Submissions on EMU from leading academics

EMU study

HM TREASURY

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This study has been compiled by HM Treasury to inform the assessment of the five economic tests

The content and conclusions of the submissions in this study are those of the authors.

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

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

www.hm-treasury.gov.uk

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INTRODUCTION

1 To inform the preliminary and technical work for the assessment of the five economic tests, HM Treasury has approached a number of leading academics since summer 2002 to request an update of work which they had previously undertaken on the economics of monetary unions. 46 academics were approached, whose work has spanned the range of economic issues covered in the Treasury's preliminary and technical work. This volume brings together 23 submissions from those academics who were able to provide a contribution. Annex A lists all the academics approached.

2 In each case, the Treasury requested a short note of around 4,000 words in length which revisited the conclusions reached in the earlier piece of work, in the light of developments both in the economic literature and in the euro area since the original piece was written. In many cases, the request was based around a specific paper and quotation of particular relevance to the preliminary and technical work. In other cases, the request was based around a relevant body of work.

3 The contributions brought together in this volume have proved extremely valuable to the Treasury. The insights and analysis which they provide have fed extensively into the Treasury's work on the EMU studies and the five tests assessment. The Treasury would like to thank all the academics who have taken part in this exercise for their high quality contributions.

THE SUBMISSIONS IN THIS VOLUME

4 The 23 submissions in this volume are ordered alphabetically by author:

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RAY BARRELL: MONETARY AND FISCAL FRAMEWORKS IN EUROPE – ASSESSING AND CHOOSING MONETARY AND FISCAL POLICY RULES

January 2003

HM Treasury invited Ray Barrell to revisit his work on the EMU monetary and fiscal framework in papers such as 'Choosing the Regime: Macroeconomic Effects of UK entry into EMU' (2000), 'Monetary and Fiscal Policy in Europe' (2000) and 'The UK and EMU: Choosing the Regime' (2002).[1]

INTRODUCTION

1. Over the last decade or so politicians and economists have turned away from designing individual optimal responses to specific unexpected events and have begun to consider the construction of optimal frameworks that will cope with these events in a robust and predictable way. In the process we have moved through frameworks with rule guided behaviour toward a structure where day to day policy is set by an independent institution. These changes have been driven by dissatisfaction with frequent regime shifts as politicians re-optimised, as well as by the recognition that short term political necessity was not a good reason for making policy innovations with far reaching consequences. Optimal (and opportunistic) responses in the short run and optimal frameworks for the longer term may be in conflict, and longer term issues are more important for sustaining economic welfare.

2. Policy makers in the UK moved to an inflation targeting framework for monetary policy in 1993, and this was strengthened with the declaration of the independence of the Bank of England in 1997. The current members of the Euro Area have been through a sequence of monetary frameworks, starting with the Exchange Rate Mechanism (ERM) and progressing to full Monetary Union (EMU). Monetary policy was increasingly put in the hands of independent monetary institutions as exchange rates became more fixed. The ERM was designed to induce convergence on low and stable inflation rates in Europe as a preliminary to full Monetary Union, and on the whole it succeeded. Fiscal frameworks came into the European debate later, and they have not proceeded all the way to institutional independence. After a decade or more of large deficits and increasing debt stocks in Europe, in 1991 the Maastricht Treaty embedded a set of fiscal rules that were designed to limit borrowing and control debt in the run up to EMU. This framework was successful in part, and was changed in 1997 with the introduction of the Stability and Growth Pact (SGP). The SGP contained clearer guidelines for fiscal policy, and used sanctions to ensure that deficits were to be kept within reasonable bounds. The UK government also introduced a new fiscal framework in the late 1990s, setting out policies for the prudent management of the public sector.

[1] Barrell, R. and Dury, K. (2000) 'Choosing the Regime: Macroeconomic Effects of UK entry into EMU', *Journal of Common Market Studies* Vol. 38(4) pp. 625-644; Barrell, R. and Pain, N. (2000) 'Monetary and Fiscal Policy in Europe', *National Institute Economic Review* No. 174, October pp. 63-67; Barrell, R. (2002) 'The UK and EMU: Choosing the Regime', *National Institute Economic Review* No. 180, April pp. 54-71.

3. Policy frameworks are assessed in various ways, and it is common in the economics literature to look at their clarity, transparency and their credibility. Clearly these features are important, but must be subsidiary to an assessment of whether a framework has been successful in achieving its targets and enhancing welfare, and whether it is expected to continue to do so. The Chancellor's five tests make it clear that the assessment of the case for joining EMU depends on the ability of the framework to enhance output, employment and welfare, and our discussion is designed to throw light on the choice the UK must make.

ASSESSING MONETARY AND FISCAL FRAMEWORKS[2]

4. Monetary and fiscal frameworks should clearly help control the level of output and inflation. These variables are of immediate concern to the polity, and excessive cycles in output or unduly high (or low) levels of inflation are not desirable. However, when designing frameworks we should not only concern ourselves with cycles in economic activity, but also with the equilibrium level of economic activity. This will depend upon the size of the effective labour force, the skills of the workforce, the capital and technologies available to use in production, and the effectiveness with which these factors are used. The level of output, and of other economic variables can always be decomposed into what people expected to happen, and the remainder. The size and volatility of the unexpected components will have a direct bearing on perceptions of uncertainty in the economy. 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. As a result the equilibrium level of output will be lower if the economic environment is expected to be more uncertain.

5. The macroeconomic framework will affect expectations of the future and perceptions of uncertainty and will therefore affect the behaviour of individual optimising agents and the equilibrium level of output. The choice of a framework for policy should depend on its impact on uncertainty and output as well as on its effectiveness in achieving short term targets for output and inflation. Discretionary monetary and fiscal policy in the 1970s and 1980s in Europe did not seem very effective at stabilising the mean and variance of output and inflation. The case against discretion, and especially against fine tuning, is now widely accepted,[3] and monetary and fiscal frameworks are built on commitments to policy targets.

6. Monetary frameworks can help stabilise the economy by reducing over-active policies and stopping politically motivated interventions. The effectiveness of the framework depends on the design of the regime and the reputation of the authority implementing it. It is important to assess the extent to which these allow the monetary authority to make credible commitments, as this will increase the effectiveness of the framework. Different frameworks will have different impacts on uncertainty even with the same targets for inflation and other variables.[4] Stronger and more binding rules as well as ones that are more credible will

[2] Many of the issues concerning the choice of policy regime, and in particular comments on the Euro Area framework, follow on from Barrell and Pain (2000) and Barrell and Dury (2000a).

[3] The Pre-Budget Report in November 2002 included as supporting document a useful discussion of the issues surrounding discretion and commitment. See HM Treasury (2002).

[4] Controlling economic systems is generally more difficult than controlling physical ones, but insights from control engineering can be useful nonetheless. If one wishes to control a variable, for instance inflation or the budget deficit, one can attempt to do so by writing down a feedback rule which changes a relevant instrument in order to correct a deviation of the targeted variable from its target value. It is generally the case that including the integral of the targeted variable will increase the efficiency of the targeting strategy and in an uncertain world it is often the case that this will reduce the volatility of the targeted variable. Fortunately the integral of the inflation rate (the price level) and of the budget deficit (debt stocks) are perfectly sensible economic variables to include in a targeting rule. Proportionate and integral controllers punish persistent target misses in an increasingly severe way, making them more effective and potentially more credible.

potentially reduce the volatility of inflation and hence change the expected volatility of inflation. For instance the inclusion of a price level target into an inflation targeting regime may help reduce the volatility of inflation and of output.[5] Hence the design of a monetary framework can affect the evolution of potential output as an increase in anticipated stability will induce changes in investment that will increase output.

7. Discretionary fiscal policy may be an effective tool for stabilising the economy, albeit a weak one, but the longer run effects of using it may include reductions in the sustainable level of output. Conditional experimental estimates of the effects of fiscal policy[6] suggest that the multiplier effect from an intentional fiscal impulse is likely to be less than one. We can therefore conclude that fiscal policy can have a limited role in helping stabilise the economy when needed. However, for much of the post Bretton Woods period in Europe innovations and changes in the fiscal stance have not been primarily directed at stabilisation, and they have not particularly achieved it.[7] The existence of the fiscal tool bag has probably had little impact on perceptions of the stability of the economy as a result, and the use of discretionary policy has had other undesirable consequences. Debt stocks grew rapidly in both the UK and the Euro Area countries into the mid 1990s, putting upward pressure on the long term real interest rates facing private investors. Higher real interest rates reduce the capital stock and hence the potential level of output. Fiscal frameworks that put effective upper bounds on the debt stock should reduce the volatility of deficits in the future, and hold down perceived real interest rates in future periods. They will therefore help reduce the level of long term real interest rates now as well as their volatility, and would lead to higher potential output.

8. The UK fiscal framework was developed independently when it became clear that the UK would not be in the first round of EMU countries.[8] Although it sets targets for debts and deficits, it is not clear how binding these might be, and there appear to be no sanctions if targets are not met. Although the lack of sanctions may reduce the credibility of the framework, it is hard to see how they can be introduced into it in an effective way. It is the tradition in the UK that institutions evolve, and it is clearly the case that the UK framework could be strengthened further in its process of evolution.

9. The Euro Area fiscal framework began with the Maastricht Treaty in 1991 with limits on the debt stock as well as on deficits, with the effective sanction that failure to attempt to meet the obligations in the Treaty would mean exclusion from Monetary Union. The subsequent fiscal framework agreed at the Amsterdam European Council in 1998 put rather more emphasis on deficits, but included clear pecuniary sanctions and penalties if targets were not met. Sanctions and penalties are easier to design and implement in a Treaty based framework, and if the structure survives its teething problems these features should enhance its credibility. Recent reform proposals shift the emphasis back to debt stocks and asset positions.[9]

[5] Gaspar and Smets (2000) discuss this extended inflation targeting version of a two pillar strategy, and suggest that in a more inertial economy, such as that of the Euro Area as compared to the USA, it may be better than pure inflation targeting at stabilising inflation.

[6] Representative estimates of multipliers using large scale calibrated and estimated macro models can be found in Röger and in't Veld (2002) and Barrell, Hurst and Pina (2003). The latter paper also discusses the impact of a permanent change in the deficit on the debt stock, the real interest rate and the level of sustainable output.

[7] Melitz (2000) suggests that fiscal policy has had a very small countercyclical effect.

[8] The UK framework for fiscal policy would probably have been developed even if EMU had not been on the horizon in 1997, as it was an important part of a shift to a medium term, rule-guided approach to macro policy adopted by the Labour government in 1997.

[9] The final, official version of the well flagged set of proposals is in European Commission (2002).

10. Successful institutions are not necessarily the best mould to follow when building new institutions. Good institutions need to be credible, and a history of success can significantly enhance current credibility. The Federal Reserve does not have an explicit inflation target, and Mankiw (2001) suggests that its policy can be described as covert inflation targeting around 3.0 percent leaving it room for a degree of discretion that would have been impossible with an explicit target. The Federal Reserve has been successful in keeping inflation low and has built up significant credibility as a result. This left it room to be less explicit about its target, and hence target misses would have less damaging effects on credibility. The Bundesbank was at the core of European monetary policy during the 1980s and 1990s, and its reputation rested on its record of success in keeping inflation low.[10] Germany had the lowest average inflation of all major economies in the post Bretton Woods pre EMU era, and hence its central bank was credible, with responses that were understood by markets and bargainers. Neither the European Central Bank (ECB) in 1999 nor the Bank of England in 1997 (or especially 1993) could gain the same degree of credibility just by speaking with a similar voice to the Federal Reserve or the German central bank.[11] Both needed to be significantly clearer about their objectives and noticeably more transparent and predictable in their actions than the two established central banks had been, at least whilst they established their reputations.

THE CURRENT UK FRAMEWORK

11. The UK monetary and fiscal frameworks were both designed to ensure transparency and clarity in decision making. The monetary framework was changed markedly in 1993 with the establishment of an inflation target and a panel of independent experts advising the Chancellor, and the creation of an independent central bank was a continuation of that successful move.[12] The success of the new framework between 1993 and 1997 was important for enhancing the Bank's reputation when it became independent. The fiscal policy framework was more innovative, and set targets for deficits and debts that were meant to re-assure people that tax burdens would not be shifted over time. A clear change in stance was needed in order to reduce the excessive deficits that had emerged especially in the 1990s with their associated impact on real interest rates and hence the sustainable level of output in the longer term. Barrell and Weale (2003) give an assessment of the impact of policy in the UK. They conclude that the current frameworks have increased stability and should be helping to set the basis for a stronger economy. However, they conclude, as we do here, that there remains room for improvement, and that there are lessons to be learnt from failures as well as successes.

12. The Monetary Policy Committee (MPC), largely a panel of independent experts appointed by the Chancellor, was set up at the same time as the Bank of England was made independent in May 1997, and it reaches majority decisions on the setting of interest rates each month. Decision making is independent, but the target for which the Committee aims is set by the Chancellor, and it can be changed by Parliament. The process is transparent and accountable, but sometimes it is not clear why decisions have been made. More importantly it is difficult, within the rotating independent expert framework, to ascertain what the MPC's response function is, and hence expectation formation must be fuzzier than under a system with a clear institutional response. The independent expert framework is unusual, and difficult to replicate except where there were few sectional or regional interests to reflect.

[10] The importance of success in building the Bundesbank's reputation is stressed by Blinder (2000), reflecting on experience as a central banker as well as on the academic literature on central banking.

[11] Guthrie and Wright (2000) discuss the benefits of 'open mouth operations'. Transparency and clarity are important for such policies to succeed.

[12] Giving the Bank independence clearly increased the credibility of monetary policy, and inflation expectations (from the difference between indexed and non-indexed government stocks) fell by half a point on the announcement.

13. Setting clear targets for a recognisable indicator linked directly to the objective of stabilising the economy was a very wise course of action at the inception of the new frameworks in the UK. Success in achieving its inflation target has made the Bank credible, and gives us space to improve on the current framework. It is possible to develop inflation targeting regimes in order that room for more discretionary action is available, as for the US Federal Reserve, whilst ensuring that the goal of price level stability in the medium term is achieved. The volatility of inflation can be reduced by targeting both the inflation rate and the price level, and discussions of inflation targeting in high inflation developing economies reflect this.[13] In addition setting a price level target as a back-up to the inflation target assures people that deflation will be reversed, and hence puts a floor on the amount of deflation they can expect.[14] An obvious extension of the current framework would be to request the Bank to achieve its inflation target on average over the life of the Parliament, ensuring that if there were significant overruns these would be reversed, at least in part. This would introduce a 'second pillar' into an inflation targeting strategy and recent literature suggests it would help reduce the perceived volatility of inflation and hence help raise the sustainable level of output.

14. The UK fiscal framework is designed to allow space for government investment whilst keeping the debt stock within sensible bounds. The objectives of the framework are clear, transparent and wise, but experience suggests that the mechanism for implementing the strategy could be reconstructed to make it more credible. A more credible framework would indicate that deficits would be more likely to be kept in bounds, and hence would mean that debt stocks would be expected to be lower in the medium term future. A lower level of expected debt would mean lower real interest rates would be expected for the future. Hence the long term real interest rate used in investment decisions now would be reduced, and output and the capital stock would grow more rapidly.

15. The intention of the UK fiscal framework is that the government current account should be in balance or surplus over the cycle, without any particular constraint in any one year. Hence the timing of the beginning and end of the cycle have to be determined in order to assess the longer term fiscal stance. Both points are essentially arbitrary, and even with a clear technical description in terms of output movements the end of the current cycle must always be in the forecast period, not the past. If it is considered that the current account will be in deficit over the cycle the government should react, but it is not clear how binding the requirement to respond might be. The UK fiscal framework also suffers from the weakness that action is not required if the deficit target is not met once the cycle is complete.[15] At minimum it would be useful to impose on the Chancellor a statutory duty to explain to Parliament why the rule had not been met. An independent, and responsible, fiscal authority assessing the cycle or even setting deficit targets might be a useful adjunct to this strategy.[16]

[13] See Mishkin (2000) for a discussion of inflation targeting regimes as they moved from simple attempts to remove hyper inflation to mechanisms for ensuring price stability in the medium term.

[14] Svensson (2000) discusses this in the context of Japan.

[15] Action may be needed if the debt target had been exceeded.

[16] Wyplosz (2002) for instance discusses this suggestion.

MONETARY AND FISCAL POLICY IN THE EURO AREA

16. The UK arrangements can be contrasted with the constitution of the ECB, which is more genuinely independent than are other central banks.[17] The ECB has a remit of maintaining price stability in the medium term, and it is allowed its own interpretation of this objective. As a new institution it lacked reputation, and at its inception the construction of a clear framework that was clearly explained was essential. A clear framework needs to have a simple pattern for decision making, a widely available information set for informing decisions, and a technical description of its targets that connects directly to its objectives. Inheriting the mantle of the Bundesbank was not a possibility, and the initial framework should have been an important bridge on the road to credibility built on success.[18]

17. The ECB's Governing Council meets and considers expert opinion, but its decision making process is not made public. The Bank is frequently criticised for this lack of transparency, but it is not always clear that greater transparency in decision making improves the certainty with which expectations are held. There are more significant criticisms of the initial framework for the two pillar strategy which was perhaps too close to the Bundesbank's public statements. The Bank sets itself a target range of 0 to 2 percent for Euro Area inflation, and also takes account of a medium term reference value for a broad money aggregate. It is acceptable for a successful central bank not to give up mentioning monetary targeting even though it has become largely irrelevant to its actions and success. It was perhaps not wise for a new central bank to take on an intermediate target that was difficult to interpret and had little relevance to its ultimate goal. This lack of clarity in the framework has made it harder for the ECB to build a reputation, and hence has left policy less credible.

18. The Euro Area needs a clearer fiscal framework than does the UK in part because it is a new breed involving a number of sovereign states controlling fiscal policy within a monetary union, and there are no established patterns for such constitutional hybrids. As long as the ECB remains credible and firm minded there is little risk that a burgeoning of the debt stock would result in inflationary policies being used to erode debt, but increasing debt remains a problem. If some of the independent fiscal authorities decide to 'free ride' on the low inflation strategy of the ECB debt stocks will rise, and this will push up the real interest rate in the Euro Area, reducing the level of private sector investment and its productive capital stock. This would reduce the sustainable level of output in the economy unless the public sector borrowing had been used to finance investment that was very productive or had significant spillovers to the rest of the economy. There is little evidence that debt has in the past been issued solely for these purposes, and we should not expect it to happen in the future.

19. Fiscal frameworks with enforcement rules are important in the new constitutional framework in the Euro Area. However, flexibility in the face of economic shocks is also of value, and the Stability and Growth Pact gives this, as no penalties are payable until the deficit has been greater than 3 percent for 2 years without a good excuse based on slow growth.[19] Members can ignore temporary shocks to the deficit and concentrate on more permanent events; this should give the flexibility needed to cope with genuinely cyclical components to any deficits. If they breach the Pact then they face fines, but these are progressive, and are designed to induce changes in behaviour. However, the 3 percent target is essentially arbitrary and is much easier for some countries to meet than for others. As a result although the structure and intentions of the Pact are good, it has not had a particularly easy beginning.

[17] Creel and Fitoussi (2002) suggest that this degree of independence detracts from the ECB's efficiency, as the lack of ultimate democratic control (except through Treaty revision) may alienate the polity from the institution, giving its voice less authority and effectiveness.

[18] Creel and Fitoussi (2002) suggest that the ECB has been perhaps more restrictive than the Bundesbank would have been in the circumstances, and this will help it build a reputation, albeit slowly.

[19] Dury and Pina (2003) calculate that breaches of the SGP would be rare if governments had stuck to their fiscal plans and had consolidated the fiscal stance during the upturn in the Euro Area economy.

PROPOSALS FOR REFORM IN THE STRUCTURE OF EUROPEAN INSTITUTIONS

20. European fiscal and monetary policy institutions are under continual pressure for reform especially as they adapt to their new environment. The European Commission has produced suggestions for the reform of the SGP that will move it in the direction of the current UK framework, emphasising in particular the importance of assessing the cycle when making judgements on fiscal positions.[20] The ECB has acknowledged that it needs to reform its management and decision making in the process of expansion of the EU. It has also accepted that it needs to review it strategy, and especially the pillar that is meant to rest on a medium term evaluation of the prospects for the economy. This should allow it to produce a set of targets that make it clear that it is focussing on its primary objective of price stability in the medium term.[21] It will of course be politically difficult for it to move away from a two-pillar strategy, and if it did so this could damage its credibility. Hence we cannot expect it to decide to adopt simple inflation targeting, but anyway we would suggest it should not do so. More sophisticated versions of inflation targeting, including some response to sustained deviations of inflation from target, would both maintain the two pillar framework and also be more effective.

21. The problems the Stability and Growth Pact has faced come from a combination of sources. The failure to consolidate fiscal policy during the upturn in France and Germany in particular was clearly bound to cause problems for the Pact. This failure on the part of the German Government may reflect the new situation where central bank responses to fiscal profligacy are less direct. Up until the formation of EMU the Bundesbank would have responded to a loose fiscal stance by raising interest rates and slowing the economy (its response to German unification reflects this pattern). Politicians would have been constrained by this potential and fully understood response, and would have had to respond quickly to pressure to consolidate the public finances. As there is now less monetary reaction to German fiscal (in)activity politicians will feel less pressure to react and fiscal policy rules perhaps need to be stronger than they were in the run up to the formation of EMU.[22]

22. The decision by the Commission to set targets that were perhaps too tight, and were not required by the Treaty of Amsterdam that set up the framework[23] reduced room for manoeuvre, and the new framework currently under discussion should introduce more flexibility. There is clearly room to reform the Pact, and in particular to redefine the target deficits at its core. In the recent proposals it is suggested that these should be reinterpreted to allow members to borrow more to finance investment in their inadequate public sector infrastructure[24] as long as their public sector debts and pension liabilities were limited. Buti, Eijffinger and Franco (2002) argue that the Pact is transparent, and because it has clear penalties, it is credible, but is in need of a number of internal reforms. This view may be optimistic, but it is clear that the Euro Area requires an enforceable pact with penalties to ensure that credibility, prudence and fairness are maintained in all countries in EMU.

[20] See European Commission (2002) for a discussion of the new proposals.

[21] See ECB (2002a) for a discussion of the possible revision to the two-pillar strategy and ECB (2002b) for its proposals on a new three tier structure for the governing board. The former document has to be read in combination with statements to the press by members of the board after it was issued.

[22] It is not possible to explain the weakness of the French government's response to fiscal deficits in the same way, however.

[23] Barrell and Pain (2001) discuss the complexities of the European fiscal constitution.

[24] These changes give space for the UK to fit into the fiscal framework without changing the fiscal stance, and are also particularly useful for the potential Transition Economy members.

23. Small open economies operating independent policies, such as the UK, face difficult problems in choosing their regimes, because their optimal frameworks depend much more on the external environment than does the best framework for a large relatively closed economy such as the Euro Area. If policy responses to shocks change in the Euro Area and the USA then the UK may find that it has to adopt a different monetary (and fiscal) framework in order to cope with changes in the external environment. For instance a shift to a much more aggressive set of policy responses in the Euro Area would make the UK external environment potentially more uncertain. Introducing a medium-term price level objective into the existing inflation targeting framework could then ensure that it was more robust. Changes in the structure of the Euro Area economies would also impact on the choice of optimal policy framework for the UK, with an increase in inertia in labour markets in Europe shifting the balance of argument away from inflation targeting toward a nominal GDP target[25] for the UK. The Euro Area is able to make a much more robust choice of framework (and hopefully it will do so) than can the UK acting on its own, and hence, like the USA it has much more chance of building up credibility for that framework than does the UK. If we remain outside it will be optimal to continue to change monetary and fiscal rules and targets, and hence harder to build reputation.

WHAT DO MONETARY AND FISCAL REGIMES ACHIEVE?

24. The Euro Area economies are discussing the reform of their monetary and fiscal frameworks at a time when the UK is assessing the case for joining monetary union. The longer term benefits of joining monetary union are discussed in Barrell (2002) and in Barrell, Hurst and Kirsanova (2003), but they are at least in part conditional on having monetary and fiscal frameworks that enhance stability and ensure that the level of private sector investment is not held back by high real interest rates that result from high public sector debt. It would be hoped that the Euro Area frameworks could enhance the stability of the UK economy, and active participation in the discussion of their redesign would be of value. There are a number of issues that need to be discussed when we compare regimes.

25. *Solvency and Good Housekeeping*. Fiscal frameworks help reduce the volatility and level of real interest rates and the more credible they are the lower the long term real interest rate. The existence of even minimum penalties can make a framework more credible as long as the possibility of implementing sanctions is itself credible. It is often claimed that fiscal frameworks reduce the ability of governments to use automatic fiscal stabilisers, but Barrell and Pina (2003) argue that this is not the case, at least if budget deficit targets are set sufficiently far from the penalty inducing floor. It is also important when assessing frameworks to be clear about the signal we may extract from a declining budgetary position. Many of the fluctuations we observe in budget deficits are driven by purely random shifts in tax receipts or elements of spending not immediately under the control of the government. If such shifts occur good housekeeping requires that either they are rectified or that other taxes are changed to compensate for shifts in revenues. Changes in taxes in such circumstances are seldom destabilising. A worsening of the budget deficit is at least as likely to come from a

[25] These issues are discussed in Barrell and Dury (2003).

random reduction in the tax take that would leave individuals with higher incomes and more spending capacity as from a slowdown in economic activity.[26] Setting and implementing a budget target in these circumstances can stabilise output volatility as well as the budget deficit. Good housekeeping requires a fiscal pact even in a country that runs its own policy frameworks, and the more binding the pact the more credible the commitment to low debt and low interest rates.

26. *Output and Uncertainty.* Different policy frameworks with different targets and feedbacks make different economic indicators more stable, with some making inflation more stable whilst others might impact more on output or the real exchange rate. The choice of framework should depend on the potential impact of the choice on the economy and the level of output. The evidence on the importance of volatility in the economy is wide and various, but it is clear from work reviewed in Pain (2002) and from Byrne and Davis (2002) that real exchange rate volatility does impact on investment and output. It is less immediately clear that the volatility of output impacts on decision makers, although higher volatility probably does reduce welfare. Inflation volatility, especially through its impacts on the real rate of interest, is also thought to be significant. 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. If the volatility of the real exchange rate driving trade in goods and services is the most important variable to consider then joining EMU may be the best framework for enhancing the prospects for output growth in the UK.

27. Monetary and fiscal regimes have significant effects on the future course of output and welfare, and they should be chosen in the light of these impacts. Stabilising intermediate targets such as inflation is only a good thing if it enhances output and welfare. There are other outcomes on which regimes should be judged, and the discussion of the choice of regime in the UK should focus on the ultimate objective of policy, and not intermediate indicators of it. We should also accept that frameworks should change as the world changes, and as reputations are built. Suggesting reforms to the UK's fiscal and monetary regime may reflect the need to acknowledge the fact that the world can change and that our understanding of it can improve.

[26] Barrell, Hurst and Kirsanova (2002) show that this is the case for the Euro Area countries. A similar result holds for the UK and for Japan.

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2

IAIN BEGG: THE SPATIAL DISTRIBUTION OF FINANCIAL SERVICES ACTIVITY IN THE EU

February 2003

HM Treasury invited Iain Begg to revisit his 1992 paper 'The Spatial Impact of Completion of the EC Internal Market for Financial Services',[1] with particular reference to the conclusions: "the benefits of…the internal market…will accrue disproportionately to existing financial centres" and "London, Frankfurt and Paris are currently seen as the centres most likely to receive the largest benefits because of their strong competitive position" and that cost pressures might "decentralise back office functions to regional offices, providing opportunities for lower cost regions." (pp. 345-346).

1. As the EU has become more integrated, both formally (the Treaty on European Union and the various legally binding directives agreed at EU level) and as a result of market-led changes in industry structure, there has been a gradual, though persistent trend towards integration of EU financial markets. Although technological change and deregulation have reinforced these trends, intensifying competition at the European level, an observation about the development of euro area financial services is that the pace of change has been slow (Begg and Horrell, 2002; Heinemann and Jopp, 2002). One reason is that the measures to integrate markets take time to work and need to accumulate before the overall impact comes through. Wholesale markets, as has been evident for some time, have integrated far more than retail markets (White, 1998; Danthine *et al.*, 1999; Begg and Altunbas, 2002). Cross-border mergers and penetration of national retail markets by competitors from other EU Member States have been conspicuous more by their absence than by their frequency.

2. Financial and, more so, business services have proved to be among the best performing sectors of economic activity in recent years and the UK has, on the whole, been one of the most successful Member States in these industries. In the mid-1990s, the financial and business services industries (defined as classifications j-k of the Standard Industry Classification) overtook manufacturing in terms of jobs and have since continued to be net creators of employment, whereas manufacturing employment has stagnated. Data for 2002 show that there are now some 47 per cent more jobs in financial and business services (hereafter, FSBS) in the UK than in manufacturing.

3. This pattern has, broadly, been emulated in other mature 'industrial' [sic] economies, although few others have had the extent of the structural shift witnessed in the UK. At sub-national level within the EU, the relative importance of FSBS as a contributor to economic activity varies substantially. Few regions have above average activity in these industries and it remains the case that the least prosperous countries and regions of the EU often have very low proportions of FSBS activity.

4. In the UK, by contrast, although FSBS are often associated, quintessentially, with the City of London, the geographical spread of activity across the country has been considerable. In part this is because of dispersion forces that have led to certain functions within the sector being decentralised away from London, driven by a combination of cost reduction strategies by companies, competitive imperatives and labour shortages in financial centres. But it also reflects both the spread of consumer demand and active targeting of FSBS activity in local economic development strategies.

[1] Begg, I. (1992) 'The Spatial Impact of Completion of the EC Internal Market for Financial Services', *Journal of Regional Studies* 26 (4) pp. 333-347.

5. This note revisits some of the conclusions drawn by the author in a paper published ten years ago (Begg, 1992). Two main propositions are examined afresh:

- First, that financial integration will tend to concentrate FSBS in 'core' financial centres across the EU with London retaining its position as the leading financial centre in Europe; and
- Second, that trends towards dispersion of FSBS activity through such mechanisms as the pushing out of routine processing of information to back offices will ensure that the benefits of the UK's competitive strength in financial services[2] (especially) will be widely spread geographically.

6. The next section examines the evidence on the UK's overall competitiveness in financial services, and draws on a range of sources to reaffirm the competitive strength of the UK. This is followed by a brief look at other financial centres in the EU, then at the sub-national pattern in Britain. Concluding remarks complete the paper.

THE UK'S COMPETITIVE ADVANTAGE IN FINANCIAL AND BUSINESS SERVICES

7. The UK's competitive advantage in financial services is visible both in the macroeconomic sense of the healthy balance of payments surplus on financial services, and in a range of quantitative and qualitative microeconomic indicators. Table 1 shows elements of the current account of the balance of payments. It can be seen that although the balance of trade in goods has been substantially in deficit in every year since 1991, rising to £33.5 billion in 2001, traded financial and business services have been consistently and increasingly in surplus. UK competitiveness and the structural shift in the economy can also both be seen from a comparison of traded services and traded goods. Exports of all FSBS relative to goods have nearly doubled over the last decade, and now amount to 25 per cent of exports of goods. In the same period, the weight of finance and insurance exports, again relative to goods, also doubled.

Table 1: UK Balance of payments on current account

	Trade balance, £mn			Exports of services as a proportion of exports of goods, per cent		
Year	Goods and all Services	Financial and business services	Goods	Financial and insurance	All financial and business	All services
1991	-6121	7412	-10223	4.5	13.0	30.8
1992	-7568	9383	-13050	5.1	15.4	33.6
1993	-6485	10296	-13066	5.5	15.4	33.9
1994	-4747	11936	-11126	5.7	16.3	33.6
1995	-3542	12479	-12023	5.2	15.3	32.5
1996	-4125	15001	-13722	5.5	16.9	33.4
1997	186	18825	-12342	6.6	18.2	34.7
1998	-9147	20770	-21813	6.9	21.5	39.5
1999	-15578	24187	-27372	8.4	24.7	42.4
2000	-18488	26516	-30326	8.9	24.6	41.1
2001	-22309	28411	-33609	8.7	25.3	40.9

Source: ONS

[2] Banking, insurance, securities and related businesses involving financial intermediation, as opposed to the broader range of business services which also embrace activities as diverse as accountancy, contract cleaning, employment agencies and legal services.

8. The reasons for the UK's strong position in FSBS have been explored in a number of recent studies and reports, most of which tend to point to similar factors. A first competitive advantage is the character of the financial system which, as a direct result of having been very open and relatively deregulated, has first-mover advantage in many of the segments of the emerging Europeanised financial market most open to cross-border activity. This particularly applies to areas such as securities trading (equities and both the public and private bond markets) and the range of investment banking functions. London, alone, has double the foreign exchange trading of the US and in many segments of the managed funds markets has increased its market share since the late 1980s.

9. Second, the accumulated benefits of agglomeration – notably the diversity of professional services on offer in the City, but also now in regional financial centres – confer a great advantage on the UK. Survey after survey confirms these advantages. Other factors reinforce these agglomeration benefits, such as the English language, the reputation of London as a 'clean' financial centre and, with the glaring exception of rail and other local transport, good communications and air transport infrastructure (Bank of England, 2002). Moreover, the advantages of agglomeration will almost certainly be given a further boost by the euro. In a recent report, the EU's Economic and Financial Committee (2002) came to the view that 'the principal channels for delivering the benefits of integration will be enhanced efficiency provided by larger and more liquid financial markets and greater competition among financial service providers.' With great pressure from successive European Councils to accelerate the pace of integration, this manifestly augurs well for London because of its leading position and the fact that it already has the most liquid markets in the EU.

10. Third is the revealed preference of non-EU financial intermediaries (FIs) to locate in the UK. A study of EU banking by the European Central Bank (ECB, 2002) shows that, in 2001 (i.e. three years into the single currency), the number of branches of non-European Economic Area (EEA) banks in the UK is as high as in the other 14 EU Member States put together. The assets of these branches are on average very much higher – by a factor of about ten – in the UK, further emphasising the UK dominance. Only Luxembourg, relative to the size of its economy, comes close to the UK as a magnet for these funds, but then only in relatively specialised segments of the market. Moreover, although the numbers fell everywhere, the UK's overwhelming lead in this regard had been maintained since 1997. The figures are not so pronounced for subsidiaries of non-EEA FIs, but still show a large UK lead.

11. A survey conducted by Chrystal et al. (2002) examined the factors that matter most for the location of investment banking – arguably, the most 'footloose' financial activity. They find that London continues to score highly on several of the factors that matter most which they sum up thus: 'London's relative strengths distil down to a high concentration of activities and skills, i.e. an excellent catchment area of skilled labour and positive externalities of scope and scale'. High costs and infrastructure deficiencies (especially transport) are the main drawbacks. The survey findings confirm London's continuing lead over Frankfurt and Paris. Possible regulatory changes are seen as a minor threat and there is some concern that the euro area members will favour a regulatory style less suited to the City if the UK stays out.

TRENDS IN OTHER MEMBER STATES

12. Competition between financial centres across the EU has resulted in a relative concentration of activity in two other leading centres apart from London: Paris and Frankfurt. Amsterdam, Milan, Madrid, Brussels amongst the other national financial capitals, as well as the second tier cities in the larger Member States, have a lesser role in which the principal activity relates to national FSBS or a narrow specialisation (for example Madrid's links with Latin America), with relatively modest amounts of international business.

13. Two small EU Member States have carved out niche roles through a combination of light regulation, adept market positioning and favourable tax rules: Luxembourg, building on its ability to offer favourable terms to Belgian and German investors; and Ireland which adopted an aggressive strategy from the late 1980s onwards to develop itself as a financial services centre specialising in fund management. There have also been piecemeal attempts to enhance the ability of selected centres (or groups of centres) to achieve dominance in selected market segments. The efforts led by Walter Seifert on behalf of the Frankfurt stock exchange (Seifert *et al.* 2000), or the Euronext initiative are good examples.

14. In a careful review of banking in the euro area, Belaisch et al. (2001) show that leading banks in the larger euro area countries have high costs and their profitability is generally lower than in the UK or the US. Regional and savings banks – often protected or insulated from competition – have better profitability, but their sheer number (Germany is the most striking in this regard) suggests that consolidation is likely in the medium-term, especially if the measures to integrate the internal market for financial services continue apace. The financial system in most Member States is still bank dominated, but Belaisch *et al.* find evidence of a growing trend towards disintermediation and greater resort to other forms of financing, drawing on the capital markets. They argue that the advent of the single currency has quickened the pace of capital market development, although here again the underlying trends probably have more to do with change in FSBS than the euro *per se*.

15. Reform has not been as rapid as might have been expected. A major constraint on continental banks has been their timid approach to labour cost cutting – partly because of social constraints. As a result, a large majority of continental financial intermediaries generally do not have favourable cost-income ratios compared with their UK counterparts.

16. Another facet of financial modernisation explicitly linked to EMU is discussed in a study by Peree and Steinherr (2001) who found that although France had taken steps relatively early to increase the attractiveness to investors of its public issuance of bond, Germany and Italy had been slow to do so, and even so London has been the leading centre for trading these bonds.

17. Estimates published in an assessment commissioned by the Corporation of London (2003) suggest that in 2002 the UK accounted 'for 57% of all investment banking and related activity in the EU, and is well over three times the size of the EU's second biggest market, Germany.'

18. Overall, there is no direct competition for London as the EU's primary financial services centre. Indeed, the Corporation of London (2003) found that there were strong complementarities between financial services activity in London and business elsewhere in the EU. According to the report, because of London's strength as a 'global financial centre, annual EU GDP is €33 billion higher, and employment 193,000 higher, than it would otherwise be'. Another claim in the report is that up to 30% of 'city-type operations' could be lost to 'other continents' without the agglomeration of such business in London. These strikingly high figures are based on somewhat generous assumptions, but even if they were scaled down substantially, the impact of the City on the EU economy would still be shown to be impressive.

PROSPECTS

19. Looking to the future, although all eyes are on the UK decision on participation in the euro, important changes are taking place in the regulatory environment through the EU's *Financial Services Action Plan* and the *Risk Capital Action Plan*. Studies done for the Commission tend to the view that these twin initiatives to further the integration of EU financial markets will favour the established financial centres and see consolidation of activity. The expected gains from EU financial integration for established centres are confirmed in one such study by Gianetti *et al.* (2002) who argue that the anticipated integration of the EU market and the renewed impetus given to it by the FSAP will have the outcome that 'in countries that are less financially developed, the financial sector stands to lose market shares and profits....In financially developed countries, the situation is likely be reversed. The financial sector will gain from integration.'

20. Chrystal *et al.* (2002) find that banks are deliberately adopting a neutral stance towards euro membership, but that they find the uncertainty regrettable. The principal competitive fear articulated by retail banks is that there will be long-term disadvantages from being outside the eurozone, with the effects coming from isolation from 'mainstream EU decision-making' and from a risk of clients opting for a service provider that is 'in'. The same study also examines investment banking and concludes that eurozone membership is well down the list of factors likely to affect business prospects. 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.

21. Nevertheless, the second-order impact of eurozone membership is summed up in the conclusion drawn by Chrystal *et al.* that 'there seem to be some benefits for London as an international financial centres if the UK adopts the euro, but no major threats if the UK stays outside the eurozone'. The inference to draw, however, is that the City would increase its EU market share and that, as the EU financial market becomes increasingly integrated, there would be benefits for users of financial intermediation services.

THE OUTLOOK FOR OTHER UK REGIONS

22. The spread of FSBS employment across British regions has tended to increase over the years, partly because of the overall success of the sector generally in the UK, but partly also because of changes in industry organisation.

23. The relationship between City success and the outlook for financial services elsewhere in the UK works through a number of channels.

- The first is that as the big City institutions focus predominantly on international business – in services such as accountancy or corporate law as well as investment banking – firms in regional centres within the UK are able to expand their client base among domestic firms. There is good evidence that clusters of firms develop on this basis, for example lawyers in Leeds. This market segmentation is evident from trends in the last twenty years.
- The second mechanism is reorganisation within financial institutions, driven by a combination of technological opportunities and cost imperatives. The back-office as a mere paper shuffling operation has been superseded by much more developed centres that provide a range of services to bank or insurance company customers. Call centres, computing facilities and various settlement

functions fit into this category[3]. Although the bulk of this activity relates to domestic retail financial services, some of the success of British financial services globally does spill over into these complementary activities.

- Third, there has been continuing growth in demand across the UK. There is a relatively greater reliance on private provision of what in other countries of the EU is 'social' protection and compared with other Member States, UK residents make more use of banks and of card services.

24. Together, these three trends have seen geographically widespread job creation in FSBS. London has a third of British employment in mainstream financial services (banking and insurance), over two-thirds of those working in financial markets, security broking and fund management, and half of those in other specialised financial services. But as Table 2 shows, there is a broad regional spread of FSBS. Arithmetically, the dominance of London necessarily means that other regions have below average proportions of FSBS, but even the region with the lowest share – Wales, with 12.1% of national employment – has over 60% of the national average. Even in the short period from mid-1998 to the end of 2000, the share of financial and business services in total employment rose in every region, with Scotland and Yorkshire and the Humber posting the biggest rises.

Table 2: Employment by region in manufacturing and FSBR

(Share of the sector in total employment, December 2000, per cent)

Region	Manufacturing	Financial and business services
North East	18.2	12.6
North West	17.6	15.9
Yorkshire and the Humber	18.4	15.2
East Midlands	22.1	14.3
West Midlands	21.6	15.5
East	15.0	19.5
London	7.1	33.6
South East	12.0	22.9
South West	15.0	16.3
England	15.1	20.4
Wales	18.6	12.1
Scotland	13.6	16.8
Great Britain	15.1	19.7

Source: ONS

25. Parr and Budd (2000) identify some financial functions where London is overwhelmingly dominant within the UK, a further five which it shares in differing degrees with four domestic rival cities, and a third tier of five more functions where eight other centres compete with London. This shows that there is, indeed, a broad base of financial capacity in what could be considered 'export-base' activities across the UK. Moreover, as the Bank of England (2002) emphasises, a specific strength is the fund management business located in Glasgow and Edinburgh which, with an estimated £326bn of assets under management places Scotland in the first rank of such specialist centres in the EU.

[3] An illustration of the emergence of these types of downstream activity is the call centre. A recent study shows that they are concentrated in the conurbations of Scotland and the North-West, but are also found in a number of smaller urban centres in the South-East (Bristow *et al.* (2002). Labour supply, especially of reasonably well-trained and flexible female workers, is a key location factor.

26. In other Member States, the geographical spread of the higher level financial services is not so great, with the possible exception of Germany where Munich – the home of Allianz and Munich Re, the insurance market leaders – is a rival to Frankfurt and other regional centres such as Hamburg owe a marked presence in financial services to a combination of the regionalised banking system and specific attributes. In time, the trends just identified for the UK are likely to produce a similar dispersion of some of the 'lesser' financial functions in other Member States, but there no obvious reason to expect this to be at the expense of UK regions, because these tend to be complementary functions.

CONCLUDING COMMENTS

27. The UK financial services industry is the best developed, most diversified and, arguably, most competitive in the EU. It has the manifest advantages of the City of London in its role as Europe's one global financial centre, and of having a regulatory environment that has encouraged innovation and helped to sustain competitive advantage.

28. The spread of financial services activity across the UK has also continued, with signs that it is developing into more than just dependent processing functions. These assessments have not changed materially in the last decade and, if anything, the UK's position has improved.

29. On its own, the euro membership decision, according to the study by Chrystal *et al.* (2002), will be of little salience to the strategic decisions of UK retail banks compared with major shaping factors which are identified as 'competition, consolidation, M&A, regulation, Internet and technology, demographics and macroeconomic trends'. Other evidence supports their sanguine view that euro membership would pose few threats but might well lead to opportunities.

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3

WILLEM H. BUITER[1] AND CLEMENS GRAFE[2]: EMU OR OSTRICH?

February 2003

HM Treasury invited Willem Buiter to revisit his 2000 paper 'Optimal Currency Areas: Why Does the Exchange Rate Regime Matter?'[3]

INTRODUCTION

1. It is too early to attempt a definitive judgement about the costs and benefits of participation in the Euro–zone for EMU members, or about the costs and benefits for the UK of remaining outside EMU.[4] The 'irrevocable' locking together of the EMU currencies became effective on January 1, 1999, and the introduction of Euro notes and coin is barely a year old. Unfortunately, we cannot ask for a twenty year moratorium on our judgement. A decision on whether the UK should join EMU could be imminent.

2. From a technical point of view, the birth of the Euro has been a great success. There had been concerns (even confident predictions) that the fixing of the conversion rates would be precluded by massive last–minute speculative attacks. There were even benighted commentators who predicted a collapse, through a speculative shift out of lira and into the D–mark, between January 1, 1999 and the introduction of Euro coin and notes on January 1, 2002. Since January 1, 1999, the lira and the D–mark were just non–integer and therefore somewhat inconvenient denominations of the Euro. This channel for the collapse of EMU was therefore about as likely as a collapse of the UK monetary standard through a speculative shift out of £5 notes into £10 notes. The technical costs of the Euro's introduction appear to have been exaggerated to an extent similar to the non–event of Y2K. Clearing and settlement systems have worked virtually flawlessly. The introduction of the Euro notes and coins, possibly Europe's greatest peace–time logistic challenge, was an unqualified success. The Euro corporate debt markets have grown spectacularly. Monetary growth in the Euro area, which has consistently outstripped the forecasts of the ECB, is driven by strong demand for the currency.

3. However, the fact that the birth of the Euro was painless is no pointer to the odds that the Euro will have a long and successful life. While it is clear that of the fifteen current EU members, the ten smaller ones cannot individually be optimal currency areas, the issue is perhaps not as self–evident for Germany, the UK, France, Italy and Spain. In this note we look at the recent experience of the EU countries, both the 12 EMU members and the three EMU outsiders – the UK, Sweden and Denmark – to find patterns that may inform a preliminary judgement. With the short run of data, just over 4 years, on the full EMU experience, it is particularly difficult to disentangle transitional and long–term effects.

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[3] Buiter, Willem H. (2000) 'Optimal Currency Areas: Why Does the Exchange Rate Regime Matter? With an Application to UK Membership in EMU', *Scottish Journal of Political Economy* Vol. 47, No 3, August, pp.213–250.

[4] We refer to the UK being outside EMU or the UK not being a member of EMU as shorthand for the UK not having proceeded to the third and final phase of Economic and Monetary Union.

4. We shall focus on the implications of EMU membership for macroeconomic stability, leaving aside the microeconomic transaction cost savings and the benefits from increased competition, greater price transparency and financial market–deepening.

5. EMU is not just the adoption of a common currency. It comes with a wide range of other economic and political measures, practices and arrangements that will affect the economic performance of the Euro area and its constituent member states. Especially relevant for our purposes is the fact that the common currency comes bundled with the Stability and Growth Pact. The fiscal rules of this Pact are arbitrary and rigid in design as well as highly politicised in their implementation. They are therefore not credible.[5] While this is regrettable, we believe that the Pact will evolve from its poor beginnings into something that will enhance rather than hamper EMU–wide macroeconomic stability. Note also that, even outside EMU and without striving to meet the EMU membership conditions, the UK is subject to some of the key clauses of the Pact, notably the requirement that the general government budget be close to balance or in surplus over the medium term. The only way for the UK to escape all direct effects of the Pact would be to leave the European Union. The likelihood and speed of reform of the Pact towards something more robust, credible and stability–enhancing will be greater with the UK inside the EMU tent than outside it.

6. The legal framework governing monetary policy in the UK and the operating procedures of the Monetary Policy Committee (MPC) are, in most respects and on balance, superior to those of the European Central Bank (ECB). The key distinctions concern first, the division of labour between the elected political authorities and the technocrats to whom monetary policy implementation has been delegated, and second, the openness, transparency and accountability of the two monetary authorities (see Buiter 1999a, b, c), Buiter and Sibert (2000) and Issing (1999). These weaknesses of the ECB arrangements should not, however, present an insurmountable barrier to UK membership. In the four years since the birth of EMU, the ECB has shown itself willing and able to change its modus operandi when its shortcomings became apparent. Again, the UK will have a greater influence on the outcome of these Treaty revisions if it is viewed as 'pre–in' rather than 'out'.

INDEPENDENT MONETARY POLICY NEED NOT IMPLY HIGHER SHORT–TERM EXCHANGE RATE VOLATILITY

7. Have the Euro countries experienced a reduction in short–term exchange rate volatility relative to that experienced by the UK? If yes, is this a benefit from the Euro? The second question is pertinent, because a reduction in volatility is not a plus if observed volatility reflects the appropriate response of the exchange rate to news about fundamentals.

8. We believe that much of the short–term exchange rate volatility we observe does not represent optimal responses to fundamental shocks. The same also holds for more persistent, medium–term exchange rate misalignments. This belief is firmly based on research which has consistently shown that only a fraction of observed exchange rate volatility (even at frequencies as low as 1 year) can be explained by movements in fundamentals such as money supply shocks, productivity shocks etc. (e.g. Clarida and Gali [1994], Faust and Rogers [1999]). Socially costly movements of the exchange rate (or failures of the exchange rate to move when it should) could reflect flaws elsewhere in the economy, e.g. in product or labour markets.

[5] In an interview with *Le Monde* on 18 October 2002, EU Commission President Romano Prodi said that the rules which govern the euro – the Stability and Growth Pact – are "stupid". His exact words were "I know very well that the Stability Pact is stupid, like all decisions that are rigid". That same week, EU Trade Commissioner Pascal Lamy described the Pact as "medieval" and praised the economic framework that the United Kingdom has established.

They also could be due to flaws in the operation of the foreign exchange markets themselves, e.g. herding behaviour, bandwagon effects, irrational exuberance and pathological despondence or panic. Even asset prices that efficiently aggregate all information held by market participants do not provide the appropriate allocative signals for savers and investors if much of the information is rumour, tittle–tattle or complete nonsense (*vide* the technology boom of the second half of the 1990s).

9. Monetary union is likely to reduce not only excessive high–frequency volatility of the exchange rate, but also to reduce medium–term misalignments due to attempts by policy makers to manipulate the exchange rate, such as competitive devaluations.

10. The relevant summary measure of exchange rate volatility is the volatility of the effective exchange rate, which aggregates bilateral exchange rates using weights reflecting the size of the trade flows between countries. Table 1 shows the volatility of the nominal effective exchange rate for Euro area member countries and the three outsiders. The US is included as another reference point.

Table 1:

Volatility of nominal effective exchange rates

(Standard Deviation normalised by the mean of monthly exchange rate)

	Jul.1994-Apr. 98	Jan. 1999-Sept. 2002	Change
Austria	1.69	1.00	-0.70
Belgium	2.80	1.37	-1.43
Spain	2.51	1.32	-1.19
France	1.79	1.59	-0.20
Germany	3.27	1.97	-1.30
Italy	4.57	1.57	-3.00
Netherlands	3.01	1.58	-1.43
Average(In)	**2.81**	**1.48**	**-1.32**
United Kingdom	8.85	1.92	-6.94
Sweden	4.47	4.53	0.05
Denmark	2.03	1.62	-0.42
Average (Out)	**5.12**	**2.69**	**-2.43**
United States	**6.20**	**5.19**	**-1.01**

Note: Averages are unweighted.
Source: IFS

11. The volatility of the nominal effective exchange rate for Euro area countries has decreased and is now at a relatively low level, significantly below that for the United States and Sweden, and moderately below that for the UK and Denmark.[6] However, the largest decline in volatility is registered by the UK. As EMU is not a monetary union containing all countries in the world other than the UK, it is not certain that joining EMU union will lower the volatility of the (global) effective exchange rate of sterling. If the covariance between the Sterling–Euro exchange rate and the effective exchange rate of Sterling vis–à–vis the world excluding EMU is negative and sufficiently large in magnitude, the volatility of Sterling's global effective exchange rate could in principle increase as a result of the UK joining EMU. [7]

Table 2:

Volatility of USD exchange rates

(Standard Deviation normalised by the mean of monthly exchange rate)

	Jul.1994-Apr. 98	Jan. 1999-Sept. 2002	Change
Austria	8.75	8.42	-0.33
Belgium	8.59	8.42	-0.17
Spain	8.08	8.42	0.34
France	7.52	8.42	0.90
Germany	8.74	8.42	-0.32
Italy	5.18	8.42	3.24
Netherlands	8.95	8.42	-0.52
Average(In)	**7.97**	**8.42**	**0.45**
United Kingdom	2.99	5.42	2.43
Sweden	6.48	9.85	3.37
Denmark	7.89	8.50	0.61
Average (Out)	**5.79**	**7.92**	**2.13**
United States			

Note: Averages are unweighted.
Source: IFS

12. As shown in Tables 2 and 3, the decline in the volatility of the nominal effective exchange rate for both Euro area members and Euro area outsiders is driven by a decline in volatility in the national exchange rate vis–à–vis the Euro despite increased volatility against the USD. While this is hardly surprising for the Euro area members, it is somewhat of a puzzle that the steepest decline in volatility against the Euro/Ecu is registered by the UK.

[6] Germany's volatility, on our measure, was acutally slightly higher than the UK's in 1999-2002.

[7] Let $\bar{e}$ denote the global effective exchange rate of sterling, e_1 the effective exchange rate of sterling with the Euro and e_2 the effective exchange rate of sterling with the non-EMU world, the USD rate, for simplicity. The weight of the Euro in the global effective exchange rate of Sterling is α. Var denotes the variance and Cov the covariance.
Then:
$Var(\bar{e}) = \alpha^2 Var(e_1) + (1-\alpha)2Var(e_2) + 2\alpha(1-\alpha)Cov(e_1,e_2)$.
If Sterling joins EMU, $Var(e_1) = Cov(e_1 e_2) = 0$.
Sterling's global effective exchange rate will be more variable after joining EMU if and only if
$-Cov(e_1,e_2) > \frac{(1-\alpha)^2}{2\alpha(1-\alpha)} Var(e_2)$.

Table 3:

Volatility of exchange rates against Ecu/Euro

(Standard Deviation normalised by the mean of monthly exchange rate)

	Jul.1994-Apr. 98	Jan. 1999-Sept. 2002	Change
Austria	2.09	0.00	-2.09
Belgium	2.74	0.00	-2.74
Spain	1.93	0.00	-1.93
France	0.91	0.00	-0.91
Germany	2.07	0.00	-2.07
Italy	4.51	0.00	-4.51
Netherlands	2.28	0.00	-2.28
Average(In)	**2.36**	**0.00**	**-2.36**
United Kingdom	9.24	3.63	-5.62
Sweden	4.60	4.15	-0.45
Denmark	1.32	0.15	-1.17
Average (Out)	**5.05**	**2.64**	**-2.41**
United States	**6.80**	**8.42**	**1.63**

Note: Averages are unweighted. The bilateral exchange rates against the ECU are used for the earlier period.

Source: IFS

13. Any reduction in the volatility of nominal variables is unlikely to be of economic significance if it is not mirrored in comparable changes in the behaviour of real variables. The decline in volatility of the real exchange rate (we use the IMF's measure that adjusts the nominal effective rate for developments in relative unit labour costs), shown in Table 4, shows a similar pattern to that of the nominal exchange rate. At high frequencies, this is hardly surprising as it is well known that labour cost series are rather stable compared to exchange rate series. The magnitude of the decline in real exchange rate volatility is, however, somewhat larger than the decline in nominal exchange rate volatility both for the Euro area countries and for the three outsiders. The decline in the volatility of the real exchange rate observed for the EU is not a world–wide phenomenon, *vide* the rise in the volatility of the real exchange rate of the US over the period.

14. High frequency exchange rate volatility, while of vital interest to those making a living trading in the foreign exchange markets and in the forex derivatives markets, does not appear to be of great significance to the behaviour of the real economy – trade flows, capital formation or consumption. In part this is because hedging instruments for short–term foreign exchange exposure are widely available and relatively cheap. The same cannot be said for medium– and long–term fluctuations in nominal exchange rates. The persistent misalignment of Sterling between 1997 and the middle of 2002 has caused costly imbalances in the real economy.

Table 4 :

Volatility of real effective exchange rates

(Standard Deviation normalised by the mean of monthly exchange rate)

	Jul.1994-Apr. 98	Jan. 1999-Sept. 2002	Change
Austria	5.05	1.07	-3.98
Belgium	2.94	1.53	-1.41
Spain	1.58	1.71	0.14
France	3.18	2.25	-0.93
Germany	4.95	3.34	-1.61
Italy	6.01	2.01	-4.00
Netherlands	4.49	1.75	-2.74
Average(In)	**4.03**	**1.95**	**-2.08**
United Kingdom	12.20	3.09	-9.11
Sweden	4.70	5.06	0.36
Denmark	2.66	1.45	-1.20
Average (Out)	**6.52**	**3.20**	**-3.32**
United States	**6.92**	**7.70**	**0.78**

Note: Averages are unweighted.
Source: IFS

EMU MEMBERSHIP DOES NOT PRODUCE IMMEDIATE TRADE PERFORMANCE MIRACLES

15. A common argument in favour of adopting the Euro is that the adoption of a common currency will lead to increased trade intensity (see Rose [1999, 2002], Frankel and Rose [2002] and Glick and Rose [2002]). The evidence on this issue for the Euro area (just three years of annual data) is mixed and, on balance, uninformative.[8]

16. Just looking at the trade shares in GDP for the Euro area, shown in Table 5, it appears that the Euro has brought an increase in trade.[9] While the share of trade in GDP has remained roughly constant for the United States and the UK between 1998 and 2001, it has increased significantly for the Euro area in the same period. However, the driving force behind this increase is likely to be found in exchange rate movements rather than volume movements. The USD started to appreciate against the Euro in the last quarter of 1999. The appreciation of the USD against Sterling was less strong. This depreciation of the Euro was also a depreciation of the real exchange rate, an increase in the price of traded goods relative to non–traded goods. Even with constant volumes, this would raise the share of trade in GDP.

[8] The estimates of very large effects, produced by Rose using data on other monetary unions, are not credible (Rose [1999, 2002], Frankel and Rose [2002], Glick and Rose [2002]). There is a key 'omitted variables' problem in these studies. Countries that belong to a currency union are also likely to have harmonized laws and regulations pertaining to cross-border transactions within the union. How is one to distinguish the effects on the progressive completion of the single market through the implementation of the Single European Act from that of adopting the Euro?

[9] The trade share is calculated as (Imports + Exports)*100/GDP.

Table 5:

Share of Trade in GDP (Percentage)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Austria	55.7	54.2	51.7	47.8	50.3	52.7	54.1	59.9	61.9	63.7	70.4	72.7
Belgium	na	na	na	111.2	116.1	121.1	125.5	134.1	135.2	136.7	159.0	160.1
Finland	39.1	36.2	41.4	48.1	52.7	52.3	53.1	56.4	58.3	57.1	65.5	61.9
France	37.0	36.6	35.3	32.4	34.7	36.4	36.6	39.9	40.9	41.2	46.4	44.8
Germany	50.2	44.6	40.7	37.2	38.9	40.2	41.2	45.3	47.3	48.2	55.8	57.0
Greece	33.6	33.8	32.7	31.7	30.5	32.1	33.5	32.1	32.8	31.1	35.2	33.7
Ireland	93.7	93.8	94.5	100.1	109.2	115.5	115.5	115.7	119.2	124.7	134.5	129.9
Italy	31.9	30.2	29.6	31.9	35.1	40.1	37.3	38.6	38.7	38.5	44.4	43.6
Luxembourg	129.0	124.9	112.8	103.7	101.0	96.6	92.9	92.8	96.1	95.0	97.5	97.8
Netherlands	87.2	86.0	81.9	80.9	84.3	89.9	91.8	98.8	98.8	97.8	109.3	106.9
Portugal	60.2	54.4	51.4	47.2	51.3	52.7	52.9	55.4	55.9	56.1	57.8	56.4
Spain	28.0	27.5	27.4	28.0	32.7	35.0	36.7	40.4	41.2	42.2	47.3	46.0
Euro Area	**41.8**	**39.6**	**37.8**	**40.9**	**43.8**	**46.5**	**46.8**	**50.5**	**51.8**	**52.4**	**59.8**	**59.4**
Denmark	50.5	51.0	51.8	48.8	50.3	52.6	51.7	54.3	53.9	53.3	58.1	58.1
Sweden	47.0	42.4	41.4	48.1	54.7	60.2	58.0	62.2	64.1	63.2	69.7	65.7
United Kingdom	41.2	38.1	38.2	40.2	41.2	44.7	46.2	44.2	41.2	40.1	42.7	41.4
EU without EMU	**43.1**	**40.1**	**40.1**	**42.3**	**44.2**	**48.0**	**48.7**	**47.7**	**45.3**	**44.3**	**47.5**	**45.7**
Japan	**17.1**	**15.8**	**15.1**	**13.8**	**14.0**	**14.7**	**16.2**	**17.6**	**17.0**	**16.2**	**18.0**	**18.1**
United States	**15.7**	**15.5**	**15.9**	**16.1**	**17.0**	**18.3**	**18.5**	**19.1**	**18.5**	**19.0**	**20.8**	**18.9**
Memorandum Item												
DM/$ exchange rate	1.49	1.52	1.61	1.73	1.55	1.43	1.55	1.79	1.67	1.95	2.1	2.22

Note: Trade for the Euro area is defined as the sum of imports and exports of individual countries, thus includes intra Euro area trade. Greece is included with the EMU area since 1999.
The DM/$ exchange rate is the Euro/$ exchange rate after 1999, multiplied by the Euro conversion rate of the DM.
Source: WEO

17. Our interpretation is supported by the behaviour of individual countries' trade measured as a share of total industrial country trade, shown in Table 6.

Table 6:

Share of Trade in Total Trade among Industrial Countries (Percentage)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Austria	1.8	1.8	1.8	1.7	1.7	1.8	1.8	1.7	1.8	1.7	1.6	1.7
Belgium	na	na	na	4.7	4.7	4.9	4.8	4.5	4.6	4.5	4.4	4.6
Finland	1.1	0.9	0.8	0.8	0.9	1.0	1.0	0.9	1.0	1.0	1.0	0.9
France	9.0	8.8	8.9	8.0	8.1	8.2	8.0	7.7	8.0	7.8	7.3	7.3
Germany	15.0	15.6	15.4	14.1	14.0	14.3	13.8	13.2	13.7	13.2	12.6	13.2
Greece	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5
Ireland	0.9	0.9	0.9	1.0	1.0	1.1	1.2	1.3	1.4	1.5	1.5	1.7
Italy	7.0	6.9	6.8	6.2	6.2	6.4	6.5	6.2	6.3	5.9	5.7	5.9
Luxembourg	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2
Netherlands	5.1	5.1	5.1	5.1	5.1	5.4	5.3	5.1	5.3	5.1	4.9	5.1
Portugal	0.8	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.9	0.8	0.7	0.8
Spain	2.8	3.0	3.1	2.7	2.8	3.0	3.1	3.1	3.3	3.3	3.2	3.4
Euro Area	**na**	**na**	**na**	**45.9**	**46.1**	**47.6**	**47.0**	**45.3**	**47.0**	**45.7**	**43.6**	**45.4**
Denmark	1.3	1.3	1.4	1.3	1.3	1.4	1.3	1.3	1.3	1.2	1.1	1.2
Sweden	2.2	2.1	2.0	1.8	1.9	2.1	2.1	2.0	2.1	2.0	1.9	1.7
United Kingdom	8.1	7.8	7.7	7.5	7.4	7.3	7.7	8.1	7.9	7.6	7.4	7.3
EU without EMU	**11.7**	**11.2**	**11.1**	**10.6**	**10.6**	**10.8**	**11.2**	**11.4**	**11.3**	**10.8**	**10.4**	**10.2**
Japan	**10.4**	**10.8**	**10.7**	**11.7**	**11.6**	**11.3**	**10.7**	**10.4**	**9.0**	**9.5**	**10.3**	**9.4**
United States	**18.1**	**18.3**	**18.7**	**20.7**	**20.7**	**19.6**	**20.3**	**21.8**	**22.0**	**23.0**	**24.5**	**23.9**
Memorandum Item												
DM/$ exchange rate	1.49	1.52	1.61	1.73	1.55	1.43	1.55	1.79	1.67	1.95	2.1	2.22

Note: Trade for the Euro area is defined as the sum of imports and exports of individual countries, thus includes intra Euro area trade. Greece is included in the Euro Area since 1999.
The DM/$ exchange rate is the Euro/$ exchange rate after 1999, multiplied by the Euro conversion rate of the DM.
Source: WEO

18. The share of the US in total industrial country trade is actually higher in 1999–2001 than it had been in 1996–1998 while the opposite holds for the Euro area as a whole. This is most likely at least partially explained by the higher real growth rate of the US compared to the Euro area as a whole. The UK also shows a small decline.

19. It is quite plausible that membership in EMU will, over time, raise trade with other member countries without any corresponding reduction in trade with countries outside EMU. It would be very surprising to find strong evidence of such a development in the first two or three years after the creation of EMU.

ONE NOMINAL INTEREST RATE – MANY REAL INTEREST RATES

20. Short–term nominal interest rates and long–term nominal interest rates have converged almost completely among EMU members. This is rather surprising, as the elimination of exchange rate risk does not at the same time eliminate sovereign default risk. One would expect sovereign default risk premium differentials to show up, especially in longer maturity sovereign debt yields, between the fiscally sound and the fiscally suspect EMU members.[10]

21. Whatever the cause of the absence of substantial differences in sovereign default risk premia in EMU, the implication is that real interest rates will differ across EMU members whenever anticipated inflation rates differ. While long–run inflation expectations are difficult to pin down, realised inflation rates can be combined with short–term nominal interest rates to calculate ex–post short–term real interest rates. Table 7 below offers some illustrative numbers.

22. Short-term (ex-post) real interest rates have moved quite differently across Euro area member states. Countries for which real interest rates have fallen most are typically those that, from an initial condition of lower than average real per capita income, have grown faster than the Euro area average and/or countries that had historically above–average inflation rates like Italy. In contrast, real interest rates have fallen less for the relatively rich countries that had a history of low inflation.

23. For both groups the change in short–term real interest rates is driven in part by the break in the monetary policy regime brought about by the coming of EMU: common nominal interest rates for all Euro area countries.[11] The fall in real interest rates for countries that traditionally had higher than average inflation rates is wholly expected as these countries are now able to borrow monetary credibility from the ECB. For them the fall in real rates was mainly due to the fall in nominal rates. For the richer countries with a history of low inflation (especially Germany and France), the small magnitude of decline in real interest rates reflects the absence of any decline in short nominal rates with the advent of EMU and lower inflation reflecting national cyclical developments.

[10] There are several candidate explanations for this absence of differential sovereign default risk premia among EMU members. The most comforting is that even the most highly indebted, deficit-encumbered and pension liability-burdened EMU member state is still well inside the safe zone as regards sovereign default risk. We believe this to be too optimistic. A second explanation is that the markets believe that, should an EMU member state be faced with significant default risk, there would be a bail-out either by the fiscal authorities of the other EMU members or by the ECB, and that this bail out would safeguard creditor interests. The third explanation is that there has been no sovereign debt default by a current EMU member since 1948, when Germany (then West Germany) restructured its outstanding public debt. Consequently, market players with no sense of history, for whom the long run is the end of the trading day, simply cannot conceive of a sovereign default by an EMU member state. We fear that this uninformed myopia theory may well be part of the explanation.

[11] The ECB started operating on July 1, 1998 and most of the short nominal interest rate convergence occurred before the official start of EMU on January 1, 1999.

Table 7

Short term real interest rates

annual percentage	Average 1995-1998	Average 1999-2002	Change
Austria	2.4	2.1	-0.3
Belgium	2.4	1.7	-0.6
Finland	3.0	1.5	-1.5
France	2.9	2.1	-0.7
Germany	2.4	2.0	-0.4
Greece	5.5	2.4	-3.1
Ireland	3.7	-0.4	-4.1
Italy	4.3	1.4	-2.9
Luxembourg	2.4	1.4	-1.0
Netherlands	1.8	0.3	-1.5
Portugal	3.9	0.5	-3.4
Spain	3.6	0.7	-2.9
Average (In)	3.2	1.3	-1.9
Denmark	2.3	1.5	-0.8
Sweden	4.8	2.3	-2.5
United Kingdom	3.8	3.0	-0.9
Average (Out)	3.7	2.2	-1.4
Japan	0.2	0.9	0.7
United States	3.2	1.8	-1.4

Note: Three-month money market rates where available,
or rates on proximately similar financial instruments.
Interest rates are deflated by the cpi inflation for the same year
Source: OECD.

24. The ECB faced the problem of every new kid in town: how to establish a reputation for being tough on inflation and on the causes of inflation. The inevitable consequence was a path of short nominal interest rates that was higher than would have been needed if the ECB had been able to start its life with a Bundesbank–like reputation. This upward bias in short–term nominal (and real) interest rates will disappear as the ECB reaps the returns to earlier reputational investment.

25. Divergence among national real interest rates under a common currency is one of the mechanisms through which nations adjust to asymmetric initial conditions, asymmetric shocks and asymmetric transmission of common shocks due to differences in economic structure. 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.

26. Changes in real interest rates can be associated with significant swings in asset prices. So can changes in nominal interest rates if there is imperfect indexation or inflation illusion in financial markets (including housing and mortgage markets). The effect of short nominal interest rates on key asset prices, especially the exchange rate (when it floats), the stock market and the housing market is, however very hard to pin down with any degree of precision, even *ex–post*. During the three years that one of us served on the Monetary Policy Committee, the UK exchange rate behaved rather like a rogue elephant, going its own way regardless of the behaviour of nominal interest rates, empirical proxies for risk premia and other observable fundamentals.[12]

27. Ireland's housing boom following EMU membership has been attributed to it joining at too competitive an exchange rate and experiencing low real interest rates, courtesy of the low EMU–wide nominal rates and the relatively high Irish rate of inflation. No doubt these factors played a role, but it should be noted that the UK too experienced (and still experiences in February 2003) a housing boom (bubble) despite what until recently could only be described as a very strong (if not overvalued) currency and moderate short real interest rates.

THE COST OF ENTERING EMU AT THE WRONG RATE

28. It is hard to disagree with the proposition that several of the current EMU members locked into the Euro at the wrong parity/conversion rate – a value different from its fundamental equilibrium value. The D–Mark was almost surely overvalued and the Irish Punt undervalued on December 31, 1998, just to name the two most obvious examples. However, this is not the same as saying that we believe that the German exchange rate would have necessarily depreciated against, say, the Dutch Guilder if the two countries had not joined the EMU but floated instead. The fundamental equilibrium exchange rate need not be the market equilibrium exchange rate established by flawed international financial markets under a free float.

29. As we are all Keynesians now (if we were not, the nominal exchange rate would be a matter of supreme indifference), adjusting the terms of trade and/or the real exchange rate through differential national price or cost inflation rates rather than through adjustment in the nominal exchange rate can involve transitional costs, because of nominal rigidities in price and cost behaviour.

30. Against this, one should not underestimate the speed with which realistic differential national rates of price or cost inflation can change international competitive positions. Also, changes in real competitiveness achieved through variations in a market–determined (floating) nominal exchange rate may be ephemeral, especially when the degree of capital mobility is high, while those achieved at a fixed exchange rate are more likely to stick.

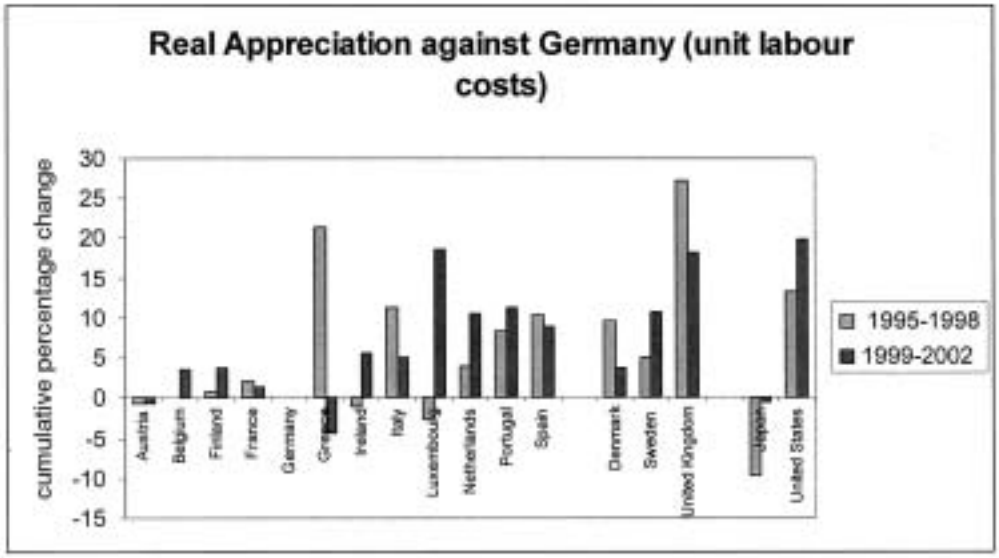
31. While Ireland joined EMU in 1999 at a parity that was, in our view, undervalued, the resulting boom in real economy activity and asset prices gradually eroded this competitive advantage. In a common currency area, this is precisely the way market forces are supposed to bring about an adjustment in international competitiveness. It is effective and need not be associated with asset bubbles and crashes.[13]

[12] Whether cuts in short nominal interest rates can cause or contribute to irrational exuberance and whether increases in short nominal rates can puncture asset bubbles is an open and virtually unanswerable question. A priori, it is hard to see why a phenomenon that is, by definition, not driven by fundamentals could be managed (or even killed) by changes in one of the fundamentals – the short nominal rate of interest. It may be that the monetary authorities only have open mouth operations as an instrument for addressing even obvious and extreme asset price bubbles and unsustainable credit booms.

[13] In Ireland, there has been no collapse in house prices. House prices declined in the second half of 2001, but recovered quite briskly in 2002 and maintained their momentum into early 2003. Irish equity prices declined in line with stock markets elsewhere in Europe.

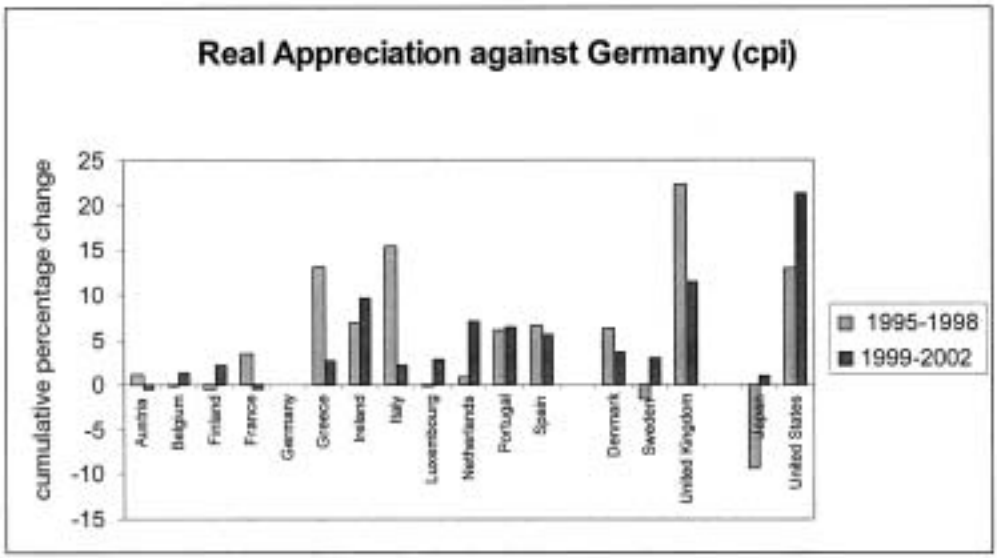
32. Only the foolhardy would attempt to estimate values for the fundamental equilibrium real exchange rate. It is, however, instructive to look at changes in external real exchange rates prior to the introduction of the Euro and after. We consider three different measures of the real exchange rate, one based on GDP deflators (GDP), one based on consumer prices (CPI) and one based on relative unit labour costs in the business sector, the economy without the public sector (ULC). Graphs 1, 2 and 3 show the cumulative real appreciation of 14 EU members against Germany (the D–Mark prior to 1999 and the Euro thereafter) in the four years prior to the introduction of the Euro and the four years thereafter, for the three measures.

Graph1



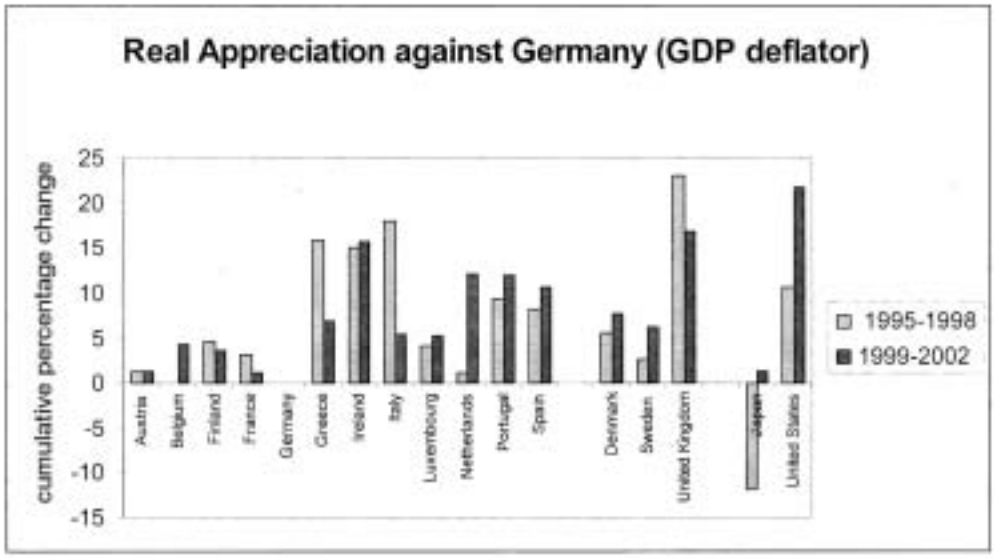
Source OECD

Graph 2



Source: OECD

Graph 3:



Source: OECD

Table 8

Competitive positions: relative unit labour costs
Indices, 1995 = 100

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Austria	104.2	102.1	103.6	105.8	98.9	100.0	102.0	92.0	81.9	78.9	72.0	70.4
Belgium	97.4	97.2	97.3	96.4	96.9	100.0	94.6	87.9	89.0	89.1	85.4	87.0
Finland	145.5	139.2	108.2	82.3	87.2	100.0	93.8	88.1	88.9	87.0	77.3	80.7
France	105.6	100.9	99.0	101.5	100.4	100.0	99.6	90.8	87.1	84.3	77.8	77.8
Germany	82.9	83.6	89.8	91.5	92.6	100.0	97.3	92.9	94.7	95.9	93.1	92.6
Greece	106.3	97.8	94.3	88.2	92.1	100.0	102.6	105.9	101.1	102.7	98.2	98.3
Ireland	133.0	126.8	123.0	113.0	109.0	100.0	99.0	91.9	85.2	80.8	73.7	71.5
Italy	129.9	133.1	131.3	120.0	114.1	100.0	111.8	114.1	120.2	120.9	113.4	114.9
Luxembourg	104.4	102.1	102.0	100.9	99.4	100.0	94.8	94.1	92.5	88.0	87.1	88.7
Netherlands	102.6	99.4	102.6	101.6	97.6	100.0	96.6	93.9	97.8	96.7	93.2	96.8
Portugal	89.8	91.8	100.7	91.5	95.0	100.0	91.3	92.9	94.6	96.9	97.8	100.3
Spain	108.7	109.7	112.6	102.4	99.2	100.0	104.3	103.8	106.4	106.3	106.9	110.4
Euro area	101.1	98.7	103.2	99.3	96.8	100.0	100.3	90.7	92.1	90.5	81.5	83.2
Denmark	97.8	93.8	96.3	101.2	96.9	100.0	104.0	98.5	101.8	103.5	102.8	104.8
Sweden	145.8	148.3	145.5	103.9	97.2	100.0	113.1	108.7	105.8	104.0	102.1	93.7
United Kingdom	116.7	120.0	111.2	98.3	100.6	100.0	103.1	125.4	137.8	142.2	144.4	142.6
United States	115.0	112.3	108.2	106.6	105.6	100.0	101.1	106.5	114.8	111.1	115.5	118.0
Japan	60.9	66.2	73.4	89.1	98.6	100.0	84.5	80.6	87.5	98.1	101.2	97.4

Source: OECD.

Note: Competitiveness-weighted relative unit labour costs in the manufactoring sector in dollar terms. Competitiveness weights take into account the structure of competition in both export and import markets of the manufacturing sector of 42 countries. An increase in the index indicates a real effective appreciation and a corresponding deterioration of the competitive position.

33. On the CPI and GDP deflator measures (Graphs 1 and 2), Germany has seen a real depreciation against almost all other Euro member countries in both time periods.[14] On average for the Euro area, the real appreciation vis–à–vis Germany on the CPI and GDP deflator measures was stronger prior to the introduction of the Euro than in the later period, supporting the view that the elimination of nominal exchange rate variability has slowed down real exchange rate adjustments; (it is also consistent with the view that actual rates had been close to their fundamental equilibrium rates just prior to 1999). The slowdown in the adjustment is smaller if we take the third measure, the real exchange rate based on unit labour costs in the business sector. All three measures considered so far tend to understate changes in international competitiveness since they include a large proportion of traded goods and services. Divergent relative unit labour costs can drive significant changes in the relative profitability of export–oriented and import–competing production even if these traded goods prices expressed in a common currency behave similarly.

34. That is why the behaviour of *effective* real exchanges rates based on relative unit labour costs in the manufacturing sector shown in Table 8 tells an interesting story. The 11.5 percent improvement in competitiveness of the Euro area as a whole between 1998 and 2000 is almost solely due to the weakening of the nominal effective exchange rate of the Euro. By 2002 the Euro area improvement in competitiveness since 1998 had been reduced to 5.8 percent. Over that same period, the percentage improvement in real competitiveness was 1.0 for Germany, 1.4 for Italy, 10.0 for France, 12.8 for Ireland and 14.7 for Austria. Belgium's competitiveness was constant, the Netherlands lost 3.6 percent, Spain 5.8 percent and Portugal 8.1 percent.

35. Given the big differences between some of these numbers we conclude that feasible price or cost inflation differentials among EMU members can generate appreciable changes in international competitiveness. Nominal rigidities do not appear to be insurmountable obstacles to the achievement of large and quite rapid changes in international relative costs with a common currency despite the low average price inflation rate pursued by the ECB (less than 2 percent per annum on the HICP index).

36. It is true that countries with floating exchange rates have seen the largest movements in competitiveness. The UK figures prominently among them. Among the 30 countries that the OECD provides relative unit labour costs data for, only the USA (during the 1980s) and Mexico (throughout the 80s and 90s) have seen swings in the real exchange rate comparable to those experienced by the UK.

37. We view these very large swings in the real exchange rate as a curse rather than a blessing. There are no conceivable developments in the fundamentals of the real economy that called for such huge swings in relative prices and costs. These episodes are evidence of the havoc financial asset markets can create when they go off on their periodic peregrinations into misplaced euphoria and unwarranted gloom. 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.

[14] The exceptions are France and Austria in the period since 1998 and Finland and Sweden in the period prior to 1998 if we use the CPI measure.

EMU MEMBERSHIP IS COMPATIBLE WITH SIGNIFICANT AND SUSTAINED DIFFERENCES IN NATIONAL REAL GROWTH PERFORMANCE

38. The recent modest average real economic performance of the Euro area hides considerable differences in real economic performance among the individual EMU member states. Since the beginning of 1999, we have seen low growth in Germany and Italy, healthy growth in Spain and in Greece and reasonable growth in France. Opponents of UK participation in EMU observe these differences in real economic performance and question how a one–size–fits–all common monetary policy can accommodate such diverse real economic track records. For such statements to make any sense at all, two conditions must be satisfied. First, the differences in real economic performance in question must be cyclical rather than structural. Second, independent national monetary policies must be capable of effectively damping the national business cycle. The first of these conditions is only partly satisfied. The second is an illusion.

39. It is a positive finding for EMU that sustained differences in real economic growth can be accommodated within the framework of a common monetary policy. This is important because among the existing 12 EMU members (and the existing 15 EU members) there are at least three, Greece, Portugal and Spain, whose per capita incomes are still well below the EU average. Properly managed, these economies should, over time, converge to the per capita income levels of the leading EU members, through a process of catch–up growth.

40. Germany, on the other hand, is likely, without radical structural economic reform, to experience an extended period of growth at rates below the EMU average. This is partly due to the continuing burden of German unification. In addition, unresolved structural problems in the labour market, in product markets and in the banking sector will continue to be a drag on German economic performance.

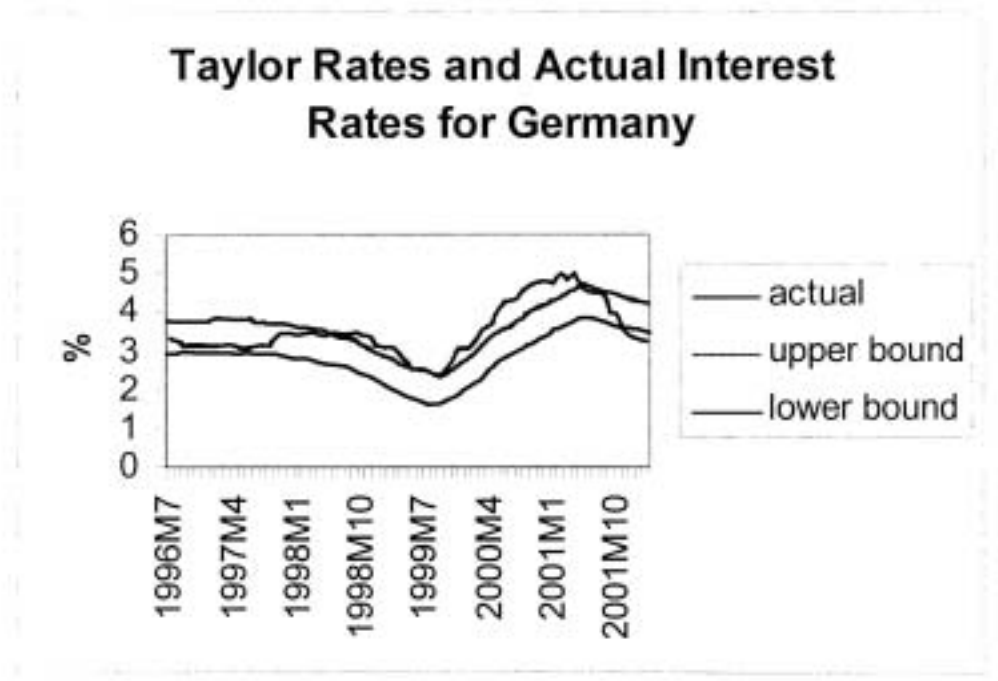
41. While much of the divergent real economic performances of the EMU member states is structural, divergent cyclical behaviour also plays a part. To recognise the reality of the business cycle is not, however, the same as accepting the proposition that national monetary policy is a highly effective tool for managing the national business cycle. This monetary 'fine tuning fallacy'[15] is dangerous, because by inflating expectations about what monetary policy can deliver, it risks undermining support for the more limited but still vital role that monetary policy is uniquely capable of playing. Because of pervasive uncertainty about both the timing and magnitude of the impact of monetary policy on the real economy, there are tight limits on what monetary policy can do to dampen normal business cycle fluctuations. It can deliver price stability, that is, low inflation, over the medium and long term, and it sets a floor under real economic activity, that is, it can prevent major crises and deep recessions. To a first approximation, the contribution of monetary policy to the stabilisation of the real economy is not something separate from its contribution to medium–term price stability, but is derived from it.

[15] See Buiter [2000].

SHOULD GERMANY RUE ITS LOSS OF MONETARY INDEPENDENCE?

42. How does the interest rate history generated by the ECB since 1999 compare with the sequence of interest rates that would have been chosen by the Bundesbank had Germany not been part of EMU? How much difference would this have made for inflation and the real economy? To answer the first question one has to specify what the exchange rate regime would have been in the counterfactual scenario. Following the ERM crisis of 1992–93 and before EMU, Germany was the centre country of ERM II, maintaining a target zone with the other, peripheral ERM members. This is a long way from a free float. In addition to the counterfactual exchange rate regime, one has to specify the short nominal interest rate rule that would have been adopted by an independent Bundesbank.

Graph 4:



Note: The bounds show the maximum and minimum of estimated Taylor rates according to different specifications (see OECD Economic Survey 2002)

Source: OECD

43. A possible approach is to use estimates of reaction curves for the Bundesbank based on historical data (see e.g. Clarida and Gertler [1996]).[16] A detailed analysis by the OECD of Taylor Rules concludes that, based on the Bundesbank's estimated reaction function, the ECB set interest rates slightly higher than the Bundesbank would have in 1999/2000, while in 2001 and the first half of 2002, ECB interest rates were at the lower end of the spectrum of hypothetical Bundesbank rates.

44. Showing that the Bundesbank would have chosen a different path of interest rates from that chosen by the ECB tells us nothing about how the German economy would have behaved under the counterfactual monetary rule (and a floating D–mark). It is beyond the scope of this note to estimate and simulate a model of the German economy, so we cannot proceed further with this line of enquiry.

[16] This clearly involves some hand waving since the monetary transmission mechanism during the sample period used for the estimation of the reaction function is bound to be different from the transmission mechanism with a floating D-Mark. In general, different transmission mechanisms generate different reaction functions. For these and other reasons, the exercise of looking at Taylor rules based on historical Bundesbank data should have a health warning attached to it.

CONCLUSION

45. For the UK, whether to join or not to join EMU is, from a strictly economic point of view, not a life or death issue. Both the current monetary regime and membership in EMU provide viable options for the future. While we believe that the UK is too small and too open to trade and financial transactions to be an optimal currency area, it is closer to being one than Denmark and Sweden, the two very small and even more open EU members that, like the UK, have not yet moved to the third and final phase of EMU.[17] We believe that monetary independence does not, in practice, make it easier to maintain or regain a competitive real exchange rate. A market–determined exchange rate can be misaligned for many years. Significant and appropriate changes in international competitiveness can be and are being achieved within EMU.

46. Independent monetary policy did not provide the UK with a tool to prevent or mitigate the imbalances in the structure of production and demand created by the persistent overvaluation of Sterling before 2002, the stock market bubble of the late 1990's and its collapse since 2000, or the housing bubble that continues even now.

47. Should the UK decide to enter EMU, it is key that she go in at the right exchange rate. Thanks to the strengthening of the Euro that began in 2002, the current Sterling–Euro rate is not the obstacle to entry that it would have been during the 1997–2001 period.[18] It now also seems likely that the European Commission and the Council will not require the UK to spend two years in the monetary and exchange rate limbo of an ERMII arrangement. As the purgatory of ERMII is at best unhelpful and at worst a serious risk to macroeconomic and financial stability, this removes an important obstacle to UK membership in EMU.

48. The medium and longer–terms costs to the UK of membership in EMU depend significantly on the way the rules of the Stability and Growth Pact and their implementation evolve. The current British fiscal framework, based on a cyclically adjusted Golden Rule for the general government deficit and a ceiling on the net general government debt to annual GDP ratio of 40 percent, while capable of improvement, is superior to that of the Pact as currently written and interpreted. Reform of the Pact towards greater flexibility, more consistent application and less politicised implementation is therefore a key element in the determination of the balance of pros and cons of Britain's adoption of the Euro.[19]

[17] The proper metric here is market power. A small open economy is defined as an economy without power to influence prices in the world markets for internationally traded goods and services, or global economic activity. There are two key sets of international prices: the terms of trade (the relative price of imports and exports), and world asset prices (or the world rate of interest). The UK is a large economy if and to the extent it can influence its international terms of trade, the world rate of interest and global economic activity. The fact that the UK is the world's fourth or fifth largest economy is irrelevant. Rank does not matter, relative size does. A country could be the world's largest economy and still have no appreciable market power. Market power is determined by size relative to the market, and by the speed and ease with which competitors can enter and exit the market. According to World Bank data, the UK was, in 2000, the world's fourth largest economy, behind the USA, Japan and Germany, as measured by gross national income (GNI), converted at market exchange rates. When measured at purchasing power parity (PPP) exchange rates, the UK moves to seventh place, now also preceded by China, India and France. Using current exchange rates, the UK accounted for 4.8 percent of world GNI in 2000. Using PPP exchange rates, the UK accounted for 3.2 percent of world GNI in 2000. For practical purposes, that makes the UK a small open economy. The only large national economy in the world is the USA. Similar conclusions apply to the UK's smallness in international financial markets. This is fully consistent with London being the financial capital of the world. The capacity to intermediate huge volumes of financial transactions is not the same as the ability to exercise significant influence on the prices at which these transactions occur.

[18] On 29 January 2003, 1 Euro = 0.66 £.

[19] See e.g. Buiter [2003a,b] and Buiter and Grafe [2003a,b].

49. Long–run productivity growth and material well–being in the UK will continue to be 'made at home', regardless of whether the UK chooses to go in or stay out. There will be microeconomic efficiency gains if the UK adopts the Euro, gains that will dwarf the one–off 'vending machine costs' of switching to the Euro, but it is not obvious that these will take the form of a permanent growth rate effect on UK GDP rather than just a permanent level effect.[20]

50. Managing asymmetric shocks should not pose a serious problem, provided the Stability and Growth Pact is reformed appropriately. Changes in international relative prices and costs can be achieved through differential cost and price inflation rates. Such adjustments will be more gradual than might have been possible with a perfectly managed flexible nominal exchange rate. Since there is no such thing as a perfectly managed flexible nominal exchange rate, this is not a great loss in practice. Indeed, should the UK decide to join EMU, it is likely to be a net plus that the nominal exchange rate vis–a–vis a region that accounts for well over half her foreign trade will be firmly locked in place. With a high degree of international capital mobility and foreign exchange markets that are both technically highly efficient and often informationally and allocatively inefficient, the best exchange rate is a dead exchange rate .[21]

51. When international competitiveness is driven mainly by an asset price sandwiched between two sticky national nominal price or cost indices for real goods and services, economic stability is likely to suffer. The relative price of real goods and services is too important to be driven largely by an asset price.[22] From this perspective it is regrettable that the non–European OECD countries, especially the US and Japan, will continue to float with respect to the Euro. Economic logic points towards a common currency for all countries linked by a high degree of cross–border capital mobility. Political logic points to the unsustainability of a common currency in the absence of common, supranational political institutions. This makes EMU a feasible currency union, but not a wider currency union involving EMU, the US and Japan. EMU is the best feasible approximation to an economically desirable but politically impossible monetary union among all advanced industrial countries.

[20] It is not difficult to come up with endogenous growth models in which returns to augmentable capital are non-decreasing, or in which a higher rate of investment in R&D can have a permanent effect on total factor productivity growth and thus on GDP growth. The authors disagree on the real world relevance of such models, but agree that four years of data will not settle the issue.

[21] A technically efficient financial market is one in which very large transactions can be conducted at very short notice and very low cost without moving the market price very much. It carries no implication that the market is informationally efficient in the strong, semi-strong or weak sense, let alone that the market provides the right signals for resource allocation decisions.

[22] The exchange rate is the key exception to the rule of thumb that "*the prices that move don't matter and the prices that matter don't move*". Under a floating rate the exchange rate matters and moves a lot.

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4

LARS CALMFORS: NOMINAL WAGE FLEXIBILITY AND FISCAL POLICY – HOW MUCH CAN THEY REDUCE MACROECONOMIC VARIABILITY IN THE EMU?

December 2002

HM Treasury invited Lars Calmfors to revisit his 1998 paper 'Macroeconomic Policy, Wage Setting and Employment – What Difference Does the EMU Make?'[1] with particular reference to his conclusions: "(i) Although an inflation-target regime will constrain monetary policy of a non-participant in the EMU, it still leaves considerable scope for exchange-rate changes in the case of country-specific demand shocks, provided that there is some nominal price and wage flexibility. (ii) Variations in payroll taxes can be used as a substitute for exchange rate changes in the EMU, but it will be an imperfect substitute. (iii) Money-wage flexibility is likely to be larger inside than outside EMU, but probably not by much. (iv)There are various mechanisms through which the EMU may affect the incentives for labour market reform to reduce equilibrium unemployment, but the net impact is highly uncertain." (p. 125).

SUMMARY

1. If EMU membership causes a tendency to larger macroeconomic variability, the incentives for nominal wage flexibility are enhanced. It is improbable, however, that an increased degree of nominal wage flexibility can offset this tendency more than to a small extent. The most problematic outcome would be if upward wage flexibility increased significantly, but there is only a limited (or no) increase in downward flexibility, as this would lead to a larger risk that a country-specific boom triggers a rise in real labour costs and a real exchange rate appreciation that take a long time to unwind. As a consequence, EMU membership is likely to increase the demands on fiscal policy as a stabilisation tool. For political-economy reasons, one cannot, however, expect an increased use of fiscal policy to compensate fully for the loss of national monetary policy in the EMU. But the effectiveness of fiscal policy for macroeconomic stabilisation can probably be increased substantially through various institutional reforms establishing a more well-defined and transparent policy framework similar to what has been done in the field of monetary policy.

I. INTRODUCTION

2. EMU membership means giving up monetary policy as a national stabilisation policy tool. Neither the short-term interest rate nor the exchange rate can then adjust to domestic macroeconomic conditions. This is likely to make it more difficult to stabilise the economy when domestic cyclical developments deviate from those in other euro countries. To judge the consequences of this for macroeconomic variability requires an analysis of alternative ways of stabilising the economy. This note focuses on two issues:

(1) To what extent may the need for stabilisation policy be reduced by an endogenous response of wage-setting practices, involving more flexibility of nominal wages?

[1] Calmfors, L. (1998),'Macroeconomic Policy, Wage Setting and Employment – What Difference Does the EMU Make?', *Oxford Review of Economic Policy* 14 (3), pp. 125-151.

(2) To what extent may national fiscal policy make up for the loss of national monetary policy?

3. The two questions are interrelated, as adjustments in the wage-setting process reduce the demands on fiscal policy, and a larger role of fiscal policy in macroeconomic stabilisation reduces the demands for nominal wage flexibility.

4. Although most macro economists seem to subscribe to the view that EMU membership tends to increase cyclical variability, this view is not uncontested. One could therefore read my analysis as a conditional one: *if* EMU membership tends to give more macroeconomic variability, to what extent can this tendency be counteracted through adjustments in the wage-setting process and through more activist fiscal policy?

2. EMU MEMBERSHIP AND NOMINAL WAGE FLEXIBILITY

5. According to a common view, nominal wage rigidity is a key cause of why temporary macroeconomic shocks may give rise to large fluctuations in output and employment. With demand shocks, variations in nominal wage growth (or in the nominal wage level) can help stabilise the real wage and thus also output and employment. With supply shocks, such as variations in the rate of productivity growth, nominal wage rigidity may imply less flexibility in the real wage level than is desirable for employment stabilisation.

6. A central issue when analysing the effects of EMU membership is to what extent the degree of nominal wage flexibility might increase and counteract tendencies to increased macroeconomic variability. A problem for such an analysis is the lack of a generally accepted theory of wage stickiness. Instead, one has to make judgements on the basis of various types of reasoning, as in Calmfors (1998).

7. A first approach views the degree of nominal wage flexibility as the consequence of the *length of wage contracts* (Gray, 1978; Ball, 1987). The optimal contract length for wage setters depends on a trade-off between on the one hand trying to keep down the number of bargaining occasions, and thus bargaining costs, and on the other hand maintaining the capacity to adjust wages quickly to unanticipated macroeconomic developments in new contracts. To the extent that EMU membership tends to increase variability in employment, real wages and profits, the incentives for short contract periods in order to achieve nominal wage flexibility are enhanced. Unfortunately, there is not much empirical basis for assessing how strong these effects could be. Calmfors and Johansson (2002) have made an attempt at quantification by solving numerically a simple model for the choice of optimal contract length, assuming that wage setters try to avoid variability in both employment and the path of real wages. Under the assumptions made, EMU membership creates an incentive for large reductions of contract length (to about one half or one third of the length without membership), but still leads to a large increase in employment variability (it approximately doubles). According to the model computations, the combination of EMU membership and an endogenous shortening of contract length causes a huge increase in the variability of the rate of price change (it increases fivefold or more).[2]

[2] The model calculations do not take into account that the increased variability in the rate of price change may reinforce destabilising movements in the real interest rate (the so-called Walters effect): for example, if the reduction in inflation in a demand-driven recession is reinforced by nominal wage flexibility, the real interest rate increases more than would otherwise be the case. Taking this effect into account might reduce the stabilising effects of increased nominal wage flexibility on output and employment. The overall outcome for output and employment stability is not clear, however, as increased nominal wage flexibility would also reinforce stabilising variations in the real interest rate in the case of temporary supply shocks: the real interest rate would, for example, fall more in the case of a negative supply shock that reduces output and raises inflation.

8. Another approach focuses instead on the prevalence of *contingency clauses* in existing wage contracts, which make it possible to adjust already agreed wage changes in response to prespecified events (Gray, 1976; Blanchard, 1979; Walsh, 1995; and Heinemann, 1999). One example is indexation clauses, linking wage changes to consumer price increases, as used to be common in many European countries, and still exist in Belgium, Finland, Luxembourg and Spain. Calmfors and Johansson (2002) found that the incentives for such contingency clauses are likely to be enhanced by EMU membership in a similar way as the incentives for shorter contract length.[3] But another finding was that the increase in macroeconomic variability associated with EMU entry might very well be too small to trigger the introduction of such clauses if they did not exist before. Profit-related pay is another type of contingent wage contract. One could hypothesise that the incentives for such pay arrangements would also be enhanced by EMU membership, although I am not aware of any formal modelling of this.[4]

9. A third approach stresses *co-ordination failures* as the main cause of nominal wage stickiness (Ball and Romer, 1991). Unless macroeconomic disturbances are very large, the incentives to adjust wages in individual bargaining areas may be small in the absence of co-ordination with other bargaining areas. This aspect may be particularly relevant to the UK economy in view of the decentralised and overlapping character of wage setting, which rules out co-ordinated wage responses to macroeconomic disturbances of the social-pact type that has occurred in several EMU countries (the most outstanding examples are Ireland, the Netherlands and Finland; see Calmfors *et al.*, 2001). The analysis of Holden (1994, 2001), which builds on the idea that the *fall-back option* for wage bargainers if they cannot agree on a new wage contract is to continue with the earlier wage contract, also suggests that larger macroeconomic shocks in the EMU may not lead to more nominal wage flexibility unless shocks are very large. If shocks are limited in size, it will pay no party to wage bargaining to initiate a labour market conflict to change the *status quo*.

10. A last approach, finally, focuses on how strong social norms about fairness may cause *downward* nominal wage rigidity. This may not only imply that nominal wage levels are difficult to cut, but also that wage earners feel entitled to at least some nominal wage increases, which form a reference point when individuals evaluate their utility along the lines of Kahneman and Tversky (1979). There exists ample evidence from various survey studies of the importance of social norms against nominal wage reductions except in very extreme situations, such as when the survival of a firm is at stake (see, for example, Bewley, 1999). This again raises the possibility that increased macroeconomic variability associated with EMU membership may not be enough to change the degree of nominal wage rigidity significantly. This hypothesis receives some support from two Swedish studies. Agell and Lundborg (1995) examined how a number of personnel managers in 1991 judged the possibility of nominal wage cuts. Agell and Lundborg (1999) reported on a similar survey made in 1998. The authors found as negative attitudes towards nominal wage cuts in the second survey as in the first, even though there had been a dramatic increase in unemployment and an equally dramatic reduction in inflation between the two surveys. This suggests that it may be very difficult to change social norms on nominal wage reductions.

[3] Leichter (1998) arrives at a similar conclusion.

[4] Note, however, that simple profit sharing à la Weitzmann (1985), according to which the employee is paid the sum of a fixed nominal base wage and a fixed share of the firm's profit per employee, instead of just a fixed ordinary nominal wage, would not help stabilise output and employment. The profit-maximising condition is then that the value of the marginal product of labour should equal the base wage. If the base wage is set lower than the ordinary wage, equilibrium output and employment increase, but the variations around the equilibrium in the case of unanticipated price and productivity shocks are not affected (Calmfors, 2002).

11. My overall conclusion is the same as in Calmfors (1998), namely that tendencies to increased macroeconomic variability in association with EMU membership would create incentives for more wage flexibility, but that this is likely to counteract these tendencies only to a limited degree. One should be especially concerned about the risk of downward money wage rigidity, the macroeconomic consequences of which are more problematic the lower the inflation target of the ECB, as low inflation reduces the room for achieving real wage cuts and real exchange rate depreciations (reductions of wage costs relative to other euro countries) without cutting nominal wages.[5]

12. In addition, I want to point to a risk with EMU membership that has not been much discussed before. The risk derives from a possible interaction between increased *upward* nominal wage flexibility and unchanged (or only slightly increased) *downward* flexibility. The explanation for such an outcome would be that the forces reducing downward wage flexibility (social norms) are much stronger than the forces working against more upward wage flexibility, which might imply that EMU membership could change the degree of wage flexibility in an asymmetric way. (A case in point would be that trade union fears that real wages will be eroded by inflation have recently motivated indexation clauses, according to which higher than expected inflation triggers higher wage increases, whereas lower inflation does not trigger lower increases, in Spain and Finland.[6])

13. The consequence of such an asymmetric change in the degree of nominal wage flexibility would be an increased risk that temporary demand increases in an individual country cause wage increases, which because of downward money wage rigidity are hard later to reverse and therefore "lock in" a higher real wage level and an appreciation of the real exchange rate. This way increased upward nominal wage flexibility in the case of EMU membership could indeed make it more difficult to stabilise the domestic economy in the next downswing, which would be entered with too high real labour costs and an overvalued real exchange rate (see EEAG, 2002 and 2003).

3. THE ROLE OF FISCAL POLICY

14. If increased nominal wage flexibility cannot work as a good substitute for national monetary policy in the EMU, the remaining option to handle country-specific cyclical developments is through an increased use of fiscal policy. When assessing the scope for this, one has to evaluate: (1) the technical effectiveness of fiscal policy as a countercyclical stabilisation tool; and (2) the political-economy possibilities of using fiscal policy for this purpose in an effective way.

[5] Indeed, there might be a harmful interaction between downward nominal wage rigidity in general in the euro countries and the price stability target of the ECB. Downward nominal wage rigidity might create an incentive for the ECB to choose a low target, which could reinforce nominal rigidity. The argument is that the ECB may want primarily to maintain a stable rate of inflation. At low inflation, the restriction that nominal wage levels cannot be cut binds more often. Hence, the rate of wage change will vary less, which makes it easier for the ECB to stabilise the rate of inflation. Downward nominal wage rigidity in the euro area could also increase the risk of differential cyclical developments among the member countries. If booms in some countries drive up the average rate of inflation in the euro area, the ECB will tighten monetary policy. The more downward wage rigidity there is in the countries not experiencing booms, the larger output and employment reductions must occur there to compensate for the inflation in the booming economies (Holden, 2001).

[6] See Economic Survey of Spain, OECD (2001) and Inkomstpolitiskt avtal för åren 2001-02 (2002).

3.1 The technical effectiveness of fiscal demand management policy

15. As to the technical effectiveness of fiscal demand management policy, there exists a large literature questioning its impact based on the notion of Ricardian equivalence (see Elmendorf and Mankiw, 1999). The argument is that deficit-financed tax reductions, raising the disposable incomes of households, will fail to increase private consumption and thus to stimulate aggregate demand: households will realise that their life-cycle incomes have not increased, as they will have to pay for the deficits through higher taxes in the future. However, it is well-known that the Ricardian equivalence results hold only under very restrictive assumptions. Empirical analysis seems also to indicate positive tax multipliers, although they may be smaller than believed earlier (around one or slightly below; see, for example, Blanchard and Perotti, 1999).

16. Still, the Ricardian equivalence debate points to the importance of finding fiscal policy instruments that are as effective as possible. One would, of course, always expect tax and transfer changes targeted on low-income groups, which to a large extent are credit-constrained, to be more effective than measures targeted on high-income groups with better access to capital markets (Wren-Lewis, 2000). Also, temporary changes in government consumption should be more effective in affecting aggregate demand than general income tax changes. This is obvious if an increase in current government consumption is financed through a reduction in future government consumption, as this does not involve any changes in the taxes paid by households and hence no changes in private consumption if that is based on life-time income. But a similar conclusion holds also if a temporary increase in government consumption is financed through future taxes. The explanation is that the short-run direct demand effects are larger than the short-run changes in private consumption due to perceived future tax changes: this is so because the changes in private consumption resulting from the changes in life-time incomes will be spread over the whole future, as households want to smooth consumption over time, whereas the whole change in government consumption occurs in the short run (EEAG, 2003).

17. According to the textbook Mundell-Fleming model, fiscal policy becomes more effective as a stabilisation tool for an individual country with membership in a monetary union than with an own currency and a flexible exchange rate, because the demand effects in the latter case tend to be offset by exchange rate movements (see, for example, Krugman and Obstfeld, 2002, Chs 16-17). This is sometimes taken to imply that there would be no stabilisation policy cost of EMU membership. This argument is incorrect. The reason is that it is in principle always possible to achieve the same mix of monetary and fiscal policy with non-membership as with membership. The only reasonable interpretation of the fact that most countries with a flexible exchange rate have chosen to use monetary, and not fiscal, policy as the primary stabilisation tool is that this assignment has been judged to be superior (Commission on Stabilisation Policy, 2002).`

3.2. Fiscal stabilisation policy to affect relative prices

18. In my view, one type of fiscal policy that has received too little attention is measures that work by changing *relative prices*. A first such policy is temporary changes in the VAT, which affect private consumption in a similar way as changes in the real interest rate: by changing the relative price between consumption in different time periods, households are induced to re-allocate spending intertemporally (Commission on Stabilisation Policy, 2002). An alternative way of changing the (after-tax) intertemporal terms of trade for households might be to vary the rate of capital income taxation over the business cycle.[7] One could also conceive of a similar use of investment taxes or subsidies to affect the timing of private investment. The possibility of cross-border trade is usually seen as a limitation on the possibilities to set VAT rates according to national priorities in the long term. But this does not apply in the same way to temporary VAT changes as a stabilisation tool in the case of country-specific cyclical developments. On the contrary, if a temporary rise in the national VAT in a boom shifts consumption purchases abroad, this, too, tends to reduce demand domestically.

19. Another possibility, which has also been overlooked in much of the international discussion, is to use temporary variations in the payroll taxes levied on employers as a stabilisation tool. By changing domestic wage costs, such a policy directly affects the real labour cost and the real exchange rate vis-à-vis other euro countries. It is not only temporary reductions in payroll taxes in downswings that may be of interest. In fact, temporary rises in employers' payroll taxes may be an appropriate policy if an individual euro country experiences a boom. The reason is that higher payroll taxes for employers raise domestic wage costs and output prices, but not domestic wages. On the contrary, wage increases are likely to be held back to the extent that the demand for domestic output falls and the tax is shifted backward on to employees because "the room for wage increases" is reduced.[8] A temporary increase in payroll taxes may therefore be a desirable way of dampening a boom, because wage costs are raised temporarily at the same time as the risk that wages are bid up more permanently (see the discussion on asymmetric nominal wage rigidity in Section 2) is reduced.

20. The idea of using cyclical variations in employers' payroll taxes as a countercyclical tool has large similarities with the system of so-called *buffer funds* that was set up in Finland in connection with the entry into the EMU. According to this system, funds have been built up through temporary increases in employer contributions to the social security system and the intention is to use these funds to hold down contributions in downswings (Holm *et al.*, 1999).

[7] This has been suggested by Boije and Shahnazarian (2002), who note that a given change in the after-tax interest rate can be achieved either through a change in the pre-tax interest rate or a change in the tax rate. However, there are several differences in effects between the two policies. A change in the rate of capital income taxation affects the whole spectrum of after-tax interest rates, whereas a change in the central bank's repo rate only affects short-term interest rates. This difference tends to make changes in capital income taxation a more powerful stabilisation tool than central bank interest rate changes. A side effect of variations in the capital income tax rate is that they may affect the incentives to reclassify labour incomes as capital incomes in order to exploit tax arbitage possibilities.

[8] This latter tax-shifting effect has been shown empirically to be strong in the Nordic countries (Nymoen and Rødseth, 1999; Calmfors and Uddén Sonnegård, 2001). The wage-reducing effects mentioned in the text would be counteracted to the extent that compensating wage claims are triggered by the CPI rises associated with higher output prices when pay-roll taxes are raised, but this effect is likely to be small compared to the other effects.

21. Fiscal policies working through changes in relative prices do not have to involve variations in the budget balance. One example is to combine a reduction of payroll taxes with an increase of other taxes falling on employees (income taxes, employee contributions to the social security system or the VAT) or reductions in government transfers to households. This policy measure is often labelled *an internal exchange rate change*, because it can be shown to have short-run effects that are equivalent to those of a nominal exchange rate change, as discussed in Calmfors (1998). Such internal devaluations were made in Denmark in the late 1980s and in Sweden in the early 1990s. There are, however, some problems with this measure. One is that it requires complex decisions on several fiscal policy parameters, which is likely to result in a slow decision process. Another problem is that real exchange rate changes are known to affect trade volumes with substantial lags. This is an argument for using an internal devaluation mainly as a measure of last resort in situations when there is no scope for increasing budget deficits and when a recession is likely to be drawn-out. A good example of such a situation is the present German one, where a budget deficit in excess of the three-percent-of-GDP ceiling in the Stability and Growth Pact necessitates fiscal restraint, at the same time as there may be a persistent misalignment of the real exchange rate (because the D-mark was converted to the euro at an overvalued nominal exchange rate).

3.3. The political economy of fiscal stabilisation policy measures

22. The most fundamental problems of using fiscal policy as a stabilisation policy tool are political-economy ones. There are a number of reasons why discretionary fiscal policy is likely in practice to be used in a less effective way than monetary policy.

- Decision lags are long, as tax and government expenditure changes have to go through a lengthy parliamentary decision-making process.
- The political character of fiscal policy decisions makes it hard to reverse decisions when circumstances change (Taylor, 2000).
- Fiscal policy has also other central objectives than stabilisation, viz. income distribution and an efficient resource allocation. In addition, the timing of fiscal policy measures is often influenced by attempts of incumbent governments to enhance their re-election chances. Hence, there is a serious risk that stabilisation policy aspects will carry a low weight (Commission on Stabilisation Policy, 2002).
- A voluminous political-economy literature has highlighted the risk of a systematic *deficit bias* for fiscal policy, because it is run by policy-makers engaged in day-to-day politics where a short-run perspective tends to dominate (see, for example, Alesina and Perotti, 1995; or von Hagen *et al.*, 2002).

23. Considerations of this type have led many economists to the conclusion that discretionary fiscal stabilisation measures are likely to be badly timed and conducive to fiscal laxity in general. The prevailing conventional wisdom is that fiscal policy should mainly be confined to let the automatic stabilisers, that is the automatic cyclical variations in tax receipts and some government expenditures, dampen output and employment fluctuations (see, for example, Taylor, 2000; or European Commission, 2002). This is, however, a problematic conclusion as automatic stabilisers can by their very nature only cushion macroeconomic shocks, but not fully offset them. Moreover, there is no reason to believe that the automatic stabilisers give the optimal degree of stabilisation, as their size is a by-product of decisions that have nothing to do with macroeconomic stabilisation (mainly the ratio of

overall government expenditures to GDP). This raises the question whether it might be possible to improve the workings of fiscal policy through institutional reforms that mitigate the political-economy problems.

24. A natural question is whether some lessons for the fiscal policy decision-making process can be learnt from the institutional set-up adopted in the field of monetary policy in many countries, for example the UK and Sweden. This set-up involves a well-defined policy framework with the setting of clear objectives, a transparent decision-making process, and delegation of decisions to an independent central bank. In my view, there exist several more or less radical options for improving the decision-making process for fiscal stabilisation policy measures along such lines.

25. The most conventional approach would be to build on the recent reforms in many countries that have introduced more fiscal discipline through procedural changes in the budget process strengthening the position of the Ministry of Finance (see von Hagen *et al.*, 2002) and greater transparency (like with the *Code for Fiscal Stability* in the UK and the *Fiscal Responsibility Act* in New Zealand). One aim would then be to increase the importance attached to stabilisation objectives and avoid them being confounded with income distribution, social-efficiency and re-election objectives. Another aim would be to shorten decision lags. One way of doing this could be to adopt a *Fiscal Stabilisation Policy Act*, which complements long-run budget balance (or debt) objectives for fiscal policy with clear stabilisation objectives. In the case of EMU membership, when the long-run national inflation rate is tied down by the common euro area inflation rate, the natural primary stabilisation objective for national fiscal policy is to stabilise output around its equilibrium (potential) level. Since the output level cannot be affected in the short term without excessive variability in the fiscal parameters, the objective should be forward-looking and apply to the medium term (Commission on Stabilisation Policy, 2002).[9]

26. A Fiscal Stabilisation Policy Act could also give guidelines for under which circumstances one should rely only on the automatic stabilisers and under which circumstances one should resort to discretionary action (for example, when predicted output gaps are judged to exceed some critical levels). Like in the Australian *Charter of Budget Honesty*, the government could be obliged to indicate which tax and expenditure changes are temporary (because they are undertaken for stabilisation purposes) and "the process for their reversal" (Business Council of Australia, 1999). To shorten decision lags and reduce the risk that income distribution or re-election considerations come to dominate stabilisation considerations in concrete situations, a *Fiscal Stabilisation Policy Act* could also specify in advance a small number of fiscal policy instruments to choose from if the need for discretionary action would arise (Commission on Stabilisation Policy, 2002).

27. A somewhat more radical approach would be to establish an independent advisory Fiscal Policy Committee, which could be entrusted with the task of providing a regular input into the budget process, serving as a basis for fiscal policy decisions with the aim of stabilising the economy (Wren-Lewis, 1996; Commission on Stabilisation Policy, 2002). The Committee could be required to publish regular stabilisation reports (corresponding to the present inflation reports of, for example, the Bank of England and the Riksbank in Sweden) assessing the state of the economy. The Committee could also give recommendations to the government and the parliament on how much the budget target in a given year should deviate from the budget target over the cycle and on specific tax and expenditure changes to

[9] The argument is similar to the one for monetary policy. Note also that an output stabilisation goal for fiscal policy does not mean that an inflation differential vis-à-vis other euro countries should be neglected. On the contrary, for example a higher inflation rate than in the rest of the euro area could mean an erosion of international competitiveness, which would make it harder to stabilise output in the future. Hence, the relative rate of inflation is likely to be a key intermediate target in a fiscal regime aiming at output stabilisation in the medium term (EEAG, 2002 and 2003).

stabilise aggregate demand (Commission on Stabilisation Policy, 2002). The idea is then to increase the reputational costs for the government of attaching a low weight to considerations about stabilisation and long-run fiscal sustainability. Such a *Fiscal Policy Committee* could be given more teeth by requiring the government to give a formal explanation to the parliament if it chooses not to heed the recommendations. One might also require the government to base its budget calculations on the Committee's estimates of output gaps as well as of tax and expenditure developments

28. A more far-reaching reform would be to *delegate the actual decisions* on fiscal policy measures to stabilise the economy to an independent *Fiscal Policy Committee* in much the same way as monetary policy has been delegated to independent central banks.[10] One option, which has been proposed by, for example, Ball (1997) is to delegate the power to vary certain tax rates (and/or possibly government expenditure levels) around some base values within predetermined margins.[11] Another possibility, which has been advocated by Wyplosz (2002), is to let the Committee decide how much the annual budget target should be allowed to deviate from the budget target over the cycle, which would continue to be determined by the parliament. According to this model, the parliament would also decide through which tax and expenditure changes the annual budget target in a given situation should be achieved. The underlying idea behind the delegation proposals is that stabilisation of the business cycle is a commonly shared objective, which requires more of technical expertise, but less of political value judgements, than other fiscal policy decisions, such as those on the size and structure of government expenditures and taxes and on long-run government debt accumulation.

29. Most people probably view the idea of delegation of fiscal stabilisation policy decisions as unrealistic, because it would seem to interfere with traditional principles of parliamentary control over taxes and government expenditures, which are often regarded as a centrepiece of democratic governance. Provided that fiscal policy decisions with the aim of stabilisation can be delineated from other fiscal policy decisions, it is, however, difficult on a purely intellectual level to see why there should be weaker arguments for delegation in this case than for monetary policy (which has become generally accepted).[12] Such delegation would also conform to more general trends in many other areas of economic policy, such as competition policy and regulation of financial markets, where politicians have chosen to focus on setting general priorities and to delegate the operational policy making to professional bodies. Successful delegation of this type does, however, require well thought-through mechanisms to hold decision makers accountable. This could include ex-post public evaluation of policies, possibilities of dismissal in the case of significant deviations from targets and possibilities of overriding the decisions (the last two possibilities preferably requiring a qualified majority in the parliament to protect against misuse) (see, for example, EEAG, 2003).

[10] This possibility has been analysed by, for example, Ball (1997), Business Council of Australia (1999), Seidman (2001), Wyplosz (2002) and EEAG (2003).

[11] One way of doing this could be to give the Committee control over a "rainy-day stabilisation fund" for this purpose. The Finnish buffer funds (see Section 3.2) play such a role, although they are controlled jointly by the government and the central labour-market organisations in a corporatist fashion.

[12] A relevant counterargument might, however, be that one regards delegation of both monetary policy and some fiscal policy decisions to "technocrats" as giving too much delegation in total. An alternative, which has been proposed by Sveriges Riksbank (2002), is that the parliament should instead delegate some fiscal policy decisions of a stabilisation character to the government. This might mitigate the problem of long decision lags, but might on the other hand exacerbate political-economy problems relating to the risk of procyclical policies pursued by governments in order to secure re-election or favour their own constituencies.

4. OVERALL CONCLUSIONS

30. One cannot expect increased nominal wage flexibility in the EMU to act as a good substitute for the loss of national monetary policy in the event of country-specific cyclical developments. This puts a heavy burden on national fiscal policy. The technical potential of fiscal policy to work as an effective stabilisation policy tool has probably been underestimated in recent years: especially policies that change relative prices (such as temporary VAT changes affecting the intertemporal terms of trade or temporary changes in payroll taxes affecting real labour costs and real exchange rates) are likely to have substantial effects.

31. The main obstacle to efficient fiscal stabilisation policy is problems of political economy: long decision lags, irreversibility of decisions, deficit bias, confounding of stabilisation policy objectives with income distribution and resource allocation objectives, and the use of fiscal policy to secure the re-election of incumbent governments. This makes it unlikely that an increased use of fiscal policy can compensate for the loss of national monetary policy in the case of EMU membership. But 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.

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5

WENDY CARLIN AND ANDREW GLYN: BRITISH EXPORTS, COST COMPETITIVENESS AND EXCHANGE RATE ARRANGEMENTS

December 2002

HM Treasury invited Wendy Carlin and Andrew Glyn to revisit their 2001 paper 'Export Market Performance of OECD countries: an Empirical Examination of the Role of Cost Competitiveness'[1] co-authored with John Van Reenan, with particular reference to the quotation: "The existence of underlying trends in export performance combined with an important role for cost competitiveness has implications for the debate about exchange rate arrangements in Europe." (p.156).

1. This note summarises the implications of our work (Carlin, Glyn and van Reenen 2001 updated for the Treasury in Carlin, Glyn and Manning 2002) for the discussion about UK adoption of the Euro.

2. The fundamental purpose of our work was to examine the determinants of manufacturing exports, using a large data set covering major manufacturing industries in a dozen or more OECD countries for the period since 1970. Our focus was on the role of labour cost competitiveness – had it become less important as exports were increasingly dominated by products where quality was paramount or more important as competition on world markets had grown. Did its importance differ across industries depending upon their technological sophistication, were factors like investment or research and development important for exports directly over and above indirect effects on labour productivity and thus costs? We wanted to see whether UK exports were more or less sensitive to labour cost differences than other (especially European) countries and whether there were consistent adverse trends in UK exports, which would imply export market shares could only be maintained if relative unit labour costs grew more slowly than in other countries.

3. Our conclusions (from the 2002 paper, which extended the period of analysis to 1999) were that:

(a) The notion that relative unit labour costs are becoming less relevant for the exports from OECD countries is wrong. If anything, cost sensitivity of export market shares seems to have edged up in the 1990s;

(b) The full effects of changes in cost competitiveness on exports take a long time to feed through, as long as six years, particularly when they are initiated by exchange rate changes;

(c) There is evidence for some additional direct effect for R&D and fixed investment on export performance over and above indirect effects via relative costs;

(d) UK exports are relatively sensitive to unit costs and, if anything, have become more sensitive since the 1970s and 1980s. The UK is different from EMU members on this count: in the other large countries, exports are not sensitive

[1] Carlin, W., Glyn, A. and Van Reenen, J. (2001) 'Export Market Performance of OECD Countries: An Empirical Examination of the Role of Cost Competitiveness', *Economic Journal* III (468) (January), pp. 128-162.

to costs (Italy) or cost sensitivity has fallen and is well below Britain's in the 1990s (France and Germany). The causes of cross-country variation in the cost-sensitivity of exports are not well understood. Without a firm understanding of the determinants, the safe assumption to make is that it would not change on entry to EMU; and

(e) Once labour costs are taken into account there has not been a significant tendency for UK export market shares to fall.

4. The simple conclusion is that *an adequate export performance requires that the trend in unit labour costs in the UK should not diverge significantly from that in other major competitors.*[2]

5. Conversely a progressive deterioration in relative unit labour costs (RULC) would, over the medium term, bring a significant decline in export performance. Within EMU, such a development would not bring the threat of a balance of payments or currency crisis. However the country would still suffer the impact of weak exports on jobs and ultimately living standards.

6. There are three components to the trend in RULC – relative wage trends, relative productivity trends and changes in the (effective) exchange rate. Our work has confirmed than in the long run each of these variables has the same effect on exports, which in turn justifies the use of RULC as a synthetic variable encapsulating the various determinants of exports. When examining the question of the UK's membership of EMU, it is instructive to consider each component separately.

7. Joining EMU in effect brings stability of the nominal exchange rate against the other countries within the Eurozone. Given the importance of these markets we could say that the effective exchange rate would be "half-stable" as compared to the present situation. Being even half-stable would be *beneficial* to the extent that it would reduce the extent that RULC was shifted from its appropriate level by movements in the nominal exchange rate. It would have *adverse* effects to the extent that the exchange rate could not move to compensate any adverse trends in the other components of RULC – wages or productivity.

8. From the data in our 2002 paper it can be seen that over the period 1970-89 the trend depreciation in the nominal exchange rate offset most of the impact on RULC of the considerably faster rise in money wages in the UK than in its competitors. Conversely over the period 1990-99 the trend appreciation exacerbated the impact on RULC of a relatively poor cost performance reflecting mainly slow labour productivity growth. As a member of EMU, the exchange rate should play a lessened destabilising role (assuming less medium-term volatility of the Euro as compared to sterling) but conversely it would be unavailable to substantially offset adverse cost trends should these develop in the UK.

9. Thus, *as a member of EMU it would be essential for the UK to achieve a trend in nominal labour costs per unit of output similar to those in the rest of the zone.* Labour costs per unit of output in turn depend on labour productivity growth and money wage growth.

10. The UK's moderate relative productivity performance raises issues beyond the scope of this note. The following points are most relevant in the present context:

[2] In our 2001 paper, we suggested that the UK might have to achieve a lower rate of labour cost increase than its competitors, or improve its relative investment rates to offset an adverse underlying trend in exports. In our later work we put most weight on the individual country regressions (Table 8) which do not show significant adverse trends for UK exports once cost competitiveness is allowed for. Any such adverse trends would tighten the pressures on UK cost performance in that a better than average trend in costs would be necessary to offset them.

(a) It is the growth rate of productivity and not its level that is relevant to the determination of the change in RULC;

(b) It is productivity growth in the traded goods sector that is relevant here (our analysis and most data on RULC is confined to manufacturing);

(c) It is productivity growth in the traded goods sector relative to other EMU countries that is of key importance, because it is such divergence that could no longer be offset by exchange rate trends; and

(d) There is no obvious reason why joining EMU would have a marked effect on medium-run UK productivity trends *relative* to other EMU countries.[3]

II. The recent data show that recent UK productivity growth in manufacturing is towards the lower end of the European league (the table below is updated from Table 9 in our 2002 paper). If the baseline assumption is that this will continue, the implication is that money wages in the UK would certainly have to rise no faster than the average for the Eurozone and perhaps somewhat slower to compensate for weaker productivity growth. The data for wage growth over the past decade in manufacturing shows that the recent trend has been for distinctly higher wage growth in the UK. Thus, *a necessary condition for maintaining UK competitiveness within the Eurozone would be considerable moderation of money wage growth as compared with that achieved over recent years.*

Table 1. Comparative productivity, wage and unit labour cost growth in EU countries, 1990-2001, Manufacturing

Average annual percentage changes	Hourly Labour Productivity	Hourly employee Compensation	Unit Labour Costs	Hourly Labour Productivity	Hourly employee Compensation	Unit Labour Costs
	1990-2001	1990-2001	1990-2001	1995-2001	1995-2001	1995-2001
UK	2.7	4.9	2.2	2.3	4.5	2.2
Belgium	3.0	3.1	0.1	2.8	2.4	-0.4
France	4.2	3.1	-1.0	4.3	2.4	-1.8
Germany	2.8	4.4	1.6	2.3	2.7	0.3
Italy	1.7	3.8	2.1	1.0	3.0	1.9
Netherlands	3.1	3.7	0.6	2.5	3.4	0.9
Sweden	4.9	4.1	-0.7	4.7	4.3	-0.3

Source: BLS website: data for Germany 1990-1991 is for West Germany only; Netherlands data ends in 2000.

[3] This point should be kept separate from the possibility that membership of EMU could affect the productivity growth of all members.

12. Would joining the Eurozone generate more moderate wage increases through the operation of market forces? As we noted in our 2002 paper:

> "the relatively rapid rise in UK unit wage costs since the mid 1990s (compared to other EU members, not UK historical experience) took place in the context of a highly overvalued exchange rate which brought great pressure on traded goods sector prices and profits, and therefore on wage setting. If the pound entered the Euro at a more realistic rate this downward pressure from the high exchange rate would be relaxed. All this emphasises that the long-standing issue of UK wage setting has not disappeared and would indeed take on heightened importance after membership of the euro-zone."

13. Wage setting is much less co-ordinated, across unions and across employers, in the UK than in most European countries (as noted for example in Chapter 8 of HM Treasury (2002)). If the UK joined EMU at a realistic exchange rate, wages would have to be set consistently with the old "Scandinavian Model" – money wages can rise by productivity growth in the UK traded goods sector plus average unit labour cost increases in other EMU countries. It is hard to see that this would happen without either a major rise in unemployment to force down inflation and wage increases or a successful attempt to co-ordinate down money wage increases so that they were consistent with maintenance of export cost competitiveness.

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6

PAUL DE GRAUWE: THE CHALLENGE OF THE ENLARGEMENT OF EUROLAND

November 2002

HM Treasury invited Paul De Grauwe to revisit his 1996 paper 'Monetary Union and Convergence Economics'.[1] He provided an edited version of a paper presented in Genoa in November 2002.[2]

I. INTRODUCTION

1. The present eurozone that consists of twelve members, could become a maxi Eurozone of twenty–five members in the foreseeable future. Denmark, Sweden and the UK could join pretty soon, and the Central European countries, which are likely to join the European Union in 2004, are also knocking at the door of the European Monetary Union. In this paper we analyze the challenges that this enlargement produces for the Eurozone. In Section 2 we analyze the issue of whether the potential entrants form an optimal currency area with the present eurozone. In Section 3, we analyze what the implications are for the present members of the eurozone. Section 4 deals with the special position of the UK.

2. ARE THE ACCESSION COUNTRIES PART OF AN OPTIMAL CURRENCY AREA?

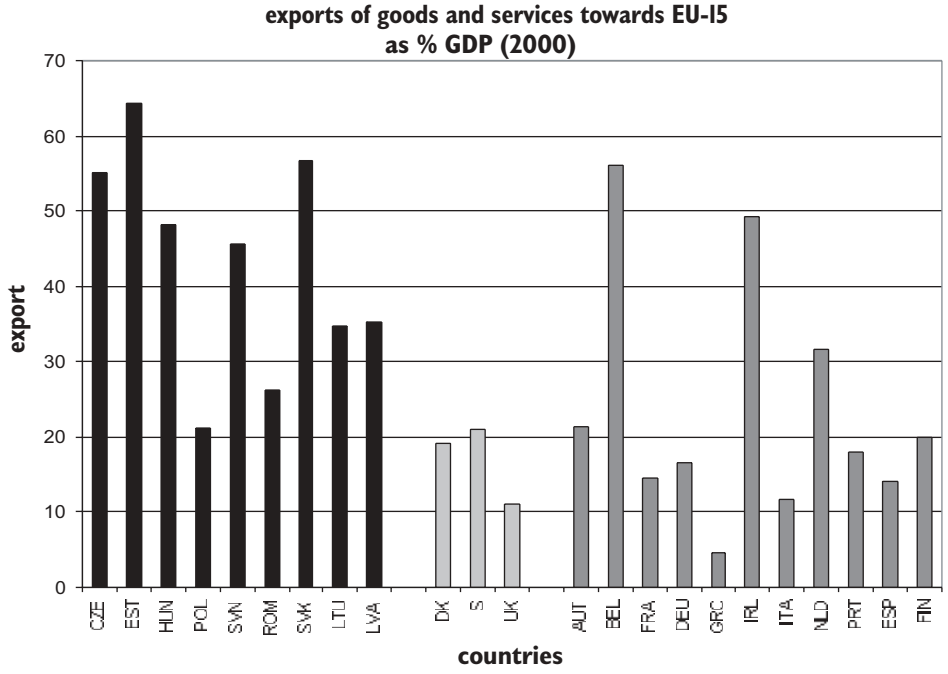
2. There is a very large literature on the factors that affect the optimality of monetary unions. Here we will concentrate on two factors, openness and asymmetry of shocks. We start by comparing the degree of openness of the central European countries with those of the EU. We show the result in Figure 1. The most striking aspect of this figure is that the central European countries are at least as open towards the EU as the EU–countries themselves[3]. It is also surprising to find that the Central European countries appear to be more integrated with the EU than Denmark, Sweden and the UK, which today have opted out from monetary union. Thus, if one concentrates on openness as a criterion of optimality of the currency union, the Central European countries would fit quite well in the existing EMU.

[1] De Grauwe, P. (1996) 'Monetary Union and Convergence Economics', *European Economic Review* 40, pp. 1091-1101.

[2] De Grauwe, P. (2002) 'The Challenge of the Enlargement of Euroland', Paper prepared for the International Conference "EU Enlargement: The Endgame Economic Issues" organised by the Jean Monnet European Centre of Excellence, Universitá degli Studi di Genova, Genoa, November 15th.

[3] It should be pointed out that with the exception of Poland, the Central European countries are quite small. Small countries tend to be more open on average than large countries. Nevertheless, even when one compares the Central European countries to small EU–countries, (e.g. Belgium, Ireland, Finland, Denmark, Sweden) the former's openness is typically larger than the latter's.

Figure 1:



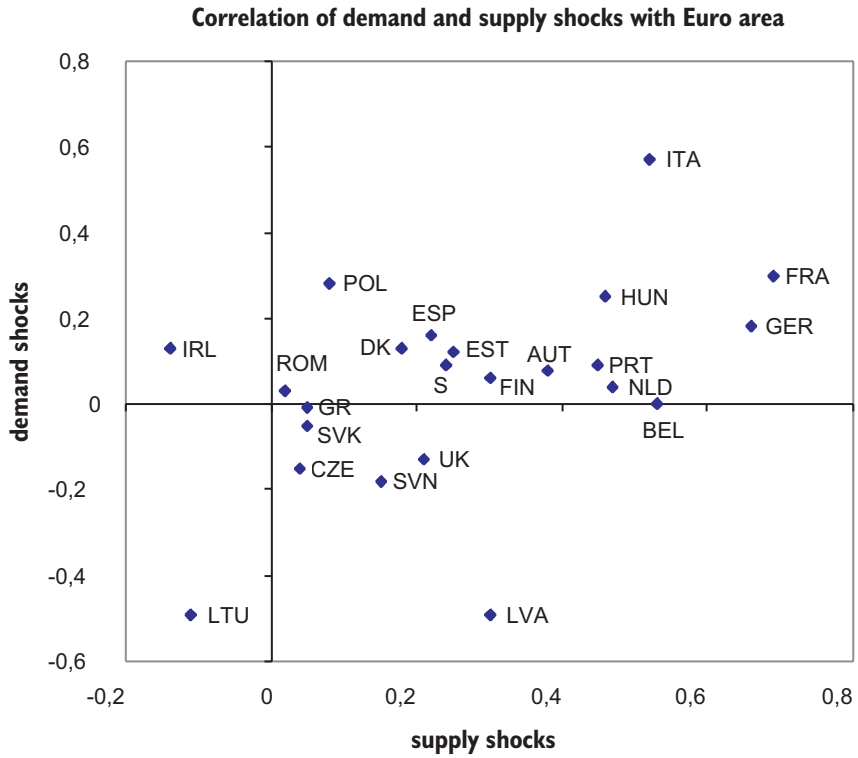
Source: European Commission(2001), and World Bank(2002)

3. A second factor affecting the optimality of currency unions is the degree of asymmetry of shocks. We do this using a recent study of Korhonen and Fidrmuc (2001). This study applied the methodology developed by Blanchard and Quah (1989) and implemented in the context of optimal currency areas by Bayoumi and Eichengreen(1993). It consists of extracting from the price and output data the underlying demand and supply shocks[4]. This is done for all the prospective members of the monetary union, and the correlation of these demand and supply shocks with the average of the union is then computed. We show the result of such an exercise performed by Korhonen and Fidrmuc (2001) in Figure 2. Each point represents the correlation coefficient of demand shocks (vertical axis) and supply shocks (horizontal axis) with the average demand and supply shocks in the Euro area. The results are quite instructive. First we find relatively high correlations of the large countries (France, Germany and Italy) with the euro area. This is not surprising because these large countries make up a significant part of the euro area. Second, although some Central European countries (Hungary and Estonia) are well correlated with the Euro area, this is much less the case with others. A large number of them have negative correlations of their demand shocks (Lithuania, Latvia, Czech Republic, Slovenia, Slovakia). Such negative correlations undoubtedly are partly the result of the fact that these countries pursue independent monetary policies. Once in a monetary union, this source of asymmetry will disappear. A more troublesome feature is that the correlation of the supply shocks of the Central European countries with the Euro area is rather low. This source of asymmetry is unlikely to disappear in a monetary union.

4. Finally, the position of the UK is noteworthy. This country's correlation of demand shocks is also negative, reflecting to a certain degree the fact that it pursues its own national monetary policies quite independently from what happens in the Euro area. At the same time the correlation of the supply shocks with the Euro area is rather low.

[4] In order to do so Vector Autoregressions (VAR) are estimated. In order to identify demand and supply shocks it is assumed that demand shocks have only temporary effects while supply shocks have permanent effects on prices and output. For more detail see Blanchard and Quah (1989) and Bayoumi and Eichengreen (1993).

Figure 2:



Source: Korhonen and Fidrmuc(2001).

5. From these results the following can be concluded. First it is not clear that all countries in the sample are part of an optimal currency area with the rest of the European Union. This is most evident for the UK. Its trade with the Euro area is rather low (see Figure 2) and it seems to be subjected to more asymmetric shocks than other large members of the union. One understands the hesitation of the UK to enter EMU.

6. Second, despite relatively large openness of the Central European countries vis–a–vis the European Union, many of these countries are subjected to relatively large asymmetric shocks, so that it is not obvious that they would gain from entering EMU. This conclusion should be handled with care however. Some of these countries may still feel that entering EMU is the best possible way to import monetary and price stability, so that the benefits of entering exceed the costs. In addition, one should compare the degree of flexibility of labour markets in these countries to come to a final judgment on the optimality of their union with the present EMU.

3. ENLARGEMENT AND THE COSTS AND BENEFITS OF THE UNION FOR THE PRESENT EUROZONE MEMBERS

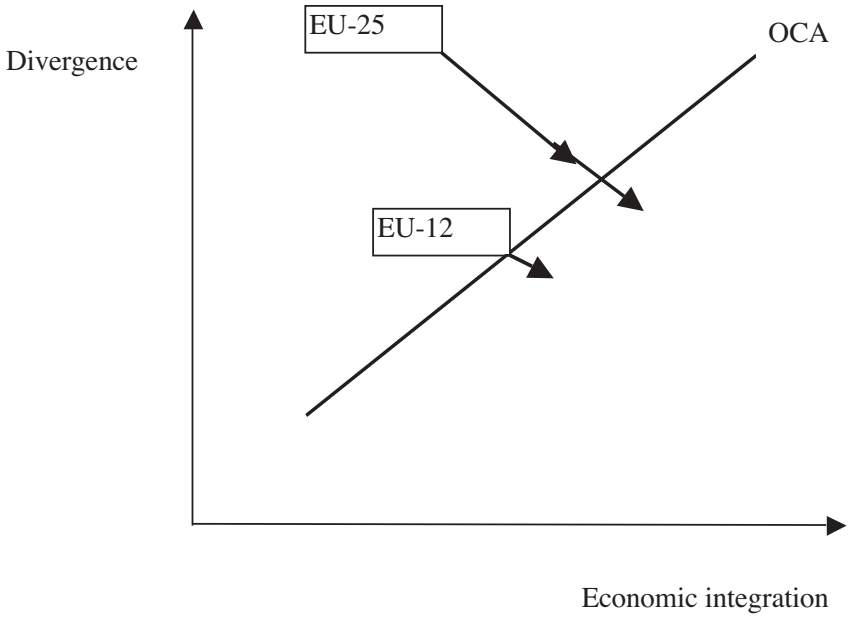
7. The previous results allow us to obtain some insights into the optimality of the existing Euro area after enlargement. In other words, these results have some implications for the costs and benefits of the monetary union for the present members when the newcomers have entered.

8. We analyse this issue using the graphical device developed in De Grauwe (2000). In Figure 3 we show divergence and integration, and plot two groups of countries. Let us first concentrate on the EU–12, the present Euro–zone. We have depicted this group of countries quite close to the OCA–zone and moving towards it, possibly aided by the endogeneity of the

dynamics towards the OCA–zone (see Frankel and Rose (1996)). Thus, pretty soon the present Euro–zone could be an optimal currency area. We have seen that one of the implications of such a happy state of affairs is that the members of the Euro–zone who face relatively few asymmetric shocks are satisfied with the monetary policies of the ECB most of the time. What happens when the Euro–zone is enlarged? Let us assume that all prospective members (Denmark, Sweden, UK, Central Europe) were to join. We represent this group of countries by EU–25.

9. It is reasonable to assume that this group of countries will be located higher up on a downward sloping line, reflecting the fact (observed in Figure 2) that EU–25 faces more asymmetric shocks than EU–12. The important insight from this analysis is that the original members of Euroland (who are also part of EU–25) will now have to wait longer until they reach the OCA zone[5]. Practically this means that since in the enlarged Eurozone the shocks are more asymmetric than in the original one, some of the original members will more often than today be outliers (in terms of inflation and output) compared to the average that the ECB will be focusing on. As a result, these members will perceive the policies of the ECB to be less receptive to their national shocks than it did before the enlargement. Some of the original members of the Eurozone may then find that the cost–benefit calculus about monetary union has become less favourable. While today most of the members of Euroland probably find that the interest rate decisions of the ECB are consistent with their national economic conditions most of the time, this may no longer be the case in an enlarged EMU. It will happen more frequently that some countries consider the monetary stance taken by the ECB to be inappropriate to deal with the economic situation of the moment. As a result, the perceived costs of the union will increase relative to the perceived benefits of the single currency. Such a situation is bound to produce tensions both inside the decision making process of the Eurosystem as outside the system when some countries feel that their economic interests are not served well by the ECB.

Figure 3:



10. There is very little the ECB can do about this. By its very nature a monetary union implies that the power to set interest rates is transferred to a common central bank which can only set one interest rate. Fine–tuning of the interest rate to cater for different national economic conditions is made impossible. This is the price the members of the union pay for the benefits they obtain from the existence of one currency.

[5] If the EU–12 is in the OCA–zone at the moment of enlargement, its members are thrown out of this zone when the enlargement occurs.

11. The only way to deal with these issues is to make sure that individual member countries have the instruments to deal with these asymmetric developments. In this context progress towards reform of the labour markets aiming at making these more flexible is of great importance. Flexibility is probably the only instrument available that allows Eurozone countries to adjust to asymmetric shocks.

4. SHOULD THE UK JOIN EMU?

12. This question has been hotly debated in the UK, and continues to be so. The Government of Tony Blair has promised to organise a referendum on the subject, the timing of which is as yet (end of 2002) unclear. Thus in the end the public will decide about the question of whether it is in the interest of the UK citizens that the euro should be introduced.

13. The question of whether the UK should join EMU can only be answered by studying the costs and benefits of being part of EMU. Several of the cost and benefit items have been discussed in the previous sections. There is some merit in bringing these together. This will allow us to gain better insights about this burning question.

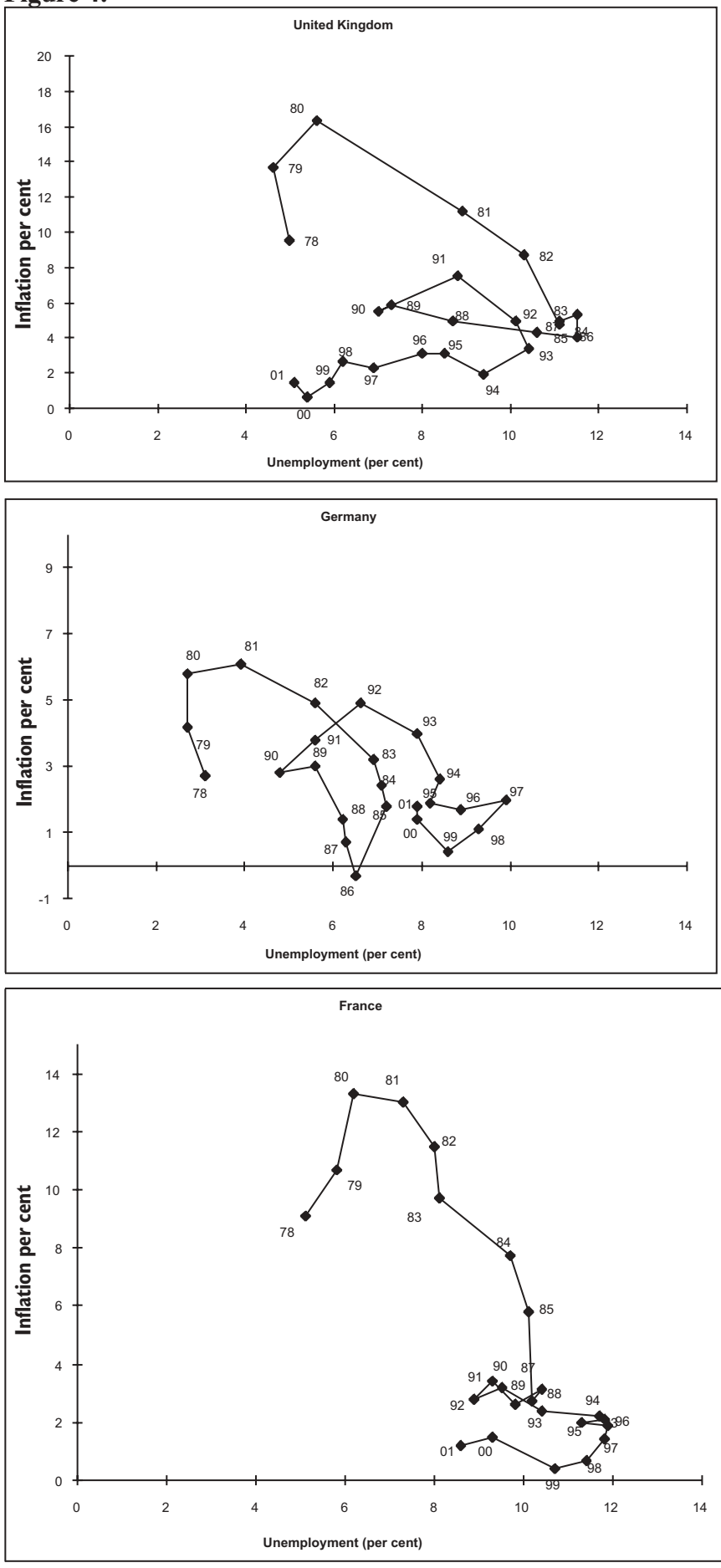
14. Let us start with the cost side. We have identified several factors that affect the costs of a monetary union, i.e. openness, flexibility, and asymmetry of shocks.

- *Openness*: We have found that, with the exception of Greece, the UK has the lowest degree of openness towards the rest of the EU (see Figure 1). It is even more striking to find that the UK is less open towards the EU than the Central European countries which are likely to join the European Union in 2004.

- *Asymmetry of shocks*: From Figure 2 we have learned that the demand shocks in the UK are negatively correlated with the demand shocks in Euroland. This is probably related to the fact that the UK has pursued independent monetary policy. If that is the case, part of this asymmetry may disappear when the UK joins the union. This remains uncertain, however. We have also found that the supply shocks in the UK are only weakly correlated with those in Euroland. All this suggests that the divergence between economic movements in the UK and Euroland is relatively high, introducing potentially high costs of joining EMU.

- *Flexibility*: There is a general consensus among economists that the UK labour markets are more flexible that the labour markets of the major countries in Euroland (Germany, France, Italy). We show the effects of the greater flexibility of the UK labour markets by contrasting the inflation–unemployment of the UK on the one hand, and Germany and France on the other hand during 1978–2001 (see figure 4). The contrasts are striking. The successive shocks that occurred, first during 1979–80 (oil shock) and later in the early 1990s (a recession) were relatively well absorbed by the UK. The effect of these shocks was to increase unemployment. These increases, however, were temporary and the UK managed to bring back unemployment to the level prevailing before 1978. The experiences of Germany and France were very different. The increases in unemployment following the shocks of 1979–80 and 1992–93 took on a permanent character. As a result the unemployment more than doubled from 1978 to 2001 in both countries. This evidence is consistent with the view that labour markets are rigid in Germany and in France: an increase in unemployment due to some shock does not lead to wage adjustments; as a result unemployment does not decline.

Figure 4:



Source: EU Commission, European economy.

15. Concluding the cost side of the analysis, one can state that the UK faces less integration and more asymmetric shocks making monetary union potentially costly. However, flexibility is significantly more favourable than in important Euroland countries, so that the UK may experience fewer problems in adjusting to these (higher) asymmetric shocks.

16. One last point about the costs of a monetary union for the UK is the following. We have seen that countries with a history of monetary instability (high–inflation) have been enthusiastic to join EMU, because entry into the union was seen as a way to import stability. Thus, countries like Greece and Italy have joined even though openness, asymmetry of shocks and flexibility were not so favourable. This effect may not be very strong in the UK, which since the 1980s has been able to introduce monetary stability on its own. The desire to enter as a way to import stability is certainly not present in the UK today.

17. The benefits of a monetary union for the UK will be similar as for the other countries, although they could be a little smaller. We now form the theory that the benefits of a monetary are a function of openness, i.e. relatively less open countries have smaller benefits from a monetary union than more open economies. In the case of the UK, however, this negative effect may be compensated by the special position of the City of London as a major financial center. Entry into the Eurozone is likely to consolidate the strong position of London as a financial center; it is even likely to enhance it. As a result, relatively large benefits will accrue to the UK.

18. Thus the cost-benefit analysis leads to the view that although the various cost and benefit items look very different for the UK, the bottom line may not be so different. If countries like France, Germany and Italy came to the conclusion that the benefits outweigh the costs, the same conclusion could hold for the UK. Put differently, one can make a case that the UK would benefit economically from joining EMU. But as is so often the case in economics, this conclusion remains clouded in uncertainty. As a result, subjective elements will weigh very heavily in people's opinion about the desirability of entry in the eurozone.

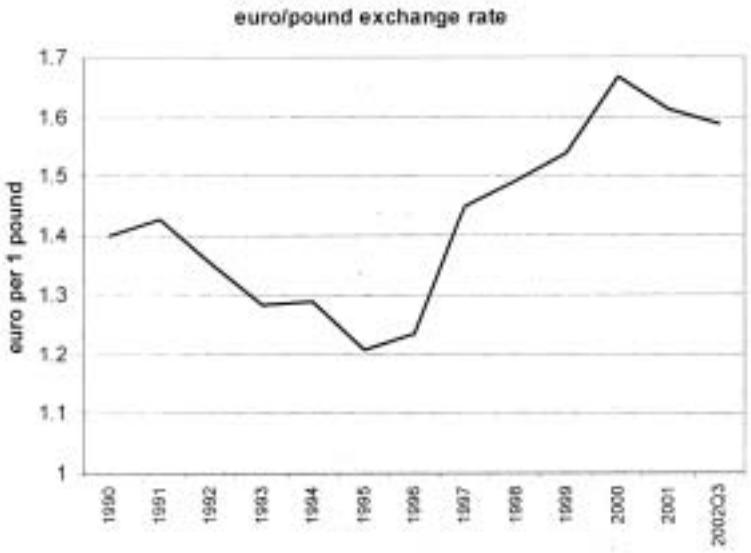
19. The corollary of this conclusion seems less subject to uncertainty. This is that the cost–benefit calculus for the existing members of being in EMU together with the UK becomes less favourable. We have developed the argument in general terms in the previous section. It can now be made more precise. If the UK joins the eurozone it will have a significant impact on the interest rate decisions made by the ECB. This is so because the UK will represent about 20% of Euroland's GDP. Since, as we have seen, the UK is characterised by significant asymmetric shocks, these shocks will influence the interest rate decisions of the ECB. Put differently, it will happen more frequently that the ECB is taking decisions that take less account of the economic conditions prevailing in some or all of the present eurozone members. As a result, these countries will feel that the common central bank disregards their national economic conditions more so than it does today. The monetary union will have become less attractive for them.

20. One last problem should be considered. This is the problem of the exchange rate at which the UK should join if it decides to do so. As one observes from Figure 5 the pound sterling started a strong upward movement from the middle of the 1990s. In 2002 it had appreciated by approximately 30% relative to its low point of 1995. One could argue that the level of 1995 may have been the result of an excessive depreciation after the UK had left the exchange rate mechanism of the EMS in 1992. But even if we take 1990 as the benchmark, which is the time just prior to entry into the ERM[6], the pound appreciated by close to 15%.

[6] Many economists believe that the exchange rate at which the pound entered the ERM was overvalued, and that this overvaluation explains the subsequent crisis in 1992 and the ensuing depreciation.

21. One way to find out whether the pound is over or undervalued is to compute the real effective exchange rate of the pound. This measures the average exchange rate development of the pound vis–à–vis its main trading partners corrected for differential developments in prices in the UK versus the same trading partners. We show the real exchange rate of the UK as computed by the European Commission in Figure 6. The prices used to make the correction are unit labour costs[7]. We observe that the pound has experienced a real appreciation of close to 30% since 1995. Again, 1995 may not be the right base year, because at that time the pound may have experienced an excessive depreciation following its exit from the ERM in 1992. Taking 1993 as the base year, which may have been the year when the pound came close to its equilibrium value, the size of the real appreciation in 2002 amounted to close to 20%. This may give a rough indication of the size of the depreciation of the pound sterling that may be desirable before the pound joins EMU.

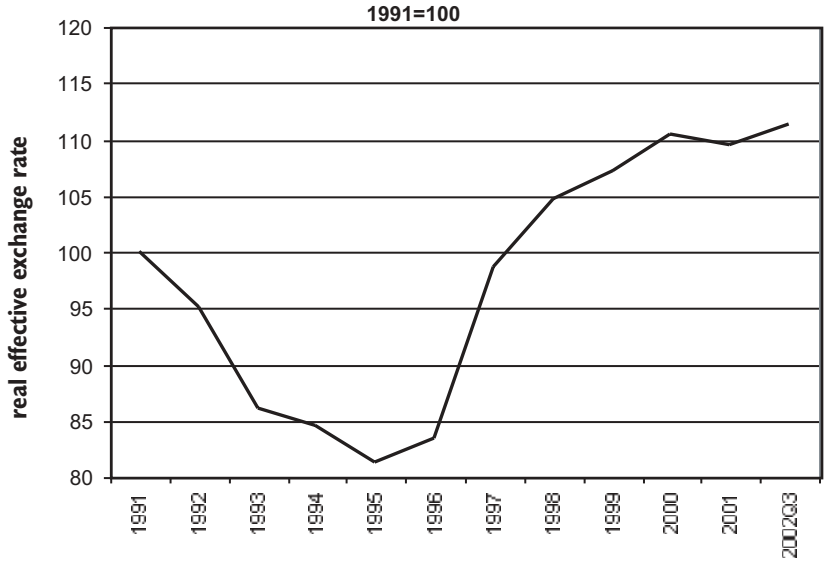
Figure 5:



Source: Bank of England, Statistical Bulletin
Note: prior to 1999 the exchange rate refers to the ECU/pound rate.

[7] Unit labour costs are defined as the cost of labour per unit of output. As a result, the real exchange rate also corrects for divergent labour productivity growth. Thus, if labour productivity increases faster in the UK than in the other countries there is a relative decline in the UK unit labour costs (assuming unchanged wages) so that the real exchange rate declines.

Figure 6:



Source: EU–Commission, European Economy, Statistical Appendix

22. If the previous analysis is correct, it would be a mistake for the UK to enter EMU with the present (2002) exchange rate. In that case the UK government is likely to push for a more favourable (i.e. depreciated) exchange rate of the pound vis-a-vis the euro at the moment of entry. This will create a problem. The Maastricht Treaty stipulates that the exchange rate at which a country enters EMU is a matter of common concern. Thus the member countries of Euroland will have to give their agreement, and they may resist such a depreciation of the pound.

5. CONCLUSION

23. The introduction of the euro has been spectacularly successful. This success should not make us complacent. The challenges ahead are formidable as well. We discussed the major challenge of enlargement to a zone of potentially twenty–seven countries which will affect the effectiveness of the ECB in maintaining monetary and financial stability within the euro zone. This is so because the enlargement is likely to change the perceptions of costs and benefits of the union for the present members of Euroland, increasing the costs relative to the benefits. Consequently, countries will face more often than today the possibility that ECB interest rate decisions do not reflect their national interests. There is very little the ECB can do about this. As a result, the pressure on countries to increase labour market flexibility will increase, which for most people in the labour market is not a comfortable prospect.

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7

JEAN DERMINE: EUROPEAN CAPITAL MARKETS WITH A SINGLE CURRENCY, WHAT DO WE LEARN?

November 2002

HM Treasury invited Jean Dermine to revisit his 1999 book 'European Capital Markets with a Single Currency'[1] co-edited with Pierre Hillion, with particular reference to his conclusion that the single currency could "change fundamentally and permanently the sources of competitive advantage of financial institutions" (p. 1).

1. In this note, we propose to review the various channels through which the euro affects financial institutions, with a major focus on capital market activities. How does the single currency affect the strategies of banks, and why might domestic and/or cross-border mergers become increasingly relevant? Four potential effects of the Euro are identified and analyzed.

2. The first impact of the Euro concerns capital markets, including the government and corporate bond and equity markets. The next two effects concern banking, with the impact of the single currency on credit risk and bank profitability in a low inflation environment. The final impact concerns the fund management industry.

3. For each channel, a discussion of the theoretical arguments is followed by the empirical evidence.

(I) THE BOND AND EQUITY MARKETS, UNDERWRITING AND TRADING THEORY

4. Before the introduction of the Euro, one observes that the capital markets in Europe were very fragmented with domestic players capturing a large market share of the underwriting and secondary trading business. This raises the question of the sources of competitive advantage for local banks.

5. With regard to the underwriting and trading of securities, the dominance of local firms is the result of four main factors: (a) an historical factor, with local banks having privileged relations with the local issuer (customer relations), (b) local expertise in evaluating business risk to price the issue, (c) domestic currency denomination, which facilitates the access to a large investor home base, providing a significant advantage not only in placing the issue, but also in understanding the demand/supply order flows, and (d) expertise of local banks in the domestic monetary environment, which provides essential information for operations on the bond secondary market.

6. 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.

[1] Dermine, J. and Hillion, P. (eds) (1999) *European Capital Markets with a Single Currency*. Oxford: Oxford University Press.

7. Therefore, the two main sources of comparative advantage remaining for local players will be an historical customer relationship and the understanding of credit (business) risk through a better knowledge of the accounting, legal, fiscal (not to mention language) environment. Whenever the business risk embedded in corporate securities can be better assessed by domestic banks, these firms will control underwriting and secondary trading. Local expertise would be particularly valuable for smaller companies, venture capital, or the real estate market. However, for larger corporations, worldwide industry expertise and placing power at the international level will most likely dominate any national source of advantage. The replacement of national currencies by the Euro thus explains consolidation in capital markets activities.

Empirical evidence

8. Using an International Financing Review (IFR) database over the years 1993-1996 for the issue of 6,517 corporate bonds and loans, Harm (2001) estimates a logit regression to determine the probability that a debt issue is led by a bank of a specific country. He observes that currency denomination is a key factor for bond issue, confirming the impact of national currency on placing power and the competitive advantage of local banks. He also observes a significant impact of the nationality of the borrower for syndicated loans, a confirmation of the importance of customer relations. Santos and Tsatsaronis (2002) analyze the early impact of the arrival of the Euro with the 1994-2001 IFR database. They not only confirm the earlier findings that 80.5 per cent of the issues were underwritten by banks from a country with the same currency denomination, but that this figure sharply decreased to 59.5 per cent in the post-EMU 1999-2001 period. Moreover, they report that the average fee has decreased from 1.6 per cent to 0.77 per cent in the post-EMU period. Bishop (2001) reports that issues of more than €1 billion increased from 14 percent to 48 percent of all Euro-denominated issues from the first quarter of 1998 to the first quarter of 2001. Driven by a much larger market liquidity, Belgium came up with a €5 billion issue in 2002. This confirms the need for larger banks with a bigger capital base to absorb the risk of an issue. Anecdotal evidence is that the Royal Bank of Scotland has become much more active on the capital markets thanks to a larger size achieved with the merger with NatWest. In Scandinavia in 2000, not one of the five largest underwriters of corporate bonds were domestic firms. This explains in part the creation of Nordea, the merger of four banks from Sweden, Finland, Denmark and Norway. As a comparison and further source of evidence on the need for scale, one observes that the five largest players capture a market share of 53 per cent of US Debt and Equity Issuance in 2001.

(2) EMU AND CREDIT RISK THEORY

9. An additional impact of the Euro is its potential effect on credit risk. The argument is based on the theory of Optimum Currency Areas. The theory of Optimum Currency Areas has called attention to the fact that countries subject to asymmetric economic shocks would value monetary autonomy to lessen the effects of a shock. Indeed, with symmetric shocks, there would be a consensus among the members of a currency union on economic policy, but with asymmetric shocks, the policy run from the center may not be adequate for all the members of the Union. For instance, one can wonder whether the rapid recovery enjoyed by British banks in 1994 was helped partly by the September 1992 devaluation, which reduced somewhat a bad debt problem. Similarly, the 42 per cent devaluation of the Finnish Markka in the early 1990s helped the restructuring of the country after the real estate crisis and the collapse of one of its major trading partners, the Soviet Union. A case of fixed exchange rates which prevented a smooth adjustment is that of Texas. The decrease in oil prices from US$40 a barrel in 1979 to under US$10 in 1986, and a change in federal tax policy affected not only the oil industry, but also unemployment, real estate and the Texan banking industry. Had the

Texan dollar been allowed to devalue, the severity of the recession would have been lessened. How could the introduction of a single currency affect credit risk? If a bank concentrates its credit risk in its home country, and if that country is subject to asymmetric shocks, it is quite possible that a central European monetary policy or fiscal transfers will not be able to lessen the shock. Although the likelihood of such a significant asymmetric shock could be quite low, the fact remains that any bank must control risk in such extreme, 'stress', cases. An indirect corollary of the Optimum Currency Area theory is that, for banks operating in a single currency area, the need to diversify their loan portfolio increases in proportion to the likelihood of the home country being subject to asymmetric (uncorrelated) shocks. This can be achieved through an increased international diversification of the loan portfolio with cross-border lending or cross-border merger. Securitization and credit derivatives could help to trade credit risk, but the asymmetric information on the quality of loans will raise the cost of trading credit risk, most likely leaving a major place to international diversification of lending.

Table 1: International diversification of Credit Risk, a simulation exercise

Loan Loss Provisions as Percentage (%) of Total Loans

	1988	1989	1990	1991	1992
Austria	0.32	0.35	0.39	0.54	0.76
Belgium	1.38	1.35	0.64	0.88	1.09
Denmark	2.20	1.69	2.38	2.66	3.20
Finland	0.64	0.54	0.47	0.45	3.20
France	0.46	0.33	0.30	0.49	0.74
Germany	0.40	0.82	0.83	0.60	0.69
Greece	1.09	1.28	1.40	2.50	1.24
Italy	0.46	1.23	1.21	1.12	1.12
Luxembourg	1.48	1.55	2.17	1.72	1.62
Netherlands	0.39	0.34	0.39	0.46	0.43
Portugal	3.44	4.25	4.02	4.45	4.52
Spain	1.27	0.70	0.65	1.10	1.34
Sweden	1.72	1.51	0.75	3.20	6.00
UK	0.51	2.57	1.53	2.16	2.13
Diversified Portfolio[1]	0.65	1.15	0.93	1.15	1.35

[1]The diversified portfolio is a weighted-portfolio of loans of banks from each country, the weights being the 2000 GNP.

Source: Dermine (2002)

Empirical evidence

10. US studies[2] report that large banks, able to diversify credit risks across many states, exhibit a lower variance of profit. Other studies simulating a merger between banks and insurance companies, come to similar conclusions (a quite obvious result, since low correlation can only lead to more stable profits). Simulation results indicating the benefits of diversification must be viewed with caution for two reasons. First, there is an implicit assumption that the combined firm can be managed as efficiently as the separate firms. Second, as emphasized in an empirical study by Boyd and Runkle (1993), lower volatility of asset return is often combined with a lower equity base (higher leverage) so that the probability of default of large diversified institutions appears to be as high as that of smaller, less diversified but less leveraged, firms. At the international level, Berger *et al.* (2000) report very low correlations of the aggregate ROE of banking systems of the various European countries. Dahl and Logan (2002) analyze the overdue international claims of 28 UK-owned banks over the period 1987-2000. They report a significant gain from international diversification of credit risk exposure.

11. A word of caution should be expressed here, concerning studies that focus on correlation and volatility of losses. As credit risk distribution is known to be highly skewed (many states of the world with fairly few loan losses, and few states of the world with large recession and substantial losses), it might be better to analyse the impact of diversification at times of deep recession. A standard approach in the management of trading risk is to simulate the impact of a large shock (*stress scenario*) on a portfolio. In Table 1, we report the provisions on loan losses (an imperfect estimate of loan losses) of the banking system of several countries over the recession period 1988–1992. To study the potential benefits of diversification, we simulate the average loss on a GNP-weighted diversified loan portfolio. In the case of the United Kingdom, which experienced severe loan losses during that period, one can observe that diversification would, *ceteris paribus*, reduce the loan losses by fifty per cent. Note that this is only a simulation. Part of the diversification benefit could disappear if credit management quality were to worsen in a large international organisation.

(3) BANKING IN A LOW INFLATION ENVIRONMENT

Theory

12. The third effect of a single currency concerns the impact on bank profitability of doing business in a low inflation environment. Indeed, in the last twenty years, inflation and relatively high interest rates in some countries have created significant interest margins on price-regulated deposits. One can safely expect that the objective of monetary stability and low inflation, pursued by an independent European Central Bank, reduces the source of profitability on the deposit funding business. However, if this effect is quite significant in a large number of countries, two additional effects of a low inflation environment might soften the impact of lower margins on deposits: margins on loans and the so-called 'inflation tax'

13. The first impact is that a low interest rate environment usually leads to much higher margins on personal loans because of the relative inelasticity of interest rates on personal loans. This effect is well known on the credit card markets in which margins are known to be permanently higher in a low interest rate environment. A second positive impact of a low inflation environment is that the so-called 'inflation tax' will be much smaller. An inflation tax arises because banks, being net holders of financial assets, are taxed on their nominal income rather than their real income.

[2] Boyd and Runkle (1993) and Hughes, Lang, Mester and Moon (1999).

Table 2: Intermediation margin[1] (per cent) 1980–2000

Belgium	**1980**	**1985**	**1990**	**1995**	**2000**
Treasury Bill	14.40	10.70	10.40	5.36	3.34
Margin on Savings Deposits	9.40	5.70	4.90	0.72	0.75
Margin on Consumer Loans				6.92	3.63
Retail Intermediation Margin				7.64	4.38
Margin on Corporate Loan	0.80	1.04	1.05	1.15	1.14
Netherlands	**1980**	**1985**	**1990**	**1995**	**2000**
Treasury Bill	9.20	6.85	8.13	5.18	3.34
Margin on Savings Deposits	4.20	3.50	5.63	3.13	1.84
Margin on Consumer Loans	5.30	1.65	3.62	2.32	2.91
Retail Intermediation Margin	9.50	5.15	9.25	5.45	4.75
Margin on Corporate Loan	3.05	-0.60	1.12	-0.18	0.41
Finland	**1980**	**1985**	**1990**	**1995**	**2000**
Treasury Bill	13.80	12.80	16.05	5.85	3.34
Margin on Savings Deposits	9.55	7.55	11.55	3.85	1.84
Margin on Consumer Loans	-3.64	-1.10	-0.45	4.09	2.75
Retail Intermediation Margin	5.91	6.45	11.10	7.94	4.59
Margin on Corporate Loan	-3.64	-1.10	-1.29	1.58	0.89
France	**1980**	**1985**	**1990**	**1995**	**2000**
Treasury Bill	12.20	9.50	10.00	5.00	3.34
Margin on Savings Deposits	5.30	3.00	5.60	0.66	0.92
Margin on Consumer Loans			5.40	3.03	4.85
Retail Intermediation Margin			11.00	3.69	5.77
Margin on Corporate Loan		3.83	1.19	2.28	1.75
Germany	**1980**	**1985**	**1990**	**1995**	**2000**
Treasury Bill	8.86	5.87	8.30	5.16	3.34
Margin on Savings Deposits			2.08	1.37	1.31
Margin on Consumer Loans			4.32	8.18	6.84
Retail Intermediation Margin			6.40	9.55	8.15
Margin on Corporate Loan	0.80	2.39	1.31	4.16	4.34
Spain	**1980**	**1985**	**1990**	**1995**	**2000**
Treasury Bill	12.20	12.00	14.00	8.33	3.34
Margin on Savings Deposits	8.45	8.25	11.58	5.58	2.37
Margin on Consumer Loans	2.57	5.03	3.18	5.62	4.67
Retail Intermediation Margin	11.02	13.28	14.76	11.20	7.04
Margin on Corporate Loan	-3.64	-1.10	-1.29	1.58	0.89

[1]Methodology:
Margin on savings deposits : treasury bill rate - rate paid on savings deposits
Margin on consumer loans : rate charged on loan - treasury bill rate
Retail intermediation margin : rate charged on consumer loans - rate paid on savings deposits
Margin on corporate loans : rate charged on loans - treasury bill rate

Source: Dermine (2002)

14. Therefore, the impact of a low inflation environment on the profitability of banks will depend on the relative importance of reduced margins on deposits, higher profit on personal loans, and on the significance of the 'inflation tax'.

Empirical evidence

15. In Table 2, we report the intermediation margin on the retail banking market of a number of European countries. As expected, margins on deposits have been reduced in most countries, while margins on consumer lending have increased in some countries. This is consistent with the impact of a low interest rate environment on the retail margins on deposits and loans. Anecdotal, but consistent with the evidence, is the recent acquisition by HSBC of Household International, a large US consumer finance specialist (to be confirmed at the time of writing). HSBC is searching high margin business in a low interest rate environment.

(4) ASSET MANAGEMENT

Theory

16. An important segment of capital markets business is the fund management industry, pension funds or mutual funds. It is symptomatic to see the total dominance of the fund management industry by local firms. For instance, in 2001, the five largest asset managers are all local firms in France and the United Kingdom[3]. In view of this extreme fragmentation, specially in comparison with other segments of the capital markets, one wonders about the impact of the single currency on the fund management industry. In this case too, an understanding of the main sources of competitive advantage needs to be developed. They concern the retail distribution network, the home-currency preference, research expertise, and the existence of economies of scale. The first source of competitive advantage in the retail segment is the control of the distribution network, in the hand of local banks in several countries. Domestic control of distribution is even protected under current European legislation framework which gives national authorities the right to regulate the marketing of funds into their own territory. Obviously the advantage derived from the control of the distribution network applies to retail investors only, as it will not be a barrier to entry in the institutional market. A second source of competitive advantage was the customer preference for home-currency assets, often imposed by regulation. A single currency of course eliminates this factor and reinforces the need for European-wide portfolios. A large part of these will be provided by index-tracking investment funds. A third source of success is excellence in research-based management. As to the existence of economies of scale and scope in the fund management industry, it is still a subject of debate. If scale seems important for index-tracking funds, it could be less relevant for actively-managed funds.

17. A single currency eliminates the main obstacle to international diversification. One will observe quite likely very large low cost European index-tracking funds competing with smaller research-based funds. On the retail distribution side, domestic banks will keep their competitive advantage as long as the branch network remains a significant channel of distribution, the case for most countries in continental Europe.

[3] Local firms, even if they are owned by foreign shareholders in the United Kingdom (such as MAM with Merrill Lynch, or Phillips and Drew with UBS).

Empirical evidence

18. On the asset allocation side, there is empirical evidence (Adjaouté and Danthine, 2002) that the practice of a 'top down' allocation approach, with 'country allocation' as a first step, is being replaced by an 'industry allocation' as a first step. Industry-based allocation will reduce the home bias, creating the need for international industry expertise. Moreover, there is evidence that asset tracker specialists, such as the US State Street, are growing very rapidly in Europe, at the expense of traditional asset managers.

19. Four channels of impact of the euro on the sources of competitive advantage of financial institutions have been analyzed: impact of a single currency on the bond and equity markets, impact of the euro on credit risk, impact of doing business in a low inflation environment, and impact on the fund management industry. A conclusion from the above analysis is that size, international placing power, international industry expertise, and risk diversification are key factors for success in the capital markets sector.

(5) CONCLUSIONS

20. Four additional observations conclude this note:

a) Although a large series of domestic bank mergers, documented in Table 3, are driven by cost efficiency reason (the relative ease to realize domestic efficiency gains with the closure of branches), another reason for merger is to achieve size to be competitive in the capital markets;

b) One can argue that the number of significant cross-border mergers in banking have been few (Table 4 & 5), limited mostly to countries of smaller size, such as Belgium, Netherlands or Scandinavia. This is indeed the case so far, 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;

c) Some have argued that American banks, helped by their large domestic capital markets, have been the first to benefit from integrated European capital markets. The jury is still out, but the important issue might not be so much the nationality of firms, but rather the degree of efficiency of European capital markets;

d) Finally, of importance for small countries such as the Netherlands or Switzerland, is that the larger size of domestic banks, relative to their GDP, could create financial stability problems. Bank consolidation might call for a more centralized approach to European banking supervision (Dermine, 2002).

Table 3: A selection of Major domestic mergers in Europe

Belgium	1992	CGER-AG (Fortis)
	1995	Fortis-SNCI
	1995	KB-Bank van Roeselaere
	1997	BACOB-Paribas Belgium CERA-Indosuez Belgium
	1998	KBC (KB-CERA-ABB)
	2001	Dexia-BACOB
Denmark	1990	Den Danske Bank Unibank (Privatbanken, Sparekassen, Andelsbanken)
	1999	Unibank - TrygBaltica
	2000	Danske Bank -RealDanmark
Finland	1995	Merita Bank (KOP-Union Bank of Finland)
France	1996	Crédit Agricole-Indosuez
	1999	BNP-Paribas
Germany	1997	Bayerische Vereinsbank
	2001	Hypo-Bank (HBV) Allianz-Dresdner
Italy	1992	Banca di Roma (Banco di Roma, Cassa di Risparmio di Roma, Banco di Santo Spirito) San Paolo- Crediop
	1995	Credito Romagnolo (Rolo)-Credit Italiano (UniCredito)
	1997	Ambroveneto-Cariplo (Intesa)
	1999	San Paolo-IMI Intesa-BCI SanPaoloIMI-Banca di Napoli
	2000	Banca di Roma-Bipop (Capitalia)
Netherlands	1990	ABN - AMRO
	1991	NMB-PostBank-ING
Portugal	1995	BCP-BPA
	2000	BCP-BPSM
Spain	1988	BBV(Banco de Vizcaya-Banco de Bilbao)
	1989	Caja de Barcelona-La Caixa
	1992	Banco Central-Banco Hispano
	1994	Santander-Banesto
	1999	Santander-BCH BBV-Argentaria (BBVA)
Sweden	1993	Nordbanken-Gota Bank
Switzerland	1993	CS-Volksbank-Winterthur
	1997	SBC-UBS
United Kingdom	1995	Lloyds-C&G-TSB
	2000	RBS-NatWest Barclays-Woolwich Abbey Nat.-Scottish Provident
	2001	Halifax-Bank of Scotland (HBOS)

Source: Dermine (2002)

Table 4: A selection of cross-border acquisition of merchant banks

BUYER	TARGET
Deutsche Bank	Morgan Grenfell
ING Bank	Barings
Swiss Bank Corp	Warburg, O'Connor, Brinson, Dillon Read
Dresdner	Kleinwort Benson
ABN-AMRO	Hoare Govett
UNIBANK	ABB Aros
Merrill Lynch	Smith New Court FG (Spain), MAM
Morgan Stanley Dean Witter	AB Asesores
CSFB	BZW (equity part)
Société Générale	Hambros
Citigroup	Schroder
Chase	Robert Fleming
ING	Chaterhouse Securities

Table 5: A selection of cross-border acquisition of commercial banks

BUYER	TARGET
DEXIA (B, F)	Crédit Communal (B), Crédit Local (F), BIL (L), Crediop (I), BACOB (B)
BACOB (B)	Paribas (NL)
ING (NL)	BBL (B), BHF (G)
GENERALE BANK (B)	Crédit Lyonnais (NL), Hambros (UK, corporate)
FORTIS (B, NL)	AMEV+Mees Pierson (NL) / CGER/SNCI (B) / Generale Bank (B)
NORDBANKEN (S)	Merita (F), Unidanmark (DK), Christiania (N)
BSCH (E)	Champalimaud (P)
HSBC (UK)	CCF (F)
Hypovereinsbank (D)	Bank Austria-Creditanstalt (A)

Table 6: Bank size

Country	Bank	Equity (book value) (euroMillion 2000)	Equity/GDP 2000	Equity/GDP 1997
UK	RBS	37,649	2.43%	0.51%
UK	HSBC	35,060	2.26%	2.00%
CH	UBS	31,364	12.37%	8.65%
DE	Deutsche Bank	29,476	1.34%	0.90%
NL	ING Groep	28,980	6.65%	5.94%
ES	Santander-CH	28,415	4.30%	1.75%
CH	Crédit Suisse	26,752	10.55%	5.63%
FR	Crédit Agricole	26,646	1.86%	1.55%
FR	BNP-Paribas	24,194	1.69%	0.80%
UK	Barclays	23,519	1.52%	1.28%
DE	HVB	21,777	1.00%	0.42%
NL	ABN AMRO	17,809	4.09%	3.88%
NL	Rabobank	16,258	3.73%	2.84%
FR	Société Générale	16,605	1.16%	0.89%
DE	Dresdner	15,150	0.69%	0.65%
BE	Fortis[1]	15,989	2.27%	1.33%
BE	KBC	7,668	2.85%	1.28%
US	Bank of America	56,008	0.59%	0.24%
US	Citigroup	70,518	0.75%	0.50%

[1] In the case of the Belgian-Dutch Fortis, the ratio is Equity to the sum of GDPs from Belgium and the Netherlands.

Source: Dermine (2002).

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8

BARRY EICHENGREEN: REFLECTIONS ON THE COHERENCE OF THE EURO AREA[1]

September 2002

HM Treasury invited Barry Eichengreen to revisit his 1992 article 'Shocking Aspects of European Monetary Unification' [2] ***co-authored with Tamin Bayoumi, with particular reference to the quotation: "underlying shocks are significantly more idiosyncratic across EC countries than across US regions, which may indicate that the EC will find it more difficult to operate a monetary union".***

1. In 1992 I published an article together with Tamim Bayoumi which concluded that "underlying shocks are significantly more idiosyncratic across EC countries than across US regions, which may indicate that the EC will find it more difficult to operate a monetary union." This analysis was based on an analysis of macroeconomic adjustment and of determinants of that adjustment as suggested by the theory of optimum currency areas (Mundell 1961, McKinnon 1964, Kenen 1969). This theory pointed to the symmetry or asymmetry of aggregate supply and aggregate demand shocks (the drivers for business cycle fluctuations) as a major determinant of the ease of operation of that monetary arrangement. If shocks are very asymmetric, there will be the need for sharp changes in prices and quantities to restore internal and external balance. Eliminating the exchange rate as an instrument of adjustment by joining a monetary union could then be problematic. Exactly how problematic would depend on the efficiency of operation of alternative adjustment mechanisms, such as labor mobility, wage flexibility, and inter-regional fiscal transfers.

2. We used an econometric methodology to identify these aggregate supply and aggregate demand shocks. In most of our analysis we focused on supply shocks on the grounds that the demand disturbances were likely to change significantly if the countries concerned in fact formed a monetary union. In particular, asymmetric demand disturbances due to the lack of coordination of monetary policies would be eliminated, by definition, by the advent of a single currency and a single monetary policy. We found that aggregate supply disturbances were considerably less correlated across European countries than across U.S. census regions, which led us to conclude that Europe would find it more difficult to operate a monetary union.

3. Looking deeper, we were able to distinguish a "European core" made up of France, Germany, Luxembourg, the Netherlands, Belgium, and Denmark from a "European periphery" composed of the UK, Greece, Ireland, Italy, Spain and Portugal. The correlation of shocks was highest among the members of the core, where it approached levels approximating those evident among the ten census regions of the United States. This led us to conjecture that a narrow monetary union made up of the core countries could function as smoothly as the US currency and customs union, but that a wide euro area would be more problematic.

[1] This note was written at the volition of HM Treasury.

[2] Bayoumi, T. and Eichengreen B., (1992) "Shocking aspects of European Monetary Unification," in Francisco Torres and Francesco Giavazzi (eds), *Adjustment and Growth in the European Monetary Union* Cambridge, Cambridge University Press.

4. Our analysis of other factors also highlighted by the theory of optimum currency areas pointed to the same broad conclusion. Labor mobility is lower in Europe than in the United States. Wage flexibility is less. Inter-state budgetary transfers are smaller and less elastic than in the U.S. federal system. All this pointed to the possibility of significant economic divergences (less cohesion) in the euro area. We were able to use the same vector autoregressions employed to identify supply and demand disturbances to analyze impulse-response functions, subjecting the equations to shocks and seeing how quickly equilibrium was then restored as a way of marshaling evidence on speed of adjustment. Doing so confirmed that adjustment to shocks affecting one region but not others was faster in the U.S. than in Europe, despite the absence of internal exchange rate flexibility in the United States. We also found, perhaps more surprisingly, that the speed of adjustment for the EU core was somewhat faster than that for the periphery, again suggesting that the members of the core would find it easiest to participate in a monetary union.

5. The principal objection to basing this inference on this kind of evidence is that these relationships are endogenous. Specifically, there is the possibility that they will be transformed by the decision to join the euro area. The creation of a single market and the transparency created by the single currency (in particular, the greater ease of comparing earnings in different European countries) will facilitate greater labor mobility over time. There is some anecdotal evidence of this already (particularly at the top and bottom ends of the labor market), but one's main impression is that movement in this direction is slow. Similarly, eliminating the exchange rate as an instrument of adjustment, by removing one easy way out, increases the perceived need for adjustment on other margins, encouraging reforms that enhance wage flexibility (Calmfors 1998). Again, there is modest anecdotal evidence of change in this direction, but again the pace is slow.

6. Another optimum-currency-area precondition that could be altered by the decision to form or join a monetary union is the symmetry of shocks. One view is that as economies integrate and trade expands, stimulated by the transparency of a single currency, national economies will specialize yet further in those industries in which they have a comparative advantage. If disturbances are industry specific, shocks will then grow more asymmetric across countries. If trade is intra-industry rather than inter-industry, however, the opposite conclusion may follow. Bayoumi and Eichengreen (1999) updates our earlier study, using an additional six years of data, and asks whether the ongoing integration of the European economy produced an increase or reduction in the asymmetry of shocks. As it turns out, there is little evidence in these time series comparisons of significant movement in either direction. A substantial number of other studies extended this analysis subsequently, updating the time period still further, and generally reached the same conclusions.

7. The most provocative statement of the view that the asymmetry of shocks is endogenous is due to Frankel and Rose (1998) and Rose (2000). These authors argue (a) that forming a monetary union produces a very significant increase in the volume of trade, and (b) that additional trade is associated with a reduction in business cycle divergences. Since EMU will lead to a significant increase in intra-EU trade, the implication follows, it will diminish divergences in business cycle conditions among the participating member states. The magnitudes suggested by the Frankel and Rose studies are large. Joining a currency union increases trade by anywhere from 60 to 200 per cent. Adopting the euro would therefore increase Britain's trade with the euro area by anywhere from 60 to 200 per cent. Even a 60 per cent increase in trade with the euro area would produce a large increase in the coherence of UK and continental European business cycles. To a considerable extent the problem of asymmetric business cycle disturbances would disappear.

8. How seriously should we take these results? Many observers, this author included, find Frankel and Rose's estimates of the effects of a common currency on trade implausibly large. In particular, most of the currency unions on the basis of whose experience these estimates are formed involve small and poor nations, which is hardly Europe's position, or Britain's. Be that as it may, there is no question of the existence of an effect: it is already evident in, inter alia, the increase in German trade with the EU (imports plus exports) from 27 per cent of German GDP in 1998 to 32 per cent in 2001, and in France's from 28 to 32 per cent. And there is no longer much serious dissent from the view that additional trade increases the synchronization of business cycles among the trading partners rather than reducing it.

9. Still, as Ireland's recent experience has shown, increased trade intensity by itself does not guarantee business cycle cohesion among the members of a monetary union; Irish trade has been very heavily reoriented toward the euro area, but cyclical divergences have remained pronounced. Ireland experienced a very large asymmetric shock: the combination of reform, a global high-tech boom, an English language labor force, and tax policies unusually friendly to multinationals led aggregate demand to grow much more rapidly than in Continental Europe in 1999-2001, despite the reorientation of Ireland's trade toward the Continent. (Clearly, this shock had an aggregate supply aspect too, but the aggregate demand component dominated in the last few years, which are what matter when evaluating the effects of the euro.) Thus, the point that a common currency by leading to more trade leads to more business cycle conformance should not be overstated, especially in the short run.

10. Finally there is the endogeneity of fiscal arrangements and institutions. Together with Juergen von Hagen, I have conjectured that strict enforcement of Europe's Stability and Growth Pact would create pressure for enlargement of the EU budget, so that there would be scope for transfering fiscal resources from booming to depressed member states when cyclical conditions diverged, emulating the practice in the United States and other currency areas with federal fiscal systems (von Hagen and Eichengreen 1996). While the motivation is understandable, many of us would regard the result as worrisome. The alternative would be to relax the Stability Pact. Countries could then utilize their own automatic and discretionary fiscal stabilizers to address disturbances specific to the home economy that could not be addressed by the single monetary policy. Earlier studies inspired by the theoretical literature on optimum currency areas – including my own – underplayed the importance of national (in the U.S. case, state) fiscal policies, which have more capacity to do good (as well as harm) in Europe because fiscal policy is so much more decentralized there. That the EU seems to be moving to a more relaxed application of the Stability and Growth Pact, reflecting the desire for greater national fiscal autonomy and the growing credibility of the ECB (which diminishes fears that fiscal profligacy will lead the ECB to extend an inflationary debt bailout), is all to the good from this point of view.

11. What does all this imply for the UK's decision? Further reflection and analysis suggest that the first generation of studies based on pre-EMU data, including my own, paint too pessimistic a picture of the difficulties that asymmetric shocks and slow adjustment dynamics will pose for the operation of Europe's monetary union. The optimum currency area criteria are endogenous, and over time they are likely to evolve in ways – toward more symmetric shocks, more flexible wages, more mobile labor, more fiscal flexibility – that will ease the operation of the monetary union. This does not mean that everything will be copacetic in the short run, since this evolution will take time. But the decision to join Europe's monetary union will not be easily reversed. It is not a decision, therefore, that should be taken with the short run in mind.

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9

ANTONIO FATÁS: THE BENEFITS AND COSTS OF CREATING A EUROPEAN FISCAL FEDERATION

October 2002

HM Treasury invited Antonio Fatas to revisit his 1998 paper 'Redistribution vs. Insurance – Does Europe Need a Fiscal Federation'[1], with particular reference to the quotation: "… there is a very high probability that any system designed to share risk across regions or countries will generate permanent transfers. The nature of these transfers, which might go in any direction (for example, from poor to rich regions), will probably conflict with the redistributional goals of structural funds… the potential to provide additional interregional insurance by creating a European fiscal federation is modest. We find it difficult to argue that these benefits can compensate for the many problems associated with the design and implemenation of a Europan fiscal federation." (p.192).

1. This report, written in response to a request from HM Treasury, presents my current views on the article "Does EMU Need a Fiscal Federation?" which I wrote in 1998 and was published in *Economic Policy*.

2. As my views on this issue have not changed substantially in the last three years, let me spend some time summarizing the main insights of the article before I give an update on its main arguments and results.

A. WHY I WROTE THIS ARTICLE

3. Prior to the launch of EMU, there were many concerns about the ability of EMU members to deal with asymmetric shocks (i.e. shocks that are idiosyncratic to either regions or countries). Since prices and wages are not flexible enough to compensate for the loss of exchange rates and the degree of labour mobility in Europe is very limited, there was a fear that asymmetric shocks could lead to deep regional recessions and large increases in unemployment, which could create a social burden that would be politically unacceptable to many governments.

4. In this context, the example of the US, where automatic interregional transfers take place through the federal budget was presented as an example of a tax system that helps to alleviate the costs associated with a single currency. These transfers play an insurance role that compensates for the lack of internal exchange rates. The estimates of the benefits of interregional transfers in the US are large. A fall in state income causes transfers (or reduction in taxes) that amount to between 30 and 40 per cent of the original fall in income.

5. It is very important to realize that this analysis (and this is true for my article as well) is looking at a fiscal federation only as a tool to provide interregional risk sharing (i.e. insurance). It ignores all other possible reasons to share taxes (e.g. redistribution).

6. This is important to understand my arguments below.

[1] Fatás, A. (1998) 'Redistribution vs Insurance: Does Europe Need a Fiscal Federation?', *Economic Policy* 26 (April) pp.163-203.

B. THE MAIN INSIGHTS FROM THE ARTICLE

7. My 1998 article questioned the traditional analysis of the benefits and costs of a European fiscal federation. The two main insights of the article are:

- **Insight 1. The (Insurance) benefits of a European fiscal federation would be small.**

8. According to my estimates, the (insurance) benefits of a European federal budget are much smaller than previously thought. This is for three reasons:

9. First, some of the previous estimates of the amount of interstate insurance in the case of the US overestimate the true amount of insurance by a factor of 3. This is because the original estimates measured the stabilization effect of the tax system on disposable state income and not the *true* degree of insurance. The two are equivalent only under the assumption that there is no aggregate risk in the federation.

10. When a state suffers a recession, and the fall in its tax revenues is not compensated by revenue increases coming from other states, then the federal budget will run a deficit that will need to be paid in the future by all states. As a result, the state in a recession does not benefit as much as indicated by the smoothing of disposable income and, moreover, the other states suffer because of the future tax payments.

11. I applied the same reasoning to data from countries of the European Union and found estimates of insurance potential that are very close to those for the US. A European-wide fiscal system that managed to reduce the volatility of disposable income by 30 per cent would only be providing less than 10 per cent insurance. The other two thirds would be intertemporal stabilization through counter cyclical budgets, **a tool that is still available to European countries** and will be available to future member countries of EMU.

12. Second, Europe already has national tax systems that partially insure regions from idiosyncratic risk. I found that the current national systems insure more than 50 per cent of what a European fiscal federation would.

13. Third, there is strong evidence that the potential insurance benefits of a European fiscal federation have decreased over time. In the post EMS period, because of increased correlations across countries, the potential for insurance of a European fiscal federation has been reduced. If, as a consequence of EMU, this trend persists in the future the insurance possibilities of a fiscal federation will continue to fall. This is an important finding in itself because it suggests that the perceived costs of abandoning monetary policy are much smaller than previously thought because of the reduction in national business cycles.

- **Insight 2. The implementation costs of a European fiscal federation would be very large.**

14. Even if the paragraphs above suggest that the potential benefits are small they are obviously positive (i.e. there is some amount of insurance that could be achieved by sharing national taxes). However, these benefits should be compared with the large costs of implementing such a system. Two reasons why these costs outweigh the benefits:

15. Not all countries would benefit by the same amount. If this is the case, should countries be allowed to opt out? How feasible is it to have different countries paying a different "risk premium" because they benefit more or less from a European fiscal federation?

16. Second, because we are talking about smoothing business cycles through regional (or national) transfers, we need to have a stable and agreed upon measure of what constitutes a business cycle. Suppose output goes down in a country, how do we know that this is a temporary recession (and therefore qualifies for transfers) or a medium or long-term development that will lead to permanent changes in the level or trend of output. If the latter case is identified as a cyclical fluctuation, the federation will end up producing permanent transfers that will look much more like redistribution instead of insurance. What if those transfers end up happening from poor to rich countries? (there is no reason to believe that the nature of the business cycles will lead to permanent transfers in any specific direction but this is an outcome that is as likely as any other).

17. Because of the little agreement that exists in the academic and policy literature on how to measure the business cycle, I provided some simple calculations that showed how any fiscal federation will very likely lead to large redistributional transfers, which not only are not the goal of the federation but will increase political tensions among the members of the union.

C. MY VIEWS TODAY ON THE BENEFITS AND COSTS OF A EUROPEAN FISCAL FEDERATION.

18. If anything, I think the results are more relevant today than they were in 1998. First of all, there is additional evidence that national business cycles are becoming more synchronized and therefore, the need to find mechanisms of compensation for the asymmetric evolution of national economies is, if anything, smaller than in 1998 (this is good news for the main motivation behind the single currency area – the costs of abandoning monetary policy are small). These results apply to all EU countries. The case of the UK is interesting as in fact the evidence looks much better today than it did in 1998 (the UK business cycle is closer to the business cycle of the other EMU countries today).

19. Second, I have even stronger beliefs that the costs of implementing any insurance mechanism through fiscal transfers are extremely large. As we are seeing in the current discussions on fiscal policy and the Growth and Stability Pact, measuring the cycle or adjusting the cyclicality of macroeconomic variables is, to say the least, controversial and can lead to endless discussions on whether a country is in a recession or stuck in a low-growth situation associated to lack of structural reforms.

20. In summary the main message of my 1998 article is as valid today as it was back then. One piece of good news for EMU: the costs of abandoning monetary policy are small as national business cycles are vanishing. One piece of bad news for those who think a fiscal federation can take care of the (small) asymmetries that are still left in the Euro zone: the implementation costs are too large to compensate for the small potential benefits.

10

JEFFREY FRANKEL: THE UK DECISION RE EMU – IMPLICATIONS OF CURRENCY BLOCS FOR TRADE AND BUSINESS CYCLE CORRELATIONS

October 2002

HM Treasury invited Jeffrey Frankel to revisit his 1998 paper co-authored with Andrew Rose 'The Endogeneity of the Optimum Currency Area Criteria',[1] with particular reference to the quotations: "international trade patterns and international business cycle correlations are endogenous" (p. 1009) and "a country is more likely to satisfy the criteria for entry into a currency union ex post than ex ante." (p. 1024).

SUMMARY

1. Recent econometric estimates suggest that currency unions have far greater effects on trade patterns than previously believed. Since currency unions are good for trade, and trade is good for growth, that is one major argument in favor of EMU. If there were evidence that the boost to trade within EMU was likely to come in part at the expense of trade with outsiders, that would imply something stronger, for a neighbor such as the United Kingdom: that life outside EMU would get progressively less attractive in the future. But there is no such evidence, either for currency unions in general (according to Frankel-Rose) or for the first three years of EMU in particular (according to Micco, Stein and Ordoñez). Furthermore, there are the usual countervailing arguments for retaining monetary independence, particularly the famous asymmetric shocks. One possible argument for waiting is that UK trade with euroland is still increasing, probably due to lagged effects of joining the EU and the Single Market initiative. Estimates suggest that the growing trade links in turn lead to growing cyclical correlation. The implication is that the UK may better qualify for the optimum currency area criteria in the future than in the past. On the other hand, if, as a result of waiting to enter, London loses to Frankfurt its position as the leading financial center in the European time zone, that loss may not be readily recoverable in the future.

2. That the creation of a common currency could alter patterns of international trade was one of the motivations of the architects of EMU. Nevertheless, it is only relatively recently that academic researchers have found convincing evidence that this is a major effect. This note will explain what we have learned from recent research on: (1) the effect of common currencies on trade among members, (2) the further implications for long-run growth rates and cyclical correlations, and (3) the effect of common currencies on *non-members*. It concludes with: (4) thoughts on the bottom line for the United Kingdom and the prospects if it does not soon enter EMU.

(1) THE EFFECT OF COMMON CURRENCIES ON TRADE AMONG MEMBERS

3. Until relatively recently, economists had been skeptical whether a reduction in exchange rate variability gives a substantial boost to trade. This has began to change as the result studies of bilateral trade among a large set of countries, which allow the researcher to control for such other important determinants of trade as country size, bilateral distance, common borders, and so on.[2]

[1] Frankel, J. and Rose, A. (1998) 'The Endogeneity of the Optimum Currency Area Criteria' *The Economic Journal* 108 (449) (July) pp. 1009-25.

[2] The gravity model is comprehensively explained in Frankel (1997).

4. The most important discovery was made by Andrew Rose, when he looked at a data set that included many very small countries and dependencies. He found a statistically significant effect of bilateral exchange rate variability on bilateral trade. But, beyond that, he found a large effect of common currencies on bilateral trade. Enough small countries use some other country's currency (most of them either the US dollar, French franc, pound sterling, Australian or New Zealand dollar, or South African rand) that it was possible to isolate the effect. His estimate, which by now he has replicated in various forms many times, was that a common currency triples trade among members.

5. A threefold effect is very large, and the finding was, understandably, greeted with a lot of skepticism. There are four grounds for skepticism. First, the statistical association between currency links and trade links might not be the result of causation running from currencies to trade, but might arise instead because both sorts of links are caused by a third factor, such as colonial history, remaining political links, complementarity of endowments, accidents of history and so forth. Second, one could not infer from cross-section evidence what would be the effect in real time of countries adopting a common currency. Third, the estimated effect on trade (and on income, to be discussed in the next section) just seems too big to be believable. Fourth, Rose's evidence came entirely from countries that were either small (e.g., Ireland, Panama, or African members of the CFA franc zone) or very small (e.g., Falkland Islands, Gibraltar, and Saint Helena), and so it was not clear that the estimates could be extended to larger countries. While each of these four arguments has some validity, to each there is a better response than one might expect.

6. First, regarding the time dimension, subsequent research on time series data finds that a substantial share of the tripling that Rose had estimated from the cross-section data (which is presumably the long-run effect) shows up within a few decades of a change. Using a 1948-1997 sample that includes a number of countries that left currency unions during that period, Glick and Rose (2001) find that trade among the members was twice as high in the currency union period as afterwards. This suggests that roughly two thirds of the tripling effect may be reached within three decades of a change in regime.

7. Second, regarding the possible influence of third factors, Rose has done a thorough job of controlling for common languages, colonial history, and remaining political links. The large estimated effect of a common currency remains. While it seems very possible that there are other third factors (e.g., accidents of history) that influence both currency choices and trade links, the various extensions of the original research – these robustness tests together with the time series results – reduce the force of this critique.

8. Third, regarding the surprisingly large magnitude of the estimates, it is important to take account of something else that we have learned in recent years, which is also surprising in light of all one hears about globalization. That is home country bias. A large number of studies have found that people trade with their fellow citizens far more easily than with those living in other countries. This finding emerges whether one looks at the volume of trade flows between locations, or at the ability of arbitrage to keep prices in line across locations. It holds even when one controls for the effects of distance, trade barriers, and linguistic, social and historical differences. It holds even between the US and Canada. The best-known finding is that Canadian provinces are 3 to 10 times more prone to trade with each other than with US states.[3] The bias must certainly be higher for other country pairs.[4] Similarly, studies of the ability of arbitrage to narrow price differentials find that crossing the US-Canadian border discourages trade more than does traveling the entire length of Canada,[5] and that the barrier is even greater for other pairs of countries.[6] What can explain these remarkable findings of home bias in quantity and price data? The difference in currencies is not an implausible explanation, given the paucity of alternative candidates.

9. Regarding the applicability of the results to large countries, we will not know for sure until enough time passes to yield a verdict on the EMU experiment. It would seem plausible that very small geographical units (the Gibraltars) are so dependent on international trade – due either to inadequate scale of the domestic market or to insufficiently diversified factors of production – that measures such as currency unions or free trade areas would have a larger pay-off for them than for larger, more self-sufficient, economies. But there are two counter arguments. First, Rose has tested whether there are any non-linearities among his currency union sample, e.g., any difference between the effects among units that are merely small and those that are very small. He found no significant difference. Second, the home country bias seems to be linear, regardless of the size of the country. That is, if two small units join together, thereby doubling the size of the economy, the ratio of trade to GDP falls – i.e., home country bias increases – as much (roughly .2, in log form) as when two large units join together. To the extent that currencies explain this, the effect does not seem to be limited to small countries.

10. Finally, we now have three years of data since EMU went into effect in January 1999. Econometricians are beginning to update the gravity estimates to see what can be learned from the record so far. Micco, Stein and Ordoñez (2002a) find that for pairs of the 12 countries that joined EMU, trade has increased by a significant 12 to 19 percent (depending whether the data set is limited to European countries, or a larger set of 22 developed countries). The magnitude is less than in the Rose studies. As they quite reasonably conclude, (p.15) "However, the effect of EMU on trade is significant, and economically important, particularly if we consider that our sample only covers the first three years of the EMU, a period in which the Euro did not even circulate."

11. Other evidence confirms the finding. Bun, Franc and Klaasen (2002) also update gravity estimates, and find that "the euro has significantly increased trade, with an effect of 4 per cent in the first year" and a long-run effect projected to be about 40 per cent. Takata (2002, p. 11) calculates that the UK-euroland intensity of trade rose gradually in the early 1990s, and sharply in 1999-2000. (Trade intensities are more rudimentary estimates than full gravity models, but are much easier to compute and usually give similar answers regarding changes over time.) Studies with price data so far have been confirming that EMU is having an effect in the markets of member countries.[7] It seems clear that the trade effects of monetary union are not limited to small countries.

[3] McCallum (1995), Helliwell (1998), and Wei (1996).

[4] Using the same gravity methodology, Nitsch (1998) finds that intra-national trade within European countries is about seven times as high as trade with EU partner countries of similar size and distance.

[5] Engel and Rogers (1998).

[6] Parsley and Wei (2000, 2001).

[7] Looking at price data across pairs of European cities, Rogers (2001, 2002) finds evidence of convergence in the 1990s. In the European auto market, Goldberg and Verboven (2001) find gradual convergence over the period 1970-2000.

(2) THE FURTHER IMPLICATIONS FOR LONG-RUN GROWTH RATES AND CYCLICAL CORRELATIONS

12. Boosting trade is of interest primarily as a determinant of economic growth. (Non-economic motivations for encouraging trade, such as binding countries together politically, are outside the scope of this study.) There are three sorts of ways that an increase in trade among members of a group feed into the advisability of opting for a common currency.

13. The first factor has to do with the long-run determination of growth: currency unions raise openness, and openness raises real income. Frankel and Rose (2002) combine estimates of the effects of a common currency on trade and the follow-on effects of higher trade on GDP, to derive estimates of the effects of common currencies on GDP. Joining a currency union with particularly important trading partners (e.g., large and close neighbors) can have a large impact. For example, if the UK were to join EMU and thereby triple trade with euro-countries, its ratio of total trade to GDP would eventually rise an estimated .62 (from .58 to 1.2). Once the increase in trade was realized, the estimated effect would be to raise real income by 20 percent over the subsequent 20 years, quite a substantial effect, if it is believed.

14. The second and third factors have to do with the theory of optimum currency areas, which weighs the advantages of fixed exchange rates versus the advantages of floating.[8] One factor concerns an advantage of a common currency from the viewpoint of exporters and importers, and one the advantage of monetary independence. The fact that the elimination of exchange rate uncertainty makes life easier for importers and exporters will be more important, the higher is the share of trade in GDP, even if the level of trade does not change. For this reason, McKinnon (1963) argued that a key factor determining the advisability of fixing the exchange rate is the ratio of tradable goods to GDP. One implication is that if trade among the members of the EU is increasing over time, then they will satisfy the optimum currency area criteria more strongly in the future than in the past. A related implication is that even if a country does not satisfy the optimum currency area criteria *ex ante*, if it goes ahead and joins a currency area anyway, and enough time passes to increase trade with other members substantially as a result of the common currency, then again it may satisfy the optimum currency area criteria *ex post*. Frankel and Rose (1998) call this the endogeneity of the optimum currency area criterion.

15. The last factor concerns cyclical fluctuations. What is the attraction of retaining an independent currency in the first place? The most important advantage of flexible exchange rates is to retain the ability to respond to cyclical downturns by means of monetary policy – a reduction in real interest rates, or a depreciation of the currency or both – and to cyclical booms in the opposite direction. But this advantage is less important if the domestic economy is highly correlated with the other countries in a prospective currency area (i.e., if shocks are usually "symmetric"), because the changes in monetary policy that the other member countries choose will also be appropriate for the domestic economy. But cyclical correlations are not timeless unchanging parameters. If trade among members of a currency area increases, then the cyclical correlation is likely to change as well.

16. Artis and Zhang (1995) find that most European countries' incomes were more highly correlated with the U.S. during 1961-79, but (with the exception of the UK) became more highly correlated with Germany after joining the ERM. Frankel and Rose (1998) find on a broad cross-section of countries that when a reduction in bilateral exchange rate variability encourages bilateral trade, it also raises the bilateral cyclical correlation. That a country is more likely to be suited to join a monetary union *ex post* than *ex ante* is an implication of the cyclical correlation having gone up in the meantime, another instance of the endogeneity of the optimum currency area criteria.

[8] Mundell (1961) coined the phrase and Tavlas (1992) surveyed the literature.

17. These findings contradict a surmise of Eichengreen (1992, pp.14-16), Bayoumi and Eichengreen (1994, pp.4-5), and Paul Krugman (1993). These authors suggest that, because a higher trade level would lead to greater specialization, it would also lead to lower synchronization of shocks.[9] Their view that specialization works against common currencies, and that diversification of the economy works in favor of it, goes back to Kenen (1969).

18. Consistent with the Frankel and Rose (1998) findings, however, Rockoff (2000) argues that it took 150 years before the United States met the criteria for an Optimum Currency Area, asymmetric regional shocks having posed severe problems for much of its history. Kim (1997) finds that regional specialization within the United States increased in the 19th and early 20th centuries, and diminished somewhat thereafter, though remaining higher than within Europe. Clark and van Wincoop (1999) find that the lack of cyclical synchronization within Europe, relative to within the United States, is explained by the lower level of internal trade (and to a lesser extent the higher degree of sectoral specialization).

(3) THE EFFECT OF COMMON CURRENCIES ON NON-MEMBERS

19. To inform Britain's decision whether to join EMU, it is necessary to move beyond the usual debate as to whether the advantages of currency unions for their members outweigh the disadvantages. Because EMU is already an established fact, and is likely to expand, regardless what Britain does, the historical status quo is not one of the options. The relevant comparision is not what life would be like for Britain inside EMU versus the status quo. The relevant comparison is, rather, what life would be like for Britain inside versus an alternative future outside the existing EMU.

20. In this light, the most relevant among the trade issues – the subject of this submission – is the effect of the formation of a currency area on trade *between members and non-members*. The natural fear is trade-diversion: that expanded trade within the currency union (the prediction from the literature surveyed in Section 1) would come at the expense of trade with countries outside it, for whom the status quo, however satisfactory, ceases to be an option. There is an analogy with fears of trade diversion resulting from regional trading arrangements such as the European Union: that the enhanced trade among the members will come at least partly at the expense of non-members. Trade diversion is of concern for two reasons. First, in a world that breaks up into currency blocs or trade blocs, trade diversion could mean that everyone is worse off. Second, if a country watches some of its most important trading partners form a bloc, but it remains outside, then it can be damaged particularly by the formation of the bloc. In a model of trade in imperfect substitutes, the negative effect takes the form of an adverse shift in the terms of trade.

21. Do trade blocs such as the EU and currency blocs such as EMU tend to be trade-diverting? For the EU and other Free Trade Areas, the literature is large and inconclusive. Frankel (1997, p. 108-109) summarizes the early literature, as well as a welter of gravity-based estimates from the 1990s. While some estimates show trade diversion, it is at least as common to find that when European countries promote trade among themselves, they also to some extent increase their trade with outsiders. Thus I have found little evidence, overall, of a "fortress Europe" policy. The same is true of NAFTA and other free trade areas. Some of the political economy factors that give rise to regional arrangements also tend to support trade

[9] "Theory and the experience of the US suggest that EC regions will become increasingly specialized, and that as they become more specialized they will become more vulnerable to region-specific shocks. Regions will, of course, be unable to respond with counter-cyclical monetary or exchange rate policy" (Krugman, 1993, p.260). Hughes Hallett and Piscitelli (1999) call this "the traditional view" (and add some modeling of demand-driven transmission which had otherwise been missing from this debate). The No Campaign (2002, p. 40) is among those asserting that EMU is likely to generate a degree of specialization that undermines the insulation against shocks necessary for a common currency.

liberalization more generally. Others, however, have sometimes found trade-diversion on the part of the EU and some other FTAs.

22. For currency blocs, there are only a few relevant studies. For broad currency groupings (EMS bloc / dollar bloc / yen bloc) the results are inconclusive.[10] For small but genuine currency unions, Frankel and Rose (2002) emphatically reject trade diversion, a reassuring finding. For the case of European monetary integration, most studies predate EMU.

23. I only know of one team of researchers who have up-to-date estimates that can help us answer the question whether EMU has been diverting trade away from the United Kingdom since it went into operation: Micco, Stein, and Ordoñez (2002b). In their pure cross-section estimates, they find that, while EMU promotes trade among members, there is no diversion away from the UK. Indeed the estimated effect on UK-EMU trade is positive in the years 1999-2001, though not significant statistically. One might see evidence for trade-diversion from the fact that the same coefficient is estimated to be larger and statistically significant in earlier years: peaking at .5 (with a t-statistic of 4.1) in 1993, and then declining steadily in magnitude and significance until reaching an insignificant 0.2 in 2000-2001. Some unidentified factor must have been boosting trade across the channel before 1998. But the most obvious factor is precisely anticipation of possible monetary integration between the UK and the Continent. FTAs and monetary unions tend to affect trade patterns while the plans are underway, well before they formally take effect. The intra-EMU effect (independent of an EU effect) is significant from 1986. It declines a bit after 1993, perhaps in reaction to the 1992-93 crises in the Exchange Rate Mechanism, but then jumps in 1999. A likely explanation for the decline in the UK-EMU coefficient during the period 1993-2001 is the steadily diminishing odds that Britain would be a founding member. Notably, 1998 is the first year in which the positive UK-EMU effect is not statistically significant. It is hard to make a case for trade-diversion from these results.

24. Confirming the conclusion that EMU has not diverted trade away from the UK are Micco, Stein, and Ordoñez (2002b)'s estimates of "differences in differences." This technique measures how differences among bilateral trading partners changed between 1992 and 2001. The estimates for the larger set of developed countries are reported in Table 1, with the authors' kind permission. Here the boost to intra-EMU trade is estimated at 18 to 35 percent (depending on whether one uses country-pair dummies, or instead conditions on the standard gravity variables). Crucially for present purposes, the coefficient on UK-EMU trade is of a fairly low level of statistical significance, and positive in sign. There is no evidence of trade diversion.

[10] Frankel and Wei (1995a, b) estimates the effects of such currency blocs on trade patterns.

Table 1: Effects of EMU on changes in trade patterns, as estimated by Micco, Stein & Ordoñez

Dependent Variable: Log of Bilateral trade	Change:1992-2001 *among developed countries*	
Formal EMU Dummy	**0.178**	**0.352**
	(11.10)* **	**(7.79)*** **
UK-Formal EMU	**0.031**	**0.115**
	(1.26)	**(1.77)***
Log of GDP	2.016	0.768
	(6.72)***	(87.24)***
Log of GDP per capita	-1.530	0.309
	(4.85)***	(8.54)***
Free Trade Agreement	0.025	0.146
	(1.17)	(2.59)***
European Union	0.037	0.214
	(1.85)*	(4.20)***
Landlocked		-0.216
		(5.86)***
Island		-0.050
		(1.07)
Log of Distance		-0.645
		(29.61)***
Surface Product		-0.004
		(0.47)
Contiguity		0.470
		(10.06)***
Common Language		1.125
		(17.57)***
Year Dummy	Yes	Yes
Country Pair Dummy	Yes	
Observations	2310	2310
R-squared		0.93

Robust t-statistics in parentheses
* significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent
Source: Micco, Stein and Ordoñez (2002b)

(4) THOUGHTS ON THE BOTTOM LINE FOR THE UNITED KINGDOM

25. The first of the five tests for British entry to EMU officially laid out by Chancellor Gordon Brown includes what we have called cyclical correlation, synchronization, or symmetric shocks: "Are business cycles…compatible so that we and others could live comfortably with euro interest rates on a permanent basis?" Takata (2002) surveys ten studies of UK cyclical correlations. All ten find that the correlation between the UK and European (or German) economies has been somewhat lower than either the intra-Europe correlation or the UK-US correlation. This suggests that the UK does not currently meet the test for joining.

26. Most of those studies are based on data from the 1960s, 70s and 80s, however. Trade patterns are changing. Intra-European trade has been rising,[11] and with it the intra-Europe

[11] As documented in the gravity literature already described. Wei (1996) finds that the home bias in a typical EC member, relative to imports from other member countries, fell by half during 1982-94.

synchronization of business cycles. Angeloni and Delola (1999) find that the UK-Germany GDP correlation was sharply higher during 1993-97 than previously (though still lower than the France-Germany correlation) – perhaps as a lagged result of Britain's entry to the European Economic Community and of the Single Market initiative.

27. The author's feeling is that whether EMU proves ultimately beneficial or not depends largely on whether Europe happens to experience a large asymmetric shock within the next few decades. To stylize history: large global shocks happen about once a decade. If there are no major shocks in the next few decades that affect the members of euroland asymmetrically, EMU may be "home free." By then the trade links will be strong enough that a seriously disruptive asymmetric shock is unlikely. In the meantime, the members can derive benefits such as those discussed in sections 1 and 2 above.

28. What does this imply for the UK, if it rejects or delays entry? If there were evidence of trade diversion from monetary union, it would suggest that Britain would be worse off remaining outside of EMU than it would be if EMU had never happened. Fortunately, there is no such evidence. The Frankel and Rose (2002) estimates of currency union effects reject the hypothesis of trade-diversion in general. The updated-to-2001 results of Micco, Stein, and Ordoñez (2002b) find the same with respect to UK trade in particular. If Britain finds the short-term disadvantages of joining to outweigh the advantages, there is no reason to consider the current situation unsustainable. This leaves aside the important issue of whether the business of the City might be permanently damaged by the rise of a rival financial center on the continent, if Britain stays out.

29. Meanwhile, UK trade links with euroland have risen over the last few decades anyway, and may still be rising. The reason may be the effects of EU membership, which develop with long lags.[12] More precisely, the events that may be driving the gradual shift in trade patterns are as follows: the UK joining the European Economic Community in 1973, the expansion of the membership of the EEC 9 to the 12 in 1981-86, the Single Market initiative which came into effect in 1992, and the further expansion to the EU 15 in 1995. Along with trade links, cyclical correlations rise. The implication is that the UK may meet the optimum currency area criterion for joining the euro-12 better in the future than in the past. Another factor working in favor of waiting is the opportunity to learn by watching the experiment unfold in euroland (and – more unpredictably – among any additional joiners).

30. A final consideration has to do with popular opinion and the famous democratic deficit. After a country gives up monetary independence, in the event of a shock the difference between a moderate recession and a serious crisis could well be whether it is possible to explain to the public that this is what they signed up for and to make the case for difficult short-term adjustment. This will be far easier to do if the public voted to join the monetary union in the first place. If the British public does not yet feel sufficiently "European" to want to join EMU voluntarily, it may be unwise for political elites to force it through at this stage.

[12] The lags appear in the gravity estimates, e.g., Eichengreen and Irwin (1998).

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FRANCESCO GIAVAZZI AND CARLO A. FAVERO: REVISITING "IMMEDIATE CHALLENGES FOR THE EUROPEAN CENTRAL BANK"

December 2002

HM Treasury invited Francesco Giavazzi to revisit the 1998 paper 'The Immediate Challenges for the European Central Bank'[1] co-authored with Carlo Favero and Rudi Dornbusch, with particular reference to three challenges identified in the paper: to "tread the narrow path between an institutional revolution and uninterrupted continuity with the Buba"; to "conduct a European policy"; and to "develop a grip of the monetary mechanism in the European economy." (p. 52).

I. INTRODUCTION[2]

1. This paper reviews, in the light of developments in the euro area since the start of EMU and also of some new research we have conducted on this subject, the way the ECB has dealt with three challenges that were pointed out, prior to the start of EMU, in DFG (Dornbusch, Favero and Giavazzi, 1998). The three challenges were:

(a) To "tread the narrow path between an institutional revolution and uninterrupted continuity with the Buba";

(b) To "conduct a European policy"; and

(c) To "develop a grip of the monetary mechanism in the European economy."

2. Section 2 of this paper discusses issues (a) and (b), which are closely related.

3. Section 3 analyses developments in the monetary transmission mechanism. Beyond discussing whether monetary transmission within the Euro area has become more symmetric since the start of the EMU, we also ask whether, in the past five years, the asymmetries between the UK and the Euro area economies have remained significant, or have weakened.

4. In Section 4 we briefly discuss developments in the spreads among Euro-denominated bonds issued by different Euro area countries and in asset swap spreads within each country. This issue had not been anticipated in DFG, but has lately become significant in connection with the difficulties the Growth and Stability Pact has run into.

[1] Dornbusch, R., Favero, C. and Giavazzi, F. (1998) 'The Immediate Challenges for the European Central Bank', *Economic Policy* 26, April, pp. 17-64.

[2] We thank Andrea Civelli for discussions and research assistance.

2. ECB MONETARY POLICY: WALKING A TIGHTROPE BETWEEN THE BUNDESBANK AND THE FED

5. DFG (1998) concluded that:

> "The ECB must tread the narrow path between an institutional revolution and uninterrupted continuity with the Buba. The capital markets will be unforgiving if they see anything less than Bubaness. But the political community will be unforgiving if they do not see a genuine preoccupation with being European. The ECB must also conduct a European policy. It cannot get itself to accept solving every local problem by excessive regionalization of its policy; it must work on the broad picture of stabilizing European prices, not putting a lid on German inflation or a floor under French deflation. The challenge is to shift the discussion to European averages and credibly work with these."

6. Four years down the road, how did the ECB behave? Figures 1 to 3 in the Appendix help us understand two issues that were mentioned in the paragraph quoted above:

(a) whether the ECB has run a truly "European" policy, i.e. whether, in setting policy rates the bank has been concerned with Euro area data, or has given special attention to data from a subset of the Euro area economy, for instance to German data only;

(b) whether the ECB, in setting policy rates, has given to the twin objectives of price stability and output growth the same weight the Bundesbank would have given, or instead it has behaved more like the U.S. Federal Reserve.

7. Each Figure reports a Taylor rule and the actual policy rate set by the ECB (EUONIA). The Taylor rule includes the one-month lagged policy rate, the contemporaneous output gap and deviations of the contemporaneous 12-months ahead inflation expectation from the inflation target, exogenously set at 2 per cent. Inflation expectations are from "Consensus Forecast" available on Datastream.

8. With three years of data we are unable to estimate the parameters of a Taylor rule for the ECB: we thus use, alternatively, the parameters estimated for the Bundesbank and for the Fed.

9. The coefficients of the Taylor rules estimated for the Bundesbank (over the interval 1987:1-1998:12) are 1.95 on expected inflation and 0.30 on the output gap. The degree of persistence (coefficient on the lagged policy rate) is 0.93 and the equilibrium nominal policy rate 4.7 per cent.

10. The coefficients of the Taylor rules estimated for the Fed, over the same interval, are 1.10 on expected inflation and 0.79 on the output gap. The degree of persistence is 0.88 and the equilibrium nominal policy rate identical: 4.7 per cent. The sample over which the two rules are estimated starts with the Greenspan chairmanship and ends with the creation of the ECB. As expected, the Fed appears to give a higher weight than the Bundesbank to the output gap, relative to deviations of inflation expectations from the 2 per cent target.

11. Using these parameters, and data on the output gap and inflation expectations in Europe, we compute the policy rate consistent with the Taylor rules from January 2000 to September 2002. The end date is determined by the availability of observations on the output gap – last available observation September 2002. In each Figure we also report 95 per cent confidence bounds for the Taylor rule.

12. Here are how the three Figures differ:

- Figure 1 uses Bundesbank parameters, the Euro area output gap and expectations on 12-months ahead Euro area inflation,
- Figure 2 uses Bundesbank parameters, the German output gap and expectations on 12-months ahead German inflation,
- Figure 3 uses Fed parameters, the Euro area output gap and expectations on 12-months ahead Euro area inflation.

13. The first observation is the remarkable performance, in Figure 3, of a Taylor rule that uses the Fed parameters applied to Euro area data. Because our rule stops in September 2002, we cannot tell by how much the November 2002 cut deviated from this rule. But up to then the interest rate decisions of the ECB are remarkably close to what the Fed would have done, had it been faced with Euro area data.

14. If monetary policy in the Euro area had been assigned to the Bundesbank (Figure 1) interest rates would have been quite different from those chosen by the ECB – though the differences always fall inside the 95 per cent confidence bounds. The Bundesbank, in particular, would have been less aggressive in cutting interest rates after September 11.

15. The results in Figure 2 indicate that, had the ECB behaved like the Bundesbank, the cuts following September 11 are more consistent with German data than with Euro area data. Since the Fall of 2001 the rule based on Bundesbank parameters and German only data tracks actual ECB decisions quite well.

16. These results suggest that the ECB has not simply followed the Bundesbank, only concerned with inheriting German reputation. The monetary policy decisions of the new central bank have been different from those the Bundesbank would have made, and closer to the way the Fed would have behaved faced with Euro area macroeconomic conditions.

3. CONVERGENCE IN THE TRANSMISSION MECHANISM OF MONETARY POLICY

17. DFG (1998) argued that:

> "The ECB must develop a grip of the monetary mechanism in the European economy. That task is complicated because financial structures and the wage-price process differ widely. Our research shows that the monetary process differs significantly across countries. Moreover, that process is sure to evolve in part as a result of the financial industry restructuring that is already underway and is accentuated by the common money. Shooting at a moving target in the fog is no easy task."

18. In DFG we had highlighted the different structure of the financing of firms and households across Europe, and pointed to the possibility that interest rate changes might affect output and inflation differently from one Euro area country to another. This might result, we suggested, in the output cost of controlling inflation being unevenly distributed across the Euro area.

19. 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. Are the relative roles of banks and markets in the financing of firms and households more similar today, across EMU, than they were five years ago? This is the

question we ask in this section, with one twist: looking ahead to the possibility that the UK might join EMU, we also ask whether the asymmetries between the UK and the rest of the Euro area have remained as large as they were five years ago, or have diminished.

The financing of firms and households: have the asymmetries faded away?

20. The transmission mechanism of monetary policy depends importantly on the institutional structure through which the activities of households and firms are financed. Examples include whether house purchase is financed by fixed or variable rate mortgages and whether firms make more use of equity or bank finance.

21. In DFG we documented the importance of the differences in the structure of financial systems, both between different member states within EMU and between the EMU average and the UK. Have these differences been converging or diverging since the Euro was launched?

Firms

22. Our findings for firms are based on data from two samples. The first is taken from a recent report by the European Central Bank on the financial structure of nine Euro area countries; this we augment with UK data from the UK Office of National Statistics. The second sample is an annual study by R&S (Ricerca & Sviluppo, the research branch of the Italian investment bank Mediobanca) on the 256 largest industrial and telecommunication firms that operate in Europe, the US and Japan.

23. For non-financial companies, Table 1A reports the structure of the liabilities, as a percentage both of GDP and of total liabilities of the sector. By the end of 2000 the UK was close to the Euro area average, whether we look at equities or loans, and whether we measure them as shares of total liabilities or relative to GDP. For companies, substantial convergence in financial structure has taken place.

24. Asymmetries remain more marked for the largest corporations (Table 1B). Even here, however, convergence has been significant. Particularly striking is the change in the role of markets in the financing of German companies: from one third to two thirds of total borrowing.

The financing of German firms

25. The sharp change in the sources of funds for German companies, and the enhanced role of corporate bonds, as opposed to bank loans, is confirmed in Figure 4. The Figure shows the evolution of the spread between the yields on government bonds and corporate bonds rated BBB of similar maturities. Spreads are shown for Germany and for the UK, a country where the corporate bond market has always been active. The increase in the German spread, which has now reached levels quite similar to those observed in the UK, is another indication of the growth of the corporate bond market in Germany – a market where yields now reflect, much better than they did in the past, the creditworthiness of private borrowers.

Households

26. What about households? Table 2 indicates that household borrowing keeps exhibiting considerable diversity across the EU. UK households borrow significantly more than the Euro area average – though not as much as in the Netherlands. In all countries, the principal source of household borrowing is the domestic banking system: here there is greater uniformity, and the UK is closer to the Euro area average. Within bank borrowing, the principal component is usually for house purchase. Again, the UK exceeds the Euro area average.

The maturity of bank loans to firms and households

27. An important aspect in the transmission mechanism is the maturity of bank loans. For instance, UK households borrow more than their continental counterparts: whether this makes them more vulnerable to changes in interest rates depends on how the maturity of loans differs between the UK and the Euro area.

28. Data on the maturity of loans is not easily available. Some information is reported in Table 3. For corporations the share of loans with maturity shorter than one year – those more exposed to changes in policy rates – does not vary significantly, with the exception of Italy and Portugal, where the average maturity is shorter than the average. Data on the maturity of households loans is too incomplete to draw conclusions.

Summing up

29. Our tentative conclusion is that historical differences in structure of financial systems have been substantially eroded in the last decade. Within the Euro area, the adoption of market instruments in the financing of firms has been most marked in Germany, France and Finland, who have moved towards the practices prevalent in the UK and US. The UK financial structure, moreover, is becoming more like that of EMU countries, and has moved further in that direction even during the short time since the launch of the Euro, though differences persist within the Euro area itself. Our data refer to the end of 2000. The following two years might have witnessed additional convergence in financial structures.

30. These findings may explain why the large research project on monetary transmission conducted by the ECB has mostly failed to find evidence in favour of significant cross-country differences in the macroeconomic effects of interest rate changes.

31. Convergence in European financial structures probably reflects factors that go beyond the Euro: financial market integration promoted by the Single Market initiative and in part a response to global competition in financial markets. Since both of these forces will remain in place, further convergence may occur between different member states of the Euro area. The UK is already remarkably close to the Euro area average. This is unlikely to change, whether the UK enters EMU or not.

32. In relation to households, we are unable to reach any definite conclusion. UK households borrow more than their Euro area counterparts, spend more of this borrowing on house purchase, and are more exposed to loans at variable interest rates. Would UK households therefore be more exposed if the UK adopted the euro?

33. What would 'exposed' mean? Since the launch of the euro, the European Central Bank has changed interest rates less frequently than the Fed or the Bank of England, and indeed has often been criticised for acting too slowly rather than too quickly. So membership of the Euro area would not necessarily leave UK households facing greater uncertainty about the burden of interest rate payments than at present.

4. ASSET SWAP SPREADS AND THE GROWTH AND STABILITY PACT

34. One of the reasons for the Growth and Stability Pact was the concern that markets would be unable to send the right signals by widening interest rate spreads on the bonds issued by countries which run unsustainable fiscal polices. Figure 5 documents the convergence in 10-year government bond yields in the four largest Euro area economies – which include Italy, a high-debt country – and in Belgium, also a high-debt country. Spreads on German bonds have fallen to around 10 basis points, quite independently of debt and deficits. For comparison, we have reported in Figure 5 the spread on UK government bonds: this has also converged, although such spread includes an exchange rate risk which is absent from Euro area bonds.

35. Do the yields on Euro area government bonds recognize the sharp differences in debt and deficits across member countries? What has been the market reaction, as reflected in bond spreads, of the difficulties the Growth and Stability Pact has run into?

36. An interesting way to understand what lies behind the convergence of bond yields is to consider asset swap spreads. These spreads measure the difference between the yield on a 10-year swap (the fixed rate component of a contract in which a flow of variable interest payments is exchanged for a flow of fixed rate payments) and the yield on a 10-year government bond. Asset swap spreads thus measure the relative default risks of the two assets. Spreads are typically positive, and a reduction in their level signals a fall of the risk associated with the private contract, compared with that on government paper.

37. Figure 6 and Table 4 show the evolution of asset swap spreads on 10-year instruments for the four large Euro area countries, plus Finland and Belgium. As above, we also report UK asset swap spreads for comparison. The interesting observation is the recent change in spreads. Since April 2002, as the fiscal problems of France and Germany have become apparent, the risk premium on private contracts in both countries has fallen, signalling that the relative quality of French and German government bonds has deteriorated. This has not happened in the rest of the Euro area. In Finland, one of the Euro area countries with the best fiscal performance, spreads have widened.

38. Eyeballing the data is no alternative to serious statistical work, which still needs to be done. But the data on asset swaps seem to suggest that financial markets in the Euro area do respond to news on fiscal policy – though probably not enough to exercise sufficient fiscal discipline and thus be a substitute for fiscal rules.

APPENDIX

Table 1A:
The structure of financing of non-financial companies (2000, ECB data)

	UK	Euro area average
As % of GDP		
Equity finance	162	168
Loans	72	73
Other finance	38	39
Total liabilities	272	280
As % of total liabilities of non-financial companies		
Equity finance	60	55
Loans	26	31
Other	14	14

Individual country data:

per cent of GDP

	Shares	Other Sec.	Loans	Other Liab.	Trade Cred.	Tot. Liab.
Average 9-Euro	168,4	8,4	72,7	7,7	22,7	279,9
Austria	24,7	8,1	80,3	0,9	2,0	115,9
Belgium	221,6	7,9	63,4	7,5	0,0	300,4
Germany	81,9	2,6	63,3	20,7	0,0	168,5
Spain	155,8	3,5	61,1	5,4	59,8	285,6
Finland	379,5	11,6	95,1	6,1	17,0	509,4
France	278,5	17,6	50,9	3,8	34,7	385,5
Italy	103,3	2,0	56,3	7,6	20,4	189,7
Netherlands	162,7	12,1	98,5	0,0	34,0	307,3
Portugal	107,7	10,4	85,0	16,9	36,7	256,7
UK[1]	162,1	23,9	71,7	-	14,1	271,8

per cent of total liabilities

	Shares	Other Sec.	Loans	Other Liab.	Trade Cred.	Tot. Liab.
Average 9-Euro	54,9	3,1	30,7	3,4	7,9	100,0
Austria	21,3	7,0	69,3	0,8	1,7	100,0
Belgium	73,8	2,6	21,1	2,5	0,0	100,0
Germany	48,6	1,5	37,6	12,3	0,0	100,0
Spain	54,6	1,2	21,4	1,9	20,9	100,0
Finland	74,5	2,3	18,7	1,2	3,3	100,0
France	72,2	4,6	13,2	1,0	9,0	100,0
Italy	54,5	1,1	29,7	4,0	10,8	100,0
Netherlands	52,9	3,9	32,1	0,0	11,1	100,0
Portugal	42,0	4,1	33,1	6,6	14,3	100,0
UK[1]	59,7	8,8	26,4	-	5,2	100,0

Euro area averages for 9 countries in ECB study: Austria, Belgium, Germany, Spain, Finland, France, Italy, Netherlands, Portugal.[1]
[1] Data for the UK are for 2001 Source: ECB for Euro area countries, National Statistics Office of the UK for UK.

Table 1B:
The structure of financing of non-financial companies.
Bank borrowing as a per cent of total liabilities.
Data relative to 274 multinationals

	1990	1997	2001
Germany	73.7	58.9	32.1
Italy	74.8	70.9	53.1
France	37.3	31.4	31.2
Belgium, Luxembourg and Netherlands	48.7	47.3	23.5
Denmark, Sweden, Finland, Norway	43.5	46.4	36.0
Switzerland	44.3	42.0	26.5
Great Britain	42.4	29.6	27.3
United States	10.0	9.3	9.4
Japan	44.7	50.2	56.0

Table 2:
The structure of household financing, Dec 2000 (% of GDP)

	Total Liabilities	Of which : From banks	of which : Consumer loans	Housing loans	Other
UK	82	56	-	43	-
Euro Area-9	56	44	6	31	7
Austria	40	29	12	13	4
Belgium	44	34	4	23	7
Germany	74	70	10	43	17
Spain	58	46	8	29	9
Finland	34	28	2	20	6
France	53	37	8	22	7
Italy	31	21	-	-	-
Netherlands	92	67	3	58	6
Portugal	83	60	7	44	9

Table 3:
Debt Maturity

Non-Financial Companies: Bank Loans and Bonds

	Loans from Domestic Financial Instutitions				Bonds, % tot.liab.	
	% tot.liab.	% tot.loans	of which (in %) <1y	of which (in %) >1y	Short Term	Long Term
Average 9-Euro	19,9	61,0	36,4	63,6	0,5	2,4
Austria	58,8	84,81	30,5	69,5	0,1	6,9
Belgium	11,9	56,15	43,8	56,2	0,7	2,0
Germany	22,9	60,98	29,0	71,0	0,4	1,1
Spain	15,1	70,54	35,0	65,0	0,2	1,0
Finland	4,7	25,34	14,9	85,1	0,3	1,9
France	9,3	70,53	30,6	69,4	1,2	2,1
Italy	21,9	73,89	57,9	42,1	0,1	0,8
Netherlands	14,2	44,26	32,1	67,9	0,0	3,9
Portugal	20,7	62,59	53,4	46,6	1,8	2,2
UK[1]	18,4	69,68	-	-	-	-

Household Loans from resident MFIs

	% tot.liab.	% tot.loans	of which (in %) <1y	of which (in %) >1y
Average 9-Euro	76,8	87,7	8,2	91,8
Austria	71,6	71,8	12,9	87,1
Belgium	75,9	84,7	9,2	90,8
Germany	94,3	95,2	8,0	92,0
Spain	78,6	96,6	7,2	92,8
Finland	83,7	84,7	1,8	98,2
France	70,4	81,6	-	-
Italy	68,5	92,1	-	-
Netherlands	72,9	71,7	-	-
Portugal	75,1	93,3	10,9	89,1
UK[1]	67,6	72,9	-	-

[1]Data for UK are for 2001. Source: ECB for Euro area countries, National Statistics Office of the UK for UK.

Table 4:

Asset swap spreads

	September 2000	April 2002	November 2002	Change: 11/02 - 04/02
Germany	65	25	15	- 10
France	50	15	10	- 5
Italy	40	0	0	0
Belgium	30	10	10	0
Spain	35	10	10	0
Finland	45	10	15	+ 5
UK	120	40	15	- 35

Source: Datastream

Figure 1:

Taylor Rule: Bundesbank parameters, Euro area output gap, consensus HICP expectations

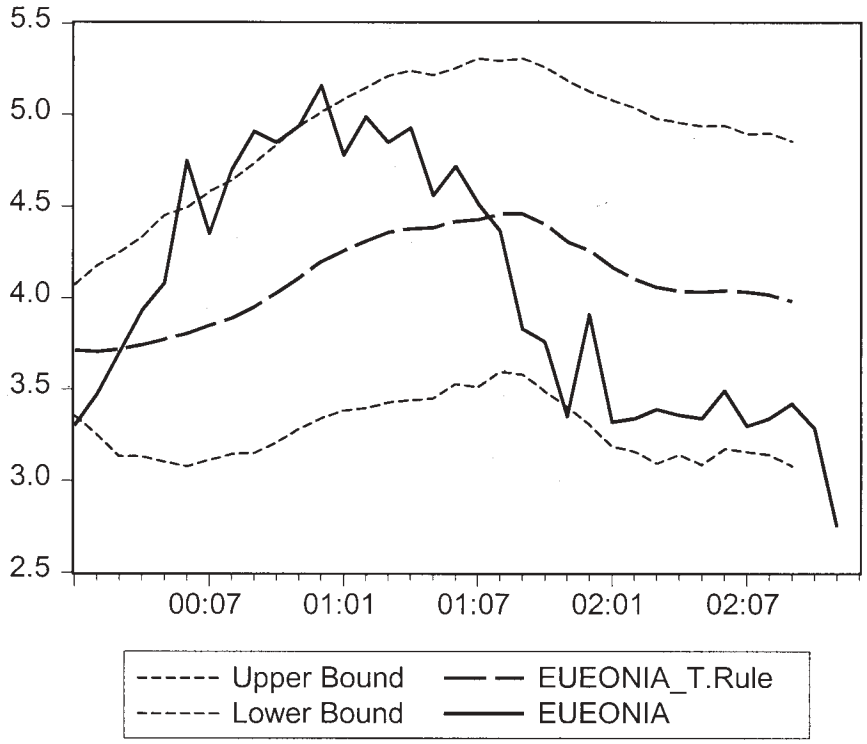


Figure 2:

Taylor Rule: Bundesbank parameters, German output gap, German CPI consensus expectations

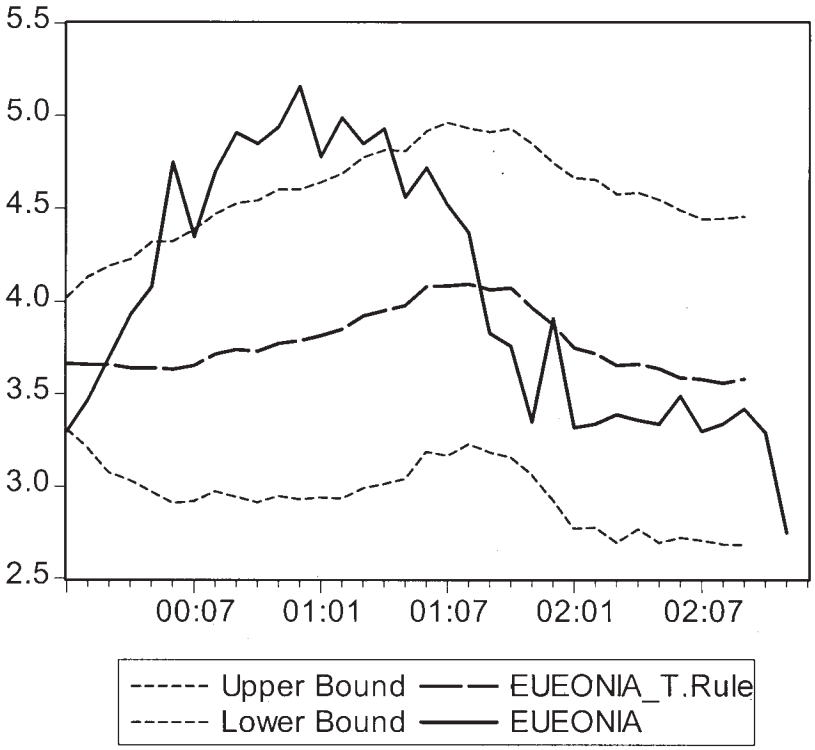


Figure 3:
Taylor Rule: Fed parameters, Euro area output gap, consensus HICP expectations

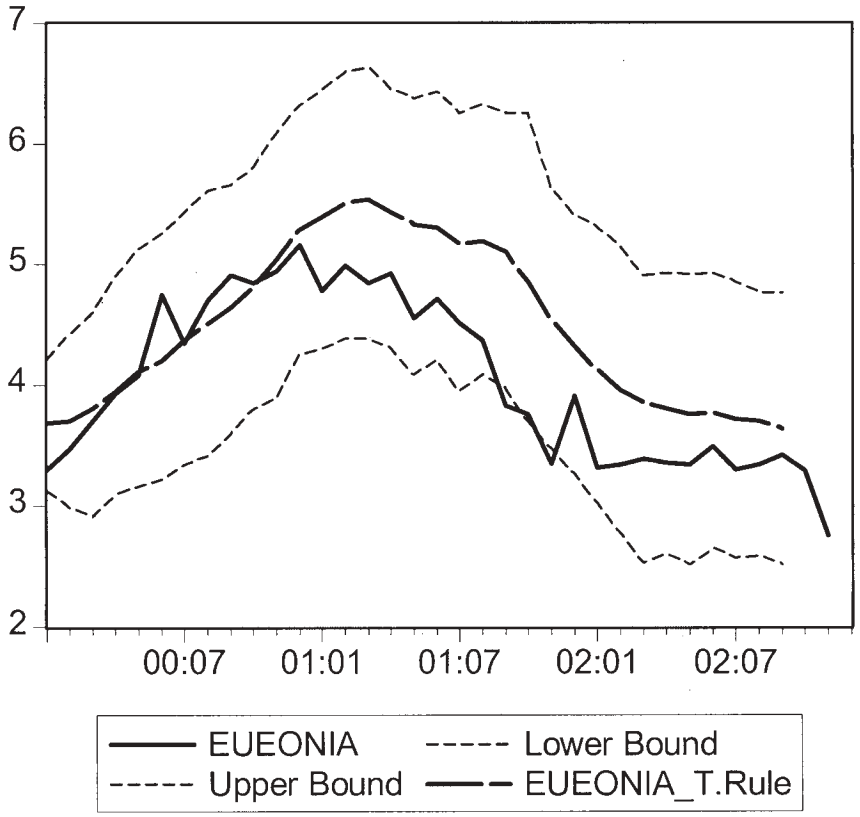


Figure 4:

BBB Corporate spreads in the Euro zone and UK

(The maturity of the BBB corporate bonds used to construct spreads is between 7 and 10 years. Government bonds are 10-year benchmark bonds)

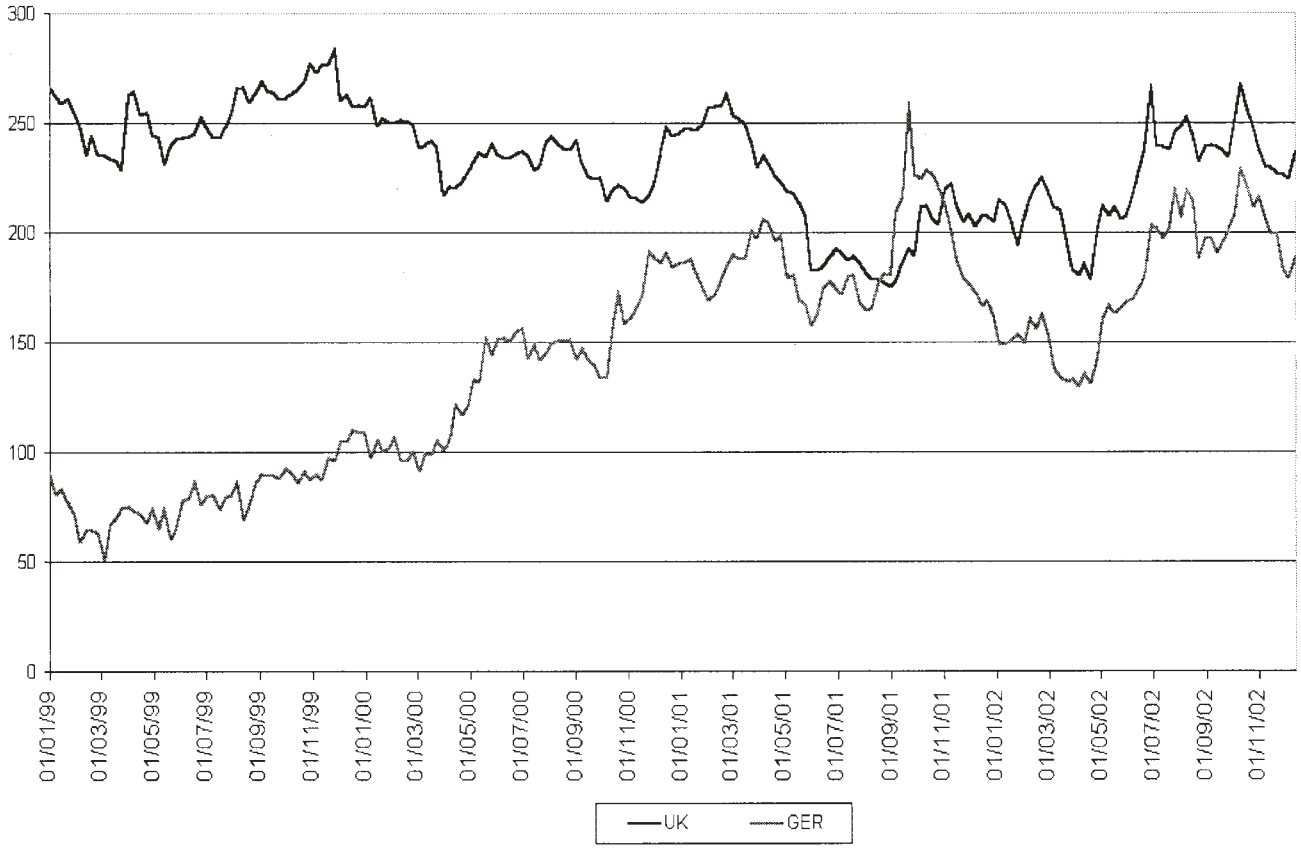


Figure 5:

Government Bond Spreads

(10-year Benchmark Bonds versus Bunds)

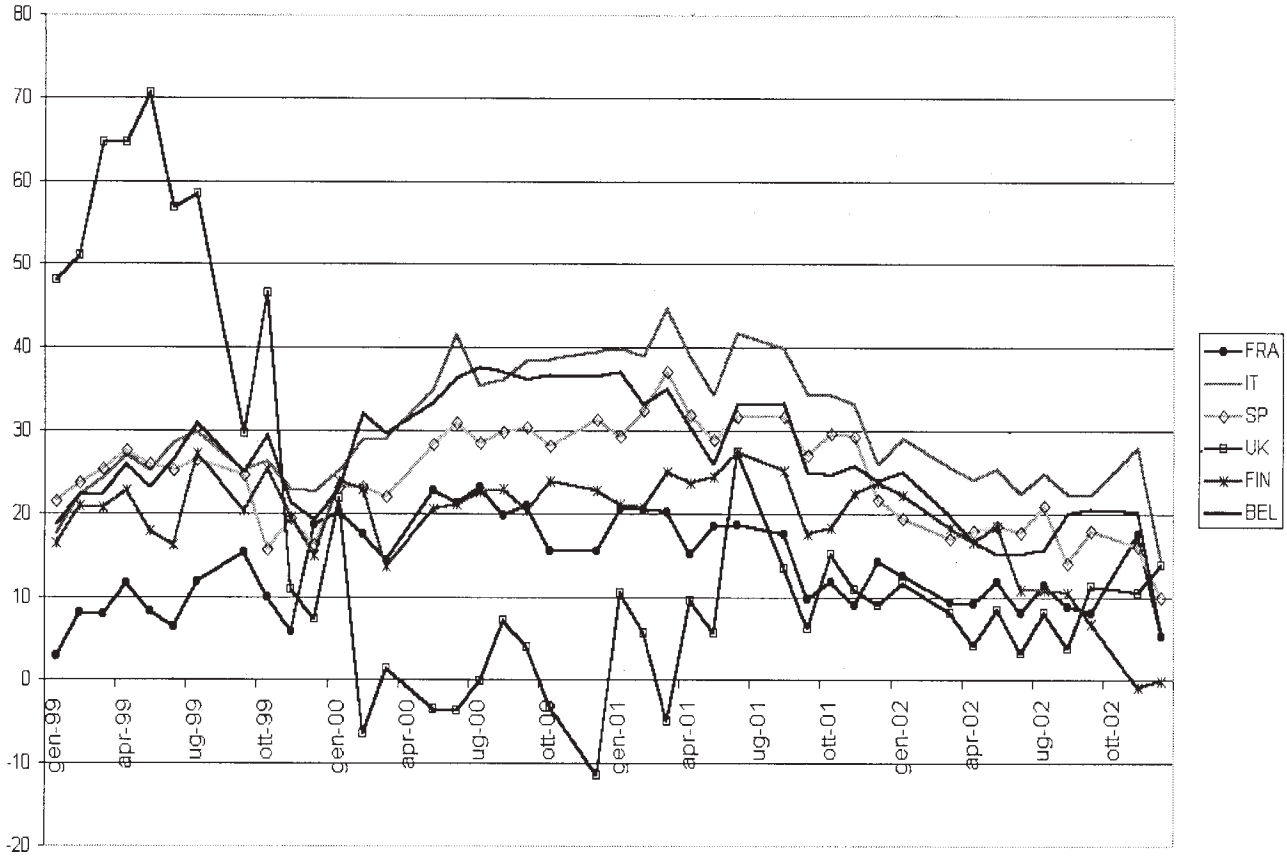
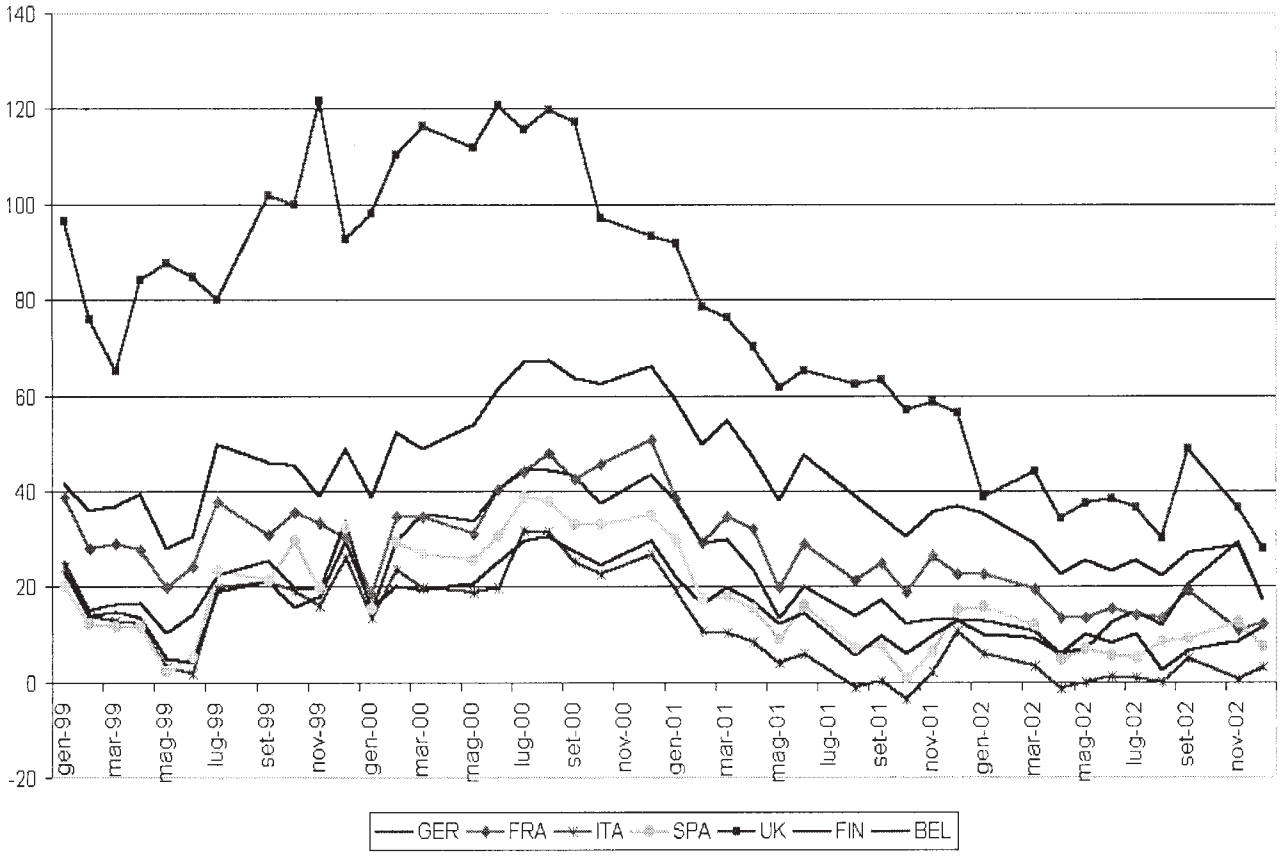


Figure 6:

Asset Swap Spreads

(yield on a 10-year swap contract minus the yield on the 10-year government bond benchmark)



12

DANIEL GROS[1]: AN APPLICATION OF THE OPTIMUM CURRENCY AREA APPROACH – REGIONAL VERSUS INTERNATIONAL LABOUR MOBILITY IN THE E(M)U

December 2002

HM Treasury invited Daniel Gros to revisit his 1996 paper 'A Reconsideration of the Optimum Currency Area Approach: The Role of External Shocks and Labour Mobility'[2] with particular reference to the quotation: "International labour movements in the EU (especially immigration from third countries) have now increased to a point where they are of a comparable order of magnitude as inter-regional migration within member countries. EMU should thus not be more difficult to manage than existing Monetary Unions in Europe that member states represent." (p. 29).

ABSTRACT

1. According to the bible on the optimum currency area approach (Mundell (1961), the case for flexible exchange rates based on *national* currencies is only as strong as the *difference* between inter-regional and inter-national labour mobility. For the US the difference between inter-regional and inter-national labour mobility is very large, making a strong case for the US dollar. However, for most EU countries this difference is much smaller, implying that the case for national currencies is much weaker in Europe. The UK seems to occupy an intermediate position between the average EU and the US. There is some evidence that international migration within the EU-15 responds to national labour market conditions, but the effect is quantitatively negligible.

I. INTRODUCTION

2. Discussions of the economic costs and benefits of EMU usually take as their basis the optimum currency area (OCA) approach. This approach starts from the premise that when an external shock hits the economy, it is easier to adjust the exchange rate than domestic prices or wages. In the words of Mundell (1961):

> A system of flexible exchange rates is usually presented, by its proponents, as a device whereby depreciation can take the place of unemployment when the external balance is in deficit, and appreciation can replace inflation when it is in surplus (p. 657).

3. Most economists accept the general idea behind this approach, namely that nominal wages are usually sticky in the short run and that it is therefore easier to adjust to external shocks and obtain changes in the real exchange rate, or the terms of trade, through a movement in the exchange rate. When the exchange rate is fixed and wages are still slow to adjust, negative external shocks will lead to unemployment. The only channel for market adjustment that remains at this point is migration.

[1] Many thanks for Anna Turmann for dedicated research assistance.

[2] Gros, D. (1996) 'A Reconsideration of the Optimum Currency Area Approach: The Role of External Shocks and Labour Mobility', Centre for European Policy Studies (CEPS) Working Document No. 101.

4. One key question to ask in evaluating the economic case against EMU thus concerns the potential role of labour mobility. To cite again the classic in this area, Mundell (1961):

> The argument for flexible exchange rates based on national currencies is only as valid as the Ricardian assumption about factor mobility (p. 661).
>
> According to Mundell, the latter has two aspects: "that factors of production are mobile internally, but immobile internationally" (Ibid.).

5. The emphasis on the difference between inter-regional and inter-national labour mobility in Mundell is often overlooked in discussions about EMU. If one were to find that labour mobility is as low within member countries as it is between them, one would have to conclude (yet again!) with Mundell that "the optimum currency area is the region" (Ibid., p. 660).

6. To paraphrase, the case for flexible exchange rates based on *national* currencies is only as strong as the *difference* between inter-regional and inter-national labour mobility. This key point is almost invariably overlooked in the literature on EMU which considers only one aspect, namely the low degree of inter-national labour mobility within Europe, without checking whether it is much different from inter-regional mobility within countries.

7. But even if one abstracts from this argument, larger questions remain: How important is labour mobility in theory and in practice? Is the general impression that labour mobility is extremely low in Europe justified? Is more labour mobility desirable for EMU (because it facilitates adjustment)? Or is it undesirable (because it favours concentration), hence increasing the potential for more asymmetric shocks in the future?

8. This note is organised as follows: Section II presents some basic data on inter-national and inter-regional labour mobility. Section III provides some evidence on the degree to which existing labour mobility in Europe actually contributes to regional adjustment. Section IV reviews briefly previous studies on migration in the US that do not confirm the conventional wisdom. Section V discusses some limitations to the view that more labour mobility is always better. Section VI offers conclusions.

II. INTER-NATIONAL VERSUS INTER-REGIONAL MOBILITY

9. It is a commonly accepted proposition that labour mobility in Europe is very low in absolute terms and in comparison with the US. A corollary is that the potential costs of EMU should be high. This corollary is not warranted, however, because, as argued above, the key consideration for the OCA is the difference between inter-regional labour mobility within countries and labour mobility across countries. Neither factor has so far been documented systematically because of the absence of reliable statistical material. A key problem is that national population registries often apply totally different methods to classify inter-national migrants and have little incentive to follow people who leave the country. Regarding immigration the official statistics obviously fail to capture the large numbers of illegal immigrants. Illegal migration might also contribute to economic adjustment, but this is impossible to document in the absence of reliable data.

10. The US seems to conform best to the 'Ricardian' assumption about labour mobility: In the US about 3% of the population moves across state boundaries every year versus only about 0.6% who enter the US from abroad. Inter-regional migration is thus definitely much larger than inter-national migration. Moreover, it seems that for the US intra-national migration responds much more to local labour market developments than inter-national migration, because the latter seem to be influenced much more by longer-term considerations, such as the difference between the level of wages abroad and in the US.

11. The key question is thus: Does this Ricardian assumption also describe the reality for the EU (or rather its member countries)?

12. The first point in this respect is that regional migration within countries of the EU-15 is much lower than regional migration within the US. Mobility within EU nation states amounted to 4 million people in 1999 (around 1.2% of the population), whereas in the US, migration across states and within the country amounted to 8.4 million people (3% of population). Moreover, the regions within member states are on average smaller than US states (there are close to 100 regions by the Eurostat classification with an average population of around 3.5 million, against 50 states for the US, with an average population of around 5.5 million). Taking the difference in unit size into account one could thus argue that the effective rates of intra-national migration are about one third smaller in the EU than in the US.

13. But what about the second part of the story, inter-national migration? It is not widely appreciated that over the last few years international migration flows to the EU have been of a similar order of magnitude as those of the US, which is often used as a reference point. In 2000 about 2 million people entered the EU-15 across international borders, representing about one half of one per cent of the population. In the US, international inflows amounted to about 1.75 million in 1999 which represents 0.6% of the population.[3]

Table 1: Inter-national and intra-national factor mobility compared

	Gross flows as % of population		
	Inter-national Migration	Inter-regional Migration	Ratio: Inter-regional /International
US	0.6 %	3.0 %	4.8
UK	0.6 %	1.7 %	2.8
EU	0.5 %	1.1 %	2.0
E	1.1 %	1.2 %	1.1D

1999 and 2000 data. Source: Eurostat and US Census Bureau

14. If one compares the EU (or rather its member states) to the US the following picture emerges: for the US intra-national migration is almost an order of magnitude higher than inter-national migration, but this is not the case for the EU, where intra-national migration is much lower. The last column of Table 1 shows the appropriate comparisons: for the EU intra-national migration is 'only' two times larger than inter-national migration, compared to a ratio of almost 5 for the US. It is interesting that for Germany inter-regional and inter-national migration are of approximately the same size.

[3] Data taken from US Census Bureau, Population Division.

15. The raw data on (gross) migration flows thus suggest the following result: the Ricardian assumption that there is a qualitative difference between labour mobility across regions within countries and across international borders seems to apply to the US, much less so to the EU-15 average and not at all to Germany. The UK seems to occupy an intermediate position between the EU average and the US. Migration of EU citizens across EU borders is, however, only a fraction of overall international migration. Only about 25% of cross-border migrants in the EU come from other EU countries. (See Table 2.)

16. The figures discussed so far refer to one specific year, but it seems that these flows do not change greatly over time. Regarding inter-regional migration the data are not always available regularly (e.g. on an annual basis). For those countries for which it is available, it seems that there has been little change over the last decade. Inter-national migration seems to be more variable as it can be influenced strongly by policy changes. The most important change in this respect seems to have taken place in Germany, where immigration fell strongly between the early and late 1990s, mainly as a result of tightening policy. By contrast, immigration seems to have increased for a number of other EU member countries. Looking at the EU average it appears that between the early 1990s and now, there has been a slight reduction in inter-national migration. This implies that the finding of Gros (1996), as based on data from the early 1990s, has to be somewhat modified in the sense that the difference between inter-regional and inter-national migration flows has somewhat widened (basically inter-regional flows were 'only' 60% larger in the early 1990s, but are 100% larger today).

Table 2: Migration in Europe, 1999

(in thousands)			
	Immigration total	Immigration from other EU countries	Within country, inter-regional
BE	68.5	26.6	131.1
DK	51.4	17.1	181.2
DE	874.0	169.3	1000.4
GR	12.6	3.0	
ES	127.4	41.8	257.1
FR	57.8		617.5
IE	47.5	31.6	
IT	162.9	23.2	296.1
LU	12.8	3.7	
NL	119.2	34.9	266.7
AT	86.7	20.1	75.6
PT	14.5	8.2	32.6
FI	14.7	6.0	0.2
SE	49.8	14.6	158.5
UK	354.1	90.5	1001.5
Total	2053.9	490.6	4018.5

Note: For countries for which 1999 data were not available, older data (1998, 1997) were used. For France, annual data on immigration from EU countries were missing as were regional data for Greece, Ireland and Luxembourg. For France, average regional migration data were taken for the years 1982-89.

III. DO OBSERVED LABOUR MOVEMENTS CONTRIBUTE TO ADJUSTMENT?

17. This is what the basic data on population movements can tell us. In order to evaluate if labour mobility functions as an adjustment mechanism for labour market disequilibria in Euroland, the decisive point, however, is not the total of migration flows (between European countries and/or regions) but rather, whether flows of people (and hence also workers)[4] react to the state of local labour markets. It is more difficult to arrive at definite conclusion. The only certainty seems to be that there are large differences between member states in this respect.

18. To illustrate these differences we provide some simple regression results for three countries with potentially different sensitivity of inter-regional migration to economic differentials: Germany, Spain and the UK. For all three countries we investigated the impact of unemployment and wage levels on inter-regional net-migration flows (within the respective countries, scaled by population). Depending on data availability, we used 2001, 1999 and 2000 data, respectively. The purpose of briefly presenting these results is simply to illustrate some stylised facts. For a comprehensive survey of this issue, see Puhani (2001) and Ederveen and Bardsley (2002).

19. In the case of Germany[5] our simple regression analysis delivers a significant correlation coefficient and a strong impact of unemployment (after the outlier Niedersachsen was eliminated). Although the number of observations is small, the results are still statistically highly significant. The slope coefficient of about -1 (with a t-statistics of over 4, see Table 3) suggests that the unemployment rate of a "Land" has a clear negative impact on the rate of regional in-migration.

20. However, the flows across German Länders are still small if compared to the existing unemployment differences. The regression result implies that a one percentage point difference in the unemployment rate leads to a higher rate of out-migration of 0.1 per cent. Under the assumption that all emigrants are unemployed and immediately find a job outside their original region, it would thus take ten years to eliminate a ceteris paribus 1% rise in unemployment through migration. The wage-effect is insignificant.

21. The data on regional migration for the (NUTS-2 regions) in Spain[6] provide a totally different picture. In this case there seems to be no link at all between the economic variables and regional migration flows (This is not only a result of this specification. The unemployment variable did not have a statistically significant impact on regional migration flows in whatever specification used.) The order of magnitude of the rates of migration is different. For Germany it is about 0.6 to 0.8% (of resident population) whereas in Spain it is only 0.4% (see Graphs A1 and A2). Yet the differences in unemployment rates for Spain are higher on average. The differences alone suggest that migration flows in Spain are less sensitive to unemployment differentials than in Germany. This result corresponds to one of the findings of Ederveen and Bardsley (2002), who present a meta-analysis of 22 empirical studies on labour mobility within and across the EU. The study shows that migration flows in southern European countries are less sensitive to wage and unemployment differentials than in other countries, in particular in Germany and the UK.

[4] Leuvensteijn and Parikh (2001) show that the discrepancy between normalised population and labour migration data is not significant and that the results are similar.

[5] Puhani (2001) also examines net migration for German regions but considers a longer time period.

[6] NUTS is an abbreviation standing for 'nomenclature des unité territoriales statistiques' and refers to the decomposition of the EU into smaller administrative units. NUTS-1 comprises for instance the 16 German Länder. Spain has a similar number of units at the NUTS-2 level.

22. In the case of the UK the labour market seems to be much more responsive to local economic conditions: migration flows across NUTS-1 regions are strongly affected both by the unemployment rates and by local wage rates. The impact of unemployment on migration flows is 50% larger than for Germany. But this still implies that it would take 6-7 years if a regional unemployment problem were to be solved only through migration. The surprising result is that the coefficient on wages does not show the expected sign. It is highly significant, but its sign is negative, implying that higher wages lead to less inward migration. This result seems to be driven by the data for London, which recorded large population outflows despite having the highest level of wages. It is possible that this reflects the movement of commuters just outside the Greater London area.

Table 3: Estimation results for net inter-regional migration

	Germany		Spain		UK		EU-15	
Variable	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Unemployment rate (%)	-0.96	-4.20	-0.16	-1.26	-1.445	-5.442	-0.10	-3.34
GDP/employed (in euro)	0.00	0.75	-0.2	-1.2	-0.001	-6.267	0.01	3.09
Dummy*	-10.55	2.24	13.48	4.62			4.13	16.39
Adjusted R^2	0.83		0.61		0.822		0.97	
Observations	16		18		12		11	
Average absolute migration rate (in %)	0.4		0.3		1.4		0.07	

*Note: We introduced a dummy in Germany for Niedersachen, in Spain for the Baleares and in the EU-15 for Ireland.

23. On the European level, choosing a place to stay seems be weakly correlated with unemployment and wage differentials of the EU-15 countries (see the last column in Table 3). Both coefficients have the expected sign and are significant. Yet one should bear in mind that the number of observations is low (data for BE, GR, ES, FR are missing) and since the unemployment coefficient is so small (-0.1), migration flows across European countries seem to react much less to unemployment differentials than flows within countries (the coefficients for inter-regional migration in Germany and the UK are 10-15 times larger). The root cause of this result is of course that migration across borders is very low in the EU in absolute terms (again see Table 3 above). The shock absorber function of labour mobility on the inter-state level therefore seems negligible in quantitative terms.

IV. THE CONTRIBUTION OF LABOUR MOBILITY TO ADJUSTMENT TO REGIONAL SHOCKS IN THE US

24. It is documented above that people move much more often in the US than in Europe. What matters in the context of discussions about EMU, however, is the extent to which net movements react to local unemployment. The previous section documented that in this respect member countries differ considerably. The general perception of the US is that migration is a key equilibrating factor. However, it is surprising to note that this perception has a very narrow base. The most widely cited study is Eichengreen (1993), who compares the

reaction of inter-regional migration to local unemployment and wages in the US, UK and Italy. He finds that net immigration to any of the 9 census regions reacts indeed to unemployment in the previous period, but the effect is rather imprecisely estimated since the t-statistic is only 1.92. The point estimate (-0.37) implies that net immigration would fall only by 0.0825 (percentage points) if the average unemployment for the US is 8% and if it increases in any region from this level to 10%. If migrants have the same family composition and activity rates as the local population, the change in migration would thus be equivalent to 1/25th of the increase in unemployment.

25. Blanchard and Katz (1992), henceforth BK, report a much stronger reaction of migration to unemployment. They estimate that a negative shock to employment in any "average" US state is offset within one period by about 60% through migration. The problem with their approach, however, is that they do not use any data on migration; instead they calculate implicit migration effects from their data on employment, unemployment and participation rates.

26. BK argue that migration must account for most of the adjustment to shocks to employment in the US since they find that a 1% shock to employment in a given state is followed typically by a 0.3% increase in unemployment and a very small (0.05) decrease in labour force participation. According to BK, migration must account for the difference, i.e. 0.65% of the total adjustment. This interpretation implies that if General Motors fires 100 workers, 65 of those who do not find a job the same year will have left the region within the same period. This is difficult to believe even for the US.

27. The BK finding is also difficult to accept because it runs counter to many other studies on the US labour market, which generally find, as reported in Greenwood (1975 and 1985) that unemployment is not an important factor in explaining migration flows. This discrepancy might be due to the fact that BK do not use any direct data on migration, but calculate migration as a residual on data on the labour force, employment and unemployment. Since these data come from different sources it is likely that some of their coefficients pick up the inconsistencies in the data (i.e. a measurement error) that is strongly correlated with the other variables. Since migration is really the residual, the estimated effects of an unemployment shock are not based only on the migration that actually takes place but also on the inconsistencies in the data.

V. CAN LABOUR MOBILITY BE A SUBSTITUTE FOR REAL WAGE ADJUSTMENTS?

28. The Introduction referred to the important place accorded to labour mobility in the OCA approach. The usual line of reasoning is quite simple. In EMU, unemployment will rise if an external shock hits a given country or region because nominal wages usually do not adjust quickly enough to re-establish equilibrium in the labour market. It is then argued that if all the unemployed left (and go to the country/regions that experience the mirror image, or positive side of the same shock), there would be no problem. This argument is too simple however, since it neglects the fact that those who leave also reduce the demand for domestic products. Emigration of the unemployed shifts the demand for labour again downwards, which implies that at the (by assumption) fixed nominal wage there will be a second round of unemployment.

An aside: Is more labour mobility necessarily better for EMU?

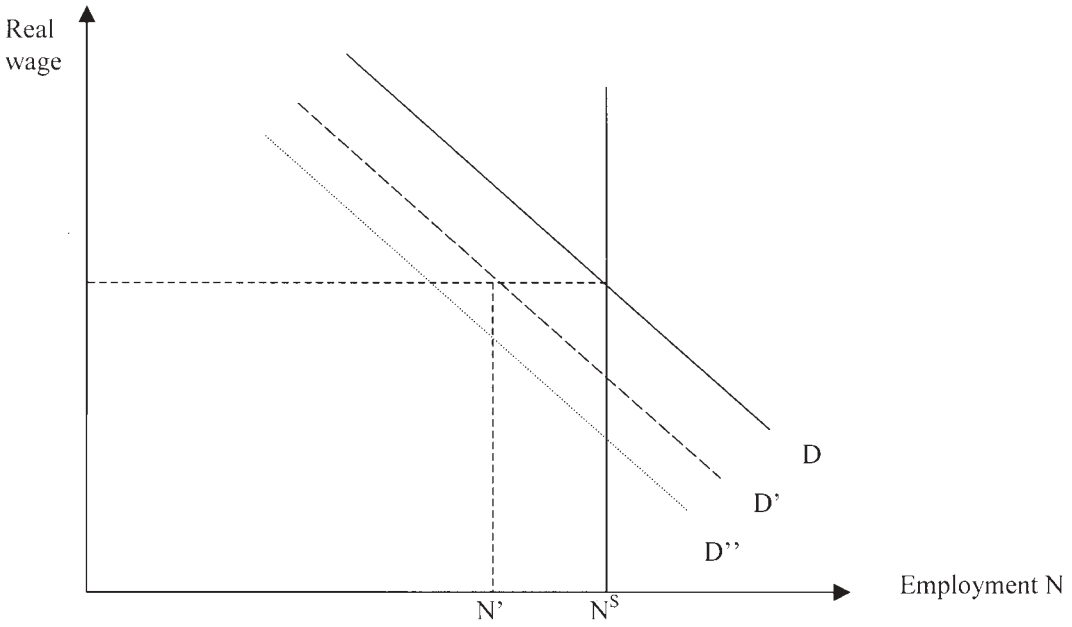
The OCA view of labour mobility as an adjustment mechanism looks only at labour flows as a short-term adjustment mechanism, however, and does not take into account that concentration of industry and hence pronounced core periphery patterns are more likely to emerge when labour mobility is high. But since most studies concur that labour mobility is low in Europe compared to the US (not only across countries, but also across regions within countries (Decressin and Fatàs, 1995), there should be less concentration in Europe than in the US.

Some authors have used this line of thought to arrive at a sort of "catch-22": as long as labour mobility is low in Europe, EMU is costly because labour mobility is needed to offset asymmetric shocks. As the argument goes, however, if labour mobility were to increase (possibly because EMU comes anyway), concentration would increase and hence the likelihood of asymmetric shocks would also increase, again making EMU costly. In the flip of a coin, the choices are: "heads", EMU is impossible, or "tails", it is not desirable. The proper conclusion would seem to be that labour mobility is perhaps less crucial for EMU than previously thought. Although labour mobility allows for a quicker adjustment to shocks, it also favours concentration of industry and hence increases the potential for asymmetric shocks.

Since labour mobility is usually assumed to be important however, it is still useful to take a look at the data which does not always yield the results that are commonly expected.

29. A simple graph can illustrate this idea quite easily. Chart 1 represents the usual model of the labour market: labour supply is fixed at N^s (e.g. a constant share of the total population) and labour demand, D, is the usual function of the real wage (on the vertical axis). Initially equilibrium is attained at the full employment level N^s. An external demand shock is assumed to shift the labour demand schedule to the left, say to D'. If real wages cannot adjust, labour demand drops to N' and there is unemployment equal to $N^s - N'$.

Chart 1: Labour market



30. Apparently the unemployment problem could be solved if the unemployed emigrated until N^s drops to N'. This reasoning, however, neglects the fact that the labour demand curve depends not only on the real wage rate, but also on the level of overall demand. Since the unemployed receive in reality unemployment benefits which allow them to maintain their

spending close to that of the employed, they also contribute to domestic demand as long as they stay at home. If they emigrate, the domestic demand curve for labour will again shift to the left, say to D", thus aggravating the fall in employment that occurred in the first round. At the given wage rate, this leads to more unemployment and hence more emigration.

31. While it is difficult to determine *a priori* where this cycle will stop, it is clear that labour mobility can magnify the impact of demand shocks on regional output.

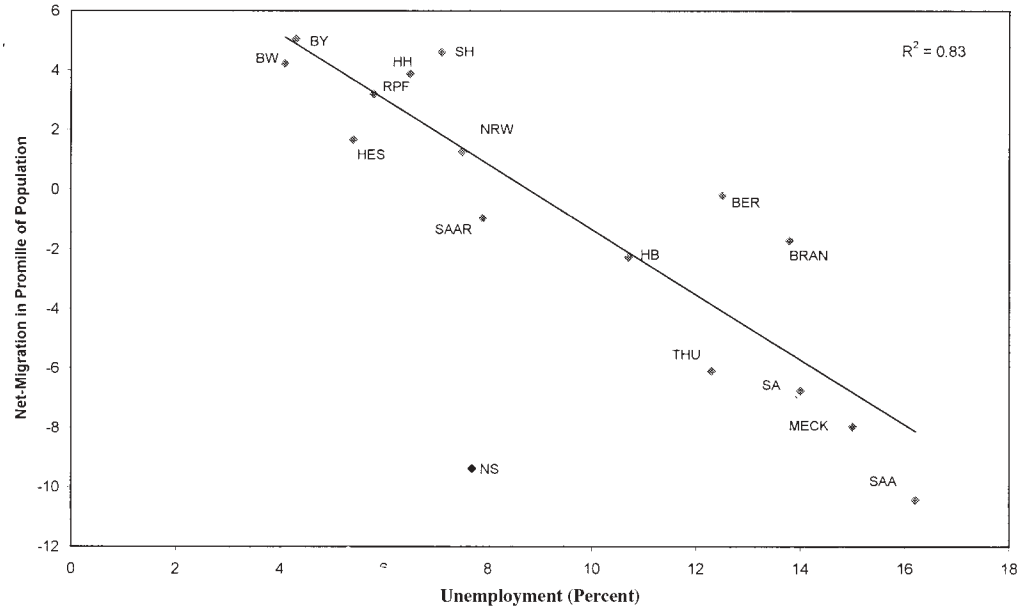
VI. CONCLUSIONS

32. The main argument of this paper is that within the debate about EMU one should not look only at inter-national labour mobility, but also at the difference between inter-national and inter-regional labour mobility. The main empirical finding of this paper in this context is that this difference is much larger for the US than for most EU member countries. International migration into the EU (especially immigration from third countries) has somewhat declined compared to the early 1990s, so that it now runs at about half the rate of inter-regional migration within member countries, i.e. inter-national migration is definitely smaller, but not of a totally different order of magnitude than inter-regional migration.

33. Some simple sample results on recent data for inter-regional migration within larger member countries show large differences. However, even for the countries in which inter-regional migration responds strongest to regional labour market conditions the strength of the reaction is not so large that one could expect migration alone to have a strong impact on unemployment differences in the short to medium run. Moreover, in some member countries inter-regional migration does not seem to be connected with regional labour markets and hence contributes little to the adjustment to shocks. EMU should thus not be much more difficult to manage than the existing monetary unions in Europe that member states represented up to 1999.

APPENDIX

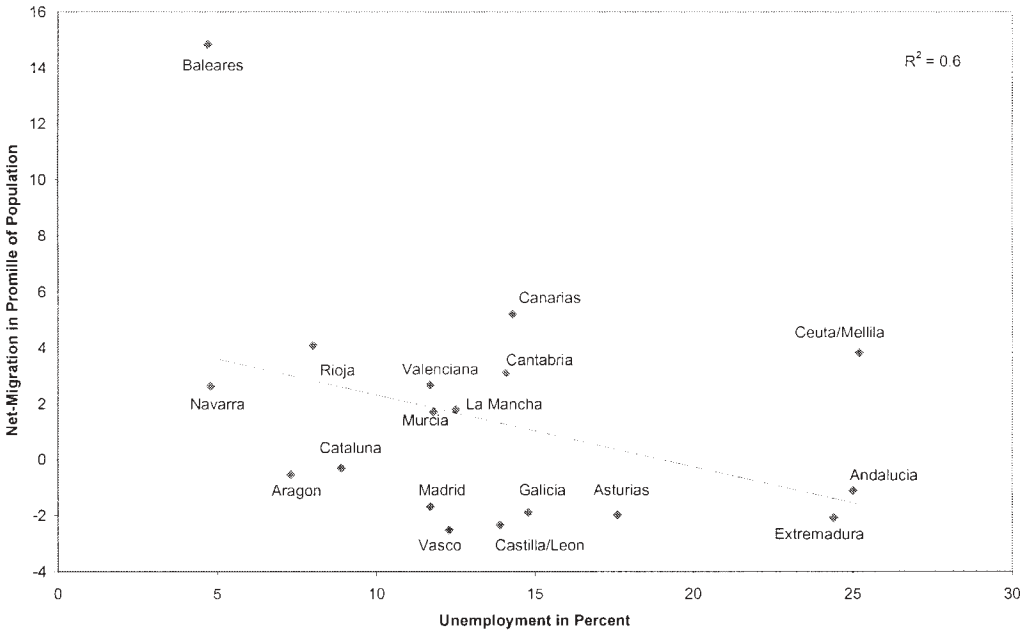
Graph A1: Unemployment and interregional net-immigration in Germany, 2001



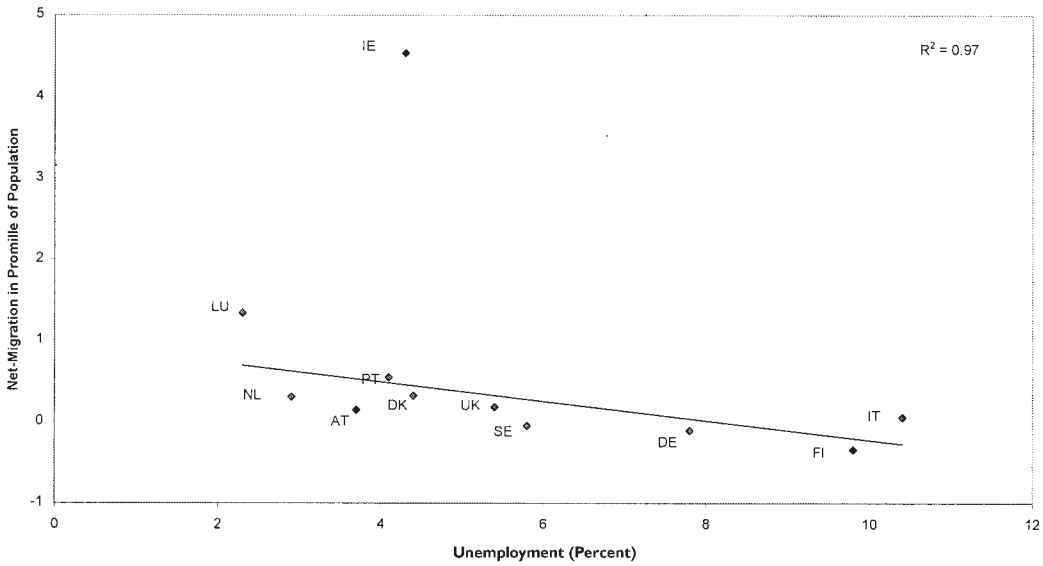
Note: The excessive regional outflow for Niedersachsen can be explained by the refugee camp in Friedland. Inflows are registered as international immigration whereas outflows to other regions within Germany are registered as regional migration. The trend line does not include Niedersachsen.

Source: Statistisches Bundesamt.

Graph A2: Unemployment and interregional net-immigration in Spain, 1999



Graph A3: Unemployment and interstate net-migration in the EU-15, 1999



Source: Eurostat.

Note: The trendline does not include Ireland. Due to missing emigration data the graph does not show BE, GR, ES, FR.

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13

ANDREW HUGHES HALLETT: ASYMMETRIES AND ASYMMETRIC POLICY TRANSMISSIONS IN THE EUROZONE

December 2002

HM Treasury invited Andrew Hughes Hallett to revisit his 1999 paper 'EMU in Reality: the Effect of a Common Monetary Policy on Economies with Different Transmission Mechanisms"[1] co-authored with Laura Piscetelli, with particular reference to the quotation: "...monetary transmission and asset effect asymmetries ... have the effect of destabilizing the natural (European-wide) business cycle, and of putting the country-specific cycles out of phase with one another ... Comparatively simple asymmetries in transmission mechanisms are condemned to slow down, if not delay convergence".

1. Optimal Currency Area theory teaches us that, to join a single currency union, an economy needs to satisfy four separate criteria – or to have the independent policy capacity to absorb the disequilibria caused if they are not satisfied. These four criteria are:[2]

(a) The partner economies should trade predominantly and freely among themselves.

(b) There should be a very high degree of factor (labour and capital) mobility between member countries and regions. Recognising that labour mobility has its own costs and limitations, this condition may only be available as a long-term solution to persistent disequilibria in labour markets. If so, labour mobility must be supplemented by sufficient relative wage flexibility in the short term.

(c) Industrial production should be well diversified within each economy or region. That would imply a high degree of intra-industry trade – as opposed to industrial specialisation and concentration.

(d) The member economies should not be subject to country-specific shocks; or to institutional, behavioural, or transmission asymmetries. If they do have asymmetric structures or transmission mechanisms, even symmetric shocks will have asymmetric impacts. This condition implies that each economy needs to be, and to remain, broadly "in-cycle" with its partners.

STRUCTURAL ASYMMETRIES AND THE PATTERN OF INTEGRATION

2. Of these four criteria, the European partners satisfy the first: with Britain conducting 49% of her trade within the Euro-zone – and the others more (up to 75% for Belgium or the Netherlands). However if investment income is taken into account, Britain derives only about 41% of her foreign exchange earnings from the Euro-zone (ONS, 2000). That is lower than her partners.

[1] Hughes Hallett, A. and Piscitelli, L. (1999) 'EMU in Reality: the Effect of a Common Monetary Policy on Economies with Different Transmission Mechanisms' *Empirica* 26, pp. 337-58.

[2] See Mundell (1961), McKinnon (1963), and Kenen (1969).

3. A more interesting asymmetry comes from Mundell's emphasis on capital links (Mundell 1973a,b). Capital links may be as important as trade links: a) because they enable international investment to be undertaken where it is most efficient; and b) because they allow countries to pool their short-term financing risks (Asdrubali *et al.,* 1996). Thus, even if there were sufficient factor mobility and structural similarities, trade integration is only a necessary condition for convergence. It is not sufficient because, if your investment partners are a different set of countries, then the financial links may imply a different pattern of shocks and spillovers from those coming from one's trade partners. That would lead to a pattern of incompletely converged cycles. This, arguably, was the root cause of the downfall of the Dollar link in Argentina: the capital/money link being with the US, the trade links being with Brazil and Europe, where the two sets of partners showed divergent cyclical and cost positions.

4. And so it is for Britain, albeit to a lesser extent. She may trade as much with her European partners as with anyone else, but her investment income is 75% from non-EU sources. Moreover foreign investment is roughly one-third of total UK investment. Consequently if the two sets of trading partners move apart, as the US and Europe have done, then a currency link to either party will imply extra costs. Ultimately one has to decide which set of costs will be smaller: a Euro link or a dollar link. Alternatively, a policy of steering a course between the two currencies, might bring lower costs and greater stability in the *trade-weighted* exchange rate.

STRUCTURAL ASYMMETRIES IN THE LABOUR MARKET

5. With respect to the factors of production, capital mobility is certainly available under the single market arrangements. However, the rigidities in Europe's labour markets – reducing both mobility and wage/price flexibility – are legendary. Eichengreen (1992) estimates that intercountry and interregional migration is at least three times lower than in comparable monetary unions such as the USA. More recent estimates (MacLennan *et al.,* 2000; Obstfeld and Peri, 1998) confirm those figures. The UK may have more flexible labour markets than her European partners, but they are less flexible than those in the US.[3]

6. We have less direct evidence on wage and price flexibility in the European economies. However, Decressin and Fatas (1995) demonstrate that the lack of interregional immigration has meant that country or region-specific shocks have had to be absorbed by labour participation rates. As a result, unemployment has in practice played little role in regulating the European labour markets. That implies wage and price flexibility has largely been absent – an observation consistent with the later work of Blanchard and Wolfers (2000), Ball (1999), Phelps (1994) or Nickell (1997) for example. As a result, unemployment has persisted and wages have failed to adjust to clear the markets.

7. Several papers have set out to analyse how monetary union might affect wage bargaining and market flexibility: Cukierman and Lippi (2001), Sibert and Sutherland (2000) or Soskice and Iverson (1998) for example. But in each case the market structures have been kept fixed, so the question of what incentives actually exist for market reform and whether structural asymmetries would gradually disappear, has largely been ignored.[4] Against that, many have argued (e.g. Frankel and Rose, 1998) that cyclical convergence will come about because

[3] MacLennan *et al.* (2000) estimate annual US labour mobility at 2.8% of the population, but 1.6% in the UK, and 1.23%, 1.07% and 0.5% in Germany, France and Italy respectively. Obstfeld and Peri have even lower figures for Europe, and claim that labour market flexibility is now declining instead of rising.

[4] It has long been argued that structural reform is a prerequisite for a successful EMU (Delors Committee, 1989). But that argument has largely been based on the empirical and analytic evidence of a negative relationship between (real) wage rigidities and economic performance: Bruno and Sachs (1985), Nickell (1997). The point that matters for this review is whether those rigidities are likely to be removed; or whether the existing structural asymmetries are more likely to get preserved or extended. Paragraphs 8 and 9 show the latter is more likely to happen. For recent evaluations which support that point of view, see Van Bergeijk *et al.* (1999) or Krueger (2000).

economic structures are endogenous. There is more to say about that below. But there is preliminary evidence that EMU has changed wage bargaining and induced some convergence – albeit on a very small scale.[5]

8. On the other hand, the strategic arguments point in the opposite direction. Calmfors (1998, 2001) argues that although money wages may become more flexible in a single currency zone, further labour market reforms are *less* likely if they had been linked to a time inconsistency problem, especially when (as in Europe) the monetary union has been designed specifically to eliminate that kind of problem. There will be less need for such reforms once inside the union – and less desire for them among governments who, with the loss of monetary policy and with the restrictions of the Stability Pact, are more limited in the instruments they can use to stabilise the domestic economy. Most governments would wish to retain rigidities in their labour markets so that they still have some effective instruments (pay roll taxes, employment protection, incomes policies, minimum wage laws, etc.) with which to stabilize their economies.

9. It is still possible to argue that asymmetric shocks would increase the incentive to develop new measures to counter those shocks (Sibert, 1999). But it is hard to see that governments would not use those measures to create asymmetric practices to counter such shocks. And when we test propositions of this kind (see Hughes Hallett and Viegi, 2000), that is exactly what we find. To do away with such practices would mean a higher degree of uncertainty about incomes and employment, and less social welfare provision since payroll taxes and other "social" provisions would have to be cut to provide flexibility in unit labour costs. That would not be acceptable in a Euro-zone that wishes to provide a degree of social insurance. In fact closer integration has typically generated the opposite reaction, as governments and labour organisations have sought to provide employment insurance in an increasingly uncertain world where governments are no longer able to control many of the policy levers that used to stabilise output, employment and growth at home (Agell, 1999).

10. Finally it is *not* correct to say that, because Britain has relatively flexible markets, she could join a less flexible Euro-zone without much cost to herself (indeed might even profit from doing so). In a series of papers[6] examining the incentives to join a currency union, and the incentives to reform in such a union, we have shown that there are always costs, to *both* sides, to forming a currency union under imperfect market flexibility. 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). The flexible country would have to do more adjusting than previously since it now has to absorb the problems transmitted by others, as well as its own disturbances. The inflexible economy, meanwhile, will welcome the fact that it can transfer part of its burden of adjustment onto others. That leads to a kind of Groucho Marx theorem. Countries will only want to join a Union with markets more flexible than their own; but they have no incentive to join a Union with markets that are less flexible. Consequently, once in the union the incentives to maintain flexible markets would weaken towards the level of the least flexible.[7]

[5] Andersen *et al.* (2000)

[6] See Hughes Hallett and Jensen (2001, 2002).

[7] This argument is also made by Burda (1998), while Riboud *et al.* (2002) point out that most countries have in fact adopted the least flexible labour market practices in the EU upon joining.

SOURCES OF ASYMMETRIC TRANSMISSIONS

11. I now turn to the asymmetric transmission of certain events or disturbances. Structural and transmission asymmetries are likely to be more important than any asymmetries in shocks: *first* because they imply asymmetric impacts from symmetric shocks. And *second* because, even if the incidence of asymmetric shocks diminishes with convergence to the union average, asymmetric transmissions will still be in place.

12. Surprisingly little work has been done in assessing the likely impact of structural or transmission asymmetries in a currency union such as Europe. Most of the literature is concerned with trying to explain what asymmetries exist between the European economies, and why they exist. The results have been inconclusive in that most studies agree that asymmetric transmissions exist, and that the degree of asymmetry varies over countries. But they disagree over exactly where those asymmetries lie, and how large they are.[8] In my own work I have used a model which does not assume any particular form of asymmetric transmissions in its baseline, but allows me to impose asymmetry in a few specified places to guage what the consequences would be for economic performance or cyclical convergence. The particular econometric model used (the IMF's standard multi-country econometric model *Multimod*), therefore offers a vision of what would happen if there were no asymmetries. Then, by varying specific transmission parameters between countries, we can pin-point which asymmetries matter for the transmission of a common monetary policy, and which do not.

13. Why might asymmetric transmissions exist in Europe? First, institutional considerations suggest that differences in pensions, asset ownership and housing, corporate finance, and in the scale of government debt, will generate differences in asset-to-income ratios and the ability of assets to affect expenditure and credit. It is a common observation that the output sensitivity to variations in nominal interest rates is higher in the UK, due to the extent of home ownership and to the availability of consumer credit (MacLennan *et al.*, 2000). In addition, transaction costs are low and housing is an effective collateral, and asset ownership widespread. These differences are on the *demand* side.

14. By contrast, many European economies have fixed-rate financing, especially in the corporate bond market. Their interest rate sensitivity is therefore on the supply side. The UK's output would be relatively insensitive on the *supply* side due to the popularity of equity financing and the lower proportion of bond financing. Most European countries also have 'universal' banking, where banks both finance and hold equity stakes in their client firm. Under such a regime, variations in monetary conditions, asset values and public debt may have somewhat smaller effects on output. Hence the transmission of monetary policy will vary with the industrial structure in each economy (Kashyap and Stein, 1997; Carlino and DeFina, 1998).

15. In addition Cecchetti (1999) argues that, in view of differences in financial structures (i.e. size, concentration and health of the banking system, and the availability of alternative sources of finance), the impact of monetary policy will be lower in the UK than it is in France, Germany or Italy (see Table 2). Thus different legal systems, differences in shareholders' rights, ease of collateralisation and enforcement, and differences in regulation, all lead to the same conclusion – even with a common money (Engel and Rogers, 1996).

[8] See for example BIS (1995), Dale and Haldane (1995), Britton and Whitely (1997), Ramaswamy and Sloek (1998), Gerlach and Smets (1995), Smets (1995), Kieler and Saarenheimo (1998), Suardi (2001).

THE CONSEQUENCES OF ASYMMETRIC POLICY TRANSMISSIONS

16. By varying the transmission parameters across countries in Multimod, Hughes Hallett and Piscitelli (1999, 2002a) find that asymmetric impacts of a common monetary policy can easily destabilise an economy's business cycle, even where there had been synchronised cycles before. Moreover those new cycles are likely to be diverging, putting the European economies further out of phase with each other. Within that general framework, we find:

(a) The main asymmetries were caused by differing income elasticities of the demand for money, and by differing asset effects on consumption and aggregate expenditures. Those asymmetries generated persistent "out of cycle" effects because they altered the model's steady state solution. Variations in the interest elasticity of the demand for money also produced divergent cycles; but these cyclical differences tend to die away.

(b) These country-specific cycles tended to produce a weak core vs. periphery (i.e. France and Germany vs. the UK and Italy) divergence in cycles and performance – confirming the cluster effects of Artis and Zhang (2002).

(c) Nominal rigidities (wage contracting) do not matter too much if they are broadly similar, but could be disastrous if their incidence differs widely across countries (consistent with the theoretical results in Hughes Hallett and Jensen 2002). However structural rigidities, such as in the Phillips curve, matter a great deal. But asymmetric transmissions will emerge here only in the short run if the long run Phillips curves are vertical (Turner *et al.* 2001). The reason is that, with Phillips curves vertical in the long run, and with each economy returning to that curve with the same (EMU) inflation rate, asymmetric transmissions can only affect the short run variations around the long run Phillips curve. That is comparatively minor. But if structural reforms can affect the long run position of the Phillips curve, then the story is quite different.

17. We then examined whether domestic policy instruments could be used to damp down the domestic business cycles, and bring them back into phase (Hughes Hallett and Piscitelli, 2002a). We found:

(a) That fiscal policy was no help in this regard since fiscal policy has very little impact when budget constraints are anticipated and effective. That means the automatic stabilisers are not effective in damping down or synchronising cycles.

(b) If fiscal policy is ineffective, policy makers are likely to turn to wage policies and greater market regulation to stabilize their economies – as we argued above. But two caveats are in order here. Structural reforms could reduce the need for greater regulation in the labour markets by strengthening the effectiveness of an economy's automatic stabilisers. Second, the capacity for regional stabilisation would be enhanced if a system of fiscal transfers could be introduced at the European level.

(c) Market responses, in the form of small economy-wide risk premia, can help counteract this destabilisation and cyclical divergence. Persistent asymmetries and cyclical divergence may therefore lead to an endogenous weakening of the common monetary policy and regional risk premia - as happened in the US 60 years ago.

18. How do we know these results are right? Do they correspond with what has actually happened since the single currency came into existence?

19. On a simple examination of the numbers, it does appear that the Euro-zone members have been subject to larger, destabilising, and partly divergent fluctuations compared to their pre-euro days. Table 1 gives a quick sketch of the evidence. It is clear that the cycles in the Euro-zone are expanding, both relative to past experience and relative to the UK as an outside comparator. This is most marked in growth rates, but it also appears in unemployment and in the fluctuations in inflation. It is also clear that there is now *divergence* within the euro area: contrast the "core" (France, Germany and Italy), and a better performing "periphery" (Spain, Finland, the Netherlands and Ireland), which are increasingly out of phase with each other. We also see divergence between the UK and the euro area, in that the UK is not subject to the same degree of cyclical fluctuations as her EU partners.

ARE EUROPE'S ASYMMETRIC TRANSMISSIONS CAUSED BY STRUCTURAL DIFFERENCES OR POLICY FAILURES?

20. De Grauwe (2000) has also examined the case of asymmetries in transmission caused by differences in the parameters that transmit the effects of monetary policy onto the real side of the economy. He shows that as those differences increase, then the effectiveness of monetary policy for stabilising output and employment decreases. As a result, the stabilisation efforts made by the ECB will automatically decrease – the central bank will just concentrate on doing what it can do. De Grauwe points out that the ECB could have overcome this difficulty by using more national information in the setting of its policies. But the statutes and declared strategy of the ECB explicitly rules out that prescription. So we can hardly expect it to be followed.

21. Structural reform (greater wage and price flexibility), and more powerful automatic stabilisers, could help restore the stabilising power of monetary policy and hence overcome this difficulty.

22. In the light of the previous paragraph, it is important to be clear whether Europe's transmission asymmetries are due to structural asymmetries, or to asymmetric shocks and policy failures. Demertzis and Hughes Hallett (1998) decompose inflation and unemployment fluctuations in the EU area into their constituent parts: i) policy errors plus asymmetric shocks, ii) structural differences of each economy from the European average, and iii) interactions between those terms. Using a wide range of estimates for the natural rate of unemployment in each economy, we found structural differences to dominate in every case – and by a wide margin. Consequently:

(a) Europe's problem has been a matter of structural differences – not poor macroeconomic management.

(b) Asymmetric transmissions are far more damaging than asymmetric shocks.

(c) Improved macroeconomic management is unlikely to bring many gains. What would make a difference however is structural convergence. That poses a different sort of policy problem; and implies the need for structural reform and flexible markets.

DO TRANSMISSION ASYMMETRIES IMPLY LARGE WELFARE LOSSES?

23. If there are few analyses of the likely impact of asymmetries in transmission, there are even fewer that assess how important the losses in performance might be. I know of three: Nolan (2002), Hughes Hallett and Weymark (2001), and De Grauwe and Piskorski (2001). As the optimal currency area theory and Nolan point out, the first best solution is to form a

currency union of countries that have similar structures and similar shocks – and hence similar transmissions. However, once the first best conditions are broken, it is no longer obvious that you necessarily want to form a union with those most similar to yourself. Consequently, the only way to analyse the potential costs of asymmetric transmissions is to compare the outcomes in a currency union, to the outcomes and average performance levels in the same union when policies are designed for the characteristics of your particular economy. That contrasts what you are actually going to get on average, with what you would have got under your ideal monetary union.

24. Nolan's analysis is based on a Barro-Gordon model with no fiscal policy. Monetary policy may follow either a strictly cooperative framework (this is not what the ECB does); or a policy where the ECB simply targets EU-wide aggregates (the actual EMU). This brings out the "second best" nature of EMU, the cooperative framework being strictly Pareto Optimal. But the differences are relatively small: the losses are equivalent to about 1.1% of GDP, with a range of 0.6% of GDP to 2.1% of GDP. Nevertheless, since the estimates offered by the European Commission (EU, 1990) for the benefits of joining the single currency are also in the range of 1%-1.5% of GDP, this means transmission asymmetries could be expected to wipe out anything between 60% to twice the gains from joining the Euro itself.

25. The Hughes Hallett-Weymark paper covers the possibility of using national fiscal policies to help satisfy the objectives of income stabilisation, redistribution and the provision of public services. But the results are almost exactly the same. In this case, designing a monetary policy with a fully independent ECB with an optimal degree of conservatism born out of the experience of the 1990s, implies losses which also range from 0.5% of GDP to 2.5% of GDP for those countries whose transmission and preference parameters vary from those incorporated into the monetary policy rules of the ECB. Transmission asymmetries again cost between half to twice all the potential gains from the single currency. Britain lies right in the middle of the pack here, liable to lose all of her potential EMU gains because of transmission asymmetries.

26. An important implication of these results, is that national fiscal policies are really of very little help in stabilising the extra volatility caused by transmission asymmetries. The reason is that once you have an effective budget constraint (with or without a Stability Pact), fiscal policy is effectively tied down. The automatic stabilisers are then too weak to provide much protection, so that boom-bust cycles will emerge from the asymmetric transmissions.

27. De Grauwe and Piskorski (2001) conduct a similar exercise with a model of the EU-11 countries, but no fiscal policies. The UK is not represented. The analysis is dynamic, and allows the welfare costs caused by asymmetric transmissions to be cumulated over time. Welfare losses are again measured as the differences between a strictly cooperative (national data) solution, and a common policy (aggregate data) solution. But the results are still very similar. The second best nature of a common policy solution "costs" the average European economy between 2% and 6% in welfare units (roughly 1.5% to 2.5% of GDP). However those costs vary widely over different countries – from gains of 2%-5% in Italy, Germany and Spain, to losses of 5% – 20% for Belgium, France and the Netherlands.

HOW WELL ARE THE EU AND THE UK'S CYCLES CORRELATED?

28. Measuring symmetry in the form of correlations between the cycles of the European economies has proved popular, although only a few studies have included Britain in their analysis. It is also important to remember that high cyclical (or shock) correlations are only a necessary condition for the optimal currency area conditions to apply. Sufficiency requires similar variances as well.[9]

[9] Hughes Hallett and Jensen (2001).

29. Most analyses take the correlations between the output cycles as their measure of cyclical convergence. Table 3 provides some typical results. These show how the cyclical convergence between the UK and Germany, which was virtually negligible over the pre-EMU period, has been *falling* from a correlation of 0.5 in the 1980s to a negative correlation of -0.32 by 1996. The UK's correlations with the US, meanwhile, have risen from 0.49 to 0.81.

30. Results such as these do not take into account the differences between the real and nominal parts of the cycle, or the differences between demand and supply shocks. For that, the classic references are Bayoumi and Eichengreen (1993, 1997). But their results do not include the UK. A more recent study (Demertzis *et al.* 1998) does include the UK, and finds some correlation between the UK and the periphery group (Greece, Ireland, Italy, Spain, Portugal, Finland and Sweden) on the demand side. But there are no significant correlations with the core countries, or with the supply or monetary shocks of any country. These results are summarised in Table 4.

31. There is an alternative literature which attempts to establish if there is an emerging European business cycle in the EU (Artis and Zhang, 1997; Forni and Reichlin, 2001). These studies also show that there is some evidence of a common cycle in the core countries, but that does not include the UK whose cycle remains out of phase with the Euro-zone (Rubin and Thygesen, 1996; Kontolemis and Samiei, 2000). In fact the UK's cycle may even be diverging from her Euro-zone partners (Barrios *et al.,* 2001).

WOULD THE UK AND EUROPEAN BUSINESS CYCLES BECOME MORE CLOSELY CORRELATED IN EMU?

32. Frankel (1999) and Frankel and Rose (1998) have argued that the optimal currency area properties evolve over time, and that membership of a free trade zone or a currency union will induce a greater degree of convergence between the transmission of shocks. This work is based on an empirical relationship between business cycle correlations and the degree of trade intensity between countries. Using a gravity model, Frankel and Rose find a significant (if small) increase in the correlations between national business cycles as trade intensity increases – the correlation coefficients rise from 0.2 to 0.3 on a sample of data from the OECD countries over the 1970s, 1980s and 1990s. This suggests that the optimal currency area conditions might be achieved endogenously.[10]

33. There are three interesting things about these results:

(a) The correlation increases are rather small.

(b) These results appear to hold just as well for periods where exchange rates are fluctuating as they do when they are fixed. Hence if there are increasing correlations between cycles, it must be for some secular reason and have little to do with the monetary regime in place.

(c) They hold for all OECD countries, most of which are not in the Euro-zone. So these results do not appear to have anything in particular to do with Europe or its single market.

34. Another concern is that these results have no theoretical underpinning. So should we expect this kind of result more generally? The answer, using a real business cycle model (see Hughes Hallett and Piscitelli, 2002b), is yes – but only up to a point. In the theoretical analysis, cyclical convergence follows trade integration if:

[10] Frankel and Rose (2002) have extended that idea to suggest that the single currency itself might lead to large gains in national incomes. However, closer examination reveals that that will only hold for small economies with high savings and high taxation (Hughes Hallett, 2002).

(a) The home economy is small and stable;

(b) The industrial structures of the home economy and the rest of the zone are similar, and the rest of the zone is open with high value added; and

(c) Relatively little integration has already taken place.

35. But *divergence* would follow if

(a) The output shocks were of different sizes, if the home economy is relatively large or volatile compared to the rest of the zone; or

(b) There are marked differences in industrial structures and if the home economy trades less with the rest of the zone than its partners do; or

(c) A lot of integration and mutual trade dependence is already in place.

36. As things stand, the UK is more likely to satisfy the last three conditions – which may explain why her economy has performed differently since EMU started. The general implication is that, as a country joins a single currency and single market, it is likely to experience some cyclical convergence to start with (unless it is large, with a different structure or is well integrated already). But as integration proceeds and countries become more specialised, then their business cycles are likely to go out of phase again.

CONCLUSION

37. The message is that asymmetric transmissions are important and may cause more damage than asymmetric shocks. There are institutional and theoretical reasons why such asymmetries would emerge naturally and be sustained (not least by the policy makers in their own interest). There is also empirical evidence to suggest that these asymmetries would lead to welfare losses as large as the gains from the single currency itself.

38. Where the literature has been less successful, is in suggesting ways in which these asymmetries may be overcome. It appears that they will not vanish "endogenously" as integration proceeds. In fact the opposite might happen. Similarly, with the Stability Pact and pressures for a social market economy constraining labour market flexibility, national policies may not be able to help.

39. In such an environment, one possible resolution would be to create a set of independent but coordinated fiscal policies directed at social equality and public services. That would allow a fully independent monetary policy to be retained. But the coordination process would allow it to be combined with fiscal policies in such a way as to minimise (if not eliminate) the country-specific effects. In this way the ECB could retain full instrument independence and shared target independence (full coordination and Pareto optimality do not allow any player to have full target independence anyway). This set up is valuable because, if fiscal policy is slow and uncertain in its impacts, then it pays to set the fiscal framework first and then allow monetary policy to act as a stabilising mechanism.[11] This avoids the possibility that the ECB will try to control everything with one instrument (which it cannot do), and then leave fiscal policy to pick up the pieces with short-run stabilisation measures to which it is ill-suited.

[11] That is, very much as the Bank of England does now. The advantages of this kind of fiscal "leadership" are analysed in Hughes Hallett and Weymark (2002) and Taylor (2000).

Table 1: Cycical Developments since the Arrival of the Euro

	Growth (%):				Unemployment (%):			
	1998	2001q1	2002q1	2002q4	1998	2001q1	2002q1	2002q4
Germany	2.2	2.8	-0.4	0.2	9.4	9.2	8.1	10.4
France	3.2	2.9	1.9	1.6	11.8	9.2	8.7	9.1
Italy	1.5	2.5	0.8	2.3	11.9	10.5	9.5	9.1
Spain	4.1	3.9	1.2	2.3	18.8	13.6	10.6	11.3
Finland	5.1	4.9	4.6	2.5	11.4	10.2	9.2	8.5
Neth/lands	3.7	3.3	-1.6	1.2	4.1	2.6	2.2	2.3
Ireland	8.9	7.8	3.1	3.2	7.6	5.6	4.1	4.3
UK	2.6	3.1	0.5	2.2	6.3	5.3	5.2	5.2
	Inflation (% p.a.)							
Germany	0.9	2.6	1.5	1.2				
France	0.8	2.2	1.3	1.6				
Italy	2.1	2.9	2.3	2.2				
Spain	1.8	4.1	2.8	3.1				
Finland	1.4	3.4	2.1	1.5				
Neth/lands	1.9	2.9	4.8	3.1				
Ireland	2.4	6.7	3.4	4.7				
UK	3.4	1.1	0.8	1.5				

Source: National Statistics,Eurostat

Table 2: Elasticities of Output with Respect to a Permant Change in Interest Rates (Exchange Rates Fixed)

	Impact Effect	Effect after two years
Germany	0.54	1.41
France	0.46	1.54
Italy	1.11	2.14
Spain	0.35	1.54
UK	0.47	0.91
Sweden	0.95	2.36

Source: Dornbusch et al (1998)

Table 3: GDP Correlations Between the UK, Germany and the US since 1987

	UK	US
1979-86		
Germany	0.51	0.69
US	0.49	
1987-96		
Germany	-0.32	-0.43
US	0.81	
1979-96		
Germany	0.01	0.16
US	0.56	

Source: CEPR(1996)

Table 4: The Correlations between the UK and European Business Cycles 1980-89 /1990-95

Shocks:	Demand	Supply	Monetary
UK with EU-core	0.32/-0.12	0.13/-0.04	- 0.27/0.05
UK with EU-periphery	0.32/-0.13	0.11/0.29	- 0.55/0.09

Source: Demertzis et al (1998)

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14

PETER B. KENEN: WHAT WE CAN LEARN FROM THE THEORY OF OPTIMUM CURRENCY AREAS

December 2002

HM Treasury invited Peter Kenen to revisit his 1969 paper 'The Theory of Optimum Currency Areas: an Eclectic View'[1].

INTRODUCTION

1. The theory of optimum currency areas – hereafter, OCA theory – is often deemed to provide a framework for judging whether two or more countries should form a monetary union with a single currency and single central bank. That is not true. Early OCA theory dealt with simple currency unions; it asked whether two or more countries should adopt permanently fixed exchange rates. It was thus part of a larger literature concerned with the choice between fixed and floating rates. Furthermore, OCA theory did not provide a comprehensive framework for assessing the benefits and costs of a currency union. It dealt mainly with the macroeconomic costs of fixing exchange rates and thus foregoing reliance on exchange-rate changes to offset various shocks. It said little about the microeconomic gains conferred by permanently fixed exchange rates – the effects on trade and capital flows of banishing exchange-rate risk. Nor could it assess the gains conferred by banishing conversion costs, because it did not contemplate the introduction of a new single currency.[2]

2. This brief paper will not trace in detail the evolution of OCA theory or provide a comprehensive framework for judging the costs and benefits of a full-fledged monetary union. Instead, it will pose and answer four questions: (1) What were the main findings of OCA theory? (2) Are they truly applicable to the analysis of a full-fledged monetary union? (3) How were those findings applied by economists trying to decide whether the European Union is an optimum currency area? (4) Might the effects of a monetary union enhance the optimality of that union? No attempt will be made to survey the enormous literature on these questions, although reference will be made to key contributions.[3]

THE ORIGINS AND FINDINGS OF OCA THEORY

3. The earliest version of OCA theory furnished by Robert Mundell (1961) was a by-product of Keynesian macroeconomics, which assumed that wages and prices are sticky and that international capital mobility is too low to influence the functioning of domestic policies. Under these assumptions, the nominal exchange rate determines the real rate, which affects the current-account balance. Therefore, the nominal rate can be used to maintain *external*

[1] Kenen, P. B. (1969) 'The Theory of Optimum Currency Areas: an Eclectic View', in Mundell and Swoboda, (eds.), *Monetary Problems of the International Economy*. Chicago: University of Chicago Press.

[2] Corden (1972) was among the first to distinguish between a simple currency union and a true monetary union; he described a currency union as a *pseudo*-monetary union.

[3] The paper also draws on some of my own publications (Kenen 1995, 2000, 2002a and 2002b) which dwell at greater length on some of the principal issues. The paper does not deal with a related question – whether a country should adopt unilaterally some other country's currency (i.e. *de jure* dollarization); on the issues involved see, e.g. Alesina and Barro (2002), Alesina, Barro and Tenreyro (2002), Edwards (2001) and Mendoza (2002). Finally, the paper ignores important new contributions to the debate on the choice between fixed and floating exchange rates; see, e.g. Devereux and Engel (1998), Engel (2002) and Corsetti and Pesenti (2002).

balance (i.e. the desired state of the current-account balance), while monetary and fiscal policies can be used to maintain *internal balance* (i.e. the highest levels of output and employment consistent with price stability). Using a closely related distinction, an exchange-rate change was viewed as an expenditure-switching device and thus an optimal response to an expenditure-switching shock, whereas a change in monetary or fiscal policy was viewed as an expenditure-changing device and thus an optimal response to an expenditure-changing shock. Adopting this framework, Mundell examined the macroeconomic implications of a two-country currency union – a permanent fixing of the nominal exchange rate between the countries' currencies. What were those implications?

4. Consider a currency union between countries *1* and *2*:

- With an increase of expenditure in country *1*, both countries' incomes will rise, but country *1*'s income will rise further, and it will run a current-account deficit, producing a reserve flow from country *1* to country *2*. These will be 'bad things' if both countries enjoyed internal and external balance initially. But both of them can return to that initial state if country *1* adopts an expenditure-reducing policy, and there is no other way for both of them to do so.
- With a switch of expenditure from country *2*'s goods to country *1*'s goods, country *1*'s income will rise, country *2*'s income will fall, and country *2* will run a current-account deficit, producing a reserve flow from country *2* to country *1*. But both countries can return to their initial state by adopting an expenditure-switching policy – a devaluation or depreciation of country *2*'s currency – and there is again no other way for both of them to do so.

5. Suppose, now, that countries *1* and *2* fix their bilateral exchange rate irrevocably without adopting a single currency or replacing their national central banks with a supranational central bank. In the absence of international capital mobility, both countries can pursue independent monetary policies, at least in the short run, and can thus deal as they should with expenditure-changing shocks. But they can no longer use the nominal exchange rate – or let market forces use it – to offset expenditure-switching shocks. And they must pay attention to the current-account balance, as they cannot rely on capital flows to finance an imbalance; they must use reserves or set up reserve-credit lines to mimic the financing of interbank imbalances that occurs endogenously in a full-fledged monetary union.[4]

6. This, then, was the problem considered by Mundell: How can two such countries cope with an expenditure-switching shock once they undertake to keep their exchange rate fixed? He focused on the labor-market implications of that shock.

7. With a switch of expenditure from country *2*'s goods to country *1*'s goods, there will be excess supply in country *2*'s goods markets and, therefore, its labor market. Conversely, there will be excess demand in country *1*'s goods markets and its labor market. If prices and wages were perfectly flexible, wages would fall in country *2*, reducing its goods prices, and wages would rise in country *1*, raising its goods prices. The change in relative prices would reverse the switch in expenditure, restoring equilibrium in both countries' labor markets and ending the imbalance in their bilateral trade. When prices and wages are rigid, however, the two countries face an intractable problem unless there is another way to clear their labor markets – a movement of workers from country *2* to country *1*. It would restore equilibrium in the countries' labor markets and also redress the imbalance in their bilateral trade. Workers who moved to country *1* would continue to consume both countries' goods, but their demand for

[4] On the endogenous financing of imbalances in a full-fledged monetary union, see Ingram (1959, 1973).

country *1*'s goods would be *domesticated*, becoming part of domestic demand in country *1* and ceasing to be part of the import demand coming from country *2*, and their demand for country *2*'s goods would be *internationalized*, becoming part of the import demand coming from country *1* and ceasing to be part of domestic demand in country *2*. Therefore, Mundell concluded that the domain of labor mobility defines an optimum currency area. It can contain many countries but only one unified labor market.[5]

8. Note that Mundell's story has three special features:

a. Because each country in his model was able to pursue an independent monetary policy, expenditure-changing shocks played no role in defining an optimum currency area, even when they were asymmetric in origin and impact. When capital mobility is high, however, the individual members of a currency union cannot pursue independent monetary policies so expenditure-changing shocks become no less important than expenditure-switching shocks.

b. Because he dealt with a two-country currency union, the expenditure-switching shock that he studied evinced a unique *mirror-image* asymmetry; it raised output in one country and reduced it in the other. That would not be true of an expenditure-switching shock involving a currency-union country and an outside country.[6]

c. Because of that same mirror-image asymmetry, a unified fiscal system can cushion the impact of expenditure-switching shocks with little effect on the fiscal stance of the unified system. The increase in tax revenue collected from country *1* as its output and income rise will be similar in size to the decrease in tax revenue collected from country *2* as its output and income fall.

9. Two other papers are frequently cited as early building blocks of OCA theory. Both were concerned with country size and structure.

10. McKinnon (1963) argued that a small open economy cannot use the nominal exchange rate to offset expenditure-switching shocks. A devaluation of a small country's currency will raise its domestic price level, and that can have two consequences. By reducing the real wage, it can generate pressures to raise the nominal wage, and those pressures can prevent the devaluation from affecting the real exchange rate. Furthermore, the strong link between the exchange rate and the price level can reduce the usefulness of the country's currency as a unit of account and store of value. Therefore, an optimum currency area must be big enough to produce a large body of nontraded goods, the prices of which are set in domestic currency and serve therefore to stabilize its purchasing power for the inhabitants of the area.[7]

[5] Mundell was careful to note, however, that optimality is not uni-dimensional and that his labor-market criterion should not be applied without regard for other *desiderata*. A country containing several separate labor markets should not necessarily subdivide itself into sub-national currency areas, each with its own money. The domain of each money might then be too small for it to serve efficiently as a unit of account and medium of exchange. From a microeconomic perspective, indeed, 'the optimum currency area is the world', although it contains many separate labor markets.

[6] Faced with such a shock, a currency union can change its external exchange rate, but that will affect output elsewhere in the union. This complication led Mélitz (1995) to suggest that the optimality of a currency union is reduced when its members are differently involved with the outside world. Maloney and Macmillen (1999) make a similar point.

[7] For this and other reasons, Tower and Willett (1976) suggested that openness is the most useful single criterion for judging whether a country should join a currency union. A highly open economy, they said, will incur larger costs and reap smaller benefits by letting its currency float rather than joining a currency union.

11. Kenen (1969) is most often cited for making two points. First, he suggested that a single fiscal system can compensate in part for the macroeconomic disadvantage of having a currency area in which labor is less than perfectly mobile – one that is not optimal in the Mundellian sense. The reason was given above. In the event of an expenditure-switching shock, higher tax payments will help to stabilize the disposable income of the country in which output is rising, lower tax payments will help to stabilize the disposable income of the country in which output is falling, and there will be little net effect on the fiscal stance of the union-wide system.[8] Second, he argued that a well-diversified national economy will be a strong candidate for membership in a currency union, as it will not have much need to change its real exchange rate. Each of its export industries may be subject to large exogenous shocks, due to shifts in foreign demand or changes in technology, but the law of large numbers will come into play if it exports many goods and the exogenous shocks are independently distributed. Furthermore, diversification will reduce the size of the change in the real exchange rate needed to offset an exogenous shock to a single industry. In a completely specialized economy, workers who lose their jobs because of a fall in exports will have nowhere to go, and the real exchange rate must therefore depreciate by enough to reverse the whole fall in exports. In a two-product economy, with an export good and an import-competing good, the depreciation of the real rate will also stimulate the demand for its import-competing good and can therefore be smaller.[9]

FROM CURRENCY UNIONS TO MONETARY UNIONS

12. Buiter (1999) has described OCA theory as "one of the low points of post-World War II monetary economics". By confusing transitory nominal rigidities and permanent real rigidities, he said, it gave an "overblown" account of the power of monetary policy. But that objection is overblown. One can criticize OCA theory for resting too heavily on old-fashioned assumptions about price rigidity. But it does not overly emphasize the influence of monetary policy. On the contrary, it attaches particular importance to real expenditure-switching shocks. Their effects on output and employment can, of course, be offset by monetary policy, insofar as it has any impact on aggregate demand. But when it is used to stabilize output and employment, it amplifies the trade-balance effects of an expenditure-switching shock. That was indeed the main point of Mundell's own paper, which called for a real response to an expenditure-switching shock – a change in the real exchange rate or redistribution of labor.[10]

13. The main shortcoming of OCA theory lies elsewhere. Although it is commonly thought to deal with the macroeconomic effects of a monetary union, it does not really do that. It does not allow for the way in which monetary policy is conducted in a full-fledged monetary union and thus ignores its impact on the way in which various shocks affect member countries. Furthermore, OCA theory does not allow for the effect of a full-fledged monetary union on capital markets and capital movements and thus ignores the impact of a monetary union on the ability of households and others to self-insure against various shocks by holding internationally diversified portfolios.

[8] This point was echoed by the MacDougall Report (European Commission, 1977), which argued that a move to European monetary union would have to be accompanied by a large increase in the budget of the European Community in order for it to accommodate fiscal transfers. That conclusion led thereafter to a large literature on the size and impact of interregional transfers in various federal fiscal systems and on ways to mimic such a system in the European context. On the size and effect of interregional transfers, see Sala-i-Martin and Sachs (1992), von Hagen (1992), Bayoumi and Masson (1995), Mélitz and Zumer (1998) and Fatás (1998). On proposals to mimic the effects of a federal fiscal system, see Goodhart and Smith (1993), Italianer and Vanheukelen (1993) and Obstfeld and Peri (1998).

[9] Frankel and Rose (1996) criticize this diversification criterion in the mistaken belief that it was meant to be a distinct and decisive basis for deciding whether a country should join a currency union. But it is only a test of a country's vulnerability to industry-specific shocks.

[10] Furthermore, the best empirical work on the size and nature of shocks sought to disentangle temporary demand shocks from permanent supply shocks; see the papers by Bayoumi and Eichengreen discussed later in this survey.

14. The first point can be illustrated using a stylized representation of the monetary policy pursued by the European Central Bank (ECB), which aims at maintaining price stability in the euro zone as a whole. Consider a two-country model of the euro zone, and suppose that the ECB maintains price stability by using interest-rate policy to keep the growth rate of euro-zone output equal to a target rate that precludes any change in the overall output gap of the euro zone. How will an expenditure-raising shock in country *1* – an increase in the growth rate of aggregate demand – affect the two countries individually? If nothing were done to offset it, it would raise the growth rate of country *1*'s output and, via country *1*'s import demand, would raise the growth rate of country *2*'s output by a smaller amount. The ECB must therefore tighten its monetary policy by enough to offset the sum of those growth-raising effects. It is easy to show that the requisite tightening of monetary policy will leave the growth rate of country *1*'s output above what it was before the shock and leave the growth rate of country *2*'s output below what it was before the shock.[11] The ECB's policy response will cause the effects of an expenditure-changing shock to resemble the effects of an expenditure-switching shock. They will display mirror-image asymmetry.

15. By implication, the sharp distinction drawn by Mundell between the two types of shocks breaks down in full-fledged monetary union. Both types of shocks will lead to intractable problems for individual members of the monetary union, no matter how they are manifest – whether in the form of slower growth and unemployment in the country experiencing a slower growth rate of output, or in the form of higher inflation in the other country. Put differently, the one-sized monetary policy of a full-fledged monetary union will *never* fit all of its members' needs, except in the case of a uniform union-wide expenditure-changing shock.[12]

16. The second effect of a full-fledged monetary union – its contribution to the unification of financial markets – has been stressed strongly in the recent literature, especially by McKinnon.[13] First, a full-fledged monetary union banishes exchange-rate risk completely. Second, it relaxes the effect of regulations restricting the ability of financial institutions to hold foreign-currency assets. Third, it catalyzes reforms of the sort now underway in Europe,

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[11] The change in the growth rate of aggregate output in a two-country union can be written as

$$(Y_1 + Y_2)dy = Y_1(dy_1 + dy^*) + Y_2(\lambda dy_1 + dy^*)$$

where Y_1 and Y_2 are the two countries' outputs; dy is the change in the growth rate of aggregate output; dy_1 is the change in the growth rate of country 1's output due to an expenditure-raising shock originating in that country; λ represents the effect of that shock on the growth rate of country 2's output; and dy* is the (common) effect of the change in the ECB's monetary policy on the growth rates of output in each country. Setting dy = 0 and solving for dy*,

$$dy^* = -[\delta + \lambda(1-\delta)]dy_1$$

where $\delta = Y_1/(Y_1 + Y_2)$. Solving for the resulting change in each country's growth rate,

$$dy_1^t = (1-\delta)(1-\lambda)dy_1, \text{ and } dy_2^t = -\delta(1-\lambda)dy_1$$

Country 1's growth rises and country 2's growth rate falls. If $\delta = 2$, of course, the changes in their growth rates are equal absolutely but opposite in sign.

[12] This conclusion strengthens the case for relying on built-in fiscal stabilizers and, in extreme cases, discretionary changes in fiscal policy, to offset shocks that have asymmetric effects in a monetary union. But it does not necessarily imply that a monetary union requires the creation of a unified fiscal system. The need for such a system arises only when national fiscal policies are sharply constrained by balanced-budget rules or when their debt-creating effects reduce their effectiveness by causing households to cut back their spending in anticipation of higher future taxes. For a rigorous treatment of the difference between union-wide and national fiscal stabilizers in the presence of these so-called Ricardian effects, see Kletzer (1997); for empirical evidence concerning the strength of those effects, see Bayoumi and Masson (1998).

[13] See, in particular, McKinnon (2002), where he ascribes the point to Mundell (1973). But there is no capital mobility in Mundell's paper; like his earlier OCA paper, it is concerned with a currency union, not a monetary union, and it assumes that there is no capital mobility. In fact, the argument in Mundell (1973) rests strongly on that supposition; it argues that currency unions are superior to floating exchange rates because, in the absence of capital mobility, the current account must be balanced continuously under a floating rate, precluding intertemporal trade, whereas reserve movements in a currency union permit and finance intertemporal trade, raising economic welfare.

aimed at removing obstacles to the cross-border issuance and trading of securities. Several empirical papers have shown that interregional capital flows within a single country play a large role in smoothing the output and income effects of asymmetric shocks, whereas capital flows between countries play a smaller role.[14] By helping to unify the capital markets of its member countries, a monetary union can make those countries more like regions and thus reduce the impact of asymmetric shocks.

OCA THEORY AND EMU

17. Although the 1970 Werner Report inspired a flurry of interest in European monetary integration, there were few contributions to OCA theory in the 1970s. The 1988 Delors Report revived interest in the subject, but most of the new work thereafter adopted the analytical framework produced by Mundell and others in the 1960s. There was a rush to measurement – an attempt to decide whether Europe comes close to being an optimum currency area – instead of an effort to update that framework by taking account of innovations in open-economy macroeconomics.

18. The empirical work of the 1990s dealt with three issues: the cost to European countries of adopting a single currency and thus forgoing exchange-rate changes in the future; the role of labor mobility in international and interregional adjustment; and the impact of monetary union itself on the size and nature of exogenous shocks, the extent of labor mobility, and so on. Limitations of space preclude a comprehensive survey, but it is worth drawing attention to the conceptual problems involved and to unanswered questions.

19. Work on the cost of adopting a single currency focused on the measurement of shocks and the extent to which European countries and subsets of those countries are subject to symmetric or asymmetric shocks. The earliest work on this subject looked mainly at the cross-country co-variation of changes in GDP or real exchange rates.[15] But these are endogenous variables, and their cross-country co-variation depends on the co-variation of the truly exogenous shocks, the endogenous and policy-induced responses to those shocks, and the 'thickness' of the various channels through which shocks travel from country to country.

20. Bayoumi and Eichengreen (1993) sought to address these problems by adapting a technique devised by Blanchard and Quah (1989). It allows one to disentangle exogenous shocks from their effects on endogenous variables and, by imposing appropriate restrictions, to distinguish between 'supply' shocks, which have permanent output effects, and 'demand' shocks, which do not. Having thus identified the shocks experienced by various countries, Bayoumi and Eichengreen computed cross-country correlations so as to measure the extent

[14] See Asdrubali, Sørensen and Yosha (1996), Sørensen and Yosha (1998), Helliwell and McKitrik (1998), and Mélitz and Zumer (1999). Melitz and Zumer find, however, that portfolio diversification and capital flows were more important for risk sharing within Europe, even before monetary union, than within the larger group of OECD countries. Kalemli-Ozcan, Sørensen, and Yosha (1999) extend this literature in a way that bears on an issue raised later in this paper – the effect of a monetary union on industrial specialization. They show that regions engaged intensively in risk sharing via portfolio diversification tend to be more specialized, and they find that causation runs from risk sharing to specialization. They conclude that the financial integration induced by a monetary union will intensify industrial specialization but that it will also shield the participants from the resulting increase in their vulnerability to industry-specific shocks.

[15] See, e.g. Cohen and Wyplosz (1989), Weber (1991) and De Grauwe and Vanhaverbeke (1993).

[16] But their use of single-country vector autoregressions to extract the shocks prevented them from distinguishing fully between shocks originating in a particular country and shocks imported from other countries. The thicker the channels of transmission, the greater the risk that an asymmetric shock will show up as a common shock in a cross-country correlation.

to which individual country pairs have experienced common shocks and asymmetric shocks.[16] Working with data for US regions and European countries, they found that US regions experienced smaller supply shocks and larger demand shocks than did European countries. They also found, however, that the cross-region correlations for both types of shocks were larger than the cross-country correlations, implying that the US regions were closer to being an optimum currency area than were the European countries.[17]

21. A number of studies examined a closely related question – whether European countries differ from US regions in the degree of domestic diversification. The earliest work was done by Bini-Smaghi and Vori (1992) and Krugman (1993), who found that European countries are less specialized than US regions and, by implication, less vulnerable to industry-specific shocks. Subsequent work, however, tended to downplay the importance of industry-specific shocks. Examining fluctuations in US output growth, Bayoumi and Prasad (1997) found that country-wide shocks account for a slightly larger share of the overall variability in output growth than do industry-specific shocks and that the same ordering is manifest in Europe. Using a different methodology to decompose output changes in OECD countries, Funke, Hall and Ruhwedel (1999) found that country-specific shocks have been far more important than common international shocks or industry-specific shocks, although international shocks have grown in importance.

22. What about labor mobility? Does it give promise of compensating for the size and frequency of asymmetric shocks? In their well-known study of regional adjustment in the United States, Blanchard and Katz (1992) found that interregional labor mobility plays a crucial rule in shaping responses to shocks:

> 'A negative shock to employment leads initially to an increase in unemployment and a small decline in participation. Over time, the effect on employment increases, but the effect on unemployment and participation disappear after approximately five to seven years. Put another way, a state typically returns to normal after an adverse shock not because employment picks up but because workers leave the state' (Blanchard and Katz 1992, p. 3).

23. Turning to the roles of wages and prices, Blanchard and Katz found that nominal wages fall strongly after an adverse shock and take some ten years to return to normal. The fall in nominal wages contributes to the gradual recovery of employment, but not by enough to offset fully the initial shock. Furthermore, consumption wages do not decline very much, because housing prices respond strongly to employment shocks. Hence, Blanchard and Katz conclude that the outward migration of labor, which takes up the remaining slack, must be ascribed to the lack of job opportunities – to unemployment itself – rather than the influence of relative consumption wages.

[17] In the case of supply shocks, the correlations of European countries' shocks with those in Germany averaged only 0.33, whereas the correlations of US regions' shocks with those in the mid-eastern region averaged 0.46. In the case of demand shocks, the average correlation was only 0.18 for the European countries, compared with 0.37 for the US regions. These results are reported in Eichengreen (1992). Using the same technique to compare shocks affecting German regions with those affecting European countries, Funke (1997) obtained similar results; the correlations for both types of shocks were higher across German regions than across European countries. For an application to other groups of countries, see Bayoumi and Eichengreen (1994).

[18] See Eichengreen (1993), who shows that changes in wages and unemployment have larger effects on labor movements in the United States than in Britain or Italy. On the persistence of labor-market shocks, see Obstfeld and Peri (1998), who provide a review and critique of other studies, including the one by Décressin and Fatás (1995), who apply the Blanchard-Katz methodology to European countries, ascribe a large role to labor mobility, and find that labor-market shocks are not more persistent in Europe.

24. It is, of course, impossible to know what would happen if labor were less mobile in the United States – whether we would see longer-lasting increases in unemployment rates or larger changes in consumption wages. We do know, however, that labor mobility is lower in Europe and that labor-market shocks tend therefore to last longer than in the United States.[18]

THE ENDOGENEITY OF OPTIMALITY

25. How might a monetary union affect the extent to which its members' satisfy the economic *desiderata* featured in OCA theory? We have already mentioned one possibility. 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. But it can have two other effects. First, it can stimulate trade among its member countries and can thus thicken the channels through which the effects of various shocks travel from country to country. Second, it can affect the character of its members' trade and thus can affect their vulnerability to industry-specific shocks.

26. Because a monetary union banishes exchange-rate risk, one would expect it to stimulate trade among its member countries. Until recently, however, there was little evidence to this effect. Using conventional measures of exchange-rate risk, economists were unable to show that it had strong trade-depressing effects.[19] But recent research has reopened the subject. Several papers have shown that the regions of a single country trade far more intensively with each other than with comparable regions of another country – that there is a strong 'border' effect that may reflect in part the use of a single currency within a single country.[20] Finally and most importantly, Rose (2000) has found that the members of currency unions trade much more intensively with each other than do other pairs of countries. Using a so-called gravity model, which allows for the influence of country size, income, distance, and many other variables affecting bilateral trade, Rose shows that the volume of trade between currency-union country pairs is more than twice as large as the volume of trade between other country pairs.[21] 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. Yet Micco, Stein and Ordoñez (2002) show that EMU has already had a large trade-promoting effect, raising the trade of the euro-zone countries by about 15 percent.

27. One must, of course, attach great weight to this trade-promoting effect when weighing the overall benefits and costs of a monetary union. It says that a currency union permits its member countries to realize more fully the welfare-raising gains from trade, and it should also promote growth.[22] Furthermore, it has strong implications for the functioning of a monetary union. It is easily shown that a thickening of the trade channels between the members of a monetary union reduces the extent to which the single monetary policy of the monetary union transforms an expenditure-raising shock into something resembling an expenditure-switching shock. Therefore, it improves the 'fit' of the single monetary policy.[23]

[19] Papers that found small but significant trade depressing effects on industrial-country trade include Kenen and Rodrik (1986), De Grauwe (1988) and Savvides (1992). Larger effects have been found for developing-country trade.

[20] See McCallum (1995), Engel and Rogers (1996) and Helliwell (1996).

[21] See also Glick and Rose (2002) and the studies cited in Rose (2002).

[22] On the implications for economic growth, see Frankel and Rose (2002).

[23] In footnote 11, above, the asymmetric effects of the single monetary policy (dy_1^t and dy_2^t) approach zero as λ approaches unity, and λ is bound to rise as the trade channels thicken. Frankel and Rose (1998) provide empirical evidence to this same effect; they show that there is a strong positive correlation between the volume of trade between two industrial countries and the size of the time-series correlation between the detrended fluctuations in those countries' output levels. (Frankel and Rose draw a stronger conclusion from this same finding; it is discussed below.)

28. There is another way in which the trade-promoting effects of a monetary union could affect the optimality of that monetary union. If it caused an intensification of inter-industry specialization and thus reduced the diversification of each country's output, it could enlarge the impact of industry-specific shocks and thereby diminish the optimality of the monetary union. That possibility was raised by Krugman (1993).[24] But Frankel and Rose (1998) take the opposite tack. The growth of trade, they argue, reflects an intensification of intra-industry specialization, which tends to diversify each country's output, reduces the impact of industry-specific shocks and thereby enhances the optimality of a monetary union. They base their conclusion on their finding that the correlation between two countries' output fluctuations is itself positively correlated with the volume of trade between them. In and of itself, however, this finding says nothing about the nature or size of the shocks producing the output fluctuations. It may merely reflect the thickening of the trade channels between the two countries. Other empirical evidence, moreover, tends to support Krugman's conjecture. Midelfart-Knarvik *et al.* (2000) examined trends in the location of European industry from 1970-73 to 1994-97. These were their main findings:

> 'Most European industries showed significant convergence of their industrial structure during the 1970s, but this trend was reversed in the early 1980s. There has been substantial divergence from the early 1980s onward, as countries have become more different ... from most of their EU partners.'
>
> 'The most dramatic changes in industry structure have been the expansion of relatively high technology and high skill industries in Ireland and in Finland. However, the specialization process has occured more generally, with nearly all countries showing increasing differences from the early 1980s onward,' (Midelfart-Knarvik *et al.*, 2000).

29. These trends, however, may not be too worrisome. Studies cited earlier in this paper suggest that industry-specific shocks have not been the main cause of output fluctuations, nor have they varied hugely in relative importance. When asking how the trade-promoting effects of a monetary union are likely to affect the optimality of that union, we should attach primary importance to the simple thickening of the trade channels, which tends to improve the 'fit' of the single monetary policy. The implications of the trade-promoting effects for the size and frequency of industry-specific shocks are at best ambiguous.

CONCLUSION

30. In its original form, OCA theory does not tell us much about the macroeconomic costs of entering into a monetary union. That is because it dealt chiefly with the effects of entering into a simple currency union under conditions of low capital mobility and was, in that context, rightly concerned with the costs of forgoing recourse to exchange-rate changes as the first-best way to deal with expenditure-switching shocks – those we would describe today as asymmetric industry-specific shocks. It paid no attention whatsoever to the most prominent feature of a full-fledged monetary union – the introduction of a single monetary policy. Although we need still to worry about the ability of individual countries to cope with structural change, we no longer count on exchange-rate changes to facilitate that process. Instead, we stress the need for more flexible labor markets within individual countries and for improving the quality of the labor force itself.

[24] See also De la Dehesa and Krugman (1993).

31. When assessing the optimality of a full-fledged monetary union, we do need to worry about the impact of its monetary policy on individual countries and, for that reason, the likelihood that some members of the union will experience large expenditure-changing shocks. But the trade-promoting effects of the union will mitigate the consequences of those shocks – their interaction with the single monetary policy. It can 'fit' its members well, even in the presence of such shocks, if they are closely linked by trade. In that crucial sense, EMU is not far from being an optimum currency area.

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15

PAUL MASSON: FISCAL POLICY COORDINATION IN EMU

November 2002

HM Treasury invited Paul Masson to revisit his 1996 paper 'Fiscal dimensions of EMU'[1], with particular reference to the quotation: "Though the question of whether the Maastricht criteria are appropriate entrance requirements for monetary union will eventually go away, the issue of how EU countries' fiscal policies will interact in EMU will not. As I have argued above, the use of fiscal policies for stabilisation purposes will be limited in coming decades, by the size of existing debt stocks, by demographic trends, and, to some extent, by the Maastricht debt and deficit criteria themselves. This, and evidence about its greater effectiveness when spread over a wider economic area, suggest that an EU-wide stabilisation policy acting as insurance for regional shocks may be desirable if a number of questions can be resolved. To my mind, it seems inevitable in any case that there will be pressure to move away from independent fiscal policies toward some system where national sovereignty in this area is more limited." (p1003).

1. I have not changed my views concerning the need to harmonize and coordinate fiscal policies within a monetary union like EMU, but I now think that what is more likely to occur in the next few decades is harmonization of tax and benefit policies and increased spending on education, research and infrastructure in the EU budget. EU-wide externalities argue for changes in this direction. For instance, harmonization of tax and benefit policies and EU involvement in education will be desirable to support other aspects of European integration such as the Single Market, which aims to eliminate barriers to the mobility of goods and factors of production, including labor. As for stabilization policies, changes are likely to lead to greater coordination, rather than the mechanical convergence embodied in the Stability and Growth Pact.

2. My recent views are expressed in a chapter of a book, "Fiscal Policy and Growth in the Context of European Integration"[2]. I review the various aspects of fiscal policy, and assess whether they are likely to be taken over by community-level institutions or lead to greater coordination among countries. The size of government spending by governments makes any expansion of the role of government by introducing EU-wide spending programs undesirable (unless national programs are reduced), but a case can be made for a supranational role where there are externalities that cannot be corrected or exploited by national fiscal policies. As an example of the latter, I argue that pressures will increasingly develop for standardizing social programs, in particular pensions, to facilitate mobility. In my view, increasing numbers of Europeans will take advantage of their right to migrate among European countries, but the fact that this reduces their retirement income by forcing them to participate in at least two incompatible national plans will be viewed as increasingly unjust and inefficient. Hence, there will be pressures on their governments to harmonize. While the principle of subsidiarity has been invoked to argue that social policies are, and should remain, the province of national governments, since not coordinating them has harmful effects on other aspects of European integration, they will be viewed as increasingly a shared responsibility and some limited role for the European Commission will, in my view, be accepted.

[1] Masson, P. (1996) 'Fiscal dimensions of EMU', *The Economic Journal* 106 (July) pp. 996-1004.

[2] In *How to Promote Economic Growth in the Euro Area*, eds. Jan Smets and Michel Dombrecht (Aldershot: Edward Elgar, 2001), pp. 112-141.

3. Another area where there are cross-border externalities is education, since with factor mobility the gains to education will not necessarily accrue to the country undertaking the spending. In addition, there are advantages to creating common curricula so that students can more easily transfer to other countries' systems, use degrees to gain professional qualifications, and to facilitate the mobility of university teachers. This may lead to some community involvement in spending on education and in providing norms for countries' schools, but the case is more compelling at the post-secondary level, and EU involvement is likely to be restricted to this.

4. Education is closely allied to research, and as the new theories of endogenous growth argue convincingly, there are externalities in research (those doing innovations cannot completely appropriate the gains that result) which also may argue for a supranational role within Europe. Already the EU has some joint efforts (CERN, etc.) and provides subsidies for research activities. This may expand, but the literature on innovation suggests that the public sector should be cautious in getting involved, and support private sector efforts rather than dictating a line of research.

5. A final area in which cross-border externalities exist is communication and transportation infrastructure, to which the EU budget already devotes some funds, and this may increase.

6. What is the experience of other regions that have labor mobility, in particular, the federations constituted by the United States and Canada? These countries, it is true, do not have completely harmonized social programs. The United States, on the one hand, does not have a national health plan, and private pensions constitute a larger part of pension saving than in continental Europe, and private pensions are typically not portable. But there is a national public plan for retirement saving, and national medicare for the poor. Canada, moreover, has a national health plan as well as the public retirement saving plan; even though Quebec (alone among the provinces) has its own plan, it is fully transferable to or from the Canada Pension Plan. Education is typically decided at the state or local level, though the federal government in each country does provide subsidies and imposes standards. The involvement is typically greater at the university level, and includes subsidies for research.

7. Pension plans are standardized precisely to facilitate the mobility of workers. This is less of an issue for health care. Instead, the Canadian health care plan was launched by the federal government to ensure that Canadians had access to a minimum of services across the country. Provincial health care plans are not uniform, nor are they portable (but they do not have to be). So among social programs, retirement saving would seem the most important program to facilitate mobility.

8. As for the use of fiscal policy for stabilization purposes, the experience of the Growth and Stability Pact suggests to me that standard rules that aim to apply the same ceilings on fiscal deficits to all countries, and in all circumstances (except for exceptional circumstances defined in terms of a particular decline in GDP) are not going to work effectively. What I think will emerge is a closer coordination of national policies, on the basis of greater attention to the circumstances facing individual countries and the impact of those policies on other countries. Such coordination would be both more flexible than the current excessive deficits procedures and more constraining for a particular country than the current system, because it would allow the EU to assess the appropriateness of detailed policy measures rather than just their overall deficit impact.

9. In conclusion, I think coordination and harmonization of fiscal policies will continue to develop in the EU. To quote my recent views as expressed in the chapter cited above:

> "Coordination of fiscal policies will be a major issue within the euro zone and the EU for the foreseeable future. In the absence of coordination, there will be pressures from tax competition to limit the level of services provided by governments… Stable systems that can dependably rule out the worst outcomes from uncoordinated polices are likely to involve the development of EU-wide fiscal policies... Endogenous growth theory points to a few areas where externalities might suggest that EU-wide policies would be desirable, in particular to stimulate knowledge-creating activities and factor mobility… Over time, there may be some gradual increase in the taxing power at the EU level, accompanied by reductions in fiscal responsibilities of national government." (p. 136).

16

GEOFFREY MEEN: UK HOUSING MARKETS AND MONETARY UNION

January 2003

HM Treasury invited Geoffrey Meen to revisit his 1998 paper 'Preparing for EMU: How to Make the UK Housing Market more Continental'[1] with particular reference to the quotation: "In essence the problem is that, potentially, Britain's real economy is more susceptible to changes in interest rates than most of Europe…Most of this difference arises from the housing market. This suggests that the level of interest rates required for domestic equilibrium in the UK is not necessarily compatible with that required in the rest of Europe. Conflict is therefore likely within a monetary union." (p.8).

INTRODUCTION

1. In an article in OEF Economic Prospects, Meen (1998), the differences between UK and continental European housing markets were discussed and their impact on potential UK membership of the Monetary Union. Similar arguments can be found in Meen (2001) and more comprehensively in Maclennan *et al.* (1998). Broadly, the argument concerned the sensitivity of the real economy – particularly consumers' expenditure – to changes in interest rates (whether real or nominal), in a world of liberalised financial markets, i.e. the interest rate sensitivity of the IS curve. The suggestion was that the UK is likely to be more sensitive than other European economies (although recognising that a wide variety of housing conditions exist across Europe and we should not talk about a single European housing market). Consequently, the setting of a single nominal interest rate across Europe is not likely to be consistent with equilibrium in all countries simultaneously. In this note, we consider whether the earlier conclusions need to be modified at all in the light of subsequent evidence. Although there are a number of strands to the argument, here, we concentrate on one important aspect, the relationship between consumption, housing markets and interest rates.

2. The next section briefly rehearses the arguments why the UK may be more sensitive to interest rate changes (and some of the counter arguments). The following section considers further empirical evidence on the impact of housing on consumers' expenditure. Then, we discuss recent experience in the Netherlands and Ireland. Finally, we draw conclusions on the extent to which we need to modify our earlier results.

WHY IS THE UK CONSIDERED MORE SENSITIVE TO INTEREST RATE CHANGES?

3. The original analysis was based on three empirical observations:

(i) The owner-occupation rate is higher than in many other countries, notably Germany and France.

(ii) The mortgage debt to GDP ratio is relatively high in the UK.

(iii) The UK is more reliant on floating rate mortgage debt than many European economies.

[1] Meen, G.P. (1998) 'Preparing for EMU: How to make the UK housing market more continental', *Oxford Economic Forecasting Economic Prospects (Winter), pp. 8-13.*

4. In addition, it has been argued that financial markets are more liberalised in the UK than elsewhere (although this is not obviously true – it may simply be that the structure of European markets is rather different), transactions costs are lower (potentially adding to housing market volatility) and the planning system is unduly restrictive.

5. The point is that the UK is not out-of-line in any of the individual features (i)-(iii), but the *combination* is distinctive. For example, owner-occupation rates are higher in Spain, Italy and Greece, but debt to GDP ratios are noticeably lower in each of these countries. The Netherlands has a high debt ratio, but is heavily reliant on fixed rate mortgages. In addition, under liberalised mortgage markets, any (policy) induced increases in house prices would be transmitted to consumers' expenditure through a wealth effect, via equity withdrawal; also the responsiveness of housing markets and, hence, consumers' expenditure to changes in interest rates will be greater, since rationing previously acted as a form of buffer.

6. The argument, therefore, is that a change in (centrally set) interest rates would have a particularly strong effect in the UK compared with other countries. Under floating rate debt, most of the debt stock (and not just new mortgages) would be subject to the new rate, so that the large UK debt stock is particularly important. There is a direct income effect on consumption. In addition, induced changes in house prices in response to the interest rate change generate a wealth effect on consumers' expenditure. Any direct interest rate effect on consumption reinforces all these influences. Added together – an income effect, a wealth effect and an interest rate (intertemporal) substitution effect – these forces can be strong.

7. There are, however, counter arguments. First, although debt to GDP ratios may be high in the UK, arguably the more important variable is the net asset to GDP ratio. Although obtaining exactly comparable international data is not straightforward, there appears to be little evidence that the UK is fundamentally different to either Germany or France. If so, we would not expect income effects on consumption to be noticeably different. In this case, the income argument would rest on distributional consequences. Since most assets are held by the older sections of the community, but mortgage debt is concentrated on the young, and the housing (and consumption) decisions of the two groups differ, aggregate effects from an interest rate change can potentially still emerge.

8. However, this gives rise to a second objection – the weight of evidence on the effects of the housing market on consumers' expenditure differs between micro and macro studies. The latter typically provide much stronger evidence for housing market influences than the former, both in the UK and internationally. For example, in the Netherlands, Boelhouwer (2000) places strong emphasis on equity withdrawal as an explanation of recent booming consumers' expenditure. Similarly, there appears to be aggregate time-series evidence in support for Scandinavia. Distinguishing between hypotheses based on the micro and macro evidence is difficult (and still unresolved), but one approach is to examine the stability of the aggregate time-series relationship and look for recent changes, since we now have a number of years of extra data. This is considered below.

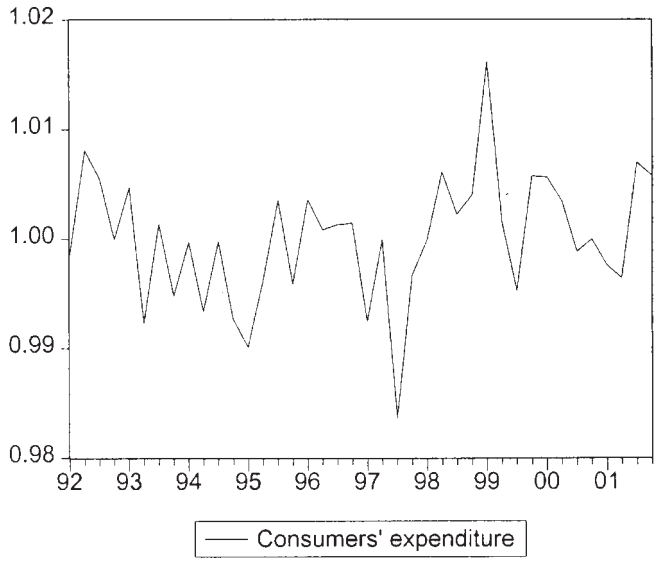
9. A third objection sometimes put forward is the theoretical basis behind models of consumption and housing. A rise in house prices, for example, raises wealth for some groups, but reduces access to owner-occupation for renters or potential newly-forming households, so that their consumption falls as they attempt to save larger deposits. Furthermore, it has been argued that housing wealth does not easily fit within the context of standard life-cycle, rational expectations consumption models. That may be true in single equation models, but the argument, perhaps, has rather less force in joint life-cycle models of consumption and housing (see, for example, Turnovsky and Okuyama 1994).

10. Fourth, empirical work – sometimes based on VARs – across countries, using simple estimated IS/LM type models, has typically found that the IS curve is no more interest rate sensitive in the UK than in Germany or France. This type of analysis and evidence is less impressive. Even allowing for the misspecification problems that are likely to be inherent in these very small models, the essence of the arguments above are in terms of structural changes, resulting from financial liberalisation. Simple VAR models are most unlikely to pick this up.

HOUSING AND AGGREGATE CONSUMPTION

11. The literature is littered with empirical consumption functions that have "broken down". Therefore, any claims for stability have to be treated with considerable caution. However, the addition of housing wealth variables to consumption functions in the late eighties certainly improved the fit of models at that time, even if it was not accepted by all, that housing wealth in conjunction with financial liberalisation represented the causal mechanism, generating the large increases in consumers' expenditure at that time. In principle, post-sample prediction tests can help to provide some basis for discrimination between alternative hypotheses. In the following, therefore, we examine the one-period ahead prediction errors of one consumption function, used by Oxford Economic Forecasting. The equation was estimated over the period 1971Q3 to 1993Q2. Hence, there is a considerable post-sample period over which to examine performance, including the end of the housing slump and the latest boom in the housing market. The equation includes both housing and financial wealth as determinants, where the coefficient on the former is approximately half that on the latter. Figure 1 sets out the prediction errors of the equation, including the end of the estimation period and the post-sample period up to the end of 2001.[2]

Figure 1: Consumers' expenditure prediction errors



Source: OEF

12. A value of one implies "perfect prediction" of that quarter, given outturn values of the independent and lagged dependent variables. A value of 1.01, for example, implies a 1% error. The object of the exercise is not to claim that this particular consumption function has any intrinsic merit, but it is not untypical of the sort of functions commonly in use, which include

[2] Note also that there will have been considerable data revisions since the equation was estimated, which will also be picked up in the errors.

housing and financial wealth as determinants. Since the errors have broadly fluctuated around a value of one over the whole of the post 1993 period, there is no immediate sign of a rejection of the hypothesis that housing wealth influences consumers' expenditure.[3] If housing wealth truly did not affect consumption, we might have expected to observe large positive errors (over-prediction) in recent years.[4] Although we cannot be stronger than this in our conclusions, and the prediction is by no means perfect, the evidence since our original article has certainly not run counter to the view that, after liberalisation, housing wealth has important effects on consumers' expenditure. Given that consumers' expenditure constitutes approximately two-thirds of GDP, inevitably housing has a strong effect on GDP.

13. However, there is a second part of the story. Since housing wealth can be calculated as the size of the housing stock, multiplied by the average house price, and the former changes only slowly (new housing construction is only about 1% of the housing stock per annum), changes in housing wealth are due primarily to house price variations. Therefore, in order to complete the analysis of the relationship between monetary policy, housing and consumers' expenditure, we need to look at the evidence briefly on the effects of interest rates on house prices. Some of the evidence on this is examined in Meen and Andrew (1998). The first point to note is that nominal interest rates matter as much to housing markets as real rates, because of front-end loading issues. Some UK (and international) studies of house price determination have *assumed* that only real rates matter, without fully testing the hypothesis. Second, having made the distinction, our own empirical work on house price determination has found that the quantitative impact of interest rate changes has been remarkably stable and strong, once allowance has been made for financial liberalisation and labour market structural changes. The qualifications are, however, important. Financial liberalisation in the eighties increased the sensitivity of house prices to interest rate changes. However, at first sight, the sensitivity of house prices to interest rate changes fell in the early nineties. Although mortgage interest rates *fell* from an average of 15% in 1990 to approximately 8% in 1993, house prices did not begin to recover until the end of 1996. However, as Meen and Andrew suggest, there were other developments going on at the time (concerning the distribution of income between young and older households) that account for the apparent insensitivity to interest rate changes. Few would disagree that the current house price boom is at least partly due to low levels of interest rates.

14. In summary, although there is still a concern about the inconsistency of the micro and macro evidence, later evidence has not been inconsistent with the view that monetary policy variations have important effects, via the housing market onto consumers' expenditure. In our view the UK IS curve is still likely to be interest elastic.

RECENT EVIDENCE FROM IRELAND AND THE NETHERLANDS

15. But it could be argued that other European economies – if financial markets are liberalised – could suffer from housing wealth effects in the same way as the UK. Therefore, the UK is not distinct. Therefore it is useful to look at some other countries' experiences, although a full empirical analysis is beyond our resources. We take two cases. Both the Netherlands and Ireland have recently experienced very strong increases in consumers' expenditure, accompanied by rapid increases in house prices. Although conditions in neither are identical to the UK – debt stocks are still considerably lower in Ireland (although expanding) and, as noted above, the Netherlands relies more on fixed rate debt – there are still lessons.

[3] Note that the equation standard error over the estimation period was slightly less than 0.8%.

[4] This is, of course, rather loose. It is still possible that movements in house prices are closely correlated with the true determining variable. But, perhaps, this becomes less likely as time goes on.

16. Boelhouwer (2000) presents the evidence for the Netherlands. To quote:

> "… the Netherlands Bureau of Statistics (CBS) reported in September 1999 that the sharp rise in consumer spending was financed mainly by the profits from the overvaluation of the own home and income from stocks. Furthermore, the statistics of the CBS reveal that in the third quarter of 1999, a record sum of nearly 50 billion guilders was booked for new mortgages. Only 40 percent of that amount was intended for the acquisition of a dwelling. Many homeowners took the opportunity to cash in on the overvaluation of their dwelling in this manner. They used part of the proceeds of the transaction to buy durable consumer goods and to make luxury improvements on their dwelling". (page 12).

17. In fact between 1994 and 2000, consumers' expenditure growth averaged almost 4% per annum, although growth has eased in the last two years. Therefore, despite the differences in housing and mortgage market conditions between the Netherlands and the UK to which we referred in the second section, both suffered heavily from the effects of equity withdrawal. Changes in fiscal policy that boost house prices, for example, can generate similar consumption effects.

18. This is, perhaps, one difference in emphasis from our earlier paper. Although the Netherlands may have greater reliance on fixed mortgage interest rates, this does not necessarily fully isolate its economy from the effects of housing markets. Equity withdrawal still takes place. In principle, the same could be true in other European economies. An important issue, therefore, is the extent to which countries are able to maintain stable house prices (although arguably, Germany is still likely to be more immune from equity withdrawal, given its low level of owner-occupation[5]). This brings in wider issues in addition to monetary policy, including planning policy.

19. Our second case study – Ireland – raises further issues. The Irish case is one of the most extreme examples of house price inflation in recent years. Between 1997 and 2001, prices doubled nationally. Consumers' expenditure rose on average by more than 7% per annum over that period. But it is not immediately clear that the two are directly related[6]; for example, in contrast to recent UK and Dutch experience, there was no fall in the household savings ratio over the period of rapid price and consumption growth. Although we have not attempted a full analysis of Irish equity withdrawal, it does not appear to be the case that the rise in consumption was financed primarily by equity withdrawal, although presumably the scope existed, particularly since the Irish owner-occupation rate is high by European standards. Therefore, a rise in house prices does not *necessarily* generate an increase in consumption, although in a number of cases it has done so.

CONCLUSIONS

20. In terms of the sensitivity of the real economy to monetary policy via the housing market, there are three main potential transmission mechanisms – an income effect, a direct interest rate effect and a housing wealth (equity withdrawal) effect.

21. In terms of the *income effect*, looking at differences in the international mortgage debt situation alone probably overstates the influence of variable interest rates. The net asset position is more relevant. But the importance of the distributional differences between younger and older households should not be understated.

[5] But, even in Germany, housing wealth effects could still potentially occur, but the gains would accrue to different groups, i.e. landlords and landowners.

[6] A full empirical analysis of Irish consumption behaviour is outside our scope.

22. In principle, the direct *interest rate effect* represents intertemporal substitution in consumption. *A priori*, it is not clear why the elasticity of substitution should vary systematically between countries. An exception, however, is that the elasticity may be higher in financially liberalised countries, such as the UK. Empirically, it is the case that interest rate effects in UK consumption functions are strong, although we are not aware of any recent comparative consumption modelling exercises across Europe, which include housing variables.

23. More recent data still suggest that *housing wealth* has an impact on consumption at the aggregate level in the UK (although the inconsistency with micro evidence is still a worry). Since the responsiveness of house prices to interest rate changes is strong (particularly since financial liberalisation), monetary policy has a significant impact on consumers' expenditure, and hence GDP, through the housing market.

24. But, in principle, other countries – particularly those with high owner-occupation rates – have the potential to suffer from equity withdrawal as well (for example as a result of inappropriate fiscal policies) and the Netherlands seems the most obvious example. However, equity withdrawal does not appear inevitable and there are certain features of the UK housing market that make equity withdrawal more likely to occur here than elsewhere. Noticeably, the long-run real house price trend (and generally volatility) is considerably stronger in the UK than in most other European countries (and the USA). This is probably attributable, at least partly, to the planning system, although this is difficult to demonstrate conclusively. The reliance on variable mortgage rates also contributes to volatility.

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17

JACQUES MÉLITZ

October 2002

HM Treasury invited Jacques Mélitz to revisit his 1996 paper 'The Evidence about the Costs and Benefits of EMU'[1] with particular reference to the quotation: "The benefits are clear, largely resembling those for uniform weights and measures…The evidence will only clearly support the case against EMU on the basis of a substantial degree of risk aversion. It is true that individual countries will likely encounter junctures where they would be better off with their own money over some limited time horizon. Furthermore, in an EMU consisting of as many as 15 countries, there might even be frequently at least one of them in such a situation. Insurance therefore requires serious consideration. Insurance is what the economic case against EMU is all about." (p. 42).

1. I still adhere to the view quoted above from my report to the Swedish Commission of inquiry on entry into EMU. To my mind, the economic case against entry into a monetary union rests essentially on insurance against certain macroeconomic risks. Let me start by restating that position briefly.

2. On the benefit side, some of the economic advantages of entry into monetary union are clear, though their size is not. The benefits are essentially microeconomic: they relate to private economic activity and trade. On the other hand, the economic costs of monetary union are not exactly plain: they are not inherent and may not exist. Those costs hinge on the chance of getting better monetary policy from the authorities at home than those in a monetary union.

3. In analyzing the costs and benefits of monetary union, economists often proceed on the assumption of perfectly optimizing behavior by central bankers who reflect national preferences and possess complete knowledge of the structure of the economy. The analysis also assumes that the structure of the economy stays the same under monetary union. In those conditions, the national monetary authorities can do no worse than the international ones and generally will do better from a national perspective. But those assumptions are questionable. In practice, national monetary authorities have imperfect information and make mistakes. Furthermore, they also sometimes operate under strong political pressures that cause them to take shortsighted actions. Therefore, the national authorities may even do much worse than the international ones from a national perspective. Monetary union may also lead to structural economic changes. Consequently, any judgment about the wisdom of monetary union must rest largely on the quality of the monetary constitution at home, the historical record of monetary policy, the possibility of structural breaks under monetary union, and last but not least, the probability of big idiosyncratic national shocks that the national authorities can be entrusted to handle better than the international ones. These considerations underlie my view that the economic case against entry rests on risk aversion and insurance.

4. With this view in mind, I nevertheless find the economic case for British entry into EMU to be vague. In other words, I consider both the microeconomic benefits of coming in and the insurance benefits of staying out important. Given the modest economic ground for strong

[1] Mélitz, J. (1996) 'The Evidence about the Costs and Benefits of EMU', Background Report for the Swedish Government Commission on EMU.

opinion, I believe that the decision on British entry should then rest mainly on political rather than economic considerations. In addition, recent events lead me to regard both the economic benefits and the economic costs of entry to be higher than they seemed only a while back.

5. There are two developments dating since 1999 that improve the argument for British entry. First, the EMU got off to a good start. The European Central Bank quickly convinced the markets that it is a worthy successor of the Bundesbank. From the beginning, it has acted in a responsible manner. There is every reason to expect the ECB to continue to pursue moderate inflation in the future while paying reasonable attention to the business cycle. In addition, of course, the Maastricht Treaty provides the ECB with strong constitutional protection against undue political influence from the outside. Very significantly, in this regard, the initial fears that the institution would suffer from internal dissention because of conflicts between different national representatives have proven unfounded thus far.

6. Second, recent research implies that separate moneys explain some of the strong effects of national borders on foreign commerce. Rose (2000) estimated that membership in a monetary union would more than triple the trade between the members. Subsequent research, to which he contributed as well, would show that a doubling is a better estimate. But even a doubling is enormous. The most important empirical results conflicting with those of Rose, in my opinion, stem from case studies of entries and exits into and from monetary unions, like the Irish adoption of a separate currency from the pound in 1979 (Thom and Walsh (2002), Nitsch (2002)). Such studies show nothing close to the impact of monetary union on trade that Rose's estimate would imply. In addition, of course, we simply do not understand the basis for the magnitudes of Rose's estimates. As applied to British trade with the current members of EMU, those estimates would imply a larger change in the British economy than seems likely.

7. Yet Rose's results fit well into a larger pattern of empirical work and help to resolve a piece of a larger puzzle in the field of trade. People trade much more with their own compatriots than foreigners than we can explain on grounds of transportation costs, differences in language, trade protection, and adjacency (or its absence). After introducing a number of reasonable explanatory factors, the effects of political boundaries on trade remain surprisingly large. Rose's results help to explain this riddle: they would mean that separate moneys resolve part of it. There is also recent evidence issuing from a completely different data source than the one that Rose used confirming his findings (though not necessarily his orders of magnitude). Parsley and Wei (2001) show that, even if we allow for the usual political and economic influences, separate currencies significantly raise international discrepancies in prices of individual goods between cities over the globe. In sum, it may well be that the economic benefits of monetary union consist largely of an increase in market integration, and therefore go far beyond economies in transaction costs and costs of buying cover for foreign exchange risks. These wider benefits of a single money probably stem from a common unit of account, more price transparency, and the definitive elimination of exchange risk.

8. All the same, an important qualification comes to mind. Rose's data and methods also show that monetary union increases trade between members and non-members (though less so than between the members) (Mélitz (2001)). This last result seems particularly important for the UK. Already British citizens need only one foreign currency for travel to different member countries of the EMU. They also benefit from a single unit of account (besides the pound) in trade with all the member countries. In addition, they obtain some of the same advantages of greater price transparency and total eradication of exchange rate risk that people in the euro zone get. In other words, even without adopting the euro, the UK will get many of the advantages of EMU, just as the Canadians now profit from a single currency in

the US. Of course, this qualification holds for the Danes and Swedes as well. But as regards these other people, the qualification has less force because of a counter-effect of less consequence to the British: the invasion of the euro in domestic trade. The phenomenon is less important in the UK, since the British economy is large enough to expect the pound to hold its own against the euro in domestic transactions in the future. Therefore this qualification holds its full significance.

9. The outstanding recent development arguing for keeping the status quo in the UK is the charter of independence of the Bank of England of 1997. To my mind, this reform, and the subsequent behavior of the Bank of England, undercut a good part of the economic arguments in favor of entry into EMU. In the recent pamphlet by the advocates of entry into EMU, Taking a Pounding, the contributors argue convincingly that the record of British monetary policy in most of the twentieth century offers no basis for confidence in a separate pound. Given the policy record, independent monetary policy in the UK poses as much, or more, of a risk of disturbances stemming from movements in the euro/pound than any protection against inappropriate monetary policy by the European Central Bank. However compelling this argument concerning the not too distant past, I believe that it has lost conviction. Since the Monetary Policy Committee acquired control over monetary policy, the quality of central bank performance has improved greatly. The Bank of England now plainly pursues an inflation objective. It communicates frequently and clearly with the public. In terms of timely exposure of internal policy discussion, letting everyone know the official reasons for actions and the official aims, if anything, the Bank of England has a better record than the ECB since 1999. To my mind, this is then the most important reason for doubting the benefit of British entry (in light of the possibility that optimal monetary policy for the UK will differ from the one in the EU).

10. Finally, there is the issue of the Stability and Growth Pact (SGP). Does the Pact pose an obstacle to entry into EMU? According to basic logic, if the UK gives up its monetary-policy independence by joining the EMU, the country requires its fiscal policy independence even more. Of course, the UK is already party to the Pact. But as a member of EMU, the country would be subject to the sanctions envisioned in the Pact as well, and would be more constrained by the Pact. It is important to observe that the underlying motivation for the Pact is sound. Constraints against fiscal irresponsibility are not a bad idea. Countries joining in a monetary union may be wise to engage in a joint commitment to fiscal discipline. The basic criticism of the Pact has always centered on the precise numbers about debt and deficits: the 3 per cent ceiling on fiscal deficits in particular. The issue has ceased to be academic, as the ceiling has now become an embarrassment for the largest countries in the EMU. Of course, the rigid interpretation of the 3 per cent ceiling by the European Commission (in spite of the escape clauses in the Maastricht Treaty) has not helped either. Yet in my judgment, the 3 per cent figure does not represent a fundamental reason for the UK to stay out. The means of enforcing the ceiling are too weak, and this is true to no small extent because of the limp justification for the flat ceiling. It would hardly be surprising, given the inability simply to flout so flagrant an aspect of the SGP, if an explicit reform of the interpretation of the ceiling took place, possibly as part of a general revision of the SGP. To my mind, fiscal policy will likely remain a protection against unforeseen idiosyncratic shocks in the event of British entry into EMU.

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18

PATRICK MINFORD: BRITAIN, THE EURO AND THE FIVE TESTS – SOME BRIEF NOTES ON THE COSTS AND BENEFITS OF ECONOMIC AND MONETARY UNION TO THE UK ECONOMY

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HM Treasury invited Patrick Minford to revisit his 1992 paper 'The Price of Monetary Unification'[1] with particular reference to the quotation: "the convenience to business of a single currency is something to obtain as early as it can be safely done. But safety requires caution and evolution. Most countries in the EEC, including the UK, are not ready for it yet." (p. 140).

1. In these notes I consider the economic costs and benefits of the UK joining the euro. While HM Treasury has organised the issues in the form of the well-known Five Tests set out by the Chancellor, I have found it helpful to my own thinking to organise them in the form of key arguments for and against Britain joining the euro; I have therefore set them out in that way here, on the assumption that others too could find this helpful. Fortunately, economics has developed fairly robust means of testing arguments and evidence. There is a body of economic theory within which the logic of arguments can be evaluated. Furthermore we have increasingly good access to data and econometric tools, so that evidence can be brought to bear. This means that, much as some participants in the debate would like the economics to be vague and impressionistic so that political preferences could easily be dressed up as economic arguments, modern economics does not easily oblige.

2. My aim in this short statement is to set out in as clear a way as I can what the economic arguments on both sides are; and then to discuss what theory and evidence we can bring to bear on them so as to evaluate the gains and losses to the UK economy were it to join. Economics is a quantitative subject; therefore what is true for the UK may not be true for other countries. We will see that there are both gains and losses. For the UK the calculation will depend on its particular characteristics. For other countries with other characteristics the calculation may well therefore be different. But needless to say these remarks are about the UK only.

SECTION 1: THE BENEFITS OF EMU

3. The economic benefits put forward for EMU consist of three main elements: the reduction in transactions cost of changing currency; the reduction of exchange risk leading to greater trade and foreign investment with the rest of Europe, and to a lower risk-premium embodied in the cost of raising capital; and increased transparency in price comparison.

[1] Minford, P. (1992) 'The Price of Monetary Unification', in P. Minford (ed), *The Cost of Europe*, Manchester: Manchester University Press.

Transaction costs

4. EMU would mean that currency exchange between pounds and euros would no longer occur; this would save resources (reflected in the margins of currency dealers in a competitive market). The EU Commission did a study (European Commission, 1990) of the savings and found that on average across the EMU members there would be savings in dealers' margins of 0.4% of GDP. However, for countries with advanced banking systems, such as the UK, it found the saving to be much smaller, at around 0.1% of GDP. The reason was that the vast proportion of currency exchanges between pounds and euros take place via the banking system (as for example in inter-firm trade payments or credit card payments); these transactions, whatever margins may be marked up on them, are costless in resources since in a computerised banking transaction conversion of a payment into another currency requires the computer merely to perform one extra operation, at essentially zero marginal cost. So the cost only arises when people change hand-to-hand currency, basically small tourist transactions.

5. 0.1% of UK GDP is about £1 billion per year – a fairly small sum though of course it is a gain that in principle continues indefinitely, at a level depending on the share of such currency exchanges in GDP. It seems rather likely in fact that these exchanges will steadily diminish in importance as credit card and other banking payment mechanisms penetrate ever deeper into tourist practice. A reasonable practical assumption might be that it remains about constant in absolute terms at £1 billion in today's prices.

6. The transactions cost argument does not end there. In order to join EMU there must be a large one-off transactions cost in the form of changing the pound into euros – including changing over the vending machines, the accounting systems, and the banks' high street machines. There have been a range of estimates of this, which were usefully reviewed recently by the House of Commons Trade and Industry Committee (House of Commons, 2000), together with work of their own. They concluded that a reasonable central estimate of the changeover cost was £30 billion.

7. To reach an overall assessment of the net transactions cost one must either turn this last one-off cost into an annual charge or convert the ongoing gain above into a 'present value equivalent'. This is easily done. If we take the real rate of interest as around 4%; then the annualised charge on £30 billion is £1.2 billion, slightly more than the £1 billion annual gain. Or equivalently the present value of £1 billion is £25 billion (£1 billion/0.04), rather less than the one-off cost. By playing with the real rate assumed one can push the comparison either way; and in any case both sets of estimates must be regarded as of doubtful accuracy. In other words, the transactions cost argument for going in turns out to be on balance of little weight.

Exchange risk, trade, foreign investment and the cost of capital

8. The core of the argument for going into EMU is the elimination of exchange risk against the euro. It is argued (for example, in Britain in Europe, 2000) that this elimination is like the removal of a trade barrier and will promote much more trade with Europe, will increase foreign investment in the UK, and will reduce the cost of capital by merging the rather risky and limited sterling capital market into the bigger and less risky euro capital market.

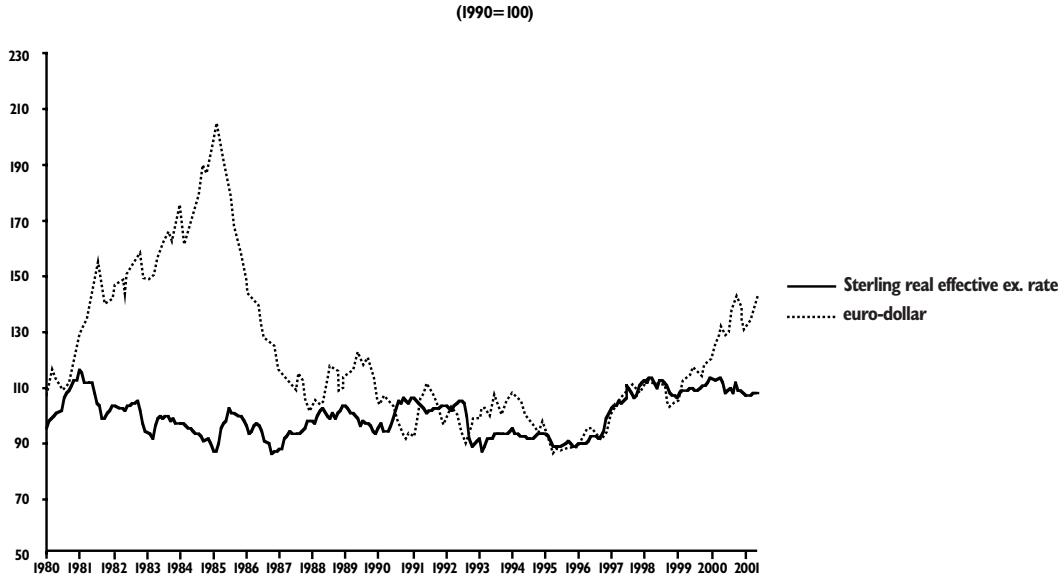
9. Let us examine this argument in two stages. First, let us assume that exchange risk is an important influence on trade, foreign investment and the cost of capital. Second, we will consider this assumption critically.

10. So, assuming exchange risk is a big factor, consider whether joining the euro will actually reduce it or not and if so by how much. Here we immediately trip over the key point that joining the euro is not to join a world currency but a regional one.

11. Unfortunately for our exchange risk we trade very heavily with the dollar area. Let us not get tied up in the vexed question of the exact shares of our trade with Europe and with the USA, and what sorts of trade should be counted (in goods? in goods and services? or in all cross-border transactions including foreign investment and earnings on them?). The point is that if we regard exchange risk as a sort of tax on transactions involving exchanging currency, then it is plain that the broadest definition should be used for the 'trade' affected by this tax. Most of the world outside Europe either uses the dollar or is tied to it in some formal or informal way. We might then say, in a rough and ready way, that we trade and invest half with the euro area and half with the dollar area. (This, by the way, is not the same issue as the currency in which trade is denominated or invoiced, in which the dollar heavily preponderates; invoicing is about how the risk is shared between buyers and sellers, not about the total risk involved.)

12. It so happens that the euro/dollar exchange rate has been highly variable for a very long time – see Chart 1 which shows the DM/dollar rate up to January 1999 and thereafter links on the euro-dollar rate (this linkage assumes that the DM would have been the dominating element in the behaviour of the euro, had it existed before); side by side it shows the real sterling effective exchange rate.

Chart 1: The euro-dollar and the sterling real effective exchange rate



13. The problem then for the UK is that if we join the euro we thereby increase our exchange risk against the dollar as the euro swings around against it. If we remain outside, the pound can as these swings occur 'go between' the two, rather like someone sitting on the middle of a seesaw. Our own effective (or average) exchange rate juxtaposed against the euro/dollar exchange rate in Chart 1 shows rather clearly that we have been able to enjoy less volatility in our overall exchange rate by tying to neither of these two big regional currencies.

14. So what we find is that there is no necessary gain in exchange risk reduction in joining the euro and that it is even possible that our overall exchange risk would rise. This message is confirmed by stochastic simulations on the Liverpool Model of the UK, reported in Minford (2001), where we find that the variability of the real exchange rate actually rises slightly under EMU compared with floating. The standard deviation of the UK real exchange rate is just under 11% under floating and just over 11% under EMU under the standard assumptions we make (and hardly different as these are varied).

15. Let us now turn to the second leg of the argument and ask just how important exchange risk is as a factor determining trade, foreign investment and the cost of capital – both in general and specifically for the UK. This concerns the extent to which modern financial markets can diversify this risk away; the more they can, the cheaper for example the 'hedging' deal they can offer a trader (i.e. a trader who is exposed to foreign exchange risk can insure it by covering his exposed position by buying or selling foreign currency for future delivery from a financier, usually a bank, that then carries the risk). Without going into the rather involved theory, the risk can be diversified away to the extent that a currency gyrates independently of general trends or fluctuations – by pooling a lot of independent risks in a large portfolio a bank can largely eliminate these sources of risk at the portfolio level. On top of this, big enough financial intermediaries can ignore moderate amounts of risk, acting as a 'risk-neutral' insurer. Nor is this assessment altered by the argument (made much of in Britain in Europe, 2000) that a country's exchange rate is vulnerable to 'bubbles', that is irrational movements based on pure sentiment rather than fundamentals; Minford and Peel, 2002, review this theory carefully and suggest that in the end it relies on systematic irrationality among market participants.

16. There are therefore good theoretical reasons for doubting the importance of exchange risk as a factor affecting the UK; such risk as there is should be readily diversifiable in financial markets, resulting in little cost to insure and so having little impact on the real economy. The empirical studies available tend to support this judgement. A wide range of studies surveyed and in many cases commissioned by the IMF found little, if any, impact of exchange rate volatility on trade (a typical example is Bailey *et al.*, 1987). In a recent theoretical study of this issue Bacchetta and van Wincoop (2000) note that 'the substantial empirical literature examining the link between exchange-rate uncertainty and trade has not found a consistent relationship', adding that 'in papers that find a negative relationship, it is generally weak'; the theoretical general equilibrium benchmark model they consider implies no relationship at all between trade and the exchange rate regime.

17. The factors moving foreign investment have also been widely studied; and foreign exchange risk is generally found to be a minor consideration (recent evidence bearing on the UK is examined, for example, in Leach, 2001). As for the cost of capital, an exchange risk premium is found for countries that have poor domestic policies; the UK has in the past suffered from this problem – one has only to go back to the 1970s and the early 1980s battle for reforms to see this in the data. But in the last decade, once the exit from the ERM had been digested and a new monetary consensus against inflation forged, we have seen the emergence of a minimal risk-premium over world capital costs. For example UK gilts now sell on yield similar to both German bunds and US Treasuries.

18. We should mention two studies that appear to point the opposite way, both of them cited as important evidence in Britain in Europe (2000) – by Professor Andrew Rose of Berkeley (Rose, 1999), and by John McCallum of the Royal Bank of Canada (McCallum, 1995) – see also Persson, 2001; Nitsch, 2001; Flandreau, 2001; Aristotelous, 2001; Thom and Walsh, 2002. I discuss this literature at more length in Minford (2002). In short the problem is that it is usually impossible to distinguish the effect of monetary union from that of general political closeness; where distinguishing is possible (as in Ireland since 1979) the evidence points to virtually no effect.

19. In conclusion, this, the major argument adduced for entry, does not appear to be of much quantitative significance. It might even go the wrong way. One can agree that having a common money across the world would bring some gains of market integration – even if modest – while disagreeing that adopting a regional currency like the euro will bring even modest gains.

Transparency of price comparison

20. Prices, it is said, will be easier to compare in a foreign currency; hence the consumer will gain from greater competition bringing enhanced price similarity (adjusted for quality differences). For countries with populated land borders such as Belgium or the Netherlands the argument has some force as border people are constantly involved in price comparisons which could be costly in time. However, the UK has no land borders with the euro-zone (other than the mainly rural one between Northern Ireland and Eire). So the argument in our case is of little importance.

SECTION 2: THE COSTS OF EMU FOR THE UK

21. There are three main economic costs that have been identified in joining the EMU: the difficulty of dealing with shocks without the use of independent interest rate and exchange rate movements; the effects of 'harmonisation' initiatives associated with EMU; and the concerns that we could be involved in the bailing-out of continental countries with financial problems particularly associated with state pension deficits.

22. Our focus here is on these economic arguments. But we should point out in passing that the nature of the political union implicit in the monetary union plans is relevant to the last two economic arguments. Both harmonisation and bail-out concerns are directly related to the strength of the desire for political union. The stronger the push for political union the more of a constituency there is for harmonisation as well as for mutual cross-country support. Britain in Europe (2000) argues that harmonisation is a strictly separate matter from EMU and that bail-out is explicitly ruled out by the Maastricht Treaty. This however fails to recognise the way that EU institutions have been deliberately used to advance the cause of political union – for example the expectation of the European Court that its judgements should advance unification; the use of the Single Market Act with its qualified majority voting to force the limitation of working hours on the UK as a health and safety measure; and the series of summits organised by the Commission under successive country presidencies to further union in foreign and defence policy. EMU creates a further set of institutions through which arrangements can be made to increase unification between EMU members; linkages can be set up that get around notional 'separateness' or the vetoing of bail-out – 'support' after all can be 'voluntary' or 'common taxes' can be 'redistributed'. Joining EMU means that the UK is subject to its extra set of arrangements. It is like being caught in a double spider's web when you are lightly entangled in a single one from which you can still disentangle yourself.

23. In effect EMU is a process which is designed to produce a high degree of economic and political integration. In joining it, a country is unable to avoid signing up to that process; staying outside, it can remain part of the existing Treaty which deals with trade, movements of productive factors and the Single Market. Clearly, an EMU which was a system designed solely to share a common money, with member countries remaining independent countries, cooperating merely in the enforcement of good competitive norms and the freest possible trade would be a different proposition and the arguments that follow would need important modification. Indeed were the EU and its EMU branch to be intended as a sort of early 20th century Gold Standard world writ large, with free trade, untrammeled labour mobility, competition and flexible labour markets, it would offer some definite attractions to be put in the balance (and clearly affecting the balance of arguments on the five tests). However, it is plain to see that this is not the EMU on offer. The EMU we are assessing here is the one that is on offer.

Shocks without an independent currency

24. A single currency implies a single interest rate unless there are such barriers to the movement of money as exchange controls or differential taxes on interest rates – all of which are of course explicitly forbidden under the Maastricht Treaty, with no conceivable loop-hole.

25. At the heart of the case against joining EMU is the consequence of abandoning a separate interest rate for the UK, which comes with a separate exchange rate or currency. In effect the exchange rate by moving allows one country's interest rate to be different from another's. There has been much discussion of the conditions under which a country might not suffer unduly from giving up its independent monetary policy – described as the 'optimal currency area' conditions. In the end it is an empirical matter, to be assessed in the light of evidence on the UK's likely behaviour in the face of likely shocks. It is this that I address in Minford (2001). The method (known as 'stochastic simulation') is described in detail there. In short it is to pepper a well-tried model of the UK with a large number of typical shocks drawn from past experience; and then to see what the variability of the economy is under the two alternative monetary regimes – EMU versus policy as now set by the Bank of England under floating exchange rates.

26. We can summarise our findings as follows (for details see Minford, 2001). Joining EMU would increase the variability of the UK economy – the 'boom-and-bust' factor – by about 75%. This is also a widely-used measure of the cost involved, as experienced by politicians facing popular pressures. This increased cost is largely insensitive to the sort of ameliorative changes that euro advocates have put forward. Greater UK labour market flexibility helps a bit; so does smaller UK responsiveness to interest rates. But the extent is small, the big difference remains. The reason is that the UK is both unable to respond to shocks optimally with its own interest rate and also is destabilised by euro shocks (especially against the dollar), given that we trade so heavily with the rest of the world. This is the case even though we freely allow fiscal stabilisers full play, not merely the automatic ones but also extra discretionary public spending response to the cycle. Were unemployment to reach the double-digit rates we have seen in the early 1980s and early 1990s the difference of variability would be even larger, and it would be more serious too, as the absolute variation in unemployment would rise more than proportionately with this higher baseline unemployment. Euro advocates claim that outside EMU the pound would suffer enhanced volatility; our estimates allow for the volatility in the pound's risk-premium experienced in the past decade but we checked what would happen to the comparison if we allowed for a tripling of it. Again, the difference is reduced but not much, basically because the economy's built-in monetary shock absorbers work pretty well. That then remains the key point; running a modern economy with popular consent requires efficient shock absorbers and joining EMU not merely removes them but provides an additional source of shocks from the euro itself (see Minford, 2002, for a discussion of Barrell and Dury (2000) and Barrell (2002) who find higher output instability under the euro but reduced inflation instability).

Harmonisation

27. As we saw above, what is needed to make EMU work better – i.e. to avoid undue instability in the economy as a result of losing control of monetary policy – is greater wage flexibility, in the absence of the large federal budgets and the labour mobility that the EU does not have. However, there is little sign of the emergence of this flexibility. Instead, it is being suggested on the continent that what is needed is 'harmonisation' of taxes and other institutions. The argument appears to be that this will reduce the extent of differences in response to shocks and even increase the similarity of shocks by somehow creating a similarity of industrial structure. The basis for such arguments is extremely tenuous; possibly responses to shocks could become marginally more similar but even this is not clear since the dissimilarities could have been partially offsetting, and certainly there is no reason to suppose it would create a similarity of structure. More seriously, what protagonists of harmonisation probably have in mind is the aim of building up central federal institutions which would ultimately have revenues and the power, like any state, to make transfers to and from regions with asymmetric shocks; harmonisation does not in itself provide any help for EMU but it is a stepping stone to state powers which would.

28. Given the preferences of the majority of states in the euro-zone, this harmonisation would be around a rate of taxation, social support and regulation well above that currently prevailing in the UK. It is a matter of speculation what exact level of harmonisation would be aimed at but we calculated the effects of different levels of labour market intervention within the Liverpool Model (details of which can be found in Minford, 1998), to illustrate the problem for the UK of finding itself pressured one way or another into adopting such levels. We found unsurprisingly that there are large costs involved in this involuntary adoption of such increased regulation.

Bail-out and the emerging state pension crisis

29. The three largest nations in the euro-zone, Germany, France and Italy, have serious projected state pension deficits. In 1996 an OECD paper (Roseveare et al, 1996) projected them to reach respectively about 10%, 8% and 11% of GDP by 2030. Since then Germany and Italy have taken some steps to reduce their prospective deficits; France has taken none. The OECD work has not been updated but various factors have become worse since that study and they may have wiped out the contribution of those policy changes. Notably unemployment is turning out worse and growth slower than expected. The politics of cutting pension benefits is speculative given that ageing populations will increasingly be dominated by older voters; yet the effects of raising taxation further would be yet lower growth and worse unemployment. Hence it must be a matter of concern to the UK that the cost of meeting potentially explosive state financial liabilities might somehow fall in part on the British taxpayer. The more integrated EMU becomes the greater both the political pressures for concerted action and the economic fallout from letting a fellow-EMU member-state default partially on its debts. This fallout includes the risk of contamination of one's own debt status as well as indirect losses of trade, public procurement business and any other joint activities.

30. It is worth recalling that the prospective state pension deficits of the big three EMU members in 2030 quoted above are projected as equal to over one third of the UK's GDP – that is, nearly as much as the existing 40% tax share of GDP. The risk of even part of this winding up as a charge on the UK taxpayer is a serious worry about entering EMU.

SECTION 3: CONCLUSIONS

31. We examined the alleged benefits of joining EMU and found that:

1. the reduction of transactions costs of currency exchange would be small and would be roughly offset by the one-off cost of currency conversion.

2. there would be some gain from eliminating exchange risk against the euro but this could well be largely, or even more than, offset by increased volatility against the dollar with around half our trade broadly defined with countries either on or closely-linked to the dollar. We also found that in any case exchange risk does not appear to have an important effect on trade or foreign investment, and in the UK case, on the cost of capital.

3. there are potential benefits from increased price transparency in border areas but this is of no real relevance to the UK; for large traded items this transparency would amount to the trivial saving on use of a calculator.

32. We then looked at the potential costs of the EMU project as it is currently planned, namely a centralising one with the aim of strengthening political union, and we found that:

1. the loss of independent monetary policy (interest-rate-setting powers) on joining EMU would raise the economy's cyclical instability substantially.

2. the harmonisation agenda, motivated by the centralising aim, could inflict serious damage on UK employment and output by reducing labour competitiveness.

3. there is a risk, in the emerging state pension crisis of the three major EMU members, that under a centralised EMU the UK taxpayer could find himself contributing to their state pension deficits which could by 2030 be worth more than one third of the UK's GDP.

33. We have considered the political aspects of EMU only in terms of their relevance to these economic issues (though clearly they are of the utmost importance in the wide public debate). This relevance lies in the political aims of the project which is to centralise power in a political federal union, without abandoning the main social democratic tenets of the major states such as France and Germany that currently dominate the EMU membership. It is these aims that dictate the harmonisation agenda and these tenets that explain the slowness and unwillingness to cut pension entitlements as a way of curing pension deficits.

34. Plainly it would be welcome if these political aspects were replaced by a free market approach within a Treaty of cooperating nation-states; this would reduce the costs under 2 and 3 above and if wage flexibility and labour mobility were promoted as part of that approach, it would also reduce the costs under 1 above. The increasing competitiveness of the euro-zone under it could also lead to a stronger euro, more stable against the dollar which would improve the assessment of the benefit under 2 above.

35. Yet we have to assess the EMU project as it is currently planned by the dominant states within the euro-zone. That is how we have done it, in a spirit of realism and honesty. It would be nice to pretend EMU was something else that we would like better; but it is not and it would wrong for us to assess it as if it was. One can bear in mind the possibility that it could become a different project; but the likelihood of that possibility is extremely small. The final conclusion must be that EMU, as it is constituted and planned, would be strongly against British interests to join.

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19

JOHN MUELLBAUER[1]: THE U.K. AND THE EURO – THE ROLE OF ASYMMETRIES IN HOUSING AND CREDIT MARKETS

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HM Treasury invited John Muellbauer to revist his 1998 paper, co-authored with Duncan Maclennan and Mark Stephens, 'Asymmetries in Housing and Financial Institutions and EMU',[2] with particular reference to the quotation: "Differences in institutions across Europe…imply substantially different responses both to interest-rate changes and world-wide equity price changes…France and, especially, Germany are in many respects close to the other end of spectrum…In the medium run, the institutional differences we have highlighted would be likely to create severe tensions within EMU." (pp.75-76).

1. Her Majesty's Treasury is due to report by June 2003 on the economic case for the U.K. adopting the Euro. One criterion concerns the extent of economic convergence between the U.K. and the European Union countries. Differences in financial, credit and housing institutions between countries present one important subset of constraints to sustained convergence (Maclennan *et al.*, 1998) – largely neglected in the economic literature on common currency areas. These types of differences create tension within the Eurozone. This article reconsiders and updates the 1998 article. Empirical evidence supporting these concerns has emerged in signs of overheating in the Netherlands, U.K. and some of the fringe economies, and in the relative stagnation of Germany and Italy. The U.K.'s buoyancy, however, has been accompanied by serious economic imbalances, with consequent risks of instability. These would be exacerbated should the U.K. be prematurely locked into an exchange rate and interest rate regime unresponsive to domestic conditions. European experience is instructive: from Germany and Italy, on the consequences of illiberal economic structures; from the Netherlands, on some of the risks of liberal credit markets; and from Denmark, with a liberal credit market, but rational property taxation. I argue here that convergence does not have to be fully achieved, if there is a counterbalancing policy instrument to mitigate some of the effects of these slow-to-dissipate differences. Specifically in the U.K., a reformed system of property taxation would contribute greatly to long-term stability and the preservation of economic balance, as the Danish experience illustrates.

I. INTRODUCTION

2. Asymmetries in the transmission of monetary policy and shocks between potential members of a European common currency area, likely to cause tensions and to impede entry by some of the more institutionally divergent economies – such as the U.K. – were examined in Maclennan *et al.* (1998, 2000). We briefly summarise the framework for analysing the economic effects of asset prices and credit, and explain why institutional differences matter within the Eurozone currently, and for the U.K.'s entry.

[1] I am grateful to Janine Aron, Heino Bohn Nielsen and Mario Padula for invaluable comments. This article draws heavily on 'The U.K. and EMU: Lessons from Europe', Economic Outlook, January 2003, published by Oxford Economic Forecasting.

[2] Maclennan, D., Muellbauer, J. and Stephens, M. (1998) 'Asymmetries in Housing and Financial Market Institutions and EMU', *Oxford Review of Economic Policy* 14, pp.54-80.

3. For consumers, asset prices have conventional wealth effects, but also credit effects on spending, when more valuable housing collateral makes borrowing easier. Sustained movements in prices influence consumer spending, feeding back into economic growth and profitability, and so again to asset prices, and to credit availability via the asset base of banks. This cumulative process is one element in the business cycle.

4. For firms, there are also two types of asset price effects. In the first, a high value of 'q' (i.e. the ratio of the firm's stock market value to the replacement cost of capital) means that equity finance is cheap relative to the cost of machines, and so encourages investment. In the second type, higher asset prices give increased access to credit via the collateral role of assets, as for consumers. Bernanke and Gertler (1995) call the latter effect the "financial accelerator". A good illustration of this process is survey evidence of tightening bank loan conditions in business downturns, which, as suggested by Lown and Morgan (2001) and Muellbauer and Nunziata (2001), has sizeable effects on growth. Suardi (2002) also discusses other aspects of monetary policy transmission in Europe, which can generate possible sources of differences.

5. Credit conditions vary and can differ amongst countries. The term 'financial liberalisation' is often used to refer to a sustained easing of credit conditions, see Muellbauer (2002) and Fernandez-Corugedo and Muellbauer (2003). The consequences for consumption of such variation thus can be seen both across time and countries. Firstly, it has a direct effect by easing down payment constraints for housing and durables, so reducing the propensity to save of young households, who no longer have to save so hard or so long for a housing deposit. Secondly, it makes illiquid assets more effectively spendable, as households with housing wealth can collateralise it more easily. Thus, when house prices rise, equity withdrawal becomes easier than before liberalisation. A third effect is to increase the responsiveness of consumption to income expectations and the real interest rate. A fourth indirect effect is to increase the volatility of asset prices, and so of consumption, by a greater gearing of the rates of return in housing. Fifth, when liberalisation has an international dimension – in that the economy as a whole becomes less constrained by domestic assets and can borrow more freely abroad – then the perception both of government and the private sector is likely to be that growth becomes less constrained by the balance of payments.[3] This is likely to affect both income and income expectations. Finally, the structure of employment tends to shift with liberalisation through expansion of the financial services sector; this can also affect income and income expectations.

6. Neglecting such issues accounts for a large part of the U.K.'s macro-policy failures of the 1980s. It poses similar problems now for some countries, and for common monetary policy.[4] It is important to understand that the process of financial liberalisation is dynamic, with a long-run impact on the stock of debt and on portfolio choices when full adaptation to the changes has resulted. In the process, there is an impact on expenditure flows. Frequently, there is an overshooting of asset values that may not be sustained, once debt, asset values and portfolio choices have adapted to the liberal credit environment. Thus, tensions for a common currency area can arise, both from the dynamic process within an economy that is liberalising, and from long-term differences in credit conditions. These can explain differences in the manner in which economies respond to interest rate changes and to other shocks.

[3] The Burns-Lawson doctrine of the 1980s recognized the point explicitly, arguing further if the government controlled the budget deficit, it could ignore private sector deficits reflected in the balance of payments. The doctrine proved shaky in 1988-90, as the warning signs of domestic overheating and inflationary pressure from the balance of payments were heeded too late.

[4] The recent review of economic policy in Europe, Buti and Sapir (2002), places little emphasis on these issues, though, in Chapter 4, Suardi reviews monetary policy transmission in Europe and discusses differences in the legal framework, credit markets and housing institutions as one source of difference in monetary policy transmission.

2. CROSS-COUNTRY DIFFERENCES IN INSTITUTIONS AND STRUCTURES

7. The analysis of institutional differences in Europe from Maclennan *et al* (1998, 2000) is summarised by highlighting some examples. I then comment on recent evidence for a narrowing in some of these differences.

2.1 Housing and credit related institutions

8. Credit market institutions and efficiency of property law vary greatly. For example, in the U.K., the median loan-to-value ratio for first-time buyers is 90-95%, the mortgage debt to GDP ratio is around 62%, and legislation allows a rapid repossession of loans in default. In Italy, in contrast, loan-to-value ratios up to a few years ago were below 40%, the mortgage debt/GDP ratio is around 8% (with mortgage duration much shorter), while repossessions are very slow and uncertain. The latter is the key to the failure by Italian banks to make much use of housing collateral.[5] This market failure is deeply rooted in the Italian legal system and customs. However, there are signs that Italian credit conditions have eased in the last three years, partly through the competitive pressure of foreign entrants such as Abbey National. Italian observers suggest loan-to-value ratios of up to 80% are now available to the best customers, and durations of 25 years are now being offered. One country where credit conditions clearly eased in the 1990s, is the Netherlands. Mortgage lenders now apply much more generous loan-to-income ratios, especially for households with second earners, and loan-to-value ratios approaching 100% are sometimes seen.

9. Competition in the mortgage market is ferocious in the U.K., but substantial barriers to entry remain in most countries. In Germany, the preferential access to credit of the state-guaranteed Landesbanken is due to be removed; this is likely to increase credit market competition in the future. However, another entry barrier is found in the regulation of financial advisers. More generally, there is considerable institutional inertia with insiders resisting change. The European Commission, to its credit, is pressing strongly for integration of the European mortgage market.

10. Another important difference is found in fixed versus floating rate debt. There is still mostly floating rate debt in the U.K., while it is mostly fixed in the Eurozone. There has been some increase in the proportion of new mortgages at fixed rates in the U.K., though fixes remain for fairly short durations. On the continent, variable rate mortgages became more popular in the last two years, at least for part-financing, given falling interest rates.

2.2 Tenure structure, transactions costs and taxation in housing

11. The proportions of tenures in owner-occupied housing, market-rented housing and public sector housing (with non-market rents) differs greatly across countries, given the different history of rent controls, inflation and taxation e.g., 68% owner-occupation in U.K. and only 38% in Germany. Raising the owner-occupation rate is official policy in Germany, while the tax bias[6] against the rented sector in the U.K. has fallen, and easy credit has now

[5] This is both a national and a regional issue within Italy, see Fabbri and Padula (2001). Moreover, as Chiuri and Japelli (2001) show, using data from a panel data analysis of household surveys from 14 OECD countries, differences in the efficiency of the legal system and the time taken for a mortgage lender to repossess a defaulting loan, explain much of the variation in loan-to-value ratios and in mortgage debt-to-GDP ratios.

[6] The U.K. bias is a complex amalgam: the abolition of tax relief for owner-occupier mortgage borrowers, when landlords can obtain tax relief on borrowing for business loans, has to be set against capital gains tax on landlords, from which owner-occupiers are exempt. Given the scale of capital gains in recent years, the latter has been far more important. Housing benefit goes to poor renters, but the scale of income support for unemployed mortgage borrowers was cut back in 1995. Council tax is heavily biased against rental properties because of its regressive nature.

been extended to small landlords as well as to owner-occupiers. However, in its nature, tenure structure can evolve only gradually, so that existing differences will narrow slowly.

12. Transactions costs vary greatly because of taxes, and competition among estate agents and lawyers e.g., costs are about 4-6% in the U.K., 18% in Italy and 12-13% in Germany. There are small signs of convergence e.g., Stamp Duty has been raised in the U.K. and lowered in France.

13. Credit, tenure structure and transactions costs differences have significant effects on the impact of higher house prices on consumer spending. The wealth effect is lower in Germany, France and Italy than in the U.K., since housing is less usable for collateral in the former and when house prices rise, renters spend less while house owners spend more. Equally, higher transactions costs mean housing is less "liquid", and therefore less "spendable" than in the U.K.

14. The tax treatment differs in various ways across Europe, e.g., in interest tax relief and in tax on the imputed values of houses (i.e. property taxes). As we discuss in detail below, appropriate property taxation is important in macro-stabilisation policy.

15. In the U.K., periods of rising prices tend to persist, and vice versa. Agents build these patterns into their price expectations, which contributes to the formation of housing bubbles. This was undoubtedly the case in the house price inflation of 2002. Such patterns are less pronounced in Germany, historically.

16. These factors imply lower house price volatility, and weaker housing wealth effects with a more muted response of consumption to interest rates rises, in Germany, France and Italy as compared with the U.K. However, these important differences, with implications for the U.K. joining EMU, have been little discussed within Europe.

2.3 Other asset markets and corporate finance

17. Compared with its European partners, the U.K. is closer to having a funded pension system, which is heavily invested in equities. This is another factor – in addition to the role of housing wealth and liberal credit markets – in explaining why consumption can deviate more from income in the U.K. than in countries where PAYE systems dominate. There is pressure in the Eurozone for a larger share of pensions to be on a funded basis, but change remains slow.

18. Turning to government debt, there are still large differences in debt to GDP ratios, and convergence seems to have stalled, at least temporarily, across countries. Those countries with high debt ratios (e.g. Italy) will be more exposed when there are rises in interest rates through higher debt service costs. In consequence, expectations of taxation are higher (e.g. by contrast with the U.K.).

19. On corporate finance, 'relationship banking' has been historically more important in Germany, while collateral-based banking and the equity culture dominate in the U.K. It is difficult at this stage to assess the likely degree of convergence, since the well-advertised current troubles of the German banks raise a question mark over the survival of the German model. By contrast, much more rapid than expected growth of the European corporate bond market is perhaps the single most important area where convergence has clearly occurred.

20. Finally, in foreign exchange markets, real effective exchange rates can diverge for countries which differ in geographical trading patterns when exchange rates outside the Eurozone alter. For example, Ireland's trading patterns are more linked to the U.K. and U.S., and so, up to 2001, Ireland had a larger effective depreciation than much of the core Eurozone. This undoubtedly contributed to the overheating of its economy in recent years.

2.4 Labour market institutions

21. There are well known differences across countries in flexibility indicators, such as firing costs and restrictions, benefit/wage 'replacement ratios', restrictions on working hours, and tax and social benefit components of labour costs. Internal labour mobility varies too – partly connected with housing tenure structure and the openness to international migration. Differences exist in bargaining structures, for example among the U.K., Germany and the Netherlands. Stronger 'insiders' can increase the role of the RPI (and, where relevant, house prices) relative to the producer price index in wage bargaining. This could imply significant differences in the transmission of house prices into more general inflation. There are some signs of a slow shift to more decentralised bargaining structures across Europe.[7]

2.5 The structure of production and other differences

22. The U.K. has a larger employment share in financial services and it produces oil. Germany is strong in the manufacture of investment goods. Changes in the structure of the world economy and in real oil prices can therefore have a differential impact in these countries.

23. The future accession of Eastern European economies to the EU is also likely to have a greater impact through migration and integration on geographically contiguous nations than those further afield.

24. Thus, there are many dimensions of difference[8], most of which are not subject to overnight change. Convergence in some dimensions and not others may not ease the problem of the 'one size doesn't fit all' interest rate. Giving central banks another policy instrument would therefore be most advantageous.

3. DIFFERENCES IN MACRO-ECONOMIC PERFORMANCE

25. In Maclennan *et al* (2000 revision), we noted the gathering evidence for overheating in Ireland, the Netherlands and Finland. The European Commission's study (*The EU Economy 2001 Review*) surveyed recent macroeconomic developments, evidence on convergence of performance, and factors underlying performance (Chapter 2). Table 1 below shows overheating indicators for Spain, Ireland, the Netherlands, Portugal and Finland. Property price inflation is prominent in the first three countries, and rapid credit growth in the middle three.

Table 1: Qualitative overview of overheating indicators

	Spain	Ireland	Netherlands	Portugal	Finland
Consumer price inflation	+	++	++	++	0
Wage inflation	+	++	+	+	+
Property price inflation	++	++	++	+	+
Domestic credit growth	+	++	++	++	0
Labour market constraints	0	++	++	+	+
Capacity utilisation	+	++	+	+	+
Current account balance	+	0	–	++	–

Source: EC, Annex of European Economy, 2002.

[7] See Bertola and Boeri (2002) for a very helpful discussion of the European labour market context.

[8] Structures of tax, competition policy, the take over code, the bankruptcy code, and the land-use planning system differ across Europe and can also affect the volume of innovation and new investment.

3.1 Dutch warnings

26. The Dutch were the high-inflation champions of the Eurozone in 2001 – the harmonised consumer price index rose by 5.1%. Yet the economy is highly integrated with its Eurozone neighbours. Dutch trade unions have explicitly tended to keep wage demands below those of German unions since the well known Wassenaar agreement of 1982. With the nominal exchange rate fixed for most of 1990s, the Dutch real exchange rate fell, facilitating an impressive performance in international trade, growth and lowering unemployment. The higher recent inflation[9] can be seen as part of an equilibrating mechanism bringing an increasingly undervalued real exchange rate back into line. A major easing of mortgage credit conditions in the 1990s led to a credit and property price boom, which was not offset by withdrawal of mortgage interest tax relief and higher property tax rates. The Dutch experience is a smaller scale[10] reminder of the U.K. boom of the 1980s, and the more extreme experiences of credit liberalisation in Finland, Norway and Sweden, none handled well by the policy makers. Though the global economic downturn and falling equity markets have, for now, ended the Dutch boom, reducing full mortgage interest tax relief in the Netherlands, even at the highest marginal tax rates, seems not to have been on the policy agenda, and there was even talk of eliminating property taxes.

3.2 Danish lessons

27. The macroeconomic performance of Denmark offers a sharp contrast, and salutary lessons. Table 2 compares economic indicators for the UK, Denmark and the Netherlands. Consumption growth has exceeded GDP growth in the U.K. in each of the last seven years (by an annual average of 1.5%), and in the Netherlands, in five out of the last seven years. Yet Denmark's consumption growth was below GDP growth in five out of the last seven years. Its GDP growth was only slightly below that of the U.K., while the full-time equivalent employment rate rose by the same percentage as in the U.K. The real exchange rate has been fairly stable, in contrast to the U.K. with a 34% appreciation since 1996. The Danish current account has been in deficit for one year in the last seven, while the U.K. has been in continuous annual deficit for many years, and around 2% of GDP in the last four years.[11]

[9] A rise in the VAT rate from 17.5 to 19% in early 2001 also contributed to inflation.

[10] Consumption growth fell more sharply than in the U.K. in 2001, due to the anticipated VAT increase shifting purchases of durables into 2000; exports falling sharply, and so income and employment prospects; and stock market falls, to which Dutch households are more exposed than in other European countries. The ECB was also slower to cut interest rates than the Bank of England.

[11] Eurostat figures suggest substantially higher deficits with the EU than ONS figures (Table 2).

Table 2: Some economic indicators 1995–2002

	1995	1996	1997	1998	1999	2000	2001	2002
UK								
Private consumption	1.9	3.8	3.8	3.8	4.5	5.2	4.1	3.5
GDP	2.9	2.6	3.4	2.9	2.4	3.1	2.0	1.6
Current account	–1.3	–1.1	–0.2	–0.6	–2.2	–2.0	–2.1	–1.8
Employment rate (full-time equivalent)	59.2	59.4	60.2	60.7	61.2	61.7	62.1	–
Unemployment rate (Eurostat definition)	8.5	8.0	6.9	6.2	5.8	5.4	5.0	5.0
Private consumption deflator	3.1	3.1	2.3	2.7	1.6	0.7	0.4	0.9
Real effective exchange rate	81.7	83.8	99.0	105.4	107.0	111.1	110.6	112.7
Netherlands								
Private consumption	3.0	4.0	3.0	4.8	4.7	3.6	1.2	1.0
GDP	3.0	3.0	3.8	4.3	4.0	3.3	1.3	0.2
Current account	6.4	5.4	6.2	3.0	4.0	5.3	3.3	3.6
Employment rate (full-time equivalent)	53.6	54.8	56.3	57.7	58.7	59.5	60.4	59.9
Unemployment rate (Eurostat definition)	6.6	6.0	4.9	3.8	3.2	2.8	2.4	3.1
Private consumption deflator	1.4	1.9	2.0	1.7	1.8	3.5	4.6	3.4
Real effective exchange rate	109.5	106.7	102.7	103.9	103.5	101.7	105.4	109.7
Denmark								
Private consumption	1.2	2.5	2.9	2.3	0.2	–0.3	0.8	2.1
GDP	2.8	2.5	3.0	2.5	2.3	3.0	1.0	1.7
Current account	0.7	1.5	0.4	–0.9	1.7	1.6	2.5	2.1
Employment rate (full-time equivalent)	66.8	67.0	68.1	67.8	69.7	69.3	69.8	–
Unemployment rate (Eurostat definition)	6.7	6.3	5.2	4.9	4.8	4.4	4.3	4.2
Private consumption deflator	1.9	2.1	2.2	1.3	2.6	3.0	2.1	2.3
Real effective exchange rate	105.4	105.5	103.1	105.8	105.0	99.8	102.2	103.8

Source: EC, Annex of European Economy, 2002.

28. Thus, the Danish growth record since the early 1990s has been impressive, especially in the export sector. Relative wage moderation helps to account for this, and also proximity to the import demands emanating from Germany (especially from East Germany, after re-unification). British observers must be baffled as to why such growth did not lead to consumer exuberance and other economic imbalances, noting also that Denmark has an even higher ratio of mortgage debt to GDP than the U.K. and strong competition in the credit market.[12] Moreover, as in the U.K., the house price to income ratio and the consumption to income ratio are quite correlated over the last twenty years.

29. Two key institutional differences explain most of the difference from the U.K. The first is the nature of the Danish mortgage bond market, accounting for most mortgage debt. A borrower obtains a fixed rate loan for a given duration, effectively securitised and so traded on the mortgage bond market. For typical business cycles, this provides a stabilising force. For example, in an upturn fuelled by falling interest rates and rising house prices, the net equity position for existing borrowers improves less than with a floating rate loan, because the value of the outstanding debt rises with lower interest rates, so giving less scope for equity withdrawal.[13] Conversely, in downturns caused by higher interest rates, the borrower is cushioned by the reduction in nominal debt.

[12] Admittedly owner-occupation is around 17% lower than the U.K. and the market rented sector is more important.

[13] The Danish market does not encourage refinancing (as in the U.S.) when bond yields fall. In the U.S., moderate refinancing charges apply however large the fall in yields. Mortgage issuers such as Fannie Mae, and hedge funds and other investors trading in securitised mortgages, bear the pre-payment risk that results from falling yields, which benefits consumer spending, at least in the short run.

30. Even more important, however, is the Danish property tax system. Currently, there is a property tax of 1% of market value on most owner-occupied housing. For the most expensive properties, accounting for around 0.8% of single-family homes, the marginal tax rate is 3%. For those aged 67 or over, the tax rate is 0.6%, they may defer taxation, and there are limits on the cash amounts by which taxes may rise year by year. The tax is national, with the same rates in every location, and annual re-valuations. There is also a small land tax, with tax rates set by local governments.

31. Significant property taxes have been a feature of the Danish tax system for decades. Up to 1999, property taxes took the form of income tax on imputed rent from homes, based on market values. This system, like the old Schedule A tax in the U.K., abolished in the late 1960s, had the advantage that households poor in cash income were able to pay lower rates on their imputed rent, given the progressiveness of the system. The reform in 2000 thus probably caused liquidity problems for a range of households, even though the ratio of property tax to housing wealth was little changed by the reform.

32. There are three key policy points for stabilising consumption. First, the property tax plays an important role in determining (restraining) house prices, and moderated the substantial upswing which occurred from 1996-2001.[14] Second, house owners know that this tax rate is liable to be increased if the economy is overheating. Third, in economic upswings, house prices tend to rise more than income, so that even with a constant tax rate, a higher proportion of income is withdrawn from consumers. Around 1% more of income was taken by the tax authorities in 2001 compared with 1996, because of the rise in the house price to income ratio. However, this last cash flow effect of the property tax on consumption is almost certainly less than the effect via house prices, as suggested by the Danish evidence.

3.3 Implications for adoption of the Euro

33. For Denmark, *economically speaking*, adopting the Euro is a non-problem, despite the fact that it has far more liberal credit and housing markets than the core Eurozone economies. As a small open economy, inevitably closely integrated with its neighbours, its exchange rate and short-run interest rates would anyway closely follow those of the Eurozone. Its mortgage market is dominated by fixed rate mortgages like the rest of the Eurozone, even if securitisation has gone further. Despite a very competitive credit market, the Danish property tax proves a powerful automatic stabiliser, which can be activated if consumer spending needs to be stimulated or brought under control.

34. As noted above, U.K. performance contrasts sharply with Denmark's. Consumption growth has exceeded GDP growth since 1996, paralleled by national house price to income ratios in 2002 approaching the peak of the 1980s. New records have been reached in house price to income ratios in London and the South East, and in the London to all-U.K. ratio differential. The resulting pay pressures have been strongly resisted thus far, not with complete success, and perhaps at the cost of poorer delivery of public services, especially in the South East. Household debt-to-income ratios also substantially exceed the peak of the late 1980s (see Muellbauer, 2002 for discussion). Further signs of unbalanced development are an overvalued real exchange rate, current account imbalance, and the shrinkage of the manufacturing sector in recent years. The financial services sector and retailing were the growth engine of the U.K. during 1996-2001, fuelled initially by rising share prices, and sustained by lower interest rates and strong credit and housing markets, when share prices declined. This is further evidence that demand in the U.K. is especially interest responsive. Currently, the outlook for financial services looks poor, with further rationalisation, job cuts

[14] In the macro-econometric model of the Danish central bank, the property tax rate is important in the house price equation, and housing wealth has large effects on consumption.

and changes in regulations likely to reduce profit margins. Although rising government spending has temporarily cushioned the economic downturn, a continuing deterioration in government finances suggests future tax rises. The housing market is faltering in London and more overheated parts of the South East, coinciding with weakened retail spending.

35. The U.K. economic situation over the next two years looks harder to forecast in January 2003 than at any time in the last 25 years. If international investors continue to have confidence in the U.K. economy and its currency, Sterling may be able to retain its overvalued level or fall only moderately. Then weaker consumption, credit and housing markets can be cushioned by further reductions in interest rates. If, however, confidence in Sterling were to slide, the MPC would be more likely to raise rates – though given the deflationary climate for the prices of internationally traded goods and soft domestic demand, such rises would be quite moderate. There remains the risk that economic conditions could deteriorate rapidly, as the speculative element in the housing market reverses. It is worth noting that London's housing market has a large internationally traded element: the combination of a strong currency and strong appreciation has been a magnet for international investors. The decline in prices there could coincide with and indeed contribute to a decline in Sterling. Risk of war with Iraq and of terrorist attacks compound the uncertainty. Joining a common currency area means relinquishing exchange rate and interest rate flexibility while facing considerable economic imbalances. Incurring such risk currently looks like imprudence. Unless the next 6 months see a sharp decline in Sterling, it is hard to imagine that by the Summer of 2003, a clear and unambiguous economic case for adopting the Euro could be claimed. As the other economic imbalances may take some time to unwind, even then, an early entry would not be advisable. Without other reforms to compensate for or reduce slow-to-change institutional differences both in the U.K. and the Eurozone, the first and most important of the Treasury's five economic tests, sustainable convergence, is unlikely to be met.

4. POLICY CONCLUSIONS

4.1 The U.K.

36. If sensible property taxation had been in place in the U.K., this would greatly have moderated the current imbalances in the economy – as the Danish example shows. It is clear that, in the long run, a rational property tax is essential for improving economic stability and resource allocation. Its introduction now, except at low rates, however, could exacerbate the economic downturn.

37. The U.K. Council Tax on households is quite irrational. It is the *only locally regressive property tax in the world*, with zero marginal tax rates for the more affluent, and the highest rates for the poorest, therefore with severe implications for the poverty/unemployment trap. It is also regionally regressive, with tax rates higher in poorer regions with lower property values. Taxes are not related to current market values, but to far-outdated valuations. Because it is locally regressive, and rental homes tend to be smaller, the tax also bears more heavily on the rented sector, despite the well-known benefits a healthy rental sector brings to labour mobility. Moreover, 50% discounts on Council Tax apply to those with second or third homes, though local councils are soon to have discretion to reduce these to zero.

38. In every detail it differs from the Danish system, which is nationally homogeneous, progressive, and based on annually updated valuations. National homogeneity would mean that a reformed property tax could not be used as the main source of local authority finance, for which a local income tax would be more suitable. Re-valuations every year, as in Denmark, or every two years, are now technologically more feasible than ever, with the Land Registry computerised, local house price indices routinely calculated, and techniques for mass valuations in widespread use in other countries.

39. As in Denmark, the ability to defer taxation until the home is sold, discounts and limits on annual increases for retired people with low cash flows, would counter the major source of hostility towards property taxes. However, instead of punitive tax rates on the most affluent, it may be preferable to introduce an element of progressivity through a tax allowance for the first £10-20,000 worth of home values. This would help the poorest owners and those living in the most deprived areas. National rates even without a small progressive element would discourage location in the highest priced, most affluent areas and encourage location in cheaper ones, reducing the regional divide, in sharp contrast to the current system.

40. To maximise the effectiveness of the tax as a national economic stabiliser, and to take it out of the political arena where politicians may be tempted to manipulate rates for short-term electoral advantage, the rate setting power should be handed to the Bank of England. With this additional lever, the Bank would have been far more effective in the last five years, maintaining wider economic stability as well as meeting the inflation target. If the U.K. adopted the Euro, the annual property tax rate setting decision of the Bank would depend on quite similar considerations to those hitherto governing the setting of interest rates, and would retain for the Bank a powerful means of affecting asset prices, spending and inflation. This could help offset inappropriate persistent effects from interest rates set by the ECB and from asymmetric shocks. The Government would still retain several instruments to exert longer-term influence on the housing market: the planning system; policies towards social housing, where rates of building have been the lowest since the 1940s; immigration policy; and fiscal policy in general.

4.2 The Eurozone

41. Liberal credit markets have important welfare benefits if financial liberalisation is well-managed, and stabilising policy instruments are available. Easier credit conditions, especially in Germany and Italy where consumer demand is particularly weak, would have important cyclical benefits. Entry barriers to competition should be reduced, and the use of housing collateral for mortgage loans facilitated, which may entail legal and administrative reform, as in Italy. Reduced transactions costs in housing will increase labour mobility, and the "spendability" of housing wealth. The quality of European housing and credit market data and monitoring of default rates, should be improved to permit markets to function better.

42. Such reform in Italy would eventually bring about deep changes in society and the economy. Sustained high inflation, together with rent controls, has eradicated much of the private rented sector in Italy. High public debt has crowded out private debt. Because of the legal and mortgage market failures described above, young people live with their parents, marry late and start families late, while saving for a housing deposit – or simply adopt another life style. Italian first-time buyers are the oldest in Europe[15], and the birth rate, amongst the lowest in Europe, has exacerbated the Italian pensions crisis. If monetary union helps Italy extract itself from such a dysfunctional equilibrium, then it will indeed have served Italian households well.

43. Clarity on the consequences of credit and asset markets, especially housing markets, is important for EMU. Institutional differences between European countries will be slow to dissipate; some sources of asymmetric shocks will always remain. With common interest rates and fixed internal exchange rates, it is important to retain and sometimes use fiscal levers. Of these, property taxes are close to being monetary policy instruments, since they

[15] Chiuri and Japelli, *op. cit.*, show that in their international panel data, the age-profile of home-ownership is strongly affected by the development of the mortgage market and by the mortgage loan-to-value or down-payment ratio.

mainly act via asset and credit markets[16]. The location of houses is hard to shift and property taxes are hard to avoid. The property tax lever is ideal for offsetting persistent, locally inappropriate effects of the common interest rate policy, and, to some degree, other shocks, especially from liberalisation of consumer credit markets. Well-designed property taxes have important benefits as automatic stabilisers, so that rate changes would be rarely needed. Arguments for shifting the lever out of the hands of politicians to the central banks will become more important when and if some of the currently illiberal credit and housing systems are reformed. This is not to say, of course, that high-profile problems – the Stability and Growth Pact, some of the operating procedures of the ECB, and rigidities in labour and product markets – should be absent from the reform agenda.

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[16] The suggestion of a tax on mortgages, see Eggington (2002), also has merit, though it bears disproportionally on young borrowers, and there may be enforcement problems given how international credit has become. Maclennan *et al* (1998) also argued for a more pro active policy of financial regulation, for example increasing the risk-weighting in capital requirements for banks offering high loan-to-value loans.

20

ROBERT MUNDELL

December 2002

HM Treasury invited Robert Mundell to revisit his 1961 paper 'A Theory of Optimum Currency Areas'[1]. He agreed to answer a set of written questions supplied by HM Treasury.

What do you see as the major benefits of joining a single currency area?

1. The potential gains from joining a single currency area (SCA) are like the gains from free trade. Just as, historically, nation states gradually dispensed with inter-provincial barriers, so they centralized currencies, so that most nation states became both customs unions and single-currency areas. The basic gains from currency unification in the international sphere stem from the extension of national free trade areas to a wider unit. The larger the common currency area the greater will be the gains from trade and lending. The usefulness of money as a unit of account and medium of exchange increases with the size of the transactions area.

2. The benefits of joining a SCA can be divided under the category of economies of scale associated with monetary management, information, transactions costs, market depth, and discipline. A single currency increases transparency in pricing and lowers information costs, transactions costs, menu and billing costs, and improves the efficiency of the allocation of investment. By eliminating exchange rate changes it reduces investment risk and improves the distribution of foreign direct investment. A single currency area results in a single inflation rate and common interest rates, a single capital market. It also reduces pressure on monetary policy from local political factions and economic sectors.

3. Joining a SCA increases the importance and significance of the single currency for both areas. For example, when the twelve countries of the euro area formed their SCA, the citizens in all countries acquired the use of a currency that was second in importance only to the dollar in the world economy. Individuals will benefit by having a currency that has world wide significance and will eventually be exchangeable all over the world, as the dollar alone is exchangeable today.

4. Another dimension of being part of a larger single currency area is that the monetary power of the area increases. Small currency areas are easily rocked about by speculative winds on the high seas of international finance. The larger the currency area the less it is subject to and the more it can withstand shocks and the less is it vulnerable to sporadic speculation.

5. The SCA eliminates exchange crises within the SCA because exchange rates are internalized or eliminated.

And what are the major costs?

6. There are economic and political and social issues.

[1] Mundell, R. (1961) 'A Theory of Optimum Currency Areas', *American Economic Review* 51 (4), pp. 651-665.

7. The main economic point (not necessarily a cost!) is that a country joining a SCA loses independent determination of its inflation rate. In return it gets a share of control in the inflation rate of the larger SCA. Joining a SCA would be a bad idea if the joint monetary policy were expected to be unstable, a possibility that could arise if the other members of the SCA had unstable governments.

8. Partly connected to this issue is the use of money as a fiscal resource, especially in times of emergency like war. In the case of Britain, this was in principle (and partially) given up with the agreement between William I and his subjects that he would eliminate the tax of "monneage" (devaluation and inflation) in return for revenues granted by "parliament." A further measure was the law of Charles II establishing free coinage which essentially gave up (or drastically reduced) seigniorage.

9. The main political point is that currency union involves giving up policy sovereignty over its national currency, in exchange for a share of sovereignty over the joint currency. The right to issue its own currency in the national domain – and to cry it down, debase or devalue it – was in early centuries looked upon as an important badge of sovereignty and acknowledgement of fealty, largely because of insecurity about political boundaries. It was also, in the days before much literacy and the printing press, looked upon as a source of information about the king.

10. It cannot be denied that currency union eliminates a government's ability to finance a war with bonds and paper money (the inflation tax), and for this reason, currency union should be agreed only among members of a "security area", i.e., a zone of allies or at least non-enemies.

11. There might be a social cost. Currency union relinquishes the right to control the information and art on the bills and coins citizens use. In the old days, people were exhorted to fight for God, King and Country, often hinted at in the currency. As that accountant, when asked to define the pound, told Sir Robert Peel, "I don't know how to define it, sir, but every gentleman in England knows what it is!".

12. Although the English currency predates Alfred the Great, and the pound was from early times the amount of silver that equaled a Roman libra of five gold coins (aurei, solidi or bezants), the pound did not become a means of payment until the reign of Henry VII, when, and until World War I, it was a gold coin. With inflation, the pound degenerated in value into a paper note, and with the great inflations of the 1970s and 1980s it became a subsidiary coin, made of base metal. The historic accounting triad of 1 pound = 20 shillings = 240 pence disappeared in 1970. Very little today remains of the historic pound of yesteryears except the name. *Sic transit mundi.*

What policies do you think that individual countries should implement in order to ensure that they can thrive within the constraints of a single currency area?

13. Freer labor markets, lower marginal tax rates, low EU tariffs, deregulation of information and entertainment markets, universal broadband internet access, higher retirement ages in proportion to expected longevity, balanced budgets, devolution of some government activities to regional political units, adequate unemployment insurance to replace no-fire rules, reform (or elimination) of the antitrust/competition rules, and the creation of a mixed system of competitive public and private educational institutions, including universities.

And what policies are required at the European level to ensure that EMU is a success?

14. Good monetary policy (that pays attention to both inflation rates and exchange rates) and fiscal policies that yield a balanced budget and a lower Debt/GDP ratio. Targets on Debt-GDP levels should be set to fall by one percentage point a year, so that gross EU Debt/EU GDP should be no more than 60 per cent in 2010, 50 per cent in 2020, 40 per cent in 2030 and 30 per cent in 2040.

Does a single currency area require a federal fiscal system to allow fiscal policy to respond to asymmetric shocks?

15. All shocks are asymmetric in that they affect countries differently. The main truly national-asymmetric shocks arise from exchange rate shocks, which will be ruled out by the single currency. Of course some special arrangements or insurance should be arranged for natural disasters (all of which of course are asymmetric) such as earthquakes.

16. A kind of national asymmetric shock could arise as a result of labor unions. Let us suppose that in one country labor unions push up wages far beyond productivity, making the country's exports uncompetitive and creating large-scale unemployment. The case of fiscal federalism is built on making taxpayers in the other countries subsidize the unemployed workers. In the long run this entrenched system of automatic subsides would undermine market discipline and encourage a proliferation of the very behavior that the EU should regard as anti-social.

Would you recommend any changes to the system of policy co-ordination in the euro area?

17. I would recommend a new framework for policy making in the EU, reinforcing the position of the member states, and using the Commission for executive actions responsible to the members. With expansion, decision-making bodies like ECOFIN and the EU Summit are too cumbersome for the day-to-day or week-by-week decisions that have to or should be made by them. I would therefore create a "Council of Wise Men" composed of nine representatives of the (now 15, soon to be 25) member countries. The nine ministers would be elected by weighted voting of the members, with the weights based on population and economic strength. With the present EU, voting strength might, for example, be as follows: Germany=12; UK=France=Italy=10; Spain=7; Netherlands=6; Belgium=5; Greece=Austria=Sweden=Portugal=4; Denmark=Finland=3; Ireland=2; Luxembourg=1. It is probable that the four largest countries would each have one representative and the five other members would share a representative, much the way Executive Directors at the IMF are chosen.

18. This model could do as well for the new constitution of the ECB.

To what extent could differences in the speed and manner in which different countries respond to a common monetary policy affect the coherence of a single currency area? Is this a potential problem for EMU?

19. In a SCA it is not countries that respond differently but economic actors, including firms, households, institutions and governments. Financial markets in all countries respond most quickly to changes in monetary policies, and these are headquartered mainly in the cities. There is therefore more likely to be a difference between the behavior of urban and rural areas

than between countries, although of course some countries are more urbanized than others. London will probably respond first, followed by the other financial centers, and the speed of response in Madrid will probably be much faster than the speed of response in Cornwall.

20. The situation is not any different in the United States. A new monetary policy affects New York first followed by the smaller financial centers, and probably affects the most ruralized area last. No big surprises any more than that British monetary policy affects London first, and the Shetland Islands (perhaps) last.

To what extent does low geographic labour mobility within Europe undermine its coherence as an optimal currency area?

21. More mobility is better for any currency area because it speeds up adjustment. The problem is that EU national policy works to impede mobility. Just as subsidies to grandfather coal mines in England used to reduce exodus from the obsolete mines, so subsidies to depressed regions in the EU undermine mobility. In other words a major problem is policy-induced immobility (PII). It looks as if this PII will be increased with the new rules about emigration from the accession countries.

22. The problem in Europe, however, is not much worse than the problem inside several of the multi-regional countries. Regional problems have existed in Italy and Spain and even England for over a century and are not going to disappear because of the formation of a SCA.

Do you consider the trade boosting effects of a single currency are likely to be as substantial as some studies suggest (Andrew Rose has suggested that it may lead to a doubling of intra-EU trade)?

23. I believe they will be substantial, but doubt that econometrics has found a way to put a coherent figure on it. It might well be smaller or larger than Andrew Rose's figure depending on the time period chosen and the kind of effects that are taken into account. Historically, currency unification intranationally was associated with many common government policies that went with it but which were not strictly made necessary by the common currency. Canada does not trade as much with the U.S. as California does not only because of its separate currency but because the free trade area itself has not been completed (nor has the EU free trade area been completed!). But whatever the exact extent of the increase, it will certainly be substantial.

Do you consider that single currency areas become "self-validating", as a result of increased economic integration and a common monetary policy?

24. Monetary integration is an instrument of economic convergence. By locking exchange rates among its members, a currency area achieves convergence in inflation rates and interest rates and a high degree of synchronization of its business cycle. It is even more so and automatic when a single currency is involved. In this sense the creation of a single currency is self-validating.

25. Going beyond the immediate economic effects, it is also inevitable that some degree of increased political integration will be associated with the single currency, both because the single currency itself invites such new integration, and because some countries with different agendas will use the common currency as an argument for increased policy coordination and fiscal harmonization.

How rapidly, if at all, would you expect such self-validating mechanisms to improve the coherence of the euro area?

26. With respect to economic integration, the time zone would be six months to two years. With respect to further political integration, the time zone would be seven to twenty years, with a high degree of uncertainty. The expected expansion of the EU to the accession countries is likely to slow down the pace of political deepening.

Do you think that a lack of cyclical convergence should deter a country from joining a single currency area?

27. The issue of timing of entry is important, largely because it affects the likely negotiated exchange rate at which Britain enters the euro area. If Britain enters when its economy is in a strong boom compared to Europe, the pound will 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. Whatever the cyclical position, once the decision is made to enter the euro area, the Bank of England should work to reduce pound-euro fluctuations even if it means aggravating dollar-pound fluctuations.

What do you think of the argument that excessive nominal exchange rate volatility means that having an independent currency provides an additional source of shocks?

28. Exchange rate volatility is the most important kind of asymmetric shock because it is truly nation-specific. Such volatility or instability results in real economic changes, particularly in the real exchange rate and sometimes temporarily in the terms of trade. These fluctuations are inefficient and they aggravate the instability of financial markets.

What does the performance of the euro area economy in the past three years tell us about its viability as a single currency area?

29. It works. Every country in the euro area has a better monetary policy than before. Every country has a continental-size capital market. Every citizen has a world-class currency. Transaction costs in currency exchange have been eliminated. Interest rates and inflation rates have converged. The euro is increasingly being used in international trade.

30. One surprise effect is that the introduction of the new currency has created some price innovations as a result of the effects of transparency. Prices in some undervalued currencies have shot up. There is a kind of numerical money illusion in, e.g., Italy, where 1936 lire has been replaced, not by one euro, but by more than one euro.

Do you think that the performance of the euro area in recent years can be attributed to some countries locking at inappropriate exchange rates?

31. A mistake was made in insisting that Greece devalue just before its entry, aggravating price increases there.

How would you assess whether the exchange rate at which a country joins a monetary union might or might not be appropriate?

32. In the transition period, after the entry exchange rate has been established, it will be revealed to be too high (a value of the pound) if interest rates are substantially above the EU benchmark rate, and too low if below it. Study the Greek problem! Deflationary pressure will result from an overvalued rate, inflationary pressure from an undervalued rate.

33. The best approach is to choose a numerically-convenient number for the target exchange rate and see if interest rates can converge at the rate.

What, if any, lessons can Europe learn from US experience of being a large single currency area?

34. Among several lessons I will cite the following: (1) The euro will become a reserve currency. (2) Economic convergence will be rapid in goods markets and financial assets and slow in labor markets. (3) If Europe has a civil war, the monetary union will break up.

Milton Friedman has suggested that the euro area could break up within fifteen years. Do you think this is at all plausible?

35. An asteroid could hit our planet and demolish any area or a world war could break out. No currency area is war proof. Even the US monetary union broke up in 1861. The probability is therefore positive.

36. In March 1997 Milton Friedman put his subjective probability of the euro coming into being at all at 19%. My guess is that he believes the single currency area will increase the EU's political power and he lets his normative judgment influence his scientific judgments.

Do you think that the UK might be losing out from major benefits by not being a member of EMU at an early stage?

37. The UK has lost foreign direct investment to the euro area as a consequence of its fluctuating exchange rate. It has also lost political influence over other EU members in matters of economic policy.

21

ANDREW K. ROSE[1]: THE POTENTIAL EFFECT OF EMU ENTRY ON BRITISH TRADE

September 2002

HM Treasury invited Andrew Rose to revisit his 2000 paper 'EMU's Potential Effect on British Trade: A Quantitative Assessment'[2] with particular reference to the quotation: "One of the few undisputed benefits of joining a currency union is the encouragement of trade…Even after taking a host of other considerations into account, countries that share a common currency engage in substantially higher international trade…My estimate is that British trade with euroland may eventually triple as a result of British entry into EMU, conceivably resulting in a doubling of British trade and a 20% boost to British GDP in the long run." (pp. 12-13).

EXECUTIVE SUMMARY

1. If the UK enters EMU, it is likely to experience an increase in trade with the eurozone. This paper asks the question: how big? Twenty-four recent studies have investigated the effect of currency union on trade, resulting in 443 point estimates of the effect. A quantitative survey of this literature leads me to conclude: 1) there is a statistically strong effect of currency union on trade; and 2) currency union approximately doubles trade. Thus, EMU entry would result in a substantial increase in the UK's trade with the eurozone.

I. INTRODUCTION

2. In this short paper, I review the small recent literature that estimates the effect of common currencies on trade. I use meta-analysis to provide a quantitative summary of the literature.

3. The next section briefly reviews the literature qualitatively. Section III is the heart of the paper; it provides the quantitative meta-analysis that studies the preferred point estimates of the twenty-four different studies collectively. Section IV briefly reviews the (over four hundred) different point estimates tabulated in the literature, and the paper ends with a short conclusion.

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[2] Rose, A. (2000) 'EMU's Potential Effect on British Trade: A Quantitative Assessment' a report for Britain in Europe.

II. A SHORT QUALITATIVE HISTORY OF THE LITERATURE

4. Much ink has been spilled on the topic of monetary unions. Most of it has been theoretical, and most of it concludes, on the basis of Mundell's celebrated "optimum currency area" criteria that most countries in the world (including the UK) do not seem to be obvious candidates for currency unions. In particular, the costs of foregoing macroeconomic stabilization entailed by the loss of monetary independence, does not seem to be worth the benefit of lower inflation and deeper financial markets which currency union (with a stable anchor) brings.

5. Until recently, this seemed a reasonable conclusion, since there seemed to be no other obvious benefits of joining a currency union. In particular, the trade-expanding benefit of currency union seemed to be small. Economists came to this conclusion by: a) noting that the effect of exchange rate volatility on international trade is usually estimated to be small, and b) assuming that currency union was the same as the complete elimination of exchange rate volatility. But suppose that currency union is not the same as the absence of exchange rate volatility? And what if the effect of currency union on trade is large? If both questions are answered affirmatively, the case for currency union becomes stronger.

6. In the summer of 1999, I began to circulate a paper that estimated the effect of currency union on trade directly (that is, without equating currency union with the absence of exchange rate volatility); Economic Policy subsequently published this paper in 2000. I exploited a panel of cross-country data covering bilateral trade between 186 "countries" (really different trading partners) at five-year intervals between 1970 and 1990. The trade data were drawn from the World Trade Data Bank ("WTDB"), which contains data for a large number of country-pairs (thereby effectively rendering the analysis cross-sectional), though with many missing observations. In this data set, only a small number of the observations are currency unions; countries in currency unions tend to be either small and/or poor.

7. The surprising and interesting finding was that currency union seemed to have a strong and robust effect on trade. Using a linear "gravity" model of bilateral trade to account for most variation in trade patterns, my point estimate was that the coefficient for a currency union dummy variable (which is unity when a pair of countries share a common currency and zero otherwise) has a point estimate of around beta=1.21. This implies that members of currency unions traded over three times as much as otherwise similar pairs of countries *ceteris paribus*, since exp(1.21)>3. While there was no benchmark from the literature, this estimate seemed implausibly large to me (and others). Almost all the subsequent research in this area has been motivated by the belief that currency union cannot reasonably be expected to triple trade.

8. There have been a number of different types of critique. Some are econometric. For instance, Thom and Walsh (2002) argue that broad panel studies are irrelevant to e.g., EMU, since most pre-EMU currency unions involve countries that are either small or poor. They adopt a case study approach, focusing on the 1979 dissolution of Ireland's sterling link. I responded in my (2002) paper with Glick by looking at a large number of dissolutions. Bomberger (2002) focuses on the linkage between newly independent countries and currency union dissolution, while Micco et al. (2002) use actual data on the creation of the Euro.[3]

9. Others have stressed the importance of relying on time-series rather than cross-sectional variation. The time-series approach has the advantage of addressing the relevant policy issue ("What happens to trade when a currency union is created or dissolved?" rather than "Is trade between members of currency unions larger than trade between countries with sovereign currencies?"). This can be done most obviously by using country-pair specific "fixed effects"

[3] I do not use Micco et al.'s (2002) interesting estimates in the meta-analysis which follows, since they are not easy to compare with those of other studies. They are, however, completely consistent with the spirit of my results.

with panel data. This is difficult to do sensibly using the WTDB because there is such little time-series variation in currency union membership after 1970 as recognized in my original paper and by e.g., Persson (2001); nevertheless, see the attempt by Pakko and Wall (2001) which is criticized on my website. However, Glick and Rose (2002) exploit the almost 150 cases of currency union exit and entry available when the analysis is extended back to 1948 using the IMF's Direction of Trade data set.

10. In my original paper, I stressed that only about 1 per cent of the sample involves pairs of countries in currency unions. Persson (2001) argues that this makes standard regression techniques inappropriate since currency unions are not created randomly, and advocates the use of matching techniques; see also Rose (2001) and Tenreyro (2001). Choice of estimation technique is now generally considered to be irrelevant, as I argued in my response to Persson.

11. Nitsch (2002a, 2002b) is concerned with aggregation bias, and argues that combining different currency unions masks heterogeneous results; my response argues that the results are still large. Along the same lines, Levy Yeyati (2001) divides currency unions into multilateral and unilateral currency unions (as did Fatás and Rose, 2002), while Melitz (2001) splits currency unions into those that are also members of either a political union or regional trade area, and others that are neither; see also Klein (2002). Saiki (2002) dis-aggregates trade into exports and imports.

12. Tenreyro (2001) argues that sampling the data every fifth year (as I did in my original paper) is dangerous, since trade between members of currency unions may not be large enough to be consistently positive. She advocates averaging trade data over time, and argues that this reduces the (otherwise biased) effect of currency union on trade. While this may be true with the *WTDB* data set employed by Tenreyro, it seems not to be true of the *DoT* data set, where no bias is apparent (see my website for details).[4]

13. Rather than focusing on post-WWII data, some have extended the data set back to the gold standard era. Flandreau and Maurel (2001) and López-Córdova and Meissner (2001) use data sets that include monetary unions from the pre-WWI period. Estevadeoral, Frantz, and Taylor (2002) estimate a lower bound on the currency union effect by using membership in the gold standard; the inclusion of their estimates imparts a slight downward bias to the meta-analysis below.

14. A number of researchers have followed my original paper in worrying about reverse causality, including Flandreau and Maurel (2001), López-Córdova and Meissner (2001), Tenreyro (2001), Alesina, Barro and Tenreyro (2002), and Smith (2002). It is possible to also to take a more structural approach as I do in my work with van Wincoop (2001), which also takes account of country-specific effects.

15. Finally, some research takes a big effect of currency union on trade as given, and seeks to determine the implications of this estimate for e.g., output (Frankel and Rose, 2002) or business cycle co-ordination (Flandreau and Maurel, 2001). Other behaviour of currency union members is examined by Rose and Engel (2002) and Fatás and Rose (2002).

16. In all, a number of papers have provided estimates of the effect of currency union on international trade. Obviously many of these estimates are dependent; they sometimes rely on the same data set, techniques, or authors. The obvious way to summarize the result is with meta-analysis.

[4] Box-Cox tests indicate that the data prefer a log-transformation to the levels transformation used by Tenreyro. In any case, Alesina, Barro and Tenreyro (2002) use an improved methodology to address the same issue and find very large effects of currency on trade.

III. META-ANALYSIS

17. Meta-analysis is a set of quantitative techniques for evaluating and combining empirical results from different studies. Essentially one treats different point estimates of a given coefficient as individual observations. One can then use this vector of estimates to: a) estimate the underlying coefficient of interest, b) test the hypothesis that the coefficient is zero, and c) link the estimates to features of the underlying studies. Since there are currently a number of studies that have provided estimates of beta, the effect of currency union on trade, meta-analysis seems an appropriate way to summarize the current state of the literature. Stanley (2001) provides a recent review and further references.

18. One begins meta-analysis by collecting as many estimates of a common effect as possible. To my knowledge, there are twenty-four papers that provide estimates of the effect of currency union on bilateral trade, which I call beta. I tabulate these in the Appendix, along with the associated estimates of beta (and its standard error) that seems to be most preferred or representative (if a preferred estimate is not available). While I have strong views about the value of some of these estimates (or lack thereof), I weigh each estimate equally, simply because there is no easily defensible alternative weighting scheme.

19. The most basic piece of meta-analysis is a test of the null hypothesis beta=0 when the twenty-four point estimates (and their standard errors) are pooled across studies. This classic test is due originally to Fisher (1932) and uses the p-values from each of the (24) underlying beta estimates. Under the null hypothesis that each of the p-values is independently and randomly drawn from a normal [0,1] distribution, minus twice the sum of the logs of the p-values is drawn from a chi-square. The hypothesis can be rejected at any standard significance level, since under the null hypothesis; the test-statistic of 716 is drawn from $\chi^2(48)$. While there is manifestly considerable heterogeneity between the different estimates, the fixed- and random-effect meta-estimates are quantitatively similar, as I show in Table 1. They are also economically substantial; both pooled estimates of beta indicate that currency union approximately doubles trade (as ln(2)~.69). Also, none of these conclusions substantively change if my six studies are dropped; the test-statistic rejects the hypothesis of no effect, as under the null of no effect, 342 are drawn from $\chi^2(36)$. I note in passing that there is little indication that any single study is especially influential in driving these results.

Table 1: Meta-analysis of currency union effect on trade (beta)

	Pooled Estimate of beta	Lower Bound of 95% CI	Upper Bound of 95% CI	P-value for test of no effect
Fixed	.62	.58	.66	.00
Random	.71	.53	.89	.00
Fixed without Rose	.50	.43	.56	.00
Random without Rose	.61	.35	.86	.00

20. While I tried to choose the preferred/representative estimates to match the intentions of the authors, I did choose them. An alternative way to proceed is to use a more mechanical procedure to choose the underlying estimates of beta for the meta-analysis. This is easy, since each of the underlying studies provides a number of individual beta estimates. Thus, an alternative I now deploy is to use the (24) median estimates of beta from the 24 underlying studies to construct an alternative set of beta estimates (and associated standard errors) suitable for meta-analysis. I also use the estimates at the 25th, 10th, and 5th percentiles.[5] Table 2 repeats the meta-analysis using these four alternative data sets. The default "preferred" estimates from Table 1 are tabulated at the top to facilitate comparison.

[5] Thus, my initial study contains 52 estimates of beta. The median of these is 1.285 (with standard error of .13). The 25th percentile estimate is 1.1 (.14); the 10th percentile is 1.09 (.26); and the 5th percentile estimate is .96 (.15).

Table 2: Sensitivity of meta-analysis of beta to choice of 'preferred' estimate

		Pooled beta Estimate	Lower Bound, 95% CI	Upper Bound, 95% CI	P-value for Ho: no effect
"Preferred"	Fixed	.62	.58	.66	.00
"Preferred"	Random	.71	.53	.89	.00
Median	Fixed	.61	.55	.66	.00
Median	Random	.85	.62	1.08	.00
25th-Percentile	Fixed	.28	.25	.32	.00
25th-Percentile	Random	.53	.34	.71	.00
10th-Percentile	Fixed	.20	.16	.24	.00
10th-Percentile	Random	.32	.15	.50	.00
5th-Percentile	Fixed	.14	.12	.17	.00
5th-Percentile	Random	.31	.14	.47	.00

21. The pooled meta-estimate of beta falls (by design) as one moves away from the median estimate towards estimates that are lower within individual studies. But it is interesting to note that even using the beta estimates taken from the 5th-percentile of each underlying study, the hypothesis of no effect of currency union on trade can be rejected at conventional significance level. Further, all the effects are economically large. The lower bound for the lowest estimate is .14, implying an effect of currency union on trade of 15 per cent.

22. One might ask which design features of the individual studies account for the differences across individual estimates of beta. I do this in research available on my website.

23. To summarize: the meta-analysis indicates two strong findings. First, the hypothesis that there is no effect of currency union on trade can be rejected at standard significance levels when the results from the individual studies are pooled. Second, the pooled effect is not just positive but economically significant, consistent with the hypothesis that currency union approximately doubles trade.

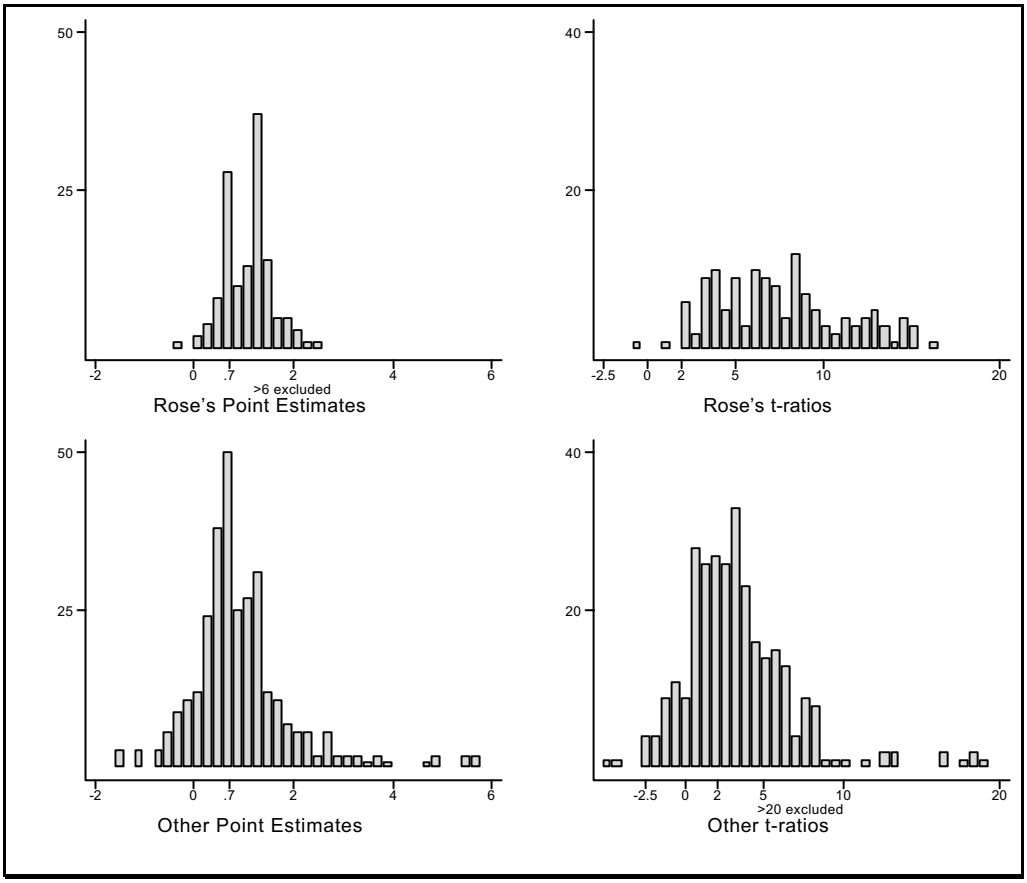
IV. DIFFERENT ESTIMATES OF BETA AND ITS SIGNIFICANCE

24. Each of the twenty-four studies provides a number of different estimates of beta. For instance, my original paper provided over fifty estimates of beta as a result of sensitivity analysis. In all, there are currently 443 estimates of beta (and accordingly, 443 associated t-statistics for the hypothesis of an insignificant beta). Simply averaging across these 443 different estimates of beta produces a mean of 1.3; the average t-ratio is 5.7.

25. I provide histograms of the 443 beta estimates and their t-statistics in Chart 1. I personally estimated some 134 of them. Accordingly, I split the data into two: those I estimated myself, and those estimated by others. The top left graphic in Chart 1 is a histogram of the 132 point estimates of beta I estimated that are less than 6[6]. Immediately below on a comparably scaled graph are the remaining (309) estimates produced by others. The graphics to the right are analogues that portray the corresponding t-statistics.

[6] Two large point estimate (both estimated by me) and fourteen t-statistics greater that 20 (none estimated by me) are dropped from the graphs.

Chart I: The estimated effect of currency union on trade



26. What does the graphic show? The vast majority of the point estimates of beta are positive; only 36 of the 443 (~8 per cent) are negative. Most are also economically large; 63 per cent exceed .7 in magnitude, a number that implies that currency union is associated with a doubling of trade. It is interesting to note in passing that one cannot reject the hypothesis of equal means across my estimates and those of others, at even the ten percent level (the t-test for equality of means across the two sets of beta estimates is 1.54).

27. Most of the estimates are also statistically significant. The median t-statistic is 3.2; over three-quarters (335/443) exceed 2. My t-ratios tend to be larger than those of others, but two-thirds of the t-statistics of others are at least two (the median is 3.2).

V. CONCLUSION

28. There are reasons for caution before one can easily recommend that the UK join EMU. First, while there are benefits to currency union, there are also costs (e.g., financial market stability and adjustment to idiosyncratic shocks) that must be borne in mind. Second, the Bank of England has a good recent track record of monetary stability, which reduces the nominal gains from currency union. Finally, the literature to date has been based on the trade patterns of currency unions consisting of small and/or poor countries. Still, the eurozone seems to be experiencing strong growth in trade, consistent with the thrust of this paper.

29. To summarize, 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. This strengthens the case for currency unions and British entry into EMU considerably, since the benefits seem to be larger than previously thought.

APPENDIX

Estimates of the Effect of Currency Union on Trade

Author	Year	beta	s.e. of beta
Rose	2000	1.21	0.14
Engel-Rose	2002	1.21	0.37
Frankel-Rose	2002	1.36	0.18
Rose-van Wincoop	2001	0.91	0.18
Glick-Rose	2002	0.65	0.05
Persson	2001	0.506	0.257
Rose	2001	0.74	0.05
Honohan	2001	0.921	0.4
Nitsch	2002b	0.82	0.27
Pakko and Wall	2001	-0.378	0.529
Walsh and Thom	2002	0.098	0.2
Melitz	2001	0.7	0.23
L pez-C rdova and Meissner	2001	0.716	0.186
Tenreyro	2001	0.471	0.316
Levy Yeyati	2001	0.5	0.25
Nitsch	2002a	0.62	0.17
Flandreau and Maurel	2001	1.16	0.07
Klein	2002	0.50	0.27
Estevadeoral, Frantz, and Taylor	2002	0.293	0.145
Alesina, Barro and Tenreyro	2002	1.56	0.44
Smith	2002	0.38	0.1
Bomberger	2002	0.08	0.05
Melitz	2002	1.38	0.16
Saiki	2002	0.56	0.16

Estimates of beta and standard error from:
ln(Trade) = beta*CurrencyUnion + controls + error

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22

GEORGE S. TAVLAS[1]: MONETARY UNION IN EUROPE

January 2003

HM Treasury invited George Tavlas to revisit his 1993 paper 'The 'New' Theory of Optimum Currency Areas"[2] with particular reference to the quotations: "the 'new' optimum currency area theory indicates that there are somewhat fewer costs...and somewhat more benefits...associated with monetary integration" and "the literature underlines the need to co-ordinate fiscal policies, which can be an additional constraint on national policy makers" (p. 682).

1 Exchange rate regimes

1. There is a continuum of exchange rate regimes that runs from free floating to hard fixes (Tavlas, 2003). The closer is a regime to a free float, the fewer the constraints on macroeconomic policies. A monetary union is at the corner of the hard-fix option.

2. A monetary union involves the adoption of a single currency and a common central bank by a group of economies. The use of the standard instruments of monetary policy is consigned to the community and exercised solely by its monetary authority, leaving no room for the exercise of monetary policy by the individual member economies. Monetary unification also implies that responsibility for exchange rate policy and for the balance of payments of the entire community with the rest of the world must be assigned to the community. The monetary authority of the community controls the pool of foreign exchange reserves (Robson, 1998).

2 Optimum currency areas

3. The theory of optimum currency areas (OCA) seeks to identify (1) the conditions under which nations should adopt a single currency and follow a common monetary policy, and (2) the costs and benefits of doing so. The literature on OCA has identified the following characteristics (i.e., preconditions) as relevant for choosing participants in a monetary union (Tavlas, 1993):

(i) *Trade integration.* The more concentrated is a country's trade with a subset of partner countries, the greater the saving in transactions costs associated with the use of single currency.

(ii) *The degree of commodity diversification.* Highly-diversified economies are viewed as better candidates for currency areas than less-diversified economies since the diversification provides some insulation against a variety of shocks, forestalling the necessity of frequent changes in the terms of trade via the exchange rate (Kenen, 1969).

(iii) *Labour mobility.* Regions between which there is a high degree of labour mobility are viewed as better candidates for currency-area membership because such mobility provides a substitute for exchange rate flexibility in promoting external adjustment (Mundell, 1961). Alternatively, because

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[2] Tavlas, G.S. (1993) 'The 'New' Theory of Optimum Currency Areas', *The World Economy* 16, pp. 663–85.

external adjustment can also be accomplished by a change in labour costs denominated in domestic currency, a high degree of real wage flexibility is viewed as a precondition for currency area participation.

(iv) *The openness and size of the economy.* Highly open economies tend to prefer fixed exchange rate arrangements since exchange rate changes in such economies are not likely to be accompanied by significant effects on real competitiveness (McKinnon, 1963). Moreover, in open economies frequent exchange rate adjustments diminish price stability since the overall price index would vary more than in relatively closed economies. As a corollary to this criterion, the smaller the size of the economy, the more open it is likely to be, and, thus, the more inclined to join in a currency area.

(v) *Similarity of production structures and financial systems.* Countries that experience similar reactions to external shocks and monetary-policy impulses are less likely to need a nominal exchange rate adjustment than economies that have differentiated production structures and financial systems.

(vi) *Fiscal integration.* The higher the level of fiscal integration between two areas the greater their ability to smooth diverse shocks through endogenous fiscal transfers from a low unemployment region to a high unemployment region.

4. With regard to the benefits of participating in a monetary union, the recent literature has focused on credibility effects and trade gains. Regarding the former benefit, the "new" theory of optimum currency areas argues that participation in a monetary union can provide credibility to countries that have had a history of high inflation. The reduction in inflation expectations can help reduce nominal interest rates, boosting growth potential. This factor is much more relevant for a country such as Greece, which endured several failed stabilisation attempts prior to joining EMU, than it is for a country such as the United Kingdom, which has successfully implemented an inflation-targeting framework.

5. Regarding trade creation, some recent research findings suggest that monetary unions raise trade integration among members. Trade expansion means that countries can better exploit opportunities offered by specialisation and economies of scale. These effects, in turn, increase the productivity of labour and capital. As is the case with credibility, increased trade integration boosts potential output.

3 EMU and OCA

6. What lessons can be drawn from the application of OCA analysis from the working of EMU? I believe the following lessons emerge:

(i) The OCA criteria need not apply for participation in a monetary union. Empirical research has generally shown that, taken together, all of the members of EMU do not constitute an OCA. In fact, economic criteria appear to be secondary to political factors. Although the individual members of EMU are separate political entities, monetary union is likely to be feasible only if part of a larger political calculus. History has shown that successful monetary unions have been successful political unions. For the euro area countries, participation in Economic and Monetary Union has not been only a matter of sacrifice (i.e., the loss of a national monetary policy). For Germany, which gave up the Deutschemark, gains included German reunification and a greater foreign policy role via the creation of a common EU foreign policy. For France, monetary union meant the creation of an international currency to perhaps

one day rival the unique position of the U.S. dollar in the international monetary system. For smaller EU countries, monetary union meant, among others things, price stability and a share of the seigniorage and prestige of having an international currency.

(ii) The purported growth effects of monetary union have been oversold. Otherwise, how can we explain the relatively slow growth of EMU since its inception? The classical economists, it appears, were right after all: money is only a veil. Changing the medium of exchange and the unit of account will not change the real economy. EMU is not a Holy Grail.

(iii) The prerequisites for robust growth are price stability and a flexible economy with the public finances in order (including the debt profile). The ECB has delivered price stability. The governments of the member states of EMU, however, have not completed the necessary structural reforms in labour, product, and financial markets, and in some cases, undertaken the necessary fiscal adjustment to allow monetary union to reach its growth potential.

(iv) In a monetary *and political* union, a number of factors can limit the effectiveness of fiscal policy if it is used as a deliberate policy mechanism (as opposed to a endogenous mechanism). High mobility of labour in a monetary union constrains the fiscal flexibility of constituent jurisdictions while high capital mobility constrains the fiscal autonomy of regions, but not the centre. If mobile factors of production are able to flee the taxes needed to service heavy debt burdens, governments may find themselves unable to finance budget deficits by borrowing in capital markets cognizant of this constraint on the authorities' capacity to tax. For these and other reasons, fiscal policy is considered to be effective only when fiscal transfers are endogenous and used to smooth adjustment to differentiated shocks (Bayoumi and Eichengreen, 1994).

(v) In a monetary union *without* a centralised fiscal system, endogenous fiscal transfers do not operate as adjustment mechanisms to asymmetric shocks. Yet the primary objective of fiscal policy should not be short-term counter cyclical intervention, but to design tax and expenditure policies, particularily regarding the provision of public goods and education, which maximise the growth rate of the economy (Ryan, 2003).

(vi) To give up the Stability Pact would be a mistake. The stability of a currency is strongly influenced by the solidity of a state's finances; there is a strong connection between monetary policy and fiscal policy. Without the Stability Pact, the harmful effects of an irresponsible fiscal policy become communal. If a member of a monetary union can pursue such a policy without facing consequences, the common currency will suffer (Siebert, 2002).

(vii) Participation in EMU removes the nominal exchange rate option. Any country that considers monetary union needs to make sure it joins at a competitive exchange rate. A number of commentators have argued that the pound sterling joined the ERM at an overvalued exchange rate.

(viii) The decision to join EMU will have to involve a political calculus. Key economic considerations for the United Kingdom would include the similarity of external shocks with those facing the euro area, the flexibility of the economy (given the absence of the exchange rate tool), and the entry rate of exchange between the euro and the pound.

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23

CHARLES WYPLOSZ: EUROPE'S FISCAL RULES NEED A SERIOUS OVERHAUL

October 2002

HM Treasury invited Charles Wyplosz to revisit his 1999 paper 'Towards a More Perfect EMU' with particular reference to the quotation: "Less thought has been devoted to the way asymmetric shocks will be dealt with in practice. Fiscal transfers are small in Europe and national fiscal policies will have to operate, initially at least, within the straitjacket of the Stability Pact. Over time, either the national budgets will be cyclically balanced, or the Stability Pact will have to be amended. Fiscal transfers may also rise, allowing a European version of fiscal federalism yet to be thought through." (p. 24).

INTRODUCTION

1. Europe's monetary union is a bold and original undertaking. While most of the key issues that had to be faced have found satisfactory responses, not everything can be right the first time. The Stability and Growth Pact (SGP) stands out as the most serious deficiency. The flaws of the SGP were described soon after its adoption[2] and it has not taken very long until they have been revealed. By late 2002, the question is not whether the SGP needs to be improved upon, but how.

2. The failure of the SGP to live up to the ambitions of its inventors reveals the dangers inherent in across-the-board rules that do not provide for enough flexibility in the face of unexpected events. This failure saps the very discipline that the SGP was designed to deliver. It acts as a deterrent to further countries joining the euro area. It feeds the still-prevalent view outside of Europe that monetary union is an idea that has been implemented ahead of its time.

3. This note analyses the main flaws of the SGP. It considers the need for fiscal policy to be allowed to play a macroeconomic stabilization role since, in the absence of "federal" transfers, the only means left to national governments to deal with cyclical downturns is to borrow. Finally, it considers the current debate on whether and how to reform the SGP.

FLAWS OF THE STABILITY AND GROWTH PACT

4. After two decades of profligacy, the need for fiscal discipline is now unquestioned. The drafters of the Maastricht Treaty were keenly aware of the risks that the lack of discipline in some countries could wreak upon the monetary union. They mostly feared that the European Central Bank (ECB) could be forced to renege on its legal obligation to deliver price stability. They were also concerned with possible free-riding by some countries which would attempt to coax support from the other members. To that effect, the drafters of the Treaty carefully protected the ECB from outside interference (art. 101, 108), and included a no-bailout clause (art. 103). While these provisions guarantee that the costs of fiscal indiscipline will remain ultimately circumscribed to the delinquent country, the drafters also wished to prevent crisis situations. The principle of an excessive deficit procedure (art. 104) laid down the principle that fiscal discipline is a going collective concern. The procedure calls for a limit on annual deficits and envisions a graduated process of peer pressure that goes from mutual

[1] Wyplosz, C. (1999) 'Towards a more perfect EMU', *CEPR Discussion Paper Series No. 2252*.

[2] Eichengreen and Wyplosz (1998).

surveillance to warnings, to specific mandatory recommendations and, finally to sanctions. The SGP codifies the excessive deficit procedure.[3]

5. The SGP represents but one approach to fiscal discipline. Its key characteristics are: a focus on annual budget deficits, the adoption of a single quantitative and asymmetric rule, a highly restricted escape clause, and implausible sanctions imposed from outside. Each of these elements is problematic.

- Fiscal discipline is an elusive concept. Formally, it requires that the government respects its budget constraint, but this constraint is intertemporal and relies mostly on future actions which are neither predictable nor amenable to binding commitments. Focusing, as the SGP does, on annual budget balances goes a long way towards eliminating intertemporal burden-shifting, i.e. it imposes that much of the adjustment to contingencies be bottled up in the years when they occur. This imparts a good deal of rigidity to the SGP.

- Once the choice has been made that fiscal deficits ought to be constrained, the next question is how? The SGP's response is to establish a quantitative limit on the size of allowed deficits. This limit, 3 per cent of GDP, is largely arbitrary. It is based on some back-of-the-envelope calculation of the link between the 60 per cent debt limit[4] and feasible budget balances and on the German Golden Rule. This rule considers that it is all right that public investments – presumed to average 3 per cent of GDP – be financed through borrowing. Unfortunately, the border between public spending and investment is fuzzy, and there is no guarantee that public investments generate a rate of return that matches the cost of borrowing.

- In addition, a single quantitative limit for each and every country flies in the face of common sense. Some countries are saddled with huge debts, others can afford some slippage. Furthermore, if wisely designed, public investment is likely to be more productive in some countries – this will be the case in many of the accessing countries – than in others.

- Rules matter little unless they are backed by an enforcement mechanism. The SGP's strategy is to privately and publicly embarrass delinquent governments and possibly impose a fine. This may be acceptable if the governments are prone to abuse their public opinions into believing that fiscal indiscipline is acceptable. If, on the other side, the governments and their public opinions broadly support fiscal discipline, external sanctions are bound to conflict with political legitimacy and to generate deep "anti-Brussels" resentment. Since the decision on sanctions lies in the hands of the highly political Council, there is a serious risk that sanctions will be perceived as politically motivated. Fines, in particular, elicit bad memories of war reparations and are unlikely to be imposed. If this assessment is correct, much of the SGP's alleged rigour evaporates.

[3] In what follows, I refer to the combination of the excessive deficit procedure and of the SGP as the SGP.

[4] The 60 per cent public debt limit is also included in the SGP. In 2002, the euro area debt amounts to 71.4 per cent of GDP, four countries have debts above 60 per cent and three more have debts above 57 per cent. Pragmatically, this limit has been ignored so far.

STABILISATION PROPERTIES OF THE STABILITY AND GROWTH PACT

6. As the last remaining national macroeconomic stabilization instrument, fiscal policy must remain an important tool in the hands of governments. 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. This flaw has been partly recognized. In order for the automatic stabilizers to be allowed to operate, the SGP includes a non-binding presumption that budgets will be kept close to balance or in surplus in normal conditions.

7. Rough estimates suggest that, on average, the automatic stabilizers lead to a deterioration of the budget of some 0.5 per cent of GDP for any 1 per cent decline in the output gap. Thus, in principle, starting from a position of balance, the automatic stabilizers will keep deficits below 3 per cent for a slowdown as deep as 6 per cent. The problem is that, on average, a 1 per cent increase in the budget deficit (or reduction of the surplus) boosts GDP by about 0.5 per cent. The automatic stabilizers thus cushion the slowdown only by one quarter of the initial shock. The automatic stabilizers work, but they are weak. Clearly, most governments will want more stabilization, hence the need for enough additional room for some discretionary action.

8. Discretionary fiscal policy is frowned upon by the proponents of the SGP for two main reasons. First, they argue that because of long lags (recognition, decision and implementation), discretionary fiscal policy is usually pro-cyclical, i.e. that its effects come too late, when the cycle has already moved to its next stage. Second, they claim that discretