examines what makes a location such as London competitive in international wholesale financial services and what role, if any, currency might play in determining a location’s competitive position.

The three key findings of the study are that:

- since the development of the Euromarkets in the late 1950s and early 1960s, when large US dollar deposits started to be placed with banks based in London, the competitive position of London in international wholesale financial services activity has been largely decoupled from the issue of domestic currency. London’s strength and development is independent of sterling;

- London’s market share in a wide range of wholesale financial services markets, including euro financial markets, has remained broadly unchanged since the launch of the euro. Wholesale financial services firms based in the UK have participated fully in euro financial markets; and

- to date, there is no sign of a relocation of wholesale financial services activity from London to the euro area arising from the UK’s decision in 1997 not to join EMU. Evidence suggests that membership of the single currency has not been an important issue in determining the location of wholesale financial services activity.

The EMU study uses economic geography and economic history to identify a number of common themes that help to explain London’s competitive position in international wholesale financial activity. These include:

- **clustering forces.** London’s key attractions are the critical mass of wholesale financial services activity present in London and a large pool of skilled labour drawn from both domestic and international labour markets attracted by the cosmopolitan nature of London. The fact that wholesale financial firms have access on equal terms to an efficient market infrastructure is another important attraction;

- **a supportive public policy framework.** The UK’s flexible labour markets, its approach to financial services regulation and a competitive tax regime together create an attractive business environment for wholesale financial activity; and

- **a long and distinct track record.** The UK has a long history and reputation for providing international wholesale financial services, drawing on the unique international nature of London’s markets and market participants.

While London faces challenges (for example, a reputation for congestion and poor public transport, and its relatively high real estate and living costs), the presence of these attractions means that the UK is still viewed as a competitive location for international wholesale financial activity.
4.27 London's standing as a multi-currency market further underlines why the UK's non-participation in the euro has had little short-run impact on London. Many of London's wholesale financial trades are denominated in non-sterling currencies, most importantly the US dollar. The introduction of a new currency, the euro, was therefore comfortably handled.

4.28 The international and multi-currency nature of London's business is most clearly seen in foreign exchange markets. The UK has captured a high and stable share of foreign exchange markets. In 2001, around 31 per cent of global daily foreign exchange trading activity took place in the UK (see Table 4.2). A particular feature of London is the relatively low volumes of transactions that take place in its domestic currency – only 24 per cent in 2001. Most foreign exchange trades in London are dominated by US dollar and euro transactions, whereas in the leading financial centres in the euro area – Paris and Frankfurt – foreign exchange trades are dominated by their domestic currency, the euro.

4.29 An implication of these findings is that the international nature of the City's markets and the foundations of its competitive position mean that the achievement of sustainable and durable convergence to safeguard stability in EMU is less of a determinant of the likely success of wholesale financial services activity compared to other areas of the UK economy.

<table>
<thead>
<tr>
<th>Table 4.2: UK share of global foreign exchange trading activity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UK market total</strong></td>
</tr>
<tr>
<td><strong>UK share of major currencies:</strong></td>
</tr>
<tr>
<td>US dollar</td>
</tr>
<tr>
<td>Euro currencies</td>
</tr>
<tr>
<td>Pound sterling</td>
</tr>
<tr>
<td>Japanese yen</td>
</tr>
<tr>
<td>Swiss franc</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>

Source: BIS.

4.30 In assessing the impact of EMU entry on UK wholesale markets, two direct short-term costs to the UK's wholesale financial markets, and some potentially more significant long-term implications, need to be considered. While London currently enjoys a strong competitive position, and should continue to do so inside or outside the euro area, the dynamic nature of financial services means that a financial centre's competitive position cannot be taken for granted.

4.31 There would be short-run changeover costs for wholesale financial services firms and markets arising from a UK decision to join EMU. Operating systems would need to be adapted to cope with the changeover to the euro (for example, converting sterling equity contracts into euro and redenominating interest payments on debt instruments from sterling into euro). These would carry opportunity costs in terms of time spent managing the changeover and financial resources diverted from other more productive uses.
4.32 Short-run changeover costs would not be expected to undermine the long-term competitive position of the UK’s wholesale financial services sector. As noted above, most UK-based wholesale financial institutions are accustomed to trading in an international, multi-currency environment. In-house IT groups and external consultancies have extensive experience in introducing new trading systems (most recently in the run up to the year 2000) and wholesale market firms already have well-developed management plans to smooth any changeover process.

4.33 Sterling markets would disappear on entry and this would be expected to result in net job losses. The removal of sterling would directly affect institutions active in foreign exchange markets, which would see a fall in foreign exchange transactions fees. Consumers of these foreign exchange services would, however, gain. Overall, the removal of these foreign exchange transaction costs would increase economic welfare, as discussed in the assessment of the growth, stability and employment test.

4.34 If the UK were to join EMU, and assuming entry was under the right conditions, the positive perception of the UK as a full participant in euro financial markets should continue. Entry might strengthen London’s position as a leading European financial centre, provided it did not undermine – or was not perceived to undermine – London’s other advantages. It could create intangible but important reputation effects for wholesale financial services firms located in the City, and perhaps in Glasgow and Edinburgh too.

4.35 Given the high levels of foreign ownership in the City, perception effects may be important. Many international wholesale financial firms are mobile. The high level of foreign ownership in London’s and Scotland’s wholesale financial centres may have made them more sensitive to changes in the relative attributes of locations. Technology has already been noted for its potential to allow firms to relocate some of their activities to lower cost locations (but not necessarily in the euro area) and has increased the ‘contestability’ of locations.

4.36 To the extent that the location of wholesale financial services activity might be based on membership of the single currency, then a decision not to join the single currency might imply an adverse perception for future location decisions. However, the first four years of the euro have not produced any evidence of such concerns affecting location decisions. Wholesale financial firms such as those from the US are likely to continue to place greatest weight on the locational advantages of London already highlighted, including its critical mass of financial expertise and a skilled labour force. While the same attractions would apply equally to euro area wholesale financial firms, in some cases they may be more comfortable with establishing wholesale activities in a financial centre that is part of the euro area. UK entry to EMU under the right conditions would ease any such concerns.

4.37 A further effect of a decision to join EMU might be to encourage wholesale financial services firms who had not already done so to concentrate more of their euro-related wholesale operations in London. With most leading institutions already using London as the base for their core European time zone wholesale functions, the gains would be expected to be marginal, but could include euro area banks integrating their money market and treasury functions in London. Professor Iain Begg in his contribution to the EMU study Submissions on EMU from leading academics argues that: “On balance, membership would be expected to increase the size of London offices because it would make sense to consolidate some euro-related activity (such as treasury functions or corporate finance and advisory activities) in London, but these gains could be offset by the disappearance of some foreign exchange dealing.”
As already stressed, an ageing EU population, greater use of market-based instruments by euro area firms and investors, and the forthcoming enlargement of the EU are all likely to be important sources of new business for UK wholesale financial services. There might be some additional benefits if firms use the strategic opportunities resulting from growing euro financial markets as well as the growing international use of the euro, and transact any increase in business flows through their wholesale operations in London. But inside or outside the euro area, the UK’s wholesale financial sector would expect to capture its fair share of new business resulting from any increase in demand in the euro area because of its strong competitive position.

In terms of markets, apart from some relatively minor technical changes, UK entry would not affect day-to-day trading. Adding the significant weight of the UK financial services sector to that of the euro area would add momentum to existing trends in the euro area, for example further deepening and broadening euro-denominated corporate bond markets.

Since London already provides the broadest range of international wholesale financial services, a decision to join EMU would not in itself be expected to offer access to any new wholesale instruments for UK-based institutions and investors. Entry would, however, offer UK insurance companies access to the significant Pfandbriefe market (bonds issued to finance mortgages or public projects, secured against mortgages or public sector loans) without facing currency risk.

EMU entry should lead UK investors to reallocate their portfolios and diversify their risk through a greater geographic spread of investments. Evidence from the euro area suggests that euro area-wide portfolio allocation strategies have been adopted by many fund managers. This has led to a greater cross-border diversification of euro area portfolios and, other things equal, a more optimal allocation of assets for euro area investors. Were this pattern to be repeated if the UK joined EMU, UK consumers could see better returns on their investments for the same level of risk – for example savers through their investments in pension funds.

The net effect of portfolio reallocation on capital flows is difficult to predict with any certainty. Judging from the experience of existing euro area countries, EMU entry would be likely to provoke a one-off impact on net flows, as institutional investors diversified into UK assets and UK institutions moved into euro area assets.

Stamp duty on share transactions could reinforce any capital flow out of UK assets resulting from a decision to join EMU by putting an additional charge on trading in UK equities. At 0.5 per cent, however, its effect is likely to be very marginal. It needs to be considered alongside the full range of other factors affecting the attractiveness of the UK as a business environment, and the barriers potentially holding back full portfolio diversification in the euro area. These include differences in national regulatory environments, the fragmented nature of EU market infrastructure and the fact that small firms in particular will favour domestic stocks because they have better information on these compared to foreign stocks.
Conclusion: what would be the costs and benefits of entry for UK wholesale financial markets?

4.44 Inside or outside EMU, the competitive strength of the City should mean that the UK continues to attract a significant level of wholesale financial services activity. The international nature of the City’s markets and the foundations of its competitive position imply that the achievement of sustainable and durable convergence to safeguard stability in EMU is less of a determinant of the likely success of wholesale financial services activity than it is of other aspects of the UK economy. Entry might strengthen London’s position as a leading financial centre. To the extent that the euro proved to be a factor in the location of wholesale financial services activity, entry would remove any unease firms might have about locating in a financial centre outside the euro area. Entry could also improve the UK’s ability to compete for the new, contestable business that can be expected to arise from EU enlargement, an ageing EU population and the continued development of euro financial markets. Changeover costs arising from entry for the sector would not be significant.

THE ASSESSMENT OF UK RETAIL FINANCIAL SERVICES

4.45 The UK retail financial services sector is well developed, offers a very wide range of retail financial services products and has a high level of innovation. The assessment of the costs and benefits of EMU entry must take this into account. The retail banking sector has been through an intensive period of restructuring and consolidation in the past two decades and the sector is dominated by four large institutions. Long-term and general insurance have a significant weight in the retail financial services sector. The UK insurance sector is the largest in Europe and accounts for over 20 per cent of investments in the UK stock market. Some other examples illustrate the highly developed nature of the UK retail financial services sector:

- the UK mortgage market is the second largest in the EU after Germany;
- in terms of premium income, the UK insurance market accounts for 30 per cent of the total EU market; and
- the UK has a well-developed consumer credit market, accounting for 40 per cent of the total EU market.

Box 4.1: Examples of retail financial services in the EU

Retail financial services available to EU consumers include the following:

- **savings and lending products** offered by banks and building societies. Most EU retail savings are held in the form of deposits;
- **investment funds** such as unit trusts, or shares in an open-ended investment company (an ‘OEIC’) or an investment trust company; and
- **insurance products**. Life insurance or pension holdings are the second most popular form of saving in the EU after deposits.
There are few signs that the single currency has made any significant impact on the UK’s retail financial services sector. The reasons lie in the structure of the EU’s retail financial services sector and remaining obstacles to the cross-border provision of retail financial services in the EU. These mean that EU markets remain segmented along national or even regional lines, limiting any benefits from greater Single Market integration that the single currency might encourage because:

- UK consumers predominantly purchase retail financial services from local providers rather than overseas providers. This includes euro-denominated products for those customers willing to take the currency risk (for example, euro mortgages offered by UK banks);
- in many instances, the business case for cross-border branch networks and M&A activity among retail banks is weak, limiting integration in the EU market along these lines; and
- national consumer and retail investor protection rules vary considerably and can make the cross-border provision of some relatively standard and simple retail financial services products difficult.

As with wholesale financial markets, UK retail financial services would experience short run and longer-term effects from EMU entry.

The short-run costs of entry into the single currency would be significant for retail financial services. The changeover costs incurred would be dependent upon the approach taken by each institution, the type and age of IT systems and the composition of the customer base. While most of the cost would relate to IT changes, for example accounting infrastructure and automated cash machines operated by banks in their branch networks, other costs would include:

- short-term cash handling costs when the move to euro notes and coins took place;
- marketing and information campaigns to inform customers about changes to their bank accounts as well as euro products and services;
- staff training costs to service customer needs and manage the changeover; and
- opportunity costs as other change programmes were deferred and management focused on the changeover period.

Against these short-run costs, some longer-term benefits might arise through investment in upgrading IT systems to handle the euro. These could hasten efficiency gains for the UK retail financial services sector, providing the opportunity for organisations to rationalise and upgrade their product ranges and introduce improved customer service and working practices.
4.50 Over the longer term, a number of dynamic benefits would be captured from EMU entry that would outweigh the short-term costs. Compared to wholesale financial services activity, realisation of any gains for retail financial services is more conditional on the achievement of sustainable and durable convergence and the safeguarding of stability, just as it is for other UK business sectors that serve the domestic market. Gains for financial services intermediaries as well as corporate and personal consumers of retail financial services from entry can be expected to come through greater competition and an increased range of products and services. Other specific benefits from EMU for UK financial intermediaries and consumers which are not available outside EMU could include:

- making the matching of UK and euro area assets and liabilities easier, and removing the need to hedge risks on transactions with the euro area. This could bring particular benefits for insurance companies with significant UK liabilities which would be able to hold a more diverse set of euro area assets without either currency risk or hedging costs. Their customers would benefit too from the more optimal allocation of investment portfolios that would result from entry;

- increasing the average size of investment funds and other retail products. As savings from the euro area were pooled, scale economies could be captured, lowering the average cost of managing an investment fund. Analysis produced for the European Financial Services Round Table suggests that if the average EU fund size matched that of the US, then annual cost savings could be around €5.3 billion. Assuming markets are competitive, the bulk of the savings would be passed on to consumers; and

- removing the psychological barrier created by national currencies. Though not expected to be particularly significant, entry could improve the perception of UK providers and products in the euro area.

Business models leading to greater integration 4.51 The extent to which these benefits would be realised depends on the degree to which the single currency can in practice encourage the right business models to develop. Business models include:

- greater **cross-border trading** of retail financial services, for example over the Internet where a consumer buys a retail financial services product from a provider in another Member State;

- the ability for retail financial services products developed in one country to be sold through **local distribution** networks in other countries, sometimes with local branding. For example, ‘open architecture’ allows the investment funds of the US investment management company Fidelity to be sold through HypoVereinsbank’s branches in Germany; and

- branch networks, where a firm creates or buys a multi-national branch network either through **cross-border M&A** or by opening branches itself. This allows firms to sell their products locally and provides them with opportunities to capture economies of scale and scope.
4.52 The single currency may have its greatest long-term effect on cross-border M&A activity. Retail financial services firms can be expected to take increasing advantage of the business opportunities presented by a single market without currency barriers. Thus far, the business case for cross-border M&A activity has been weak given the low levels of cost savings that can be achieved compared to domestic mergers – a key reason why, to date, most bank mergers in the EU have been in domestic markets. As these domestic opportunities become exhausted, and as rules permit them to do so, euro area firms may increasingly look across borders for their expansion plans.

4.53 The large size of many UK institutions relative to their euro area competitors would put them in a good position to take advantage of any such opportunities. As Professor Jean Dermine argues in his contribution to the EMU study *Submissions on EMU from leading academics*: “…the number of significant cross-border mergers in banking have been few…but it is the belief of the author that the end of domestic consolidation will force banks to search across borders for new sources of value creation.”

4.54 The impact of a decision to join EMU on the other business models might be expected to be more limited, especially in the short run. Some competitive advantage might be gained from lower transaction costs and potential scale economies for investment funds. Entry could also improve sentiment in the euro area towards UK retail financial services providers and products. But as the example of Fidelity cited earlier shows, membership of the single currency need not be a crucial factor driving competition in euro area markets. In principle, UK retail financial service firms can already trade euro products across borders and offer euro products and services on competitive terms – the currency risks they face when doing so have not proved a barrier (but do increase costs).

4.55 Either inside or outside the euro area, the key requirements for the UK’s and other Member States’ retail financial services sectors to be able to compete in the Single Market are likely to remain:

- their ability to access euro area customers through an efficient distribution network such as bank branches, the Internet or local advisers; and
- their ability to develop retail financial services products and brands that appeal to differing national consumer tastes.

4.56 Establishing these delivery mechanisms and products will be closely tied to efforts to remove policy-induced barriers in the Single Market through the FSAP. Expectations of complete EU integration should be tempered by evidence from the US banking and insurance sectors, which shows that regional differences can still persist in a monetary union even in the very long run, as detailed in the EMU study *The United States as a monetary union*. Other hard-to-tackle ‘natural’ policy barriers will act to hamper integration and limit the full benefits of the single currency being realised, for example the persistent effects that differences in language, law and legal tradition have had on the character of Member States’ national markets. EU integration will therefore be a gradual process and, in practice, complete integration even with a single currency may be impossible to achieve.
Conclusion: what would be the costs and benefits of entry for UK retail financial services?

4.57 Entry would improve the competitive position of the UK’s retail financial services sector if other barriers are also removed. Benefits to the retail financial services sector from entry would include lower costs on euro area transactions, the possibility for a more optimal allocation of investment portfolios and potential scale economies for investment funds. Assuming markets are competitive, these benefits should be passed on to consumers and offset the one-off changeover costs for the retail financial services sector that would arise from entry.

4.58 The dynamic effects of the single currency can be expected to be gradual. With other changes, the euro will encourage integration of retail financial services in the Single Market over the longer term and, importantly, greater competition in the sector. Being outside the euro area would mean that these effects would be more muted in the UK sector although the barriers are regulatory and legal rather than related to currency. The business case for greater cross-border merger and acquisition activity could strengthen as retail financial services firms seek to make the most of new opportunities in a single market with no currency barriers. Outside the euro area, the business case for UK retail financial services firms to capitalise on these opportunities could be weaker.

4.59 Compared to wholesale financial services activity, realisation of these gains for retail financial services is more conditional on the achievement of sustainable and durable convergence and the safeguarding of stability, just as it is for other UK business sectors that serve the domestic market.

REGULATION AND INFLUENCE

4.60 A complex issue to assess is the long-term development of policy towards, and affecting, financial services in the EU. It has been argued that the UK EMU decision could affect the UK’s ability to influence the course of these developments.

4.61 Some areas will clearly remain unaffected by the question of the UK’s entry decision. These include two important areas of EU policymaking:

- Directives relating to completing the Single Market in financial services through the FSAP are mostly agreed on the basis of qualified majority voting (QMV) in the ECOFIN Council and co-decision with the European Parliament. The UK has no veto and faces the same voting structure in relation to these measures either inside or outside EMU. All EU Member States are in the Single Market and must adhere to Single Market rules irrespective of their membership or otherwise of the single currency. Coupled with the fact that international rules regulating financial services are becoming increasingly harmonised, the scope for the UK to develop competing regulatory rules should it remain outside the euro area is very tightly constrained; and

- the UK’s ability to determine its own approach to tax policy would not change on entry. Tax policy applied across the EU requires the unanimous agreement of all Member States whether they are inside or outside EMU. For example, the recent agreement on the treatment of withholding tax could only be reached with the agreement of the UK. That position would not change should the UK decide to join the single currency.
Experience to date shows that cultural differences have been the usual motivating factor behind Member States’ positions on financial services dossiers. The UK’s decision on EMU entry is unlikely to shift such deeply held positions. If the UK was inside the euro area, there would therefore be likely to be little additional benefit to the prospect of achieving the UK’s regulatory objectives – it could be argued that pressure to conform to the rules of the euro area ‘club’ might even lead to worse outcomes.

Other more specific examples suggest that the UK’s influence on EU financial services regulation should remain strong:

- a significant proportion of euro business is done in the City. This creates a powerful argument for the UK to be fully involved in all discussions relating to regulatory or financial markets issues. One example is the UK’s success in negotiating cheap and efficient access to TARGET, the Eurosystem’s wholesale cross-border payments system;
- there is significant input from the Financial Services Authority (FSA) and the Bank of England to regulatory, supervisory and financial stability discussions in the EU. Examples include the Bank of England’s participation in the European System of Central Bank’s Banking Supervision Committee and the FSA’s participation in the Committee of European Securities Regulators;
- the success of the joint UK-Germany initiative to extend the Lamfalussy process, already established for securities, to banking and insurance despite the UK’s non-participation in the euro;
- the fact that EU enlargement will introduce further non-participants in the single currency, who will bring their own different financial services regulatory cultures to European negotiations; and
- the recently agreed Memorandum of Understanding between central banks (including the ECB) and banking supervisors on high level principles of cooperation in crisis situations which was the culmination of discussions on a European, rather than euro area, basis. Both the Bank of England and the FSA are parties to the Memorandum.

**Conclusion: would the UK be better placed to influence the course of financial market regulation inside or outside the euro area?**

The UK’s influence over EU financial services policy should remain strong whether inside or outside the euro area. Concerns prior to the start of EMU that the UK’s influence would diminish outside EMU have not been realised: the UK has had an influential say over EU financial services issues. In part because of the position of the City as the major international financial services centre in the EU and the transaction of a significant proportion of euro business in London, the UK’s influence should remain strong in or out of EMU. The Government is aware that it will need to be more vigilant in the face of any risks that might arise while the UK remains outside EMU and will be fully engaged in the debate about the future regulatory framework for EU financial services. Using its strong influence, the Government will work with the UK’s financial services sector to ensure that the UK’s competitive advantage in many retail and wholesale financial services activities is safeguarded and, wherever possible, enhanced.
CONCLUSIONS: THE FINANCIAL SERVICES TEST

4.65 Inside or outside EMU, the competitive strength of the City should mean that the UK continues to attract a significant level of wholesale financial services activity. The international nature of the City's markets and the foundations of its competitive position imply that the achievement of sustainable and durable convergence to safeguard stability in EMU is less of a determinant of the likely success of wholesale financial services activity than it is of other aspects of the UK economy. Entry might strengthen London's position as a leading financial centre. To the extent that the euro proved to be a factor in the location of wholesale financial services activity, entry would remove any unease firms might have about locating in a financial centre outside the euro area. Entry could also improve the UK's ability to compete for the new, contestable business that can be expected to arise from EU enlargement, an ageing EU population and the continued development of euro financial markets. Changeover costs arising from entry for the sector would not be significant.

4.66 Entry would improve the competitive position of the UK's retail financial services sector if other barriers are also removed. Benefits to the retail financial services sector from entry would include lower costs on euro area transactions, the possibility for a more optimal allocation of investment portfolios and potential scale economies for investment funds. Assuming markets are competitive, these benefits should be passed on to consumers and offset the one-off changeover costs for the retail financial services sector that would arise from entry.

4.67 The dynamic effects of the single currency can be expected to be gradual. With other changes, the euro will encourage integration of retail financial services in the Single Market over the longer term and, importantly, greater competition in the sector. Being outside the euro area would mean that these effects would be more muted in the UK sector although the barriers are regulatory and legal rather than related to currency. The business case for greater cross-border merger and acquisition activity could strengthen as retail financial services firms seek to make the most of new opportunities in a single market with no currency barriers. Outside the euro area, the business case for UK retail financial services firms to capitalise on these opportunities could be weaker.

4.68 Compared to wholesale financial services activity, realisation of these gains for retail financial services is more conditional on the achievement of sustainable and durable convergence and the safeguarding of stability, just as it is for other UK business sectors that serve the domestic market.

4.69 The UK's influence over EU financial services policy should remain strong whether inside or outside the euro area. Concerns prior to the start of EMU that the UK's influence would diminish outside EMU have not been realised: the UK has had an influential say over EU financial services issues. In part because of the position of the City as the major international financial services centre in the EU and the transaction of a significant proportion of euro business in London, the UK's influence should remain strong in or out of EMU. The Government is aware that it will need to be more vigilant in the face of any risks that might arise while the UK remains outside EMU and will be fully engaged in the debate about the future regulatory framework for EU financial services. Using its strong influence, the Government will work with the UK's financial services sector to ensure that the UK's competitive advantage in many retail and wholesale financial services activities is safeguarded and, wherever possible, enhanced.
4.70 Overall conclusion
Over the four years since the start of EMU, the UK has attracted a significant level of wholesale financial services business. The strength of the City in international wholesale financial services activity should mean that it continues to do so, whether inside or outside EMU. EMU entry should enhance the already strong competitive position of the UK's wholesale financial services sector by offering some additional benefits. Again, while the UK's retail financial services sector should remain competitive either inside or outside the euro area, entry would offer greater potential to compete and capture the effects of greater EU integration that would arise from the single currency and other efforts to complete the Single Market, in particular the FSAP — benefits which are postponed while the UK is not in EMU. Overall, the financial services test is met.

4.71 Policy requirements
Ongoing efforts are required to increase EU financial services integration through the FSAP and other measures. In the longer term, this should add to competitive pressures in the UK financial services market as well as providing opportunities for UK financial intermediaries in the euro area.
In summary, will joining EMU promote higher growth, stability and a lasting increase in jobs?

The Government’s central economic objective is to achieve high and stable levels of growth and employment. The growth, stability and employment test assesses the potential impact of EMU membership on the UK economy and whether it would improve the prospect of achieving this central objective. These conclusions are conditional on the UK economy demonstrating sustainable and durable convergence. The 1997 assessment concluded that joining before such convergence was secured would risk harming both growth and employment.

Key points:

- EMU membership could enhance productivity in the medium term by increasing trade and investment and by stimulating competition. It could also help to promote economic reform in the EU and encourage specialisation in the longer term. Therefore, EMU could potentially have an effect on all five of the key drivers of productivity. Based on broad-based evidence on the impact of trade, it seems reasonable to assume that each 1 percentage point increase in the ratio of trade to GDP increases real GDP per head by at least 1/3 per cent in the long run and perhaps by as much as 2/3 per cent. In a best case scenario, with stability assured through the achievement of sustainable and durable convergence, a long-term increase in trade with the euro area at the top of the estimated 5 to 50 per cent range and increased investment spurring competition, UK output could be around 9 per cent higher over 30 years within a successful EMU than outside. This could add around 1/4 percentage point a year to GDP growth.

- This is conditional on the achievement of sustainable and durable convergence between the UK and the euro area. In the circumstances where it is not assured, the trade benefits from EMU would be likely to be at the lower end of the range. This means that the potential gains to trade and competition from EMU membership could be negligible even over the long term. However, initial estimates suggest that although there is a lack of flexibility and convergence in some euro area countries, EMU has increased trade within the euro area by between 3 and 20 per cent since 1999. In practice, additional volatility and uncertainty resulting from EMU membership in the absence of sustainable and durable convergence could have a negative impact on the actual level of UK output in the long term.

- The potential effects of EMU would be greater on productivity than on employment, but both could be affected by any increase in volatility. Without sustainable and durable convergence between the UK and the euro area, EMU membership could increase the cyclical volatility of employment in the UK. It is harder for the labour market to adjust to large increases in unemployment than small ones, so the risk of less stability in output and employment would entail an increased risk of higher structural unemployment in the UK. These risks would be reduced if sustainable and durable convergence were assured, in which case the UK would be able to reap the potential employment benefits of EMU membership.

- Whatever the degree of sustainable and durable convergence, any risks to the UK of EMU entry could be compounded by the European Central Bank’s (ECB’s) inflation objective and by a rigid and overly mechanistic interpretation of the Stability and Growth Pact (SGP). The Government will continue to work with other European countries in the development of the macroeconomic policy framework to minimise these risks to the UK and to existing EMU members.

- EMU would have a differential impact on business sectors in the short term. Open and exchange rate sensitive industries, including many manufacturing industries, would feel the impact of EMU most directly, although all firms would be affected by improved access to capital which could facilitate expansion and restructuring. Increased competition would be particularly beneficial in many service sectors which have, to date, been less exposed to the effects of the Single Market than the goods sector. By removing a currency barrier to trade and potentially improving access to funding, EMU could be especially helpful to small and medium-sized enterprises (though less so to micro-enterprises). At the opposite end of the size spectrum, EMU could also facilitate the development of multinational enterprises.
• Regions with more firms in sectors affected by exchange rate volatility could see larger initial effects of EMU entry and regions with more cyclically-sensitive industries would be more vulnerable to increased instability arising from a lack of sustainable and durable convergence. But short-run differences would be expected to even out in the long term.

• EMU could have long-term benefits for households, including potentially lower prices and higher wages. But this assessment finds that the achievement of sustainable and durable convergence between the UK and the euro area has not been demonstrated. Essentially this means that, at the present time, the UK economy would be more volatile in EMU. The impact of this on households would vary depending on their specific circumstances. Homeowners could be particularly affected by interest rates set at a level unsuitable for UK conditions. Workers in industries that are particularly vulnerable to economic conditions could face longer periods of unemployment. Pensioners would face greater uncertainty over the real value of their pensions.

• The Government places great importance on developing the economic reform programme to encourage flexibility and dynamism across the EU. This entails providing maximum scope for countries and regions to develop their own approaches to economic policy, provided that these do not obstruct the functioning of the Single Market. Free and fair competition encourages trade, stimulates productivity and enables the countries of the EU to progress more rapidly together than they could apart.

The overall conclusion of the growth, stability and employment test is:

• EMU membership could significantly raise UK output and lead to a lasting increase in jobs in the long term. As noted above, the assessment shows that intra-euro area trade has increased strongly in recent years as a result of EMU, perhaps by as much as 3 to 20 per cent; that the UK could enjoy a significant boost to trade with the euro area of up to 50 per cent over 30 years; and that UK national income could rise over a 30-year period by between 5 and 9 per cent. A 9 per cent increase in national income would translate into a boost to potential output of around \( \frac{1}{4} \) percentage point a year, sustained over a 30-year period. Despite the progress made since 1997, the lack of sustainable and durable convergence means that, for the UK, macroeconomic stability would be harder to maintain inside EMU than outside, were the UK to make a decision to join at the present time. The potential uncertainty created by the price stability objective of the ECB and the potential constraints on the use of fiscal policy for stabilisation under the current interpretation of the SGP increase the chances that output and employment would be less stable inside EMU. The Government supports the direction in which the EU macroeconomic framework is evolving. Enhancing the flexibility and dynamism of the European economy, building on the achievements of the economic reform programme agreed at Lisbon, will also be important if the full benefits of EMU are to be realised. Entering EMU on the basis of sustainable and durable convergence is essential so that the UK can benefit from the substantial increases in cross-border trade, investment, competition and productivity that EMU could provide. Lower prices would lead to a lower cost of living, a key potential benefit of EMU entry for households, but one that would only accrue if entry were on the basis of sustainable and durable convergence. Poorer households tend to spend a greater proportion of their income on goods and services, so lower prices could benefit such households relatively more than wealthier ones. Overall, we can be confident that the growth, stability and employment test would be met once sustainable and durable convergence has been achieved.

Policy requirements:

• In terms of macroeconomic policy, the Government’s announcement of its intention in the next Pre-Budget Report to give the Bank of England a symmetric inflation target as measured by the Harmonised Index of Consumer Prices will improve the quality of the UK inflation target and will also help ensure inflation expectations in the UK remain in line with those of the euro area.

• The conclusions to the assessment of the flexibility test set out the Government’s wide-ranging agenda for enhancing flexibility in the UK and EU to deliver high and stable levels of UK employment.

• The Government will continue to pursue its wide-ranging strategy to tackle the barriers to productivity growth and close the productivity gap. This involves continued microeconomic reforms in the UK to target the five key drivers of productivity, combined with support at the European level for policies to strengthen competition and the Single Market.
THE IMPORTANCE OF GROWTH, STABILITY AND EMPLOYMENT

5.1 The critical overall question for the UK is whether joining EMU would improve the prospect of achieving the Government’s central economic objective of high and stable levels of growth and employment:

In summary, will joining EMU promote higher growth, stability and a lasting increase in jobs?

Government strategy 5.2 The Government’s strategy for increasing UK output and productivity has three strands:

- maintaining macroeconomic stability to help businesses and individuals plan for the future, underpinned by comprehensive reforms to the UK’s macroeconomic policy framework since 1997;
- implementing microeconomic reforms to remove barriers that prevent markets from functioning efficiently; and
- increasing employment opportunity for all, through measures to help people move from welfare into work and to make work pay.

5.3 Growth, stability and employment are of central importance to the living standards of everyone in the UK. High levels of economic growth foster greater innovation and mean there is more wealth to share around. High levels of employment mean that more of the population is able to share in this wealth, gaining from and contributing to the prosperity of the country. High levels of stability mean that the economy is no longer subject to damaging fluctuations that create uncertainty and hinder longer-term planning.

Conclusions of the 1997 assessment... 5.4 The Treasury’s 1997 assessment of the five economic tests concluded that:

“...there could be substantial benefits for both growth and employment if the UK economy was to join a successful EMU. But to be in a position to benefit would require:

Stability in Europe – policy frameworks:

- In its May 2003 review of monetary policy strategy, the ECB restated that: “Price stability is defined as a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area of below 2%. Price stability is to be maintained over the medium term”. The ECB review went on to state that: “At the same time, the Governing Council agreed that in the pursuit of price stability it will aim to maintain inflation rates close to 2% over the medium term”. At the present time, the potential for uncertainty that the ECB’s inflation objective creates could produce deflationary risks in certain countries, although the fact that, to date, euro area inflation has averaged 2 per cent suggests that in practice this risk has not materialised.
- 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.
- Many of the issues being considered in the European Convention could have far-reaching consequences for the future performance of EU economies, whether they are part of the euro area or not. The Government will continue to work with other European countries to ensure outcomes that will bolster stability and enhance the ability of European economies to raise productivity and employment levels. It will oppose proposals that would lead to unnecessary rigidities.
- Although ECOFIN remains the decision-making body for the EU in economic and financial policy, in EMU the UK would be a member of and attend all – and not some – meetings of the Eurogroup, thereby participating fully in euro area decision making.
• that the UK economy was sufficiently and durably converged with the other members' economies to make participation permanently viable;

• that the UK economy was sufficiently flexible to respond to shocks and other changes that will occur over time.”

5.5 These conclusions remain relevant. Participation in a successful single currency would further stimulate integration between the UK and other European economies through elimination of currency risk prompting an increase in trade and competition. This could increase productivity, both in the UK and in the wider European economy, which would raise output and living standards.

5.6 But the concerns raised in 1997 over the conditions required to ensure that the full benefits from EMU membership are realised also remain relevant. As set out in the Introduction, demonstrating the achievement of sustainable and durable convergence is the precondition without which the UK cannot reap the potential benefits of EMU membership.

5.7 The re-evaluation of the conclusions of the 1997 assessment described in the Introduction provides valuable lessons for the assessment of the growth, stability and employment test. In particular:

• EMU now means a real choice between policy frameworks;

• the importance of the potential benefits of EMU;

• EMU’s performance matters (as does that of other monetary unions);

• EMU would have distributional consequences; and

• one-off economic events can have long-lasting economic consequences.

5.8 The assessment of the fifth test is a challenging task. Some benefits would only become apparent in the longer term and the single currency itself remains in its relative infancy. As in the rest of the assessment, some effects can be modelled and quantified within a range, such as the likely effects of EMU on international trade, while others require a more qualitative analysis. The analysis of this test focuses on the likely effects of EMU on the key variables of growth, stability and employment, but it also recognises areas where uncertainty remains. The test focuses on the potential benefits of EMU. Chapter 6 brings together the assessment of each of the five tests to reach an overall conclusion on the economic case for EMU membership.

5.9 To enable a forward-looking approach, particularly in light of the potentially large long-term implications of EMU membership for the UK economy, this chapter also considers likely future developments related to EMU. This includes a review of the EU’s economic reform programme and of possible future developments in economic governance in the EU.

5.10 As the Introduction to the assessment has set out, the decision on whether or not to join EMU needs to take full account of the costs and benefits, both of joining and of not joining under the following assumptions:

• if the UK were to decide to join EMU, the decision would be irrevocable;

• whether or not the UK decides to join EMU, the national interest will continue to be served by the UK’s full participation in the EU and its support for policies to build a more dynamic and open Europe. Following EU enlargement in 2004, the EU will be the world’s largest single market and it will remain the most important external market for UK producers; and
it is in both the UK’s national interest and the interest of the wider EU for the UK to join EMU under conditions that minimise the transitional and longer-term costs of joining.

**Structure of the test**

The assessment of the growth, stability and employment test is divided into five sections which consider the following key issues and questions:

- **Macroeconomic stability** answers the question: How would the EMU macroeconomic framework affect UK economic stability?
  This involves analysis of how the EU’s macroeconomic policy framework is evolving, drawing on the EMU study *Policy frameworks in the UK and EMU*.

- **Productivity and output** answers the question: What is the potential impact of EMU on UK trade, competition, productivity and growth?
  This section employs the in-depth analysis of the potential gains to trade and competition contained in the EMU studies *EMU and trade* and *Prices and EMU*.

- **EMU and employment** answers the question: How might EMU affect both the underlying level and cyclical path of employment?
  This includes consideration of how short-term volatility of employment could affect its long-term equilibrium level. It draws on the analysis in the assessment of the flexibility test and the EMU study *EMU and labour market flexibility*.

- **Distributional effects of EMU** answers the question: What would be the distributional impact of EMU on UK business sectors, nations and regions, and households?
  This section considers how the costs and benefits of EMU might be distributed, drawing on the EMU study *EMU and business sectors*.

- **Growth and employment in Europe** answers the question: What do prospective developments in Europe imply for growth, stability and employment?
  This section considers how the European economic reform programme and the European Convention will shape the future performance of the European economies.

- The **Conclusions** bring together the analysis to assess whether the growth, stability and employment test has been met.

### MACROECONOMIC STABILITY

This section addresses how EMU membership would affect the macroeconomic policy framework and macroeconomic stability in the UK. Stability helps individuals and businesses to plan for the long term, improving the quality and quantity of investment in the economy and helping to raise productivity and the sustainable rates of growth and employment. Macroeconomic stability is also a prerequisite of successful economic reform, since a framework of stability permits the rapid achievement of the full benefits of structural reform policies. For these reasons, the impact of EMU on macroeconomic stability is crucial to the overall assessment of whether it would be in the UK’s national economic interest to join the single currency.
5.13 The focus of this section is the policy frameworks to deliver stability, drawing on the EMU study Policy frameworks in the UK and EMU. The wider issue of whether the UK would be stable within EMU depends on whether sustainable and durable convergence has been achieved, as assessed in the convergence and flexibility tests.

5.14 The role of policy frameworks in delivering stability was a key issue for some of the current members of EMU who saw EMU membership as the only route to achieving a robust framework capable of providing stability. Following the introduction of the UK Government’s new macroeconomic framework since 1997, the UK economy has experienced a high level of stability, demonstrating the benefits to credibility which robust macroeconomic frameworks provide.

5.15 For this assessment, what matters is the robustness of macroeconomic policy frameworks and their capacity to maintain stability in response to the shocks that the UK would experience in or out of EMU. The EMU study Policy frameworks in the UK and EMU contains a detailed analysis of the robustness of the macroeconomic frameworks of the UK and the euro area in terms of three key objectives: credibility, flexibility and legitimacy. As discussed in the assessment of flexibility, these objectives can be achieved through the principle of ‘constrained discretion’. Long-term stability requires a credible overall framework which constrains macroeconomic policy to achieve clear long-term and sustainable goals, but which allows discretion to respond flexibly to shocks. Such a framework should command legitimacy; that is, public and parliamentary support at all points in the economic cycle.

5.16 In comparing the frameworks, it must be remembered that there are several intrinsic differences between them. In particular, the euro area framework has been designed to apply to a number of countries which have pooled responsibility for certain functions in EMU, while the UK framework applies solely to the UK.

Monetary policy framework

5.17 The lessons from economic theory and history are that a credible monetary policy framework – one which the public, business and markets trust to meet its objectives – is vital for macroeconomic stability.1 Households and firms need to be confident that the monetary authorities will preserve price stability, in response to both inflationary and deflationary shocks. There is a strong consensus that such credibility is best achieved by delegating the operation of monetary policy to an independent central bank, which is less vulnerable than the government to the suspicion that it would sacrifice its long-term monetary stability goals by making a short-term dash for growth at the expense of future inflation.

5.18 These principles are well reflected in the monetary policy frameworks of both the UK and the euro area, which share some important similarities. In particular:

- interest rate decisions are taken by an independent central bank with a statutory mandate to ensure price stability and, without prejudice to that, to support growth and employment;
- the frameworks incorporate a substantial degree of transparency in the form of publishing analysis and providing data; and
- both frameworks command a high degree of credibility in terms of conditioning private sector expectations that inflation objectives will be met.

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1 An in-depth assessment of the problems caused by the lack of credibility of previous UK monetary regimes is included in Reforming Britain’s Economic and Financial Policy, HM Treasury, 2002.
Since 1997, the Government has set the Bank of England an inflation target of 2\frac{1}{2} per cent as measured by RPIX (the Retail Prices Index excluding mortgage interest payments). As described in Box 5.1, the ECB has defined price stability as “a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area of below 2%.” It might appear that the ECB is pursuing a more restrictive target than the UK. However, differences in the basket of goods and services included in each measure and the way that individual prices are weighted together in the aggregate mean that, over the long term, 2\frac{1}{2} per cent for RPIX inflation corresponds to around 2 per cent for HICP inflation.

The UK inflation target is explicitly symmetric; deviations below the target are treated as seriously as deviations above. The symmetric target means that monetary policy is neither unnecessarily loose nor unnecessarily tight and, in effect, allows policymakers to aim for the highest level of growth and employment consistent with keeping inflation at the Government’s target. By contrast, the ECB does not have an explicitly symmetric inflation target. The objective is to keep HICP inflation below 2 per cent but does not define a lower bound; though the May 2003 review states that: “...the Governing Council agreed that in the pursuit of price stability it will aim to maintain inflation rates close to 2% over the medium term”.

Box 5.1: The European Central Bank (ECB)

The EMU study Policy frameworks in the UK and EMU sets out in detail the monetary policy frameworks operating in the UK and the euro area and therefore highlights the changes that EMU entry would mean for monetary policy in the UK.

The ECB is responsible for monetary policy in the euro area. Interest rates are set by the Governing Council of the ECB, which comprises a six-member Executive Board (appointed by euro area Heads of State or Government) and the Governors of the National Central Banks participating in EMU (there are currently 12).

If the UK were to join EMU, interest rates for the UK would no longer be set by the Monetary Policy Committee (MPC) of the Bank of England, but by the ECB for the euro area as a whole. Under current arrangements, the Governor of the Bank of England would have a seat on the ECB Governing Council but, depending on the number of EMU members, may not have a vote all of the time. The 2003 Spring European Council agreed changes that establish a system of rotation of voting rights among the euro area’s national central banks once EMU membership rises above 15 countries.

Like the Bank of England, the ECB is independent from direct political control; it alone has the ability to change interest rates to meet the objectives of monetary policy. And as in the UK, the primary objective of monetary policy in the euro area is to achieve price stability. Unlike the MPC, however, where the objective of price stability is defined by the Government in setting the inflation target, the ECB is left to define price stability for the euro area. The ECB has defined price stability as “a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area of below 2%”. This definition of price stability is to be “maintained over the medium term”.

The ECB uses a ‘two pillar’ approach to achieving the price stability objective, assigning a special role to monetary aggregates under its ‘first pillar’ and considering a range of relevant indicators under the ‘second pillar’. The MPC gives no special role to monetary aggregates; rather, these are considered together with all other relevant indicators. In May 2003, the ECB announced the outcome of its review of its monetary policy strategy. This reaffirmed its price stability objective and went on to state that: “At the same time, the Governing Council agreed that in the pursuit of price stability it will aim to maintain inflation rates close to 2% over the medium term”.

RPIX and HICP

Since 1997, the Government has set the Bank of England an inflation target of 2\frac{1}{2} per cent as measured by RPIX (the Retail Prices Index excluding mortgage interest payments). As described in Box 5.1, the ECB has defined price stability as “a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area of below 2%.” It might appear that the ECB is pursuing a more restrictive target than the UK. However, differences in the basket of goods and services included in each measure and the way that individual prices are weighted together in the aggregate mean that, over the long term, 2\frac{1}{2} per cent for RPIX inflation corresponds to around 2 per cent for HICP inflation.

Target symmetry

The UK inflation target is explicitly symmetric; deviations below the target are treated as seriously as deviations above. The symmetric target means that monetary policy is neither unnecessarily loose nor unnecessarily tight and, in effect, allows policymakers to aim for the highest level of growth and employment consistent with keeping inflation at the Government’s target. By contrast, the ECB does not have an explicitly symmetric inflation target. The objective is to keep HICP inflation below 2 per cent but does not define a lower bound; though the May 2003 review states that: “...the Governing Council agreed that in the pursuit of price stability it will aim to maintain inflation rates close to 2% over the medium term”.

185
5.21 Asymmetry in the price stability objective has a number of implications. Although the ECB’s price stability objective relates to positive inflation, it carries a risk of deflation, especially in individual countries, although the fact that, to date, euro area inflation has averaged 2 per cent indicates that in practice this risk has not materialised. More generally, the lack of an explicit target rate increases the uncertainties for other economic agents. The euro area’s fiscal authorities might be overly expansionary because they fear that the ECB would not react vigorously enough to a shortfall in demand and inflation. Private sector firms and individuals lack an explicit anchor for their inflation expectations, meaning that their planning could be more affected by the short-term inflation volatility that is an integral feature of the adjustment process in EMU.

5.22 There are some other important differences between the current UK and euro area monetary policy frameworks:

- the ECB does not publish the minutes of meetings or a record of the voting patterns of its Governing Council;
- there are fewer formal mechanisms to hold the ECB to account; and
- the composition of the decision-making bodies is different, especially in terms of size and regional make-up.

5.23 Ten new Member States are expected to join the EU in 2004. Unlike the UK, they do not have an opt-out from EMU and once the ECOFIN Council decides that they meet the ‘necessary conditions’ they will join the single currency. When they do so, the ECB will be aiming for price stability over a larger number of countries, with a more diverse range of economic characteristics. Other things equal, this will reduce the weight of existing members in the overall euro area aggregates which the ECB focuses on.

5.24 In his contribution to the EMU study Submissions on EMU from leading academics, Professor Paul De Grauwe notes that enlargement means that: “countries will face more often than today the possibility that ECB interest rate decisions do not reflect their national interests”.

5.25 That said, the economic weight of the existing euro area is much greater than the weight of the accession countries, so the overall stance of ECB policy would still primarily be determined by economic conditions in the existing euro area.

5.26 Over a long time period, the average level of inflation in the UK should be similar whether the UK joins EMU or not. This is confirmed by measures of inflation expectations, which show that both central banks are expected to succeed in maintaining low and stable inflation.

5.27 However, as discussed in the assessment of the flexibility test, UK inflation would be likely to be more volatile in the short term if the UK joined EMU. This is because changes in UK inflation would be serving to aid adjustment to country-specific shocks in the absence of an independent monetary policy. In itself, such short-term volatility would not be very costly. It could become more costly if it affected longer-term inflation expectations, leading people to have overly high or low expectations of future inflation.
Fiscal policy framework

5.28 As with monetary policy, a sound fiscal policy framework enhances macroeconomic stability by increasing private sector confidence that governments will refrain from implementing policies that could disrupt the economy, either in the short or longer term. Both the UK and the EU have established fiscal policy frameworks for this purpose, as detailed in the EMU study *Policy frameworks in the UK and EMU*. However, while the UK framework is designed to ensure sound public finances just for the UK, the EU framework is designed to ensure consistency between the overall objectives of several decentralised fiscal authorities, each with their own national frameworks. Whether inside or outside EMU, individual tax and spending policies remain a matter for EU Member States and the EU fiscal framework applies to all EU members, not just those of the euro area.

5.29 Robust frameworks for fiscal policy are particularly important to constrain the ability of governments to accumulate high levels of debt. High levels of public debt can:

- crowd out the funds available for private sector investment; and
- raise the credit risk of public borrowing. High debt levels increase the risk that future taxpayers may not be willing to service the debt incurred by their predecessors. This can generate an adverse cycle in which creditors demand higher interest rates to compensate for the risk of default, but higher debt service costs increase the likelihood that the debtor may actually default.

5.30 Chart 5.1 demonstrates the very wide range of government debt levels in the EU at present. The UK has one of the lowest gross debt levels in the EU, at 38 per cent of GDP at the end of March 2003, compared with an EU level of 62 per cent at the end of 2002.

![Chart 5.1: General government gross debt, end 2002](chart5.1.png)

Note: UK figure for end of March 2003.
Source: Budget 2003 for UK; Eurostat for other countries.
As discussed in the assessment of flexibility, the Government’s fiscal policy framework is based on the five key principles set out in the Code for Fiscal Stability – transparency, stability, responsibility, fairness and efficiency. The Code requires the Government to state both its objectives and the rules through which fiscal policy will be operated. The Government’s fiscal policy objectives are:

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

These objectives are implemented through two fiscal rules, against which the performance of fiscal policy can be judged. The fiscal rules are:

- 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. Other things being equal, net debt will be maintained below 40 per cent of GDP over the economic cycle.

The EU fiscal framework described in Box 5.2, including the Stability and Growth Pact (SGP), is designed to safeguard sound government finances and prevent countries pursuing policies that could generate imprudently high levels of public debt. The high levels of public debt in some EU countries shown in Chart 5.1 reflect the absence of such safeguards in the past. Overall EU public sector debt peaked in 1996 and has declined since to 62 per cent of GDP at the end of 2002.

Box 5.2: The EU fiscal framework

While individual tax and spending policies remain a matter for EU Member States, there is an EU framework to promote and maintain sound public finances and to aid coordination between the fiscal authorities. This framework, which applies to all EU members, including the UK, has three levels:

- the Excessive Deficit Procedure (EDP), agreed as part of the EC Treaty at Maastricht in February 1992. This outlines the rules that general government net borrowing should not exceed 3 per cent of GDP except in ‘exceptional and temporary’ circumstances, and that general government gross debt should not exceed 60 per cent of GDP unless the level of debt is sufficiently diminishing and approaching the reference value at a satisfactory pace.

- the Stability and Growth Pact (SGP), adopted as a Council Resolution and two Council Regulations by the European Council in Amsterdam in June 1997. This builds on the EDP and introduces the requirement that over the medium term, Member States’ budgetary positions should be ‘close to balance or in surplus’; and

- implementation through the Code of Conduct on the content and format of Stability and Convergence Programmes, agreed as an Economic and Financial Committee Opinion endorsed by ECOFIN in October 1998, and revised in June 2001. The Code emphasises the importance of measuring deficits in cyclically-adjusted as well as nominal terms.
A framework that focuses on maintaining prudent levels of debt will also help to ensure that EU Member States address the long-term challenge to public finances posed by population ageing discussed in Box 5.3.

**Box 5.3: The consequences of population ageing in the EU**

The average age of the populations of all EU Member States is expected to increase significantly in the decades ahead.

Population ageing has implications for public spending on pensions and on goods and services used heavily by the elderly, such as health care. If policies do not change, estimates prepared for ECOFIN project public pensions expenditure alone to rise by 3.2 per cent of GDP in the EU between 2000 and 2040. There are, however, considerable disparities across EU countries, depending on factors such as employment rates and the arrangements for public pension schemes. Other things equal, some countries could expect to see very substantial rises in public pensions spending, placing a burden either on public debt levels or on taxpayers in those countries. Reflecting prudent policies, low debt levels and high employment rates, the UK is well placed to cope effectively with the costs of population ageing.

EU countries have recognised the problems that population ageing might cause for public finances and have endorsed a ‘three-pronged strategy’, involving an appropriate combination of increases in employment, debt reduction and pensions system reform in each country. The Government strongly supports this approach.

Some commentators, including Professor Patrick Minford in his contribution to the EMU study *Submissions on EMU from leading academics*, have claimed that UK membership of EMU would mean that the UK would take on pension liabilities in other countries. This is not the case – the EC Treaty explicitly rules out the adoption of the liabilities of one country by the EU as a whole, the ECB or any Member State. EU expenditure is, in any case, subject to a legally-binding ceiling. Like many other governments, the UK Government would argue strongly against the central adoption of pension liabilities were it to be proposed.

In fact, in terms of fiscal policy the two main effects of EMU entry would be that the UK would:

- be obliged under the SGP to *avoid excessive deficits* rather than just endeavour to do so. The UK could be subject to sanctions were it judged to have an excessive deficit; and
- participate in Eurogroup discussions, which aim to coordinate policy between the euro area fiscal authorities and between the fiscal and monetary authorities.

Fiscal policy can support economic stabilisation, either through the operation of the ‘automatic stabilisers’ or the use of ‘discretionary policy’. The assessment of the flexibility test and the Treasury discussion paper *Fiscal stabilisation and EMU* make clear that, if the UK were to join EMU, there could be an increased case for stabilisation through fiscal policy and discuss a range of options. In practice, fiscal policy has, since the start of EMU, not played a substantial stabilising role in the euro area.
5.38 Setting fiscal rules over the economic cycle provides room for the automatic stabilisers to operate and also allows for changes in the fiscal stance to restrain or stimulate demand, provided that any change is symmetric. However, the SGP does not take explicit account of the economic cycle; its limits are defined in nominal rather than cyclically-adjusted terms. This introduces an asymmetry that could reduce the degree of fiscal stabilisation and encourage pro-cyclicality. This view is shared by many, including Professor Charles Wyplosz who, in his contribution to the EMU study *Submissions on EMU from leading academics*, states: “The asymmetry of the SGP implies that fiscal policy may have to become pro-cyclical in downturns while there is no incentive to make it counter-cyclical in upswings”.

5.39 The UK fiscal framework allows the Government to borrow in order to finance public investment. In the context of sound public finances and economic stability, public investment not only raises welfare through the provision of high quality public services but can also help to raise the overall productive potential of the economy. Where investment today benefits future generations it is appropriate for it to be financed by borrowing, meaning that future generations bear some of the cost. Sustained increases in public sector investment, together with reforms to ensure that taxpayers receive value for money, are central to the Government’s long-term goal of delivering world class public services.

5.40 To achieve its long-term goal of delivering world class public services, the Government is borrowing modestly to fund increased investment. Chart 5.2 shows that public investment in the UK still lags behind that in most EU countries, despite recent increases, and there is still much to be done to turn round the legacy of under-investment. UK public sector net investment is projected to more than double over the coming years. This is consistent with the fiscal rules because, while the Government is projected to borrow modestly, the current budget is projected to remain in surplus over the economic cycle and net debt remains well below 40 per cent of GDP.

![Chart 5.2: Gross public investment, 2002](source: Estimates from European Commission spring 2003 forecasts.)
The EU fiscal framework recognises, to some extent, the importance of public investment. For example, Article 104 of the EC Treaty states that assessment of whether a country's deficit is excessive needs to take into account ‘whether the government deficit exceeds government investment expenditure’. But this recognition was not made explicit in the SGP and the medium-term objective that the budgetary position should be ‘close to balance or in surplus’ could be interpreted to mean that investment should be financed by current taxpayers, not by future ones, potentially harming inter-generational fairness. This could be a particular issue for the new Member States after enlargement of the EU.

The EU fiscal framework is relatively young and EU Member States have been actively considering how to strengthen it. The March 2003 European Council fully endorsed a report from ECOFIN on improved budgetary coordination and invited ECOFIN to implement its conclusions, which suggest:

- a greater focus on the budgetary position adjusted for the economic cycle and agreement that the automatic stabilisers should operate symmetrically over the cycle;
- greater attention on debt reduction and, more generally, the longer-term sustainability of public finances, including through the determined pursuit of a comprehensive strategy to meet the challenges of ageing populations;
- recognition of the importance of the quality of public finances, with a view to raising the growth potential of the EU economies; and
- emphasis on the need to take into account country-specific circumstances when assessing the ‘close to balance or in surplus’ requirement of the SGP, including the long-term sustainability of public finances and allowance for the automatic stabilisers to operate fully without breaching the 3 per cent reference value.

The Government supports the direction in which the EU fiscal framework is evolving. In his contribution to the EMU study Submissions on EMU from leading academics, Professor Ray Barrell notes: "We should also accept that frameworks should change as the world changes, and as reputations are built." The Government recognises that this is the case for both the UK and euro area frameworks.

Although ECOFIN remains the decision-making body for the EU in economic and financial policy, in EMU the UK would be a member of and attend all – and not some – meetings of the Eurogroup, thereby participating fully in euro area decision making.

Economic policy coordination enhances stability by ensuring that the policies enacted by separate authorities do not pull in opposite directions. Both the UK and the euro area macroeconomic policy frameworks contain mechanisms for enabling coordination between policymaking institutions. Policy coordination can take a number of different forms, including information exchange, agreement on objectives and more active coordination on particular policies. For example, a Treasury representative attends MPC meetings, but cannot vote. A wide range of academic studies have shown that effective coordination can produce substantial gains, supporting macroeconomic stability nationally and internationally.
Policy coordination within the current UK framework is fairly straightforward. There is a single monetary authority and one national fiscal authority which have complementary objectives, both set by the UK Government. Policy coordination is assisted by high levels of information sharing between the two authorities. This ensures that they have a clear understanding of each other’s strategies.

In the euro area, policy coordination is inherently more complicated because there is a single monetary authority but multiple fiscal authorities. This means that there is a need not only for coordination between the monetary and fiscal authorities but also between the individual fiscal authorities. To an extent, coordination problems are reduced by the fact that each authority’s policies have a different reach: the ECB policy stance affects demand across the whole euro area while each fiscal authority acting individually will mainly affect demand in its own area. Even so there will be some spillovers from fiscal policy between countries, with smaller and more open economies in particular affected by fiscal policy changes in their main trading partners. And the ECB’s monetary policy stance needs to take account of the fiscal stance in the euro area as a whole.

The euro area has a range of institutional arrangements to ensure that the ECB and individual member governments are well informed of each others’ objectives and strategies for achieving those objectives:

- the SGP, which provides for substantial information exchange between fiscal authorities and with the ECB;
- the Broad Economic Policy Guidelines (BEPGs), agreed annually by the European Council, which set out non-binding recommendations to Member States in a range of economic policy areas;
- Eurogroup, an informal meeting of euro area Finance Ministers and the ECB President, promoting information exchange between euro area countries; and
- ECB attendance at ECOFIN meetings and meetings of its main supporting committee, the Economic and Financial Committee, and non-voting attendance at ECB Governing Council meetings by a representative of ECOFIN.

These arrangements minimise the risk that policies will be poorly coordinated and hence contribute to private sector confidence that macroeconomic policies will support stability in the euro area. There is, however, some suggestion that they may not currently be used to their full potential.

It is sometimes argued that a federal fiscal policy is required to complement the single monetary policy. But this is neither necessary nor desirable, as set out in detail in the EMU study *The United States as a monetary union*. It is not necessary because individual Member States are able to use their national fiscal policies for stabilisation purposes, if needed. They are also able to cooperate with other Member States when a concerted fiscal response is required. It is not desirable because citizens in different Member States have different preferences over the appropriate mix and level of tax and spending policies. Fiscal policy remains the responsibility of Member States, whether in or out of EMU. In his contribution to the EMU study *Submissions on EMU from leading academics*, Professor Antonio Fatás argues that: “the implementation costs [of a European fiscal federation] are too large to compensate for the small potential benefits”.

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1 The first two mechanisms apply to the entire EU but they can, of course, facilitate coordination within the euro area too.
Another important aspect of maintaining economic stability is the arrangements for ensuring financial stability. The UK has established clear responsibilities for the three public authorities with roles in this field – HM Treasury, the Bank of England and the Financial Services Authority – with a clear structure for coordination between them. There is no EU or EMU level responsibility for financial supervision, which remains the preserve of individual countries. But information sharing and coordinated surveillance of financial stability issues are important and the Government supports the recent establishment of a Financial Services Committee to advise ECOFIN. The UK Government, like many others, believes that official support operations remain a national responsibility for euro area members.

Conclusion: how would the EMU macroeconomic framework affect UK economic stability?

Whatever the degree of sustainable and durable convergence, any risks to the UK of EMU entry could be compounded by the ECB’s inflation objective and by a rigid and overly mechanistic interpretation of the SGP. The Government will continue to work with other European countries in the development of the macroeconomic policy framework to minimise these risks to the UK and to existing EMU members.

In terms of macroeconomic policy, the Government’s announcement of its intention in the next Pre-Budget Report to give the Bank of England a symmetric inflation target as measured by the Harmonised Index of Consumer Prices will improve the quality of the UK inflation target and will also help ensure inflation expectations in the UK remain in line with those of the euro area.

In its May 2003 review of monetary policy strategy, the ECB restated that: “Price stability is defined as a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area of below 2%. Price stability is to be maintained over the medium term”. The ECB review went on to state that: “At the same time, the Governing Council agreed that in the pursuit of price stability it will aim to maintain inflation rates close to 2% over the medium term”. At the present time, the potential for uncertainty that the ECB’s inflation objective creates could produce deflationary risks in certain countries, although the fact that, to date, euro area inflation has averaged 2 per cent suggests that in practice this risk has not materialised.

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.

Although ECOFIN remains the decision-making body for the EU in economic and financial policy, in EMU the UK would be a member of and attend all – and not some – meetings of the Eurogroup, thereby participating fully in euro area decision making.
5.57 EMU’s effect on productivity is one of the major considerations in the assessment of the growth, stability and employment test. Higher productivity enables higher living standards and better public services.

5.58 Continued macroeconomic stability is vital for the achievement of the Government’s productivity agenda. Historically, the UK economy has suffered from macroeconomic instability which has led to a substantial productivity gap between the UK and many other advanced industrial economies. A more stable macroeconomic environment enables firms and individuals to plan with confidence. Consequently investment, innovation and enterprise will tend to be higher, leading to higher productivity levels and more rapid output growth.

5.59 In pursuing its long-term goal of achieving a faster rate of productivity growth in the UK than its main competitors and closing the productivity gap, the Government’s policy is focused on the five key drivers of productivity:

- enhancing competition to improve flexibility in product and capital markets and promote greater business efficiency and consumer choice;
- promoting enterprise by removing the market barriers that deter entrepreneurship and prevent new firms from developing and growing;
- supporting science and innovation to harness the potential of new technologies and to provide more efficient ways of working;
- improving skills among young people and the adult workforce to generate a flexible and dynamic labour market; and
- encouraging investment and better investment decision-making through stronger local and national capital markets.

5.60 EMU membership could affect all these drivers of productivity, either directly or indirectly. Joining EMU would remove a barrier to trade between the UK and the current euro area countries and would enhance competition across the euro area. EMU could potentially stimulate investment by aiding the integration of capital markets. It could also help to spread innovation and technological change across the single currency area. Box 5.4 examines the productivity gap between the US and the euro area and considers the lessons of the US as a monetary union for productivity in the euro area. It is the link between higher productivity and higher potential output that provides the basis for the estimated range of improved UK growth levels arising from EMU membership presented later in the chapter.
The EMU study *The United States as a monetary union* considers the lessons that can be learned from the long history of the US as a single currency area. The US experience is interesting because its economy is broadly similar to the euro area in terms of overall size of market and its balance between domestic and foreign demand, and because it spans a large geographical area with diverse regional characteristics. Productivity levels in the US are around 19 per cent higher a than in the EU, in part because the US has a more integrated market.

Insights from examining the experience of the US are discussed in detail throughout the assessment. They include:

- the evidence that a monetary union can survive and prosper with quite varied business cycles and in the presence of asymmetric shocks;
- the benefits of having a high degree of flexibility, particularly in labour markets, to help adjustment to asymmetric shocks;
- the stimulus to trade, investment and competition that a large single market with very few barriers to trade can bring (although other factors have also played a part); and
- the US dollar’s role in the development of integrated and deep US financial markets has facilitated investment and also encouraged risk sharing.

There are also some important differences between the US and European monetary unions which mean that the US does not provide a blueprint for EMU. Most notably, the political context for the two monetary unions is very different. The US states chose federal structures for fiscal policy to underpin political union, while in the EU fiscal policy is the responsibility of individual Member States. In addition, the institutions of the US monetary union have evolved over a long period of time while the euro area’s institutions have been developing over a relatively short period of time.

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5.61 The EMU study *EMU and business sectors* identifies the various ways in which EMU might raise productivity over different time frames:

- immediate effects associated with joining the single currency;
- short to medium-term impacts through trade and investment; and
- long-term effects through competition and against the background of the more general restructuring of the industrial landscape.
The immediate effect of EMU entry would be felt through four channels:

- lower transaction costs when trading with the euro area;
- a reduction in exchange rate uncertainty;
- greater price transparency for euro area imports and exports; and
- transition costs associated with the changeover to the single currency.

Outside EMU, firms and travellers incur costs in changing pounds into euros and euros into pounds. The resources currently devoted to these activities could be used more productively if there was a single currency. The benefits of eliminating transaction costs are greater for smaller countries and those with unsophisticated financial systems. In the UK’s case, they are probably small – no more than 0.1 to 0.2 per cent of the level of GDP— with most of the gains falling to smaller companies. Separate, but related to this, is the issue of seigniorage which is discussed in Box 5.5.

Exchange rate uncertainty is likely to be more costly. Exchange rate movements cause fluctuations in firms’ expected cost and revenue streams and the value of their assets and liabilities. These fluctuations are costly to risk averse firms. In the medium term, they may lead to a reduction in investment, as discussed in the assessment of the investment test, and in international trade, covered in the next section of this chapter, harming productivity. There are mechanisms to insure against exchange rate risk, for example by using forward contracts or currency options to help hedge against risk. However, these are usually effective only over a relatively short time period; it is difficult to insure against longer-term exchange rate misalignments. Because of the economies of scale involved, smaller businesses are likely to find exchange rate uncertainty more costly than larger ones.

Box 5.5: Seigniorage

Seigniorage, or monetary income, is generated through the issuance of national currency, whereby banknotes and coins cost less to produce than their face value or selling price. The change from sterling to euros, resulting from a decision to join EMU, would have an impact on the UK’s seigniorage revenue.

The UK’s seigniorage on coins would not be affected by EMU membership. For notes, the UK would lose the revenues gained from the issuance of sterling notes but would receive a share of the income from the total issuance of euro notes in the euro area. This share would depend on the UK’s share of euro area GDP and population. Countries that are low users of cash relative to their GDP and population, such as the UK, could potentially gain from these arrangements. However, uncertainty surrounding future note issue volumes, interest rates, relative GDP and populations means that it is difficult to predict the net impact of UK EMU membership on banknote seigniorage. The likelihood is that the impact, be it positive or negative, would be relatively small.

1European Commission, One Market, One Money, European Economy, No. 44, October 1990.
EMU entry would also increase the transparency of prices across a large single market. With prices quoted in the same currency in the UK as in other euro area economies, consumers and firms would be better able to make informed choices between retailers or suppliers of comparable goods and services. This would increase competition and thus efficiency.

Against this, EMU entry would impose some one-off transition costs on businesses, individuals and the public sector. Microeconomic changeover costs would include the costs of upgrading software and introducing dual pricing systems in shops and they are discussed briefly in Box 5.6. These are qualitatively different and distinct from the macroeconomic transition costs assessed in the convergence test, drawing on the analysis in the EMU study *Modelling the transition to EMU*.

**Box 5.6: Changeover costs**

There are no reliable estimates of the one-off costs of a UK changeover to the euro. It is impossible to estimate the costs accurately even for existing euro area members and trying to produce an estimate for the UK would place an unnecessary burden on businesses. In particular, in many cases it is difficult to separate out the effects of the changeover from other changes that would have been undertaken anyway, such as upgrading of accounting and IT systems. While some organisations have attempted to estimate the likely costs, the wide range of estimates produced highlights the difficulties involved.

Notwithstanding this, it is generally accepted that careful advance preparation would help to minimise the costs involved. It is for this reason that the Government continues to supply a wide range of information to businesses and individuals, including in the third outline National Changeover Plan published alongside this assessment.

While these effects of EMU entry will affect UK firms and individuals immediately, they will be largely ‘one-off’. Over time, the size of the effects will be small in comparison to the potentially long-lasting effects of EMU entry on trade, investment, competition and productivity.

These immediate effects could increase cross-border trade in the short to medium term. Trade raises the productivity and living standards of trading partners, allowing firms and countries to exploit economies of scale and to specialise in areas of comparative advantage. The EMU study *EMU and trade* provides a comprehensive overview of the theoretical and empirical economic literature on the subject of how EMU might affect the UK's level and pattern of international trade. It includes a full evaluation of recent work on the impact of EMU to date.
The potential benefits from adoption of the euro depend positively on the degree of trade integration between the UK and the euro area economies. A high level of integration implies more scope for gains through the elimination of currency fluctuations and transaction costs. The UK has experienced a striking increase in trade with other EU countries since joining the then European Economic Community (EEC) in 1973, both in absolute terms and relative to its trade with other countries. Chart 5.3 shows that UK trade in goods with the EU as a percentage of GDP has risen by around 5 percentage points over the period. The EU is the UK’s main trading partner. Successive expansions in the size of the EU and therefore in the number of people who benefit from the reduction in barriers to trade between EU citizens (now 377 million and to become 451 million following enlargement in 2004) has been a major stimulant to economic growth and prosperity in Europe.

After the EU, the UK’s next most important trading partner is the US, closely followed by Asia. Both regions represent just under one fifth of total UK trade. Compared to other EU countries, a relatively higher proportion of UK service and income transactions is conducted with non-EU countries, especially the US.

UK trade integration with the EU is similar to that of other large Member States. UK trade in goods and services (exports and imports) with the EU is equivalent to just under 30 per cent of UK GDP. This is below the EU average, but close to that of other large EU economies such as France, Germany and Italy.

The UK tends to trade more with the US than do other large Member States. In addition, the importance of the US dollar in conducting trade is greater than implied by the share of the US in UK trade alone. If joining EMU implied greater volatility of sterling against the US dollar, this would partially offset the benefits of stability with the euro.
The European market in context

5.73 The European Single Market Programme launched in 1985 aimed to eliminate the remaining barriers to cross-border trade within the EU, including non-tariff barriers such as limitations on the free movement of capital. However, there remains room for still greater international trade in the EU. While US producers benefit from a large and well-integrated domestic market, European firms find it difficult to exploit economies of scale as effectively as their US counterparts, contributing to the productivity gap between the EU and the US. One of the driving forces behind the creation of the European single currency was the view that separate currencies were an important impediment to further trade integration.

How large are the effects?

5.74 Academic research since the 1997 assessment has suggested that the effects of EMU on trade could be much more significant than was implied by earlier estimates, which related primarily to the elimination of largely short-term exchange rate volatility. An influential study found very substantial potential effects of currency unions on trade. This result prompted further research and many contributions to the EMU study Submissions on EMU from leading academics have emphasised the issue.

5.75 The EMU study *EMU and trade* uses three main approaches to assess the potential impact of EMU membership on UK trade:

- examining how a reduction in exchange rate volatility affects trade;
- using evidence on trade generally within currency unions; and
- using evidence on trade specifically within EMU to date.

Evidence from exchange rate volatility

5.76 As discussed earlier, exchange rate movements are costly to firms, by creating uncertainty over expected costs and revenues for firms that trade in different currency areas. That said, many studies fail to identify a meaningful negative relationship between exchange rate volatility and trade, and some even find a weak positive link. Those studies that do establish a clear negative link find that the increase in trade arising from a monetary union is unlikely to exceed 10 per cent. However, this methodology is limited in that observed exchange rate volatility is an imperfect measure of currency risk; participation in a fixed exchange rate regime, for example, does not necessarily eradicate the risk of sporadic (and major) realignments, as the evolution of the Exchange Rate Mechanism (ERM) demonstrated.

Evidence from currency unions

5.77 More recent research has advanced the earlier findings on exchange rate volatility by focusing on the particular experience of members of a currency union. In an influential study, Professor Andrew Rose found that countries in currency unions trade three times more with each other than countries with separate currencies. He revisits this work and the substantial literature it has triggered in his own contribution to the EMU study Submissions on EMU from leading academics, and concludes: “...my quantitative survey of the literature shows substantial evidence that currency union has a positive effect on trade. When the estimates are examined collectively, this effect is large in terms of both economic and statistical significance, implying that currency union is associated with an approximate doubling of trade.”

5.78 This type of result has been replicated many times, but the economic mechanisms underpinning it are not well understood. More importantly, the results mainly reflect the fact that many currency unions are between smaller, poorer countries. Professor Rose and others doubt that they are fully applicable to assessing the trade impact on existing EMU members, or on the UK if it were to join. In his contribution to the EMU study Submissions on EMU from leading academics, Professor Peter Kenen notes: “most of the currency unions included in Rose’s sample involve small developing countries, and Rose himself was careful to warn against drawing any strong inference about the trade-raising effects of EMU.”
Subsequent studies have attempted to produce results that are applicable in the EMU context and the emerging research consensus signals substantial gains to trade through membership of a currency union, although much lower than initially estimated by Rose (see Box 5.7).

Box 5.7: The impact of EMU on trade to date

With EMU now in place it is possible to examine how the level of trade has evolved so far. Trade intensity within the euro area has increased since the currency’s launch. Extra-euro area trade for EMU members has risen more sharply over the same period, though this may reflect buoyant US growth, ongoing integration of the EU with Central and Eastern Europe and other fast growing economies, oil price rises and, possibly, the depreciation of the euro.

Detailed studies on this subject, including research produced for the Treasury based on existing work and on the limited data available, support the thesis that the euro is already having an appreciable impact. They indicate that although there is a lack of flexibility and convergence in some euro area countries, EMU has increased trade within the euro area by between 3 and 20 per cent since 1999. On the basis of recent studies, Professor Jeffrey Frankel comments in his contribution to the EMU study Submissions on EMU from leading academics that: “It seems clear that the trade effects of monetary union are not limited to small countries”.

A range of between 3 and 25 per cent is cited in the EMU study EMU and trade. But in subsequent work by the same authors, Micco, Stein and Ordoñez (2003), the upper bound of 25 per cent has been revised down to 20 per cent, closer to the range of 3 to 13 per cent in the work produced for the Treasury which provides the lower bound to the range used in this assessment of 3 to 20 per cent. The work for the Treasury finds that the estimated boost to trade is much lower when the underlying trend is estimated over the 1990s than is found by studies where it is estimated over the 1980s and 1990s.

Research indicates that the increase in trade within a currency union is not at the expense of trade with non-members. Indeed, some studies find that not only is a currency union not trade diverting but it is actually trade creating with non-currency union members. This means that the UK would gain some of the benefits from the greater integration among euro area members, even outside EMU. In his contribution to the EMU study Submissions on EMU from leading academics, Professor Jacques Mélitz states that evidence shows that: “monetary union increases trade between members and non-members (though less so than between the members) … In other words, even without adopting the euro, the UK will get many of the advantages of EMU…”. However, there could be a risk that because euro area firms would benefit from greater productivity by exploiting economies of scale, the profit margins of some UK firms could fall.

On the basis of a detailed review of the evidence, the EMU study EMU and trade concludes that a reasonable range for the potential increase in UK trade with the euro area in the long term resulting from UK membership of EMU is between 5 and 50 per cent, without any trade diversion from UK trade with the rest of the world. The lower end of this range equates with the lower estimates of the increase in intra-euro area trade that has already occurred between member countries. The upper estimate pays much greater attention to the wider benefits of currency union, and appears closer to the more likely outcome in the long term.
5.82 But realisation of the higher end of the range if the UK joined EMU would be contingent on the achievement of sustainable and durable convergence. Without the maintenance of continued stability, the trade benefits of joining EMU would be negligible.

**EMU and UK competition**

5.83 The effect of EMU on trade is the key driver of increased competition. Competition is important to assessing how EMU membership could affect UK productivity in the longer term, since competition increases the incentive for firms to innovate and helps to shift the allocation of resources from less to more productive enterprises. Indeed, some argue that the strengthening of competition as a result of EMU will prove to be its greatest longer-term impact. Greater competition would lead to lower prices, increased choice and/or improved quality, which would transmit the potential productivity gains of EMU to final consumers. The EMU study *Prices and EMU* examines how EMU membership could affect UK prices and competitive pressures. It includes detailed analysis of the latest trends in prices and the possible influences on them. The flexibility test's analysis of the role of prices as an adjustment mechanism is also relevant.

**EMU's potential effects**

5.84 EMU lowers transaction costs between countries in the currency area because it removes exchange rate risk and the direct costs of currency exchange. It should also reduce consumer search costs by making it easier to compare prices across countries. These could increase the size of the effective market for UK firms and consumers, stimulating competition. This may be reflected in an actual increase in trade between countries, as already discussed, or in greater pressures on local firms to innovate and to price more competitively as they respond to the threat of that trade.

5.85 Evidence on the likely scale and pace of the impact of EMU on prices can be drawn from:

- the experiences of those countries which have already entered EMU;
- patterns of price dispersion and the inferences that can be drawn about their underlying causes; and
- comparison with the US.

**Experience of EMU to date**

5.86 It is still rather early to draw definitive conclusions about prices from the experience of EMU so far. The full effects are likely to come through only slowly. Nonetheless, basic statistical analysis suggests that prices in the EU, and particularly in the euro area, have been converging since the mid 1990s – see Chart 5.4. A number of factors, including exchange rates and the Single Market Programme, may have contributed to this convergence, but the single currency may also have played a part. Given that the UK's relative price level is generally above the EU average, any price convergence as a result of EMU would tend to lower UK prices.

5.87 Countries at the geographical centre of the euro area (the ‘E5’ – France, Germany, Belgium, Luxembourg and the Netherlands) have shown more price convergence than the euro area as a whole. This is consistent with a gradual increase in market integration, beginning at the centre. Evidence at a more disaggregated level provides a similar picture, although some sectors have displayed more price convergence than others.

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*Sir Alan Budd, former Chief Economic Adviser to the Treasury, noted in his Bristol Convocation speech of 4 February 2002 'Making sense of the Euro debate' that: “The microeconomic argument in favour of the euro is that it will increase efficiency by reducing transaction costs and increasing competition”.*
The level of market integration and competition is affected by a wide range of factors. For example, a market that is highly regulated in one country might be more difficult for other firms to enter even in the presence of a single currency – allowing the incumbents to charge higher prices. Transport costs are another obvious barrier, especially for bulkier goods. As a result, price dispersion between countries varies significantly by both product and market. Countries that are relatively expensive for one product can be relatively cheap for another. A separate currency may only be one among many factors that explain price differentials.

The interplay between currency-related and other barriers to market integration can be illustrated by comparison with the US. Chart 5.5 shows that price dispersion is lower in the US than in the EU. Price levels, at least for internationally traded global brands, also appear to be significantly lower in the US. This may indicate higher levels of competition and suggests that there is scope for the EU to improve. The US not only has a single currency, however, but also a well-established integration of its markets that has developed over a long period of time, as discussed in the EMU study *The United States as a monetary union*. Consequently, higher price convergence in the US is a result of a combination of currency union and a range of other factors.

A single currency has the potential to reduce the divergence between UK and EU prices and intensify competition in the UK, particularly by increasing the likelihood of cross-border entry into markets. The benefits in terms of increased productivity and output, though, would be likely to emerge only over a long time period. Moreover, it would only be possible to gain these benefits in full by working in parallel to tackle other barriers to competition in Europe, some of which are discussed in the analysis of European economic reform below.
Conclusion: what is the potential impact of EMU on UK trade, competition, productivity and growth?

EMU membership could enhance productivity in the medium term by increasing trade and investment and by stimulating competition. Later sections make clear that it could also help to promote economic reform in the EU and encourage specialisation in the longer term. Therefore, EMU could potentially have an effect on all five of the key drivers of productivity. Based on broad-based evidence on the impact of trade, it seems reasonable to assume that each 1 percentage point increase in the ratio of trade to GDP increases real GDP per head by at least $\frac{1}{3}$ per cent in the long run and perhaps as much as $\frac{2}{3}$ per cent. In a best case scenario, with stability assured through the achievement of sustainable and durable convergence, a long-term increase in trade with the euro area at the top of the 5 to 50 per cent range and increased investment spurring competition, UK output could be around 9 per cent higher over 30 years within a successful EMU than outside. This could add around $\frac{1}{4}$ percentage point a year to GDP growth.

This is conditional on the achievement of sustainable and durable convergence between the UK and the euro area. In circumstances where it is not assured, the trade benefits from EMU would be likely to be at the lower end of the range. This means that the potential gains to trade and competition from EMU membership could be negligible even over the long term. However, initial estimates suggest that although there is a lack of flexibility and convergence in some euro area countries, EMU has increased trade within the euro area by between 3 and 20 per cent since 1999. In practice, additional volatility and uncertainty resulting from EMU membership in the absence of sustainable and durable convergence could have a negative impact on the actual level of UK output in the long term.

The Government will continue to pursue its wide-ranging strategy to tackle the barriers to productivity growth and close the productivity gap. This involves continued microeconomic reforms in the UK to target the five key drivers of productivity, combined with support at the European level for policies to strengthen competition and the Single Market.
EMU AND EMPLOYMENT

5.94 The Government’s long-term goal is employment opportunity for all. Worklessness, particularly on a long-term basis, is a constraint on the UK’s growth potential and a major cause of poverty and deprivation for many individuals and their families. The Government’s aim is to ensure a higher proportion of people in work than ever before by 2010. The decision on EMU entry must not put at risk this long-term goal.

5.95 For analytical purposes, it is helpful to distinguish between the structural rate of employment and its cyclical component, analogous to the analysis of unemployment in the assessment of the flexibility test. The structural rate is the level of employment that is consistent with non-inflationary growth. In general, employment in excess of this structural rate will be associated with rising inflation, while employment below the structural rate will be associated with falling inflation. The cyclical component reflects the movement of employment around its structural rate over the course of the business cycle. At any particular point in time, the actual level of employment in a country will be determined by its structural rate and the cyclical position.

5.96 The longer-term potential benefits of EMU on output would be more likely to be felt through productivity than through employment. But EMU membership could have some impact on both the cyclical and structural components of employment.

Hysteresis: when cyclical unemployment becomes structural

5.97 In practice, the analytical distinction between cyclical and structural unemployment is not clear cut. In flexible labour markets, the structural unemployment rate will be largely unaffected by cyclical developments. But in less flexible labour markets, those who become unemployed may find it difficult to re-enter employment. When this occurs, an initial cyclical change in the unemployment rate becomes locked in as a structural shift. This tendency for short-term effects to have permanent consequences, known as hysteresis, is a recurring theme of this assessment. Here, it provides a bridge between the cyclical and structural analysis of unemployment.

5.98 Drawing on the EMU study EMU and labour market flexibility, the assessment of labour market flexibility concludes that:

• the more flexible is the labour market, the lower is its structural rate of unemployment;

• the UK labour market has become more flexible since the 1997 assessment and would be in a better position to respond to any problems that might emerge within EMU; but

• UK flexibility has not been fully tested in recent years, which have been characterised by a relatively stable macroeconomic environment.

5.99 This underlines the importance of sustainable and durable convergence between the UK and the euro area. A lack of sustainable convergence increases the risk of large cyclical increases in unemployment which might then become structural in nature, as occurred in the 1980s.
5.100 There is strong evidence that European economies, including the UK, have been prone to hysteresis effects, contributing to high and persistent unemployment during the 1980s (see Charts 2.2 and 2.3 in Chapter 2). By contrast, the structural unemployment rate in the US has remained relatively constant over the past decades, despite undergoing substantial recessions in the early 1980s and early 1990s.

**EMU’s effect on structural employment**

5.101 Some have claimed that UK membership of EMU would inevitably mean that the UK’s employment rate would converge on the euro area average. If this were the case then it would imply a substantial reduction in UK jobs. But both economic theory and evidence show that this claim, which is linked to the argument that trend output must also converge (as discussed in the assessment of the convergence test), is mistaken.

5.102 Employment rates within a monetary union can diverge because the equilibrium rate of employment is largely independent from the monetary stance. Other factors are more important determinants of the structural rate of employment, such as the structure of wage bargaining, the degree of regulation and the structure of the tax and benefit system. The assessment of the flexibility test and the EMU study *EMU and labour market flexibility* set out how these factors can influence labour market adjustment and the structural employment rate.

5.103 Empirical research confirms that sharing a common currency does not imply sharing the same unemployment rate. Indeed unemployment rates can vary by more between regions of the same currency area than they do across currency areas. Within the UK there were substantial and persistent differences in regional unemployment rates during the 1980s and early 1990s. In the same way, there have been persistent regional differences in the US, despite its long history as a monetary union. And in the euro area to date, the larger economies have continued to experience quite different unemployment rates (see Chart 5.6).

**Chart 5.6: Unemployment rates in the euro area**

Source: Eurostat Structural Indicator for standardised unemployment.

**EMU’s impact…** 5.104 EMU membership could have an impact on the UK’s structural rate of employment through two channels:
• encouraging greater competition and greater integration of product and capital markets; and
• providing a catalyst for reform of labour, capital and product markets, either by governments or by the private sector.

5.105 Intensified product market competition in EMU could increase the efficiency of resource use, as firms’ mark-ups over costs would fall. This in turn would enhance labour productivity and real wage levels. This could increase the supply of labour and raise the structural level of employment. However, there is no systematic correlation between the size of a currency area and the employment rate, so the size of this effect is likely to be small.

5.106 One particularly important part of the EU’s overall economic reform agenda discussed later in this chapter is reform of labour markets to promote the creation of more and better jobs. EMU could potentially act as a catalyst for reforms, improving robustness and responsiveness to shocks. Box 2.6 (in Chapter 2) discusses the recent achievements in the EU, including the creation of over 10 million jobs between 1997 and 2001.

5.107 But there is still more to be done. In particular, encouraging people to remain active for longer in their working lives remains an EU-wide priority. This demands a wide-ranging approach across a number of policy areas. These include tax and benefit reform, regulation, access to flexible working patterns and active labour market policies such as training and lifelong learning. Other important European priorities include strengthening gender equality and combatting discrimination. In July 2002, the Government published *Towards Full Employment in the European Union* to review the progress made and to identify areas for further reform. Moreover, the EU is not static; labour market reforms that ensure a dynamic, competitive and socially inclusive society are all the more necessary to cope with the challenges of an enlarged and increasingly globalised EU.

5.108 EMU could also have dynamic effects on the behaviour of private sector agents. It could increase the degree of wage flexibility and labour mobility, for example, because of the elimination of exchange rate uncertainty for temporary workers in another EU country. This could lead to a lasting reduction in regional mismatch between employee skills and job vacancies and an increase in the sustainable employment rate. However, differences in languages and cultures mean that any effects would probably be fairly small and take some time to materialise.

**EMU’s effect on the cyclical volatility of employment**

5.109 Whether in or out of EMU, the UK economy will change and evolve in response to economic shocks and the responses to them. Sound economic policies can reduce the impact of these shocks but cannot eliminate them entirely, so the actual employment rate will still vary over time. Employment may not change sharply in response to small shocks, for example because employers try to ‘ride out’ the shock with their existing labour force (often termed labour ‘hoarding’). Larger variations from potential output may have a greater impact, with the change in employment from the original shock potentially amplifying the cycle. For example, firms might reduce their workforce in response to an initial negative shock. This will reduce consumers’ purchasing power and may lead to a further reduction in firms’ desired levels of employment.\(^5\) Without sustainable convergence there is a risk of an adverse feedback, in which a lack of convergence creates a greater risk of cyclical differences between the UK and the euro area, which leads to differential employment responses, which then exacerbates the divergence in demand and output.

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\(^5\) In his contribution to the EMU study *Submissions on EMU from leading academics*, Dr Daniel Gros argues similarly that movements of workers in response to a shock could magnify the initial shock.
Conclusion: how might EMU affect both the underlying level and cyclical path of employment?

5.110 The potential effects of EMU would be greater on productivity than on employment, but both could be affected by any increase in volatility. Without sustainable and durable convergence between the UK and the euro area, EMU membership could increase the cyclical volatility of employment in the UK. It is harder for the labour market to adjust to large increases in unemployment than small ones, so the risk of less stability in output and employment would entail an increased risk of higher structural unemployment in the UK. These risks would be reduced if sustainable and durable convergence were assured, in which case the UK would be able to reap the potential employment benefits of EMU membership.

5.111 The conclusions to the assessment of the flexibility test set out the Government’s wide-ranging agenda for enhancing flexibility in the UK and EU to deliver high and stable levels of UK employment.

DISTRIBUTIONAL EFFECTS OF EMU

5.112 Subject to the achievement of sustainable and durable convergence, the effects of EMU membership on trade, competition and employment identified in previous sections would be felt more immediately and more keenly in some industries, regions and households than in others. This section considers how these effects would be transmitted through the UK economy. It draws on the much more detailed analysis undertaken in several EMU studies, including EMU and business sectors, Prices and EMU and Housing, consumption and EMU. The analysis does not attempt to pick out particular potential winners or losers, but seeks to identify the general factors that could cause differences in the timing and the intensity of the changes which might occur across firms, regions and households.

EMU and UK business sectors

5.113 The EMU study EMU and business sectors assesses how EMU membership might help, hinder or reshape the UK’s industrial performance, and how this impact might be distributed across different UK industries and over different time periods.

5.114 EMU affects UK business whether or not the UK is a member. Increased competition within the euro area, and greater cross-border trade and investment, imply new challenges and opportunities for UK firms that sell to euro area customers, buy from euro area suppliers or compete with euro area firms. Were the UK to join EMU, the challenges and the adjustment costs would be qualitatively and quantitatively different; so too would the opportunities and benefits, both for UK firms and consumers. In either case, UK industry needs to be sufficiently flexible to adapt to a new environment.

5.115 The challenges and opportunities posed by EMU entry are not qualitatively different from those that businesses continually face in response to changes in technology, consumer preferences and competitive pressures from rival producers. Successful businesses respond to these by adapting their production techniques, marketing, distribution, investment, employment and pricing.

5.116 At present, the UK’s industrial structure is similar in many respects to that of the EU as a whole, though not necessarily to individual Member States. For example, the UK’s output and employment structures are similar to those of France, but slightly different from those of Germany, due to Germany’s larger manufacturing sector – see Chart 5.7.
Important differences remain

5.117 However there remain differences, as discussed in the assessment of the convergence and investment tests. More UK workers are employed in large firms than is the case in the EU as a whole, and UK firms are more likely to raise external funding directly from equity markets. Services account for a higher proportion of UK trade, due in part to the invisible earnings of international wholesale financial services located in London. Historically, the UK has also received a larger amount of foreign direct investment than other EU countries, especially from the US.

5.118 These differences would play a role in determining the distributional impact of EMU on UK business at the sectoral level, although the analysis at the aggregate level in the assessment of the convergence test suggests that the overall effect of such differences would pose a low to medium risk to sustainable convergence.

Characteristics determining EMU’s sectoral impact

5.119 UK membership of EMU would change the business environment by removing nominal exchange rate uncertainty between the UK and euro area countries. This would make it easier for some UK firms to compete in euro area markets and for some euro area firms to compete in the UK. The intensity and nature of EMU’s effect on individual sectors would vary according to a number of different characteristics, detailed in Box 5.8.
Under the right conditions, the removal of nominal exchange rate uncertainty would provide a clear benefit for firms that either already export to the euro area or would contemplate doing so once exchange rate uncertainty had been removed. This would be particularly beneficial for much of the manufacturing sector, which is more open than the services sector. Manufacturing exports were £173 billion in 2000 (35 per cent of total manufacturing output at market prices), compared to services exports of £75 billion (6 per cent of total services output). The removal of exchange rate uncertainty would also benefit euro area manufacturers competing in the UK market. Provided that sustainable and durable convergence was assured, this would provide opportunities for firms with competitive strengths arising from the quality of their products or from their productivity. Firms with weaknesses in these areas would need to rise to this challenge over time.

In the longer term, the reduction of barriers to trade and investment that EMU membership implies would lead to some restructuring of production across Europe. This could have long-term consequences for the UK’s industrial structure. Specialisation might increase, as firms would be more likely to cluster in regions in order to benefit from external economies of scale, such as the ability to draw on a pool of skilled labour and technology.
5.122 The potential impact of a major reduction of barriers to trade and investment is supported by evidence from the experiences of countries joining the EU and the Single Market Programme. While the picture for original EU members is somewhat mixed, specialisation clearly increased for those countries which joined in the 1970s and 1980s (including the UK), as the rigours of the Single Market shaped their economies. For the most recent wave of entrants, specialisation rose in the mid to late 1990s. With enlargement of the EU from 2004, there could be a further boost to specialisation.

5.123 Though specialisation has been increasing, the UK is currently less specialised than euro area countries, and the EU is less specialised than the long-standing US monetary union. Increased specialisation is associated with greater productivity because it enables a more efficient allocation of resources. Lower UK specialisation at present could, therefore, suggest scope for greater potential productivity gains from EMU. Although any increase in specialisation carries a potential for a greater incidence of sector-specific shocks, this is a long-term and gradual process. The assessment of the convergence test indicates that any risk from this is relatively slight.

EMU and UK nations and regions

5.124 The effect of EMU on the regions of the UK is closely related to the effect on business sectors. Differences in regional industrial structure would affect the timing and the intensity of the competitive pressures faced by individual regions. Differences in the flexibility of regional economies would determine how well they responded. For regions, as for businesses, EMU provides opportunities as well as challenges, and many of its effects will exist regardless of whether the UK enters EMU or not, because the UK will be affected by the way that European firms adjust to EMU.

5.125 Regions with more firms in sectors affected by exchange rate volatility could see relatively larger initial effects. And regions that contain more cyclically-sensitive industries would be more vulnerable to increased instability arising from a lack of durable convergence. Chart 5.8 shows that for some sectors – manufacturing, mining and utilities, and finance, real estate and other business activities – regional differences can be sizeable and often greater than differences between the UK and the other large EU countries (see Chart 5.7). The assessment of the convergence test, while recognising the potential for differences, concludes that they do not have a large impact overall on the degree of cyclical convergence between UK regions.
Regional industrial structures are not static and their future evolution will depend critically on how well regions are able to respond to the challenges and the opportunities posed by EMU. The strength of regional adjustment mechanisms is crucial in promoting growth and ensuring that any short-term shocks would not become more long lasting. In particular, flexibility of wages and prices could help adjustment between regions, as could labour and capital mobility. In his contribution to the EMU study *Submissions on EMU from leading academics*, Dr Daniel Gros stresses the importance of considering inter-regional as well as international labour mobility as an adjustment mechanism.

Regional policy measures Regional policy measures can help regions to develop their adjustment capacity and further their economic development. In the UK, the Government’s strategy for regional development has three main strands:

- **macroeconomic stability**, providing a stable basis to plan and invest following decades of under-investment;
- **microeconomic reforms to tackle market failures** at the national, regional and local level, focused on the key drivers of productivity discussed earlier; and
- **a regional policy framework of devolution and decentralisation** so that regions have the resources and flexibility to deliver locally-led policies, within a framework of clear accountability.
5.128 Action at an EU level also has a role. Although EU regional policies – including cohesion policy, state aid reform and lending by the European Investment Bank – have delivered benefits in the UK and EU, current arrangements are often too centralised and inflexible. That is why the Government has put forward, in the recent paper *A modern regional policy for the United Kingdom*, a new EU Framework for Devolved Regional Policy (see Box 2.13 in the flexibility test). As detailed in the assessment of the flexibility test, this would keep the strengths and lose the weaknesses of the current EU system, with delivery of regional policy substantially devolved and decentralised to give greater flexibility to Member States and regions.

5.129 As already discussed, the EMU study *Prices and EMU* presents evidence that the impact of EMU in some areas, such as price convergence, has so far had stronger effects on countries closer to the geographical core of the euro area. This is consistent with theoretical predictions that the benefits would disperse gradually across the single currency area and suggests that UK regions most closely integrated with the euro area at present, such as the South East, would be likely to feel the impact of EMU membership first.

5.130 Provided that regional adjustment mechanisms are sufficiently robust, it is unlikely that monetary union would be more advantageous to one area than to another in the long run. This is because levels of productivity and employment are determined by factors that are either largely independent of monetary union or would be affected equally across regions, such as wage-setting institutions, the incentives to innovate and the degree of product market competition. Short-run differences would even out in the long term, with regional differences remaining dependent on these more fundamental factors. Consumers in all regions would benefit from the effect of increased competition, leading to lower prices and better quality goods and services in the longer term.

**EMU and UK households**

5.131 EMU membership would have important implications for UK households. Its effects would vary between different households, depending on factors such as the level of household income, type of employment and whether or not households own their own homes. In the immediate period following entry, households would need to adjust to using the new currency. After the changeover, bank accounts, wages and prices would all change into euros. The UK official short-term interest rate would be set by the ECB on the basis of conditions in the euro area as a whole. This would have implications for the stability of the UK economy. It would also affect the interest rates which homeowners pay on mortgages and other debts. Over the longer term, if EMU were to increase business competition in the UK, this could reduce the prices which consumers pay for goods and services. EMU could also have implications for jobs, working patterns and wages. This section explores the impact of EMU in five areas of particular importance for households:

- the changeover to the euro;
- interest rates and housing;
- prices and the cost of living;
- wages and employment; and
- pensions.
5.132 The most immediate and noticeable impact of EMU membership for households would be that sterling would be replaced by the euro as the currency of the UK. After the changeover, bank accounts, prices, wages and pensions in the UK would all be set in euros. It would take time for both households and businesses to adjust to using this new currency. There would also be immediate practical benefits. For example, there would be no need to change currency before going on holiday to euro area countries as the same euro notes and coins are accepted by shops, hotels and restaurants throughout the euro area. The third outline National Changeover Plan, published alongside this assessment, gives several detailed practical examples of how UK households would be affected by a changeover to the euro.

5.133 Another important and immediate implication of EMU entry is that the level of UK interest rates would be set by the ECB rather than by the MPC of the Bank of England and they would be the same across the euro area, as discussed in detail in the assessment of the convergence test. This has particularly important implications for homeowners, as it would affect the interest rate paid on mortgages. The UK has a high level of mortgage debt compared to many other EU countries and a relatively high proportion of variable interest rate mortgages. If the UK were to join at the current time, there would be a fall in UK interest rates, as the interest rate set by the MPC for the UK is currently higher than the rate set by the ECB for the euro area. But this would be likely to be a relatively short-term effect. Over time, the assessment’s conclusion is that UK interest rates would not be significantly higher or lower inside EMU than outside, on average, if sustainable and durable convergence were achieved.

5.134 The ECB sets interest rates on the basis of economic conditions across the euro area as a whole rather than on the basis of conditions in one country, as the MPC does for the UK. This could mean that if the UK was to enter EMU, interest rates would at times be set at a level that was not appropriate for the UK. For example, UK homeowners could find that interest rates were rising at a time when the UK economy was in a downturn. Higher mortgage and loan rates would lead to lower income available for spending at the time when homeowners needed it most. The likelihood of this scenario would be greater the higher the risk of country-specific shocks and economic structures, as discussed in the assessment of the convergence test.

5.135 Over time, EMU entry could promote increased competition in UK business markets through increased trade and investment between the UK and the existing euro area countries. The analysis in this assessment suggests that if the UK were to enter EMU on the right basis, then these effects could be large. In such circumstances, firms in the UK would face greater competition from elsewhere in the euro area. This could lead firms to reduce prices to match those of more efficient competitors. For example, the analysis in the EMU study The United States as a monetary union shows that in general the prices of consumer goods and services are lower in the US than in other large economies. One likely reason for this is the greater level of competition in the large and integrated US market.

5.136 Lower prices would lead to a lower cost of living, a key potential benefit of EMU entry for households, but one that would only accrue if entry were on the basis of sustainable and durable convergence. Poorer households tend to spend a greater proportion of their income on goods and services, so lower prices could benefit such households relatively more than wealthier ones.
5.137 In EMU, the single interest rate and exchange rate are no longer available as tools to help policymakers stabilise the UK economy in the face of economic disturbances and change. The analysis in this assessment shows that at the present time, because the achievement of sustainable and durable convergence between the UK and the economies of the euro area has not been demonstrated, this would result in higher economic volatility. In particular, output and inflation volatility would be higher in EMU. One consequence of this would be that employment and wage levels would be more volatile. Households could find that there would be longer periods when wage earners were without jobs. This could particularly be the case in industries which are sensitive to economic conditions, such as those producing investment goods for which demand falls strongly if the economy enters a downturn.

5.138 If the UK were to enter EMU on the right basis, then increased business competition would lead to important changes in the UK business environment. This could affect the types of jobs available in the economy and the level of wages. Increased competition over a larger market would lead to increased opportunities for strong firms, but weaker firms might struggle to survive. Employees might be required to move jobs and learn new skills to adapt to the changing economic environment. Over the long term, the productivity of UK firms could increase in EMU, which might result in higher wages. But for this important potential benefit to be realised, the UK would have to enter EMU on the basis of sustainable and durable convergence.

5.139 Many private pension payments are set at a fixed value – they are not adjusted automatically for inflation. This means that if prices rise quickly then the value of goods and services which can be purchased with a fixed pension would be eroded. The analysis in this assessment shows that UK inflation is likely to be more volatile in EMU. At times, price increases would be higher than expected, reducing the standard of living for pensioners. There would also be times when price increases would be lower than expected, which would benefit pensioners. But overall the environment would be one of greater uncertainty.

Conclusion: what would be the distributional impact of EMU on UK business sectors, nations and regions, and households?

5.140 EMU would have a differential impact on business sectors in the short term. Open and exchange rate sensitive industries, including many manufacturing industries, would feel the impact of EMU most directly, although all firms would be affected by improved access to capital which could facilitate expansion and restructuring. Increased competition would be particularly beneficial in many service sectors which have, to date, been less exposed to the effects of the Single Market than the goods sector. By removing a currency barrier to trade and potentially improving access to funding, EMU could be especially helpful to SMEs (though less so to micro-enterprises). At the opposite end of the size spectrum, EMU could also facilitate the development of multinational enterprises.

5.141 Regions with more firms in sectors affected by exchange rate volatility could see larger initial effects of EMU entry and regions with more cyclically-sensitive industries would be more vulnerable to increased instability arising from a lack of sustainable and durable convergence. But short-run differences would be expected to even out in the long term.
EMU could have long-term benefits for households, including potentially lower prices and higher wages. But this assessment finds that the achievement of sustainable and durable convergence between the UK and the euro area has not been demonstrated. Essentially this means that, at the present time, the UK economy would be more volatile in EMU. The impact of this on households would vary depending on their specific circumstances. Homeowners could be particularly affected by interest rates set at a level unsuitable for UK conditions. Workers in industries that are particularly vulnerable to economic conditions could face longer periods of unemployment. Pensioners would face greater uncertainty over the real value of their pensions.

**GROWTH AND EMPLOYMENT IN EUROPE**

**Growth and employment performance in Europe are central to the UK national economic interest. The EU is, and will remain, the UK’s main trading partner. As a result, strong growth in Europe will bolster the performance of the UK economy. The Government is committed to the success of EMU, whether or not the UK joins.**

As in the UK, the prospects for growth and employment in other European countries are heavily dependent on maintaining macroeconomic stability and promoting a dynamic and flexible economic environment in which competition, entrepreneurship, investment, skills and innovation enable the EU economies to raise productivity, employment and living standards.

The euro area macroeconomic policy framework assessed above provides for euro area price stability and sound public finances. Macroeconomic stability is a prerequisite for successful economic reform. The Government believes that in both the UK and the EU this can best be achieved through a framework that promotes constrained discretion – constraining policy to achieve long-term goals while providing short-term flexibility to respond optimally to unexpected events. The Government supports recent moves in this direction in the EU.

But macroeconomic stability is not enough. The employment and productivity performance of an economy largely reflect policies which encourage its citizens to work, save, invest and innovate. These are the policies that will provide European countries with the flexibility and the dynamism that will ultimately determine whether the euro area can fulfil its potential and match the economic performance of more dynamic counterparts such as the US. This point is stressed by Professor George Tavlas in his contribution to the EMU study Submissions on EMU from leading academics. He argues that, so far: "The governments of the member states of EMU...have not completed the necessary structural reforms in labour, product, and financial markets...to allow monetary union to reach its growth potential."

For much of the past 50 years, the European economies have successfully maintained strong economic growth and high employment. But more recently they have not matched either the employment or productivity performance of the US.

Recognising this, EU leaders agreed an economic reform programme at the Lisbon European Council in 2000, committing themselves to the aim of making the EU: “the most competitive and dynamic knowledge-based economy in the world, capable of sustaining economic growth with more and better jobs and greater social cohesion.” To achieve this aim, they agreed a common agenda for strengthening the Single Market and improving the efficiency of labour, capital and product markets. Successful implementation of the Lisbon strategy will also provide European economies with the flexibility needed to ensure economic success within EMU.
Box 5.9: Progress in key areas of the Lisbon agenda

In February 2003, the Government published Meeting the Challenge: Economic Reform in Europe, a report on progress made in key areas of the Lisbon agenda since it published the White Paper Realising Europe’s Potential in February 2002. The report notes that there has been clear progress in recent years in some areas. For example:

- **employment.** The EU has created 5 million jobs since the beginning of 2000, taking the 2001 employment rate to 64.1 per cent;

- **EU regulatory environment.** Recent measures, including the Commission’s Action Plan of June 2002, represent a major potential improvement in the way that the EU develops legislation;

- **cars block exemption.** New rules will, from October 2003, allow dealers of new cars to market their services freely throughout the EU;

- **research and innovation.** The 6th Community Research Framework Programme was adopted in June 2002. There is still a long way to go, but this should support a substantial increase in research activity;

- **communication.** Adoption of legislation forming the new regulatory framework for electronic communications and a new e-Europe 2005 Action Plan;

- **energy liberalisation.** Member States have agreed to open fully electricity and gas markets to competition by 2007.

However, the effects of many of these policy moves have yet to come through and many markets still lack the flexibility to enable the full realisation of the potential gains from EMU. Employment and productivity continue to lag behind US levels in aggregate. Recognising the need for further work in its February 2003 report, the Government outlined ten key areas in which economic reform could provide significant and early benefits within the Lisbon agenda of increasing productivity and employment:

- modern social policies that promote skills, employment and labour market flexibility, in particular among older workers;

- promotion of entrepreneurship to create jobs across all ages and groups;

- better implementation and enforcement of better regulation;

- progress on, and implementation and enforcement of, the Financial Services Action Plan (FSAP) to deliver better access to low cost capital and greater choice;

- improved corporate governance;

- boosting the knowledge-based economy via an R&D framework which better promotes innovation, especially in clean technologies;

- stronger and more effective competition policy;

- a modernised state aid regime;

- a single market for services; and

- an effective regional policy which supports economic reform and addresses market failure.
The Government believes strongly that comprehensive reform of Europe’s labour, product and capital markets is vitally important to deliver the dynamic Europe of full employment and social justice to which Europe is committed. In February 2002, the Government published a White Paper to support the Lisbon economic reform programme, Realising Europe’s Potential: Economic Reform in Europe, followed by a progress report in February 2003, Meeting the Challenge: Economic Reform in Europe, summarised in Box 5.9. It also considered the EU’s employment record in depth in Towards Full Employment in the European Union, July 2002.

Flexibility is central to ensuring that the European economy is able to attain the objectives that were agreed at Lisbon. Flexibility is important not only to enable regional and national economies to adjust to shocks, but also to allow them to realise their full productive potential. As discussed above, a lack of flexibility makes it harder to maintain full employment, particularly after a severe economic downturn. It contributes to high structural unemployment rates and weak consumer and investor confidence, leading to low growth of demand and output.

Implementation of the Lisbon agenda would go a long way to addressing these weaknesses. As the Prime Minister wrote in his foreword to the report Meeting the Challenge: Economic Reform in Europe:

“There remains a daunting amount to be done. But we Europeans need to do it if we are to compete in a globalised economy.”

If flexibility in the euro area takes time to increase, it is even more important that the UK economy should have a high level of flexibility to make a success of EMU membership.

Looking ahead, two other important developments will affect the strength and dynamism of the European economies in the years to come:

- **enlargement of the EU.** In 2004, ten new Member States are expected to join the EU, bringing in another 75 million citizens to create the world’s largest single market. Productivity and employment in the new Member States are relatively low, implying potential for high growth as they integrate with and adopt the technologies used in the existing Member States; and

- **the rules governing economic policies** in the EU. Proposals currently being discussed at the European Convention will be important in shaping these and it is vital that these proposals promote flexibility and dynamism (see Box 5.10).
Some argue that a successful single currency requires greater harmonisation of tax and social policies across Europe. The UK Government disagrees, believing that this would not promote dynamism and flexibility. Its approach to tax policy within the EU can be summarised as competition where possible, coordination where necessary. This approach rests on three foundations:

- taxation is a matter for Member States, in keeping with the principle of subsidiarity. Tax is at the heart of economic policy, a key aspect of national sovereignty and a matter for national governments and parliaments;
- tax reform should promote wider economic reform and not create additional barriers to trade; and

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Box 5.10: The European Convention

The European Convention, headed by Valéry Giscard d’Estaing, is currently discussing a draft constitutional treaty for the EU. The constitutional treaty it proposes will need the unanimous agreement of all Member States in order to be introduced – like other Member States, the UK would have a veto at the Intergovernmental Conference that would ultimately decide.

The Convention is discussing the EU’s competences, the powers of its institutions and its legislative procedures. It is not primarily concerned with the policies of the EU, including its economic policies. Nonetheless, some members of the Convention have proposed changes to the EU’s system of economic governance including to:

- the SGP and other aspects of the EU fiscal framework including surveillance;
- the institutional balance between the European Commission, the European Parliament and Member States in economic policy coordination, including for the BEPGs;
- the role of Eurogroup, the informal grouping of euro area finance ministers;
- the scope of the EU budget; and
- taxation and social policy.

The Government is playing a full and active role in the Convention. The Government will support proposals that contribute to the dynamic and socially cohesive economy envisaged at Lisbon. The Government opposes proposals that would produce unwarranted constraints on the flexibility of labour, product and capital markets, and thereby undermine the success of EMU.

The Government’s position is consistent with the ‘open method of coordination’ endorsed at Lisbon, which combines EU level agreement on guidelines and objectives with national determination of the policies most appropriate to realise them. The open method of coordination allows individual countries to address national concerns effectively and enables countries to learn from each other through periodic monitoring, evaluation and peer review of each country’s performance.

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5.154 Some argue that a successful single currency requires greater harmonisation of tax and social policies across Europe. The UK Government disagrees, believing that this would not promote dynamism and flexibility. Its approach to tax policy within the EU can be summarised as competition where possible, coordination where necessary. This approach rests on three foundations:
• the economic priority for Europe is reform to promote growth, prosperity, jobs and social inclusion. Any proposals on tax must be, and must be seen to be, consistent with this agenda.

5.155 The Government therefore opposes unnecessary tax harmonisation which would constrain Member States’ economic success. It does not accept that tax harmonisation is an inevitable consequence of EMU. EMU does not require, either in principle or in practice, the harmonisation of direct taxation. Indeed, countries inside a monetary union might need fewer rather than more constraints on variations in their individual tax rates and bases in order to aid adjustment to country-specific shocks.

5.156 The Government’s approach is supported by the experience of the US, described in the EMU study *The United States as a monetary union*. US states have a wide variation of taxation rates (see Chart 5.9), reflecting different preferences and economic conditions. The US has functioned very effectively as a monetary union while maintaining a high dispersion of tax rates and tax takes. There is no reason to believe that a single currency requires tax harmonisation. ‘Harmful’ tax competition is best tackled by improving the flow of information between tax authorities, not by harmonising tax rates.

### Chart 5.9: State tax revenues in the US, 2001

<table>
<thead>
<tr>
<th>State Abbreviation</th>
<th>Per cent of personal income</th>
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<tbody>
<tr>
<td>Alabama</td>
<td>8.2</td>
</tr>
<tr>
<td>Alaska</td>
<td>7.0</td>
</tr>
<tr>
<td>Arizona</td>
<td>7.6</td>
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Source: Federation of Tax Administrators.

5.157 The EC Treaty makes EU initiatives on tax a matter for unanimous agreement of all Member States. While some contributors to the European Convention debate have argued that tax legislation should be possible when supported by a qualified majority of Member States, the UK Government, like a number of other Member States, does not share this view, believing that this could harm legitimacy and national autonomy. Any changes to the Treaty provisions would require unanimous agreement of Member States, meaning that the UK is able to veto any unwarranted moves towards greater tax harmonisation.
5.158 The Government is committed to maintaining national control over tax policy and rejects the claim that increased tax harmonisation is a necessary consequence of participation in the single currency. In an increasingly global economy, fair tax competition, coupled with effective action to combat harmful tax competition, is key to promoting the competitiveness of the EU, while allowing governments to respond to national preferences.

Social policy 5.159 The Government adopts a similar approach to social policies. It is committed to ensuring decent minimum standards for employees while providing a safety net of support for those who are unable to work. However, the Government rejects the view that harmonisation of social policies is necessary. The combination of different national circumstances, and different strengths and weaknesses, means that there is no single blueprint or EU ‘social model’ for delivering shared EU objectives. Member States must identify and address their policy priorities in the light of their own circumstances and preferences. Harmonisation tends, in this context, to be an overly blunt tool and a more tailored response will often be more appropriate. This position is independent of the question of UK membership of the single currency.

Treaty position 5.160 Under Article 137 of the EU Treaty, the EU can adopt minimum standards in various social policy areas. These minimum standards then become binding across the Union, for EMU and non-EMU members. In some fields, decision-making is by qualified majority voting, in others by unanimity. UK membership of EMU would not have any impact on the situation in this respect.

Conclusion: what do prospective developments in Europe imply for growth, stability and employment?

5.161 The Government places great importance on developing the economic reform programme to encourage flexibility and dynamism across the EU. This entails providing maximum scope for countries and regions to develop their own approaches to economic policy, provided that these do not obstruct the functioning of the Single Market. Free and fair competition encourages trade, stimulates productivity and enables the countries of the EU to progress more rapidly together than they could apart.

Stability in Europe – policy frameworks 5.162 Many of the issues being considered in the European Convention could have far-reaching consequences for the future performance of EU economies, whether they are part of the euro area or not. The Government will continue to work with other European countries to ensure outcomes that will bolster stability and enhance the ability of European economies to raise productivity and employment levels. It will oppose proposals that would lead to unnecessary rigidities.
CONCLUSIONS: THE GROWTH, STABILITY AND EMPLOYMENT TEST

5.163 EMU membership could enhance productivity in the medium term by increasing trade and investment and by stimulating competition. It could also help to promote economic reform in the EU and encourage specialisation in the longer term. Therefore, EMU could potentially have an effect on all five of the key drivers of productivity. Based on broad-based evidence on the impact of trade, it seems reasonable to assume that each 1 percentage point increase in the ratio of trade to GDP increases real GDP per head by at least 1/3 per cent in the long run and perhaps by as much as 2/3 per cent. In a best case scenario, with stability assured through the achievement of sustainable and durable convergence, a long-term increase in trade with the euro area at the top of the 5 to 50 per cent range and increased investment spurring competition, UK output could be around 9 per cent higher over 30 years within a successful EMU than outside. This could add around 1/4 percentage point a year to GDP growth.

5.164 This is conditional on the achievement of sustainable and durable convergence between the UK and the euro area. In the circumstances where it is not assured, the trade benefits from EMU would be likely to be at the lower end of the range. This means that the potential gains to trade and competition from EMU membership could be negligible even over the long term. However, initial estimates suggest that although there is a lack of flexibility and convergence in some euro area countries, EMU has increased trade within the euro area by between 3 and 20 per cent since 1999. In practice, additional volatility and uncertainty resulting from EMU membership in the absence of sustainable and durable convergence could have a negative impact on the actual level of UK output in the long term.

5.165 The potential effects of EMU would be greater on productivity than on employment, but both could be affected by any increase in volatility. Without sustainable and durable convergence between the UK and the euro area, EMU membership could increase the cyclical volatility of employment in the UK. It is harder for the labour market to adjust to large increases in unemployment than small ones, so the risk of less stability in output and employment would entail an increased risk of higher structural unemployment in the UK. These risks would be reduced if sustainable and durable convergence were assured, in which case the UK would be able to reap the potential employment benefits of EMU membership.

5.166 Whatever the degree of sustainable and durable convergence, any risks to the UK of EMU entry could be compounded by the ECB’s inflation objective and by a rigid and overly mechanistic interpretation of the SGP. The Government will continue to work with other European countries in the development of the macroeconomic policy framework to minimise these risks to the UK and to existing EMU members.

5.167 EMU would have a differential impact on business sectors in the short term. Open and exchange rate sensitive industries, including many manufacturing industries, would feel the impact of EMU most directly, although all firms would be affected by improved access to capital which could facilitate expansion and restructuring. Increased competition would be particularly beneficial in many service sectors which have, to date, been less exposed to the effects of the Single Market than the goods sector. By removing a currency barrier to trade and potentially improving access to funding, EMU could be especially helpful to SMEs (though less so to micro-enterprises). At the opposite end of the size spectrum, EMU could also facilitate the development of multinational enterprises.
5.168 Regions with more firms in sectors affected by exchange rate volatility could see larger initial effects of EMU entry and regions with more cyclically-sensitive industries would be more vulnerable to increased instability arising from a lack of sustainable and durable convergence. But short-run differences would be expected to even out in the long term.

5.169 EMU could have long-term benefits for households, including potentially lower prices and higher wages. But this assessment finds that the achievement of sustainable and durable convergence between the UK and the euro area has not been demonstrated. Essentially this means that, at the present time, the UK economy would be more volatile in EMU. The impact of this on households would vary depending on their specific circumstances. Homeowners could be particularly affected by interest rates set at a level unsuitable for UK conditions. Workers in industries that are particularly vulnerable to economic conditions could face longer periods of unemployment. Pensioners would face greater uncertainty over the real value of their pensions.

5.170 The Government places great importance on developing the economic reform programme to encourage flexibility and dynamism across the EU. This entails providing maximum scope for countries and regions to develop their own approaches to economic policy, provided that these do not obstruct the functioning of the Single Market. Free and fair competition encourages trade, stimulates productivity and enables the countries of the EU to progress more rapidly together than they could apart.

5.171 EMU membership could significantly raise UK output and lead to a lasting increase in jobs in the long term. As noted above, the assessment shows that intra-euro area trade has increased strongly in recent years as a result of EMU, perhaps by as much as 3 to 20 per cent; that the UK could enjoy a significant boost to trade with the euro area of up to 50 per cent over 30 years; and that UK national income could rise over a 30-year period by between 5 and 9 per cent. A 9 per cent increase in national income would translate into a boost to potential output of around ¼ percentage point a year, sustained over a 30-year period. Despite the progress made since 1997, the lack of sustainable and durable convergence means that, for the UK, macroeconomic stability would be harder to maintain inside EMU than outside, were the UK to make a decision to join at the present time. The potential uncertainty created by the price stability objective of the ECB and the potential constraints on the use of fiscal policy for stabilisation under the current interpretation of the SGP increase the chances that output and employment would be less stable inside EMU. The Government supports the direction in which the EU macroeconomic framework is evolving. Enhancing the flexibility and dynamism of the European economy, building on the achievements of the economic reform programme agreed at Lisbon, will also be important if the full benefits of EMU are to be realised. Entering EMU on the basis of sustainable and durable convergence is essential so that the UK can benefit from the substantial increases in cross-border trade, investment, competition and productivity that EMU could provide. Lower prices would lead to a lower cost of living, a key potential benefit of EMU entry for households, but one that would only accrue if entry were on the basis of sustainable and durable convergence. Poorer households tend to spend a greater proportion of their income on goods and services, so lower prices could benefit such households relatively more than wealthier ones. Overall, we can be confident that the growth, stability and employment test would be met once sustainable and durable convergence has been achieved.

5.172 In terms of macroeconomic policy, the Government’s announcement of its intention in the next Pre-Budget Report to give the Bank of England a symmetric inflation target as measured by the Harmonised Index of Consumer Prices will improve the quality of the UK inflation target and will also help ensure inflation expectations in the UK remain in line with those of the euro area.
5.173 The conclusions to the assessment of the flexibility test set out the Government’s wide-ranging agenda for enhancing flexibility in the UK and EU to deliver high and stable levels of UK employment.

5.174 The Government will continue to pursue its wide-ranging strategy to tackle the barriers to productivity growth and close the productivity gap. This involves continued microeconomic reform in the UK to target the five key drivers of productivity, combined with support at the European level for policies to strengthen competition and the Single Market.

5.175 In its May 2003 review of monetary policy strategy, the ECB restated that: “Price stability is defined as a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area of below 2%. Price stability is to be maintained over the medium term”. The ECB review went on to state that: “At the same time, the Governing Council agreed that in the pursuit of price stability it will aim to maintain inflation rates close to 2% over the medium term”. At the present time, the potential for uncertainty that the ECB’s inflation objective creates could produce deflationary risks in certain countries, although the fact that, to date, euro area inflation has averaged 2 per cent suggests that in practice this risk has not materialised.

5.176 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.

5.177 Many of the issues being considered in the European Convention could have far-reaching consequences for the future performance of EU economies, whether they are part of the euro area or not. The Government will continue to work with other European countries to ensure outcomes that will bolster stability and enhance the ability of European economies to raise productivity and employment levels. It will oppose proposals that would lead to unnecessary rigidities.

5.178 Although ECOFIN remains the decision-making body for the EU in economic and financial policy, in EMU the UK would be a member of and attend all – and not some – meetings of the Eurogroup, thereby participating fully in euro area decision making.
Conclusions to the Assessment of the Five Economic Tests

Assessment of the Five Economic Tests

6.1 The previous five chapters provide a detailed analysis of each of the Government’s five economic tests for EMU entry.

6.2 When in 1997 the Government committed the UK to the principle of joining the single currency, the Chancellor stated that the advantages are lower transaction costs, less exchange rate volatility, more incentives for cross-border trade and investment, and potentially lower long-term interest rates. Part of the assessment is the finding that, with the euro, trade within the euro area has increased and that, inside the euro, UK trade with the euro area and UK national income could, over the long term, increase substantially.

6.3 The assessment shows that intra-euro area trade has increased strongly in recent years as a result of EMU, perhaps by as much as 3 to 20 per cent; that the UK could enjoy a significant boost to trade with the euro area of up to 50 per cent over 30 years; and that UK national income could rise over a 30-year period by between 5 and 9 per cent. A 9 per cent increase in national income would translate into a boost to potential output of around $\frac{1}{4}$ percentage point a year, sustained over a 30-year period.

6.4 The assessment addresses the necessity for sustainable and durable convergence as a precondition for successful membership of EMU at the present time and the risks and costs from delaying the benefits of joining. The assessment of the convergence and flexibility tests together determines whether sustainable and durable convergence has been achieved. This is the basis for assessing whether UK economic stability – one of the central objectives of Government policy, providing the platform for delivering high levels of growth and employment – could be maintained if the UK were to join EMU.

6.5 This chapter draws together the conclusions on each of the tests to present the Treasury’s overall assessment of the five economic tests.

Convergence

*Are business cycles and economic structures compatible so that we and others could live comfortably with euro interest rates on a permanent basis?*

There has been significant progress on convergence since 1997, which marks a break with the UK’s past history of divergence and reflects greater stability of the UK economy and global trends towards integration. Indeed, the UK now exhibits a greater degree of cyclical convergence than some EMU members demonstrated in the run-up to the start of EMU in 1999 and remains more convergent than a number of EMU countries today. The UK meets the EC Treaty convergence criteria for inflation, long-term interest rates and government deficits and debt. But there remain structural differences with the euro area, some of which are significant, such as in the housing market. Because of the risks these factors pose, and the fact that any dynamic changes would take time to come through, we cannot yet be confident that UK business cycles are sufficiently compatible with those of the euro area to allow the UK to live comfortably with euro area interest rates on a permanent basis. Overall, at the present time, while the extent of convergence with the euro area has significantly increased, the convergence test is not met. The Government is committed to building on the platform of stability and has announced a wide-ranging forward-looking policy agenda to deliver high levels of output and employment. This will help to make the economy more convergent with the euro area for the future.
**Conclusions to the Assessment of the Five Economic Tests**

**Flexibility**

*If problems emerge is there sufficient flexibility to deal with them?

UK labour market flexibility has improved markedly since 1997. Significant falls in unemployment have accompanied strong employment growth giving the UK one of the lowest levels of unemployment in the OECD, lower even than in the US. While considerable progress has been made to reform labour, product and capital markets in the UK and the euro area, more can be done to ensure the UK economy is resilient to deal with the risks identified in the convergence test and the challenges of EMU membership. Inflation volatility is very likely to increase inside EMU. Greater flexibility in the UK and throughout the euro area would minimise output and employment instability, helping to ensure convergence was durable and that the potential benefits of EMU could be fully realised. This underlines the importance of maintaining progress on a range of economic reform policies to enhance flexibility and resilience to shocks, particularly in labour markets. The less progress on flexibility that is achieved in the EU, the greater the premium on a high level of flexibility in the UK economy. Overall, at the present time, we cannot be confident that UK flexibility, while improved, is sufficient. Reflecting this, at the present time, the achievement of sustainable and durable convergence has not been demonstrated. But increased flexibility through the measures we set out will help to provide greater reassurance that the economy can meet the additional demands that EMU membership would pose and contribute to achieving sustainable and durable convergence.

**Investment**

*Would joining EMU create better conditions for firms making long-term decisions to invest in Britain?

UK productivity has been held back by a legacy of long-term under-investment. EMU entry could reduce the cost of capital for UK firms if long-term interest rates fell further inside the euro area and if membership of a larger financial market reduced the cost of finance. These costs could fall for small and medium-sized enterprises (SMEs) in particular if joining EMU lowers the barriers which prevent SMEs accessing euro area financial markets and lowers the cost of bank lending. Over time, EMU is likely to boost cross-border investment flows and foreign direct investment (FDI) in the euro area. There has been a fall in the UK's share of total EU FDI flows coinciding with the start of EMU, and a corresponding increase in the share of the euro area. But against the backdrop of many other influences on FDI flows, it is difficult to say with confidence that EMU has boosted FDI within the euro area. There can, however, be confidence that a successfully operating EMU, and UK membership of it on the right basis, would boost FDI over the longer term. There is a risk that the longer membership of the euro is delayed, the longer the potential gains in terms of increased inward investment are postponed. If sustainable and durable convergence is achieved, then we can be confident that the quantity and quality of investment would increase ensuring that the investment test was met.
Financial services

What impact would entry into EMU have on the competitive position of the UK’s financial services industry, particularly the City’s wholesale markets?

Over the four years since the start of EMU, the UK has attracted a significant level of wholesale financial services business. The strength of the City in international wholesale financial services activity should mean that it continues to do so, whether inside or outside EMU. EMU entry should enhance the already strong competitive position of the UK’s wholesale financial services sector by offering some additional benefits. Again, while the UK’s retail financial services sector should remain competitive either inside or outside the euro area, entry would offer greater potential to compete and capture the effects of greater EU integration that would arise from the single currency and other efforts to complete the Single Market, in particular the Financial Services Action Plan (FSAP) – benefits which are postponed while the UK is not in EMU. Overall, the financial services test is met.

Growth, stability and employment

In summary, will joining EMU promote higher growth, stability and a lasting increase in jobs?

EMU membership could significantly raise UK output and lead to a lasting increase in jobs in the long term. As noted above, the assessment shows that intra-euro area trade has increased strongly in recent years as a result of EMU, perhaps by as much as 3 to 20 per cent; that the UK could enjoy a significant boost to trade with the euro area of up to 50 per cent over 30 years; and that UK national income could rise over a 30-year period by between 5 and 9 per cent. A 9 per cent increase in national income would translate into a boost to potential output of around 1/4 percentage point a year, sustained over a 30-year period. Despite the progress made since 1997, the lack of sustainable and durable convergence means that, for the UK, macroeconomic stability would be harder to maintain inside EMU than outside, were the UK to make a decision to join at the present time. The potential uncertainty created by the price stability objective of the European Central Bank (ECB) and the potential constraints on the use of fiscal policy for stabilisation under the current interpretation of the Stability and Growth Pact (SGP) increase the chances that output and employment would be less stable inside EMU. The Government supports the direction in which the EU macroeconomic framework is evolving. Enhancing the flexibility and dynamism of the European economy, building on the achievements of the economic reform programme agreed at Lisbon, will also be important if the full benefits of EMU are to be realised. Entering EMU on the basis of sustainable and durable convergence is essential so that the UK can benefit from the substantial increases in cross-border trade, investment, competition and productivity that EMU could provide. Lower prices would lead to a lower cost of living, a key potential benefit of EMU entry for households, but one that would only accrue if entry were on the basis of sustainable and durable convergence. Poorer households tend to spend a greater proportion of their income on goods and services, so lower prices could benefit such households relatively more than wealthier ones. Overall, we can be confident that the growth, stability and employment test would be met once sustainable and durable convergence has been achieved.
6.6 Overall the Treasury assessment is that since 1997 the UK has made real progress towards meeting the five economic tests. But, on balance, though the potential benefits of increased investment, trade, a boost to financial services, growth and jobs are clear, we cannot at this point in time conclude that there is sustainable and durable convergence or sufficient flexibility to cope with any potential difficulties within the euro area. So, despite the risks and costs from delaying the benefits of joining, a clear and unambiguous case for UK membership of EMU has not at the present time been made and a decision to join now would not be in the national economic interest.
ANNEX A: THE USE OF ECONOMIC MODELS IN THE ASSESSMENT

A1 The analysis in the assessment makes use of models of the economy which aim to capture the main interactions between economic variables and provide estimates of how the economy responds both to changes in policy instruments, such as interest rates or taxes, and to factors such as changes in consumer and business confidence, production technology or oil prices. Models range widely in terms of the scope of the variables that they cover and the way in which they are calibrated. Different types of model may be better suited to different purposes. All models are necessarily a simplified representation of the economy, and hence should be viewed as illustrative of the way that the economy might respond in different scenarios.

A2 Parts of the Treasury’s analysis use the National Institute of Economic and Social Research’s NiGEM model. This is a detailed multi-country model covering all OECD countries, with the rest of the world in blocks. The model is empirically estimated and so suitable for the range of modelling uses made of it in the assessment and some of the EMU studies. The model incorporates the links between economies through trade, competitiveness and financial markets, with extensive treatment of the factors that determine supply and demand in labour, capital and product markets, and in the monetary and financial sectors. The model is calibrated on past data, using econometric methods, although the precise detail of the model evolves from version to version as some relationships are respecified or re-estimated. The complexity of the NiGEM model is both an advantage and a disadvantage. It captures a wide range of interactions and feedbacks between economic variables, but it is not always straightforward to identify the extent to which particular relationships in the model affect the results. The EMU studies also review results from other large-scale estimated models, including those of HM Treasury, the Bank of England, the European Commission, the IMF and Oxford Economic Forecasting.

A3 As well as using NiGEM where appropriate, the two EMU studies by Dr Peter Westaway, Modelling shocks and adjustment mechanisms in EMU and Modelling the transition to EMU employ a smaller and simpler model of the world economy, which focuses on a limited number of variables in three blocks, representing the UK, the euro area and the rest of the world. The model is calibrated by selecting appropriate parameter variables reflecting the characteristics of each economy and estimated responses from other studies. The advantage of this approach is that the simple form of the model makes it easier to track the interactions between variables, while it is also straightforward to conduct controlled experiments by varying model parameters.

A4 The model used by Professor Simon Wren-Lewis in his EMU study Estimates of equilibrium exchange rates for sterling against the euro has similar characteristics. This model is specifically designed to analyse equilibrium relationships and as a result does not attempt to model adjustment processes in detail.

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1 For example, a change to the specification of trend productivity in the January 2003 version of NiGEM led to changes in the simulated price responses. To preserve consistency with analysis carried out in earlier phases of the preliminary and technical work, the original specification was used for the analysis described in the EMU study Modelling the transition to EMU.
Treasury estimates of the relationship between trade growth and GDP are derived from empirical analysis undertaken by Frankel, Romer and Rose (see the EMU study *EMU and trade*). The EMU studies, including the study by Professor Michael Artis, include comprehensive reviews of economic research that draw on a wide range of empirical analysis and models. Where necessary in the studies, this has been supplemented by new empirical work, including panel regressions to assess the extent to which EMU may have boosted trade between euro area countries, development of a structural vector auto-regression (SVAR) model of the UK economy, and regression analysis of the determinants of house prices in the UK and in large euro area economies, and of the determinants of inflation in the euro area since 1999.
This assessment is the work of HM Treasury. The Treasury is grateful for assistance with the preliminary and technical work provided in a personal capacity by the following external economists in various ways:

- author of EMU study;
- reviewer of EMU study;
- contributor to the EMU study *Submissions on EMU from leading academics*;
- invited seminar presenter or discussant; and
- consultant to HM Treasury.

All content and conclusions in the assessment are the responsibility of HM Treasury alone.

Christopher Allsopp, reviewer of EMU study
Professor Michael Artis, EMU study author, reviewer of EMU study, seminar discussant and consultant to HM Treasury
Dr Martin Baily, reviewer of EMU study and seminar discussant
Professor Ray Barrell, contributor to EMU study and seminar presenter
Dr Jonathan Beaverstock, seminar presenter
Professor David Begg, seminar presenter
Professor Iain Begg, contributor to EMU study
Erik Britton, seminar presenter
Professor Willem H. Buiter, contributor to EMU study
Professor Lars Calmfors, contributor to EMU study
Professor Wendy Carlin, contributor to EMU study and seminar presenter
Professor K. Alec Chrystal, seminar presenter
Dr David Cobham, seminar presenter
Professor E. Philip Davis, reviewer of EMU study and seminar presenter
Professor Paul De Grauwe, contributor to EMU study
Professor Jean Dermine, contributor to EMU study
Dr Karen Dury, assistance on EMU study
Professor Barry Eichengreen, contributor to EMU study
Professor Antonio Fatás, contributor to EMU study
Professor Carlo A. Favero, contributor to EMU study
Professor Jeffrey Frankel, contributor to EMU study
Professor Francesco Giavazzi, contributor to EMU study
Dr Andrew Glyn, contributor to EMU study and seminar presenter
Professor Charles Goodhart, reviewer of EMU study and seminar discussant
Dr Clemens Grafe, contributor to EMU study
Dr Daniel Gros, contributor to EMU study
Professor Andrew Hughes Hallett, contributor to EMU study and seminar presenter
Professor Peter B. Kenen, contributor to EMU study
David Marsh, seminar presenter
Professor Paul Masson, contributor to EMU study
Professor Geoffrey Meen, contributor to EMU study
Professor Jacques Mélitz, contributor to EMU study
Dr Laurence Meyer, reviewer of EMU study and seminar discussant
Professor Patrick Minford, contributor to EMU study and seminar presenter
Professor John Muellbauer, contributor to EMU study, reviewer of EMU study and seminar presenter
Professor Robert Mundell, contributor to EMU study
Dr Kathryn Pain, seminar presenter
Nigel Pain, seminar presenter
Dr Laura Piscitelli, advice on EMU study
Professor Christopher Pissarides, reviewer of EMU study and seminar discussant
Dr Stephen Redding, reviewer of EMU study
Professor Lucrezia Reichlin, seminar presenter
Professor Andrew K. Rose, contributor to EMU study
Professor Bob Rowthorn, seminar presenter
Professor David Soskice, seminar presenter
Dr David Stasavage, seminar presenter
Professor George S. Tavlas, contributor to EMU study
Professor Peter Taylor, seminar presenter
Edwin Truman, reviewer of EMU study and seminar discussant
Professor Tony Venables, advice on EMU study in capacity as consultant to HM Treasury
Professor David Vines, reviewer of EMU study
Dr Peter Westaway, EMU study author on secondment to HM Treasury
Professor Holger Wolf, contributor to and reviewer of EMU study
Professor Simon Wren-Lewis, EMU study author and seminar presenter
Professor Charles Wyplosz, contributor to EMU study
The ways in which an economy responds to changing economic circumstances. **Adjustment mechanisms**

**Asymmetric shock**
See country-specific shock.

**Automatic stabilisers**
Those elements of the tax and spending regime that automatically tend to stabilise the economy. For example, during an upturn, unemployment benefit payments will tend to fall and tax receipts to rise, dampening the economic cycle.

**Basis points**
Used to measure differences in rates that are expressed in percentage terms, such as official interest rates. 100 basis points make up 1 percentage point.

**Broad Economic Policy Guidelines (BEPGs)**
A document agreed by the European Council and formally adopted by ECOFIN which contains non-binding recommendations to Member States on both fiscal and structural policies. The BEPGs, provided for under the EC Treaty, are the key instrument for economic policy coordination in the EU.

**Business cycle**
The fluctuation in the level of national income around its trend. The business cycle is a well-observed economic phenomenon, though it has a variable time span.

**The City**
A descriptive rather than geographical term, which includes all financial market activity in Greater London and not just that in the City of London or Square Mile. Used interchangeably with ‘London’.

**Coefficient of variation**
A measure of the degree of variation in a set of data. The lower its value the closer are the individual data to the overall average of the set.

**Comparative advantage**
A country or region has a comparative advantage in the production of those goods and services in which its relative efficiency is greatest. Comparative advantage matters because a country or region can maximise its consumption of goods and services by concentrating its resources in the production of goods and services in which it has a comparative advantage, and trading its surplus production with those countries or regions which specialise in the production of goods and services in which they have a comparative advantage.

**Consolidation**
The merger of two or more firms into a new company. The new company absorbs the firms’ assets and liabilities.

**Constrained discretion**
A principle which applies to the situation in which policymakers have some freedom (discretion) to vary policy instruments, such as taxes or interest rates, but within well-defined limits (constraints). A well-designed policy framework gives policymakers sufficient freedom to respond flexibly to shocks and sufficient constraints to ensure that they do not exercise their discretion in a way that could undermine the long-term stability of the economy.

**Correlation coefficient**
A measurement of the strength of a correlation between two variables. The more correlated variables are, the more they will change together systematically.

**Cost of capital**
The cost of the funds used to finance investment. Firms generally raise finance for investment through either internal finance (reinvesting profits) or external finance (issuing debt or equity). The cost of external finance for a firm is given by the weighted average of the firm’s costs of debt and equity.

**Country-specific shock**
An economic disturbance or ‘shock’ whose impact is significantly stronger in one country than in others.
**Credit risk** The risk that a borrower will default on debt repayments.

**Discretionary fiscal policy** Discrete changes in tax and public spending over and above what would result from the impact of the economic cycle through the operation of the automatic stabilisers. This can include fiscal measures taken to lower inflation, stabilise the business cycle or reduce unemployment.

**Disposable income** The total income of households after tax and benefit payments.

**ECOFIN** The Council of the European Union meeting in the composition of Economic and Finance Ministers. ECOFIN is the legislative body in the field of economic and financial affairs and also coordinates the economic policies of the Member States.

**Economies of scale** Where the average cost of producing a unit of a good falls as the number of units produced increases.

**EC Treaty** Treaty establishing the European Community (first agreed in Rome in 1957 as the ‘Treaty establishing the European Economic Community’, revised in Maastricht in 1992 as the ‘Treaty establishing the European Community’ and revised again in Amsterdam in 1997). It includes the Treaty articles on EMU.

**Effective exchange rate** The exchange rate of a country’s currency measured by reference to a weighted average of the exchange rates of the currencies of the country’s trading partners.

**Endogenous** Describes a variable whose value is determined by other variables within a system.

**Endogenous convergence** In the context of EMU, refers to convergence that occurs as a result of being part of the monetary union. For example, a monetary union may lead to a higher trade between countries than if they had retained separate currencies. Trade increases the extent to which economic conditions in one country or region affects its trading partners, and as a result will tend to increase the convergence of their business cycles.

**Equilibrium exchange rate** The exchange rate that would prevail when the economy has fully adjusted to disturbances in the demand for and supply of its goods and services.

**Equity market capitalisation** The total value of all shares listed on a stock exchange. Often expressed as a percentage of the GDP of the country in which the exchange is located.

**Euro area** Collective term for the 12 (11 prior to January 2001) participants of EMU: Austria, Belgium, Finland, France, Germany, Greece (as of January 2001), Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain.

**Eurobond** A bond denominated in a currency other than that of the country where it is issued, for example a dollar-denominated bond issued in London. Not to be confused with euro-denominated bonds.

**Eurogroup** An informal meeting of euro area Economic and Finance Ministers promoting information exchange between euro area countries.

**Euromarkets** The money market for borrowing and lending currencies that are held in the form of deposit, such as Eurobonds, located outside the country where the currency is issued as legal tender.

**European Central Bank (ECB)** The independent central bank established under the EC Treaty to set monetary policy for the euro area as a whole. The ECB's primary decision-making body is the Governing Council, which comprises the six-member Executive Board and the Governors of the National Central Banks of euro area countries.
### Glossary

**European Council**
The European Council brings together the Heads of State or Government of the Member States of the European Union and the President of the European Commission in the form of a ‘European Summit’.  

**Eurosystem**
The Eurosystem is the **ECB** together with the national central banks of the Member States which have adopted the euro.

**Excessive Deficit Procedure (EDP)**
Set out in Article 104 of the **EC Treaty** and clarified in Council Regulation 1467/97, an obligation on euro area Member States to avoid excessive budgetary deficits, defined by a reference value of 3 per cent of GDP unless the deficit is ‘exceptional and temporary’. Article 104 also sets out a procedure to be followed at Community level to identify and counter such excessive deficits, including the possibility of financial sanctions.

**Exchange rate risk**
The risk that movements in the exchange rate will affect the domestic currency value of a firm’s foreign currency revenues or assets.

**Financial intermediary**
An institution which holds money balances of, or which borrows from, individuals and other institutions in order to make loans or other investments. Hence, financial intermediaries channel funds from lenders to borrowers.

**Fiscal flexibility**
Describes the ability of **fiscal policy** to adjust in response to economic shocks, and the speed with which that adjustment takes place.

**Fiscal policy**
Government economic policy in which changes in taxation, benefit payments, and government expenditure and borrowing are used to influence the economy.

**Foreign direct investment (FDI)**
Where a firm based in one country invests in another country. Investment may take the form of establishing production facilities or acquiring a significant share of the ownership of a company operating in another country. Inward FDI describes foreign firms’ investment in the host country and outward FDI describes investment by home country companies in other countries.

**Functional flexibility**
Describes the ability of the workforce to perform different tasks and to acquire and apply different skills, enabling employees to perform a wide range of jobs and to adapt readily to technological change.

**Golden rule**
One of the UK Government’s two fiscal rules (the other being the **sustainable investment rule**). It states that over the economic cycle, the Government will borrow only to invest and not to fund current spending.

**Gross domestic product (GDP)**
A measure of the total flow of goods and services produced by an economy – known as ‘output’ – over a specified time period, normally a year.

**Gross value added (GVA)**
The total value of goods and services produced by the economy minus the value of goods and services used to produce the final products.

**Harmonised Index of Consumer Prices (HICP)**
A measure of price levels on a comparable basis across EU Member States and the EU and euro area as a whole. The annual increase in the HICP is a measure of the rate of inflation.

**Hedging**
Collective term for a range of techniques used to protect against risk, such as foreign exchange fluctuations. Usually involves buying one security and selling another. A perfect hedge produces a risk-free portfolio.

**Home bias**
The tendency of investors to invest in their own country’s assets, even when it may be more profitable to invest in foreign assets.
<table>
<thead>
<tr>
<th><strong>Glossary</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hysteresis</strong></td>
</tr>
<tr>
<td><strong>Inflation expectations</strong></td>
</tr>
<tr>
<td><strong>Labour market flexibility</strong></td>
</tr>
<tr>
<td><strong>Liquidity</strong></td>
</tr>
<tr>
<td><strong>Lucas critique</strong></td>
</tr>
<tr>
<td><strong>Marginal cost of capital</strong></td>
</tr>
<tr>
<td><strong>Marginal return to investment</strong></td>
</tr>
<tr>
<td><strong>Mergers and acquisitions (M&amp;A)</strong></td>
</tr>
<tr>
<td><strong>Monetary policy</strong></td>
</tr>
<tr>
<td><strong>Monetary transmission mechanism</strong></td>
</tr>
<tr>
<td><strong>Mortgage equity withdrawal</strong></td>
</tr>
<tr>
<td><strong>NAIRU</strong></td>
</tr>
<tr>
<td><strong>Nominal exchange rate</strong></td>
</tr>
<tr>
<td><strong>Nominal interest rate</strong></td>
</tr>
<tr>
<td><strong>Nominal rigidity</strong></td>
</tr>
<tr>
<td><strong>Nominal wage flexibility</strong></td>
</tr>
<tr>
<td><strong>Output gap</strong></td>
</tr>
</tbody>
</table>
### Glossary

**Portfolio diversification**  
The holding of a range of assets across firms, sectors, countries or regions in a portfolio in order to diversify risk. Provided that the risks associated with each asset are not strongly positively related, a diversified portfolio will tend to have less overall risk than its individual components.

**Potential output**  
The level of output that is consistent with stable inflation in the long run.

**Price dispersion**  
The difference in the price of a given good between specific locations, regions or countries.

**Price transparency**  
The ability of consumers to compare prices of goods and services in different markets. In relation to EMU, often used with reference to cross-border price comparisons.

**Product market flexibility**  
The ability of product markets to act as an adjustment mechanism to economic shocks and long-term structural changes in the economy. Price flexibility is an example of product market flexibility.

**Productivity**  
The relationship between the output of goods and services and the inputs of resources used to produce them. Higher productivity enables higher output from the same quantity of inputs.

**Purchasing power parity (PPP)**  
An exchange rate between two currencies such that the same basket of goods and services could be bought at the same price in each country if the cost were converted at that exchange rate.

**Rate of return**  
The income from an investment as a proportion of the total amount invested. Can be used in relation to investment in financial assets or to physical investment (see also marginal return to investment).

**Real exchange rate**  
An exchange rate between two currencies that adjusts the market exchange rate for measures of either price levels or cost levels in each country.

**Real interest rate**  
The nominal interest rate minus the rate of inflation.

**Real wage flexibility**  
Describes how rapidly real wages (the pay of an individual after adjusting for inflation) respond to imbalances between labour demand and labour supply.

**Relative wage flexibility**  
Describes movements in wage differentials across particular segments of the labour market, such as different regions or different occupations.

**Retail financial services**  
Financial services provided to private individuals or small businesses. For example, savings and loans, insurance, mortgages and investment advice.

**Retail Prices Index (RPI/RPIX)**  
The RPI is an index of the retail prices of goods and services, expressed in percentage terms relative to a base year. RPIX is calculated as the RPI excluding mortgage interest payments. The annual increase in the RPI is a measure of the rate of inflation.

**Risk sharing**  
The concept that, by holding a diversified portfolio of financial assets, households can insure themselves, at least in part, against falls in income that arise from downturns in their local (or national) economy.

**Securitisation**  
The substitution of securities, generally bonds, for loans. Banks and other financial intermediaries, for example, have packaged house mortgages in this way so that the interest paid by borrowers is received by the purchaser of the security.

**Security**  
A financial asset, usually shares or bonds, which gives the holder a claim on property or future income (for example, dividends).

**Seigniorage**  
Revenues gained from the issuance of notes and coins by a central bank, where banknotes and coins cost less to produce than their face value or selling price.
**Shock**  
An event which has an impact on an economy, in either a positive or negative way. Shocks may come from a source inside or outside the economy. The oil price increases of the 1970s and their effects on the UK and global economy have been among the most prominent shocks in recent decades.

**Single Market**  
The Single European Act, adopted in 1986, defined the internal market as “an area without internal frontiers in which the free movement of goods, persons, services and capital is ensured in accordance with the provisions of the Treaty of Rome”.

**Specialisation**  
Describes the extent to which the activity of a given region occurs in a small number of industries, usually defined relative to other countries or regions.

**Stability and Growth Pact (SGP)**  
Part of the intergovernmental framework for the coordination of fiscal policies in the EU under which Member States aim to safeguard sound government finances. Adopted at the Amsterdam European Council in June 1997, the SGP is underpinned by the EC Treaty, supplemented by a Resolution of the European Council and two Council Regulations.

**Structural unemployment**  
Usually used as a synonym for the NAIRU.

**Sustainable investment rule**  
One of the UK Government’s two fiscal rules (the other being the golden rule). It states that 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).

**TARGET**  
Trans-European Automated Real-time Gross settlement Express Transfer system, the Eurosystem’s wholesale cross-border payment system.

**Transaction costs**  
The costs associated with buying and selling, particularly in financial transactions. An example is the fee charged for foreign exchange trades between sterling and euro transactions. These would be removed should the UK join EMU.

**Wholesale financial services**  
Those financial services activities undertaken on a large scale by professional investors and borrowers either on their own account or on behalf of large-scale, normally corporate or governmental, clients.
**List of Abbreviations**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEPGs</td>
<td>Broad Economic Policy Guidelines</td>
</tr>
<tr>
<td>BIS</td>
<td>Bank for International Settlements</td>
</tr>
<tr>
<td>CBI</td>
<td>Confederation of British Industry</td>
</tr>
<tr>
<td>E5</td>
<td>Group of five countries at the geographical centre of the euro area: Belgium, France, Germany, Luxembourg and the Netherlands</td>
</tr>
<tr>
<td>ECB</td>
<td>European Central Bank</td>
</tr>
<tr>
<td>EDP</td>
<td>Excessive Deficit Procedure</td>
</tr>
<tr>
<td>EFTA</td>
<td>European Free Trade Association</td>
</tr>
<tr>
<td>EIU</td>
<td>Economist Intelligence Unit</td>
</tr>
<tr>
<td>EMU</td>
<td>Economic and Monetary Union</td>
</tr>
<tr>
<td>ERM</td>
<td>Exchange Rate Mechanism</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>EU15</td>
<td>The 15 members of the EU. Comprises the 12 members of EMU: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain; plus Denmark, Sweden and the UK</td>
</tr>
<tr>
<td>FDI</td>
<td>Foreign direct investment</td>
</tr>
<tr>
<td>FSA</td>
<td>Financial Services Authority</td>
</tr>
<tr>
<td>FSAP</td>
<td>Financial Services Action Plan</td>
</tr>
<tr>
<td>G7</td>
<td>Canada, France, Germany, Italy, Japan, the UK and the US</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross domestic product</td>
</tr>
<tr>
<td>GVA</td>
<td>Gross value added</td>
</tr>
<tr>
<td>HICP</td>
<td>Harmonised Index of Consumer Prices</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and communication technology</td>
</tr>
<tr>
<td>IFSL</td>
<td>International Financial Services, London</td>
</tr>
<tr>
<td>ILO</td>
<td>International Labour Organisation</td>
</tr>
<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
</tr>
<tr>
<td>IT</td>
<td>Information technology</td>
</tr>
<tr>
<td>M&amp;A</td>
<td>Mergers and acquisitions</td>
</tr>
<tr>
<td>MIPs</td>
<td>Mortgage interest payments</td>
</tr>
<tr>
<td>MIRAS</td>
<td>Mortgage interest relief at source</td>
</tr>
<tr>
<td>MPC</td>
<td>Monetary Policy Committee</td>
</tr>
<tr>
<td>NAFTA</td>
<td>North American Free Trade Agreement</td>
</tr>
<tr>
<td>NAIRU</td>
<td>Non-accelerating inflation rate of unemployment</td>
</tr>
<tr>
<td>NIESR</td>
<td>National Institute of Economic and Social Research</td>
</tr>
<tr>
<td>NiGEM</td>
<td>National Institute Global Econometric Model</td>
</tr>
</tbody>
</table>
## List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCA</td>
<td>Optimal currency area</td>
</tr>
<tr>
<td>ODPM</td>
<td>Office of the Deputy Prime Minister</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Cooperation and Development</td>
</tr>
<tr>
<td>OEIC</td>
<td>Open-ended investment company</td>
</tr>
<tr>
<td>OFT</td>
<td>Office of Fair Trading</td>
</tr>
<tr>
<td>ONS</td>
<td>Office for National Statistics</td>
</tr>
<tr>
<td>PPP</td>
<td>Purchasing power parity</td>
</tr>
<tr>
<td>QMV</td>
<td>Qualified majority voting</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>Research and development</td>
</tr>
<tr>
<td>RDA</td>
<td>Regional Development Agency</td>
</tr>
<tr>
<td>RMS</td>
<td>Root mean squared</td>
</tr>
<tr>
<td>RPI</td>
<td>Retail Prices Index</td>
</tr>
<tr>
<td>RPIX</td>
<td>Retail Prices Index excluding mortgage interest payments</td>
</tr>
<tr>
<td>RPL</td>
<td>Relative price level</td>
</tr>
<tr>
<td>SGP</td>
<td>Stability and Growth Pact</td>
</tr>
<tr>
<td>SMEs</td>
<td>Small and medium-sized enterprises</td>
</tr>
<tr>
<td>SVAR</td>
<td>Structural vector auto-regression</td>
</tr>
<tr>
<td>TARGET</td>
<td>Trans-European Automated Real-time Gross settlement Express Transfer system</td>
</tr>
<tr>
<td>UIP</td>
<td>Uncovered interest parity</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>UNCTAD</td>
<td>United Nations Conference on Trade and Development</td>
</tr>
<tr>
<td>US</td>
<td>United States</td>
</tr>
<tr>
<td>VAT</td>
<td>Value Added Tax</td>
</tr>
<tr>
<td>WEO</td>
<td>IMF World Economic Outlook</td>
</tr>
<tr>
<td>WTO</td>
<td>World Trade Organisation</td>
</tr>
</tbody>
</table>
## List of Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Correlations of business cycles over time</td>
<td>41</td>
</tr>
<tr>
<td>1.2</td>
<td>Sectoral share of output, 2002</td>
<td>47</td>
</tr>
<tr>
<td>1.3</td>
<td>Geographical breakdown of current account trade: goods and services, 1999-2001</td>
<td>50</td>
</tr>
<tr>
<td>1.4</td>
<td>Geographical breakdown of FDI flows, 1997-2001</td>
<td>52</td>
</tr>
<tr>
<td>1.5</td>
<td>Key features of housing markets</td>
<td>56</td>
</tr>
<tr>
<td>2.1</td>
<td>Euro area output gaps</td>
<td>120</td>
</tr>
<tr>
<td>2.2</td>
<td>Effectiveness of automatic stabilisers in large EU countries</td>
<td>123</td>
</tr>
<tr>
<td>3.1</td>
<td>Capital per hour worked, 1999</td>
<td>139</td>
</tr>
<tr>
<td>3.2</td>
<td>Labour productivity, 2001</td>
<td>139</td>
</tr>
<tr>
<td>3.3</td>
<td>The differential between UK and German government bond yields</td>
<td>147</td>
</tr>
<tr>
<td>4.1</td>
<td>Global market share held by major financial centres in selected wholesale markets</td>
<td>166</td>
</tr>
<tr>
<td>4.2</td>
<td>UK share of global foreign exchange trading activity</td>
<td>168</td>
</tr>
</tbody>
</table>
# List of Charts

<table>
<thead>
<tr>
<th>Chart</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>What if the UK had joined EMU in 1999: paths of key variables in and out of EMU</td>
<td>20</td>
</tr>
<tr>
<td>1.1</td>
<td>Differentials between the UK and euro area official nominal interest rate and real interest rate</td>
<td>30</td>
</tr>
<tr>
<td>1.2</td>
<td>GDP growth</td>
<td>31</td>
</tr>
<tr>
<td>1.3</td>
<td>Output gaps</td>
<td>32</td>
</tr>
<tr>
<td>1.4</td>
<td>GDP and private consumption annual growth</td>
<td>33</td>
</tr>
<tr>
<td>1.5</td>
<td>HICP annual inflation rates</td>
<td>34</td>
</tr>
<tr>
<td>1.6</td>
<td>UK long-term bond yield differential with the euro area</td>
<td>35</td>
</tr>
<tr>
<td>1.7</td>
<td>Nominal exchange rates</td>
<td>36</td>
</tr>
<tr>
<td>1.8</td>
<td>Taylor rule estimates of the nominal short-term interest rate for the UK and euro area countries</td>
<td>37</td>
</tr>
<tr>
<td>1.9</td>
<td>The output gap business cycle</td>
<td>40</td>
</tr>
<tr>
<td>1.10</td>
<td>Output gaps, absolute deviations from the euro area aggregate, 1993-2002</td>
<td>42</td>
</tr>
<tr>
<td>1.11</td>
<td>Output and consumption volatility, 1980Q1-1998Q2</td>
<td>43</td>
</tr>
<tr>
<td>1.12</td>
<td>Output and consumption volatility, 1998Q1-2002Q4</td>
<td>44</td>
</tr>
<tr>
<td>1.13</td>
<td>UK regional output gaps, absolute deviations from the UK aggregate, 1990-1999</td>
<td>45</td>
</tr>
<tr>
<td>1.14</td>
<td>Trade integration with the EU, 2001</td>
<td>50</td>
</tr>
<tr>
<td>1.15</td>
<td>Sterling-euro exchange rate</td>
<td>70</td>
</tr>
<tr>
<td>2.1</td>
<td>Unemployment and skills shortages</td>
<td>100</td>
</tr>
<tr>
<td>2.2</td>
<td>Unemployment rates</td>
<td>103</td>
</tr>
<tr>
<td>2.3</td>
<td>Structural unemployment</td>
<td>103</td>
</tr>
<tr>
<td>2.4</td>
<td>Average earnings growth and unemployment rate</td>
<td>104</td>
</tr>
<tr>
<td>2.5</td>
<td>The enterprise gap, 2002</td>
<td>111</td>
</tr>
<tr>
<td>2.6</td>
<td>Relative aggregate price levels of large EU Member States</td>
<td>112</td>
</tr>
<tr>
<td>2.7</td>
<td>Overall product market regulation</td>
<td>113</td>
</tr>
<tr>
<td>2.8</td>
<td>Typical time to set up a private limited company</td>
<td>114</td>
</tr>
<tr>
<td>Chart</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>2.9</td>
<td>HICP inflation rates</td>
<td>120</td>
</tr>
<tr>
<td>2.10</td>
<td>Real effective exchange rates against the euro area</td>
<td>122</td>
</tr>
<tr>
<td>3.1</td>
<td>UK business investment ratio</td>
<td>140</td>
</tr>
<tr>
<td>3.2</td>
<td>10-year government bond yields in euro area countries (annual average)</td>
<td>147</td>
</tr>
<tr>
<td>3.3</td>
<td>Country shares of total EU inward investment flows</td>
<td>155</td>
</tr>
<tr>
<td>3.4</td>
<td>Country shares of inward investment flows from outside the EU</td>
<td>156</td>
</tr>
<tr>
<td>3.5</td>
<td>FDI inflows to the UK and Germany excluding M&amp;A activity</td>
<td>157</td>
</tr>
<tr>
<td>5.1</td>
<td>General government gross debt, end 2002</td>
<td>187</td>
</tr>
<tr>
<td>5.2</td>
<td>Gross public investment, 2002</td>
<td>190</td>
</tr>
<tr>
<td>5.3</td>
<td>UK trade in goods – 1973 and 2002</td>
<td>198</td>
</tr>
<tr>
<td>5.4</td>
<td>Price convergence in the EU</td>
<td>202</td>
</tr>
<tr>
<td>5.5</td>
<td>Price dispersion in the EU and US</td>
<td>203</td>
</tr>
<tr>
<td>5.6</td>
<td>Unemployment rates in the euro area</td>
<td>205</td>
</tr>
<tr>
<td>5.7</td>
<td>Business sectors in the EU, 2002</td>
<td>208</td>
</tr>
<tr>
<td>5.8</td>
<td>Business sectors in UK regions, 1998</td>
<td>211</td>
</tr>
<tr>
<td>5.9</td>
<td>State tax revenues in the US, 2001</td>
<td>219</td>
</tr>
</tbody>
</table>
## List of Boxes

<table>
<thead>
<tr>
<th>Page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The five economic tests</td>
</tr>
<tr>
<td>2</td>
<td>The implications of EMU</td>
</tr>
<tr>
<td>3</td>
<td>Modelling ‘what if’ the UK had joined EMU in 1999</td>
</tr>
<tr>
<td>1.1</td>
<td>The EC Treaty convergence criteria</td>
</tr>
<tr>
<td>1.2</td>
<td>The potential differential impact of an oil price shock</td>
</tr>
<tr>
<td>1.3</td>
<td>The potential differential impact of a trade shock</td>
</tr>
<tr>
<td>1.4</td>
<td>The potential differential impact of an equity price shock</td>
</tr>
<tr>
<td>1.5</td>
<td>Adjustment in and out of EMU and the transition to EMU</td>
</tr>
<tr>
<td>1.6</td>
<td>Measures and estimates of the sustainable exchange rate</td>
</tr>
<tr>
<td>1.7</td>
<td>Assumptions for the ‘transition strategy’ modelling toolkit</td>
</tr>
<tr>
<td>1.8</td>
<td>Illustrative options for the transition strategy to EMU</td>
</tr>
<tr>
<td>1.9</td>
<td>Transition in the first wave of EMU membership</td>
</tr>
<tr>
<td>2.1</td>
<td>Adjustment mechanisms inside and outside EMU</td>
</tr>
<tr>
<td>2.2</td>
<td>Adjustment to a temporary positive demand shock</td>
</tr>
<tr>
<td>2.3</td>
<td>The implications of different degrees of flexibility</td>
</tr>
<tr>
<td>2.4</td>
<td>How volatile would inflation and output be inside EMU?</td>
</tr>
<tr>
<td>2.5</td>
<td>Has UK real wage flexibility improved?</td>
</tr>
<tr>
<td>2.6</td>
<td>Employment opportunity across the EU</td>
</tr>
<tr>
<td>2.7</td>
<td>An indicator of labour market flexibility</td>
</tr>
<tr>
<td>2.8</td>
<td>Inflation as an adjustment mechanism – Ireland and the Netherlands</td>
</tr>
<tr>
<td>2.9</td>
<td>Price flexibility in the UK</td>
</tr>
<tr>
<td>2.10</td>
<td>Risk sharing in the US</td>
</tr>
<tr>
<td>2.11</td>
<td>Has inflation helped adjustment?</td>
</tr>
<tr>
<td>2.12</td>
<td>House price inflation and adjustment inside the EU</td>
</tr>
<tr>
<td>2.13</td>
<td>A modern regional policy for the United Kingdom</td>
</tr>
<tr>
<td>2.14</td>
<td>The UK macroeconomic framework</td>
</tr>
<tr>
<td>2.15</td>
<td>Making fiscal policy effective</td>
</tr>
<tr>
<td>List of Boxes</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>2.16 Fiscal rules in the current UK framework</td>
<td>130</td>
</tr>
<tr>
<td>2.17 An open letter to Parliament for fiscal policy</td>
<td>131</td>
</tr>
<tr>
<td>2.18 The existing tax regulators</td>
<td>132</td>
</tr>
<tr>
<td>2.19 Fiscal stabilisation in the US</td>
<td>133</td>
</tr>
<tr>
<td>3.1 Theories of investment</td>
<td>142</td>
</tr>
<tr>
<td>3.2 EMU’s impact on uncertainty and investment</td>
<td>144</td>
</tr>
<tr>
<td>3.3 Difficulties with interpreting FDI data</td>
<td>155</td>
</tr>
<tr>
<td>4.1 Examples of retail financial services in the EU</td>
<td>171</td>
</tr>
<tr>
<td>5.1 The European Central Bank (ECB)</td>
<td>185</td>
</tr>
<tr>
<td>5.2 The EU fiscal framework</td>
<td>188</td>
</tr>
<tr>
<td>5.3 The consequences of population ageing in the EU</td>
<td>189</td>
</tr>
<tr>
<td>5.4 The United States as a monetary union</td>
<td>195</td>
</tr>
<tr>
<td>5.5 Seigniorage</td>
<td>196</td>
</tr>
<tr>
<td>5.6 Changeover costs</td>
<td>197</td>
</tr>
<tr>
<td>5.7 The impact of EMU on trade to date</td>
<td>200</td>
</tr>
<tr>
<td>5.8 Distributional effects implied by key sectoral characteristics</td>
<td>209</td>
</tr>
<tr>
<td>5.9 Progress in key areas of the Lisbon agenda</td>
<td>216</td>
</tr>
<tr>
<td>5.10 The European Convention</td>
<td>218</td>
</tr>
</tbody>
</table>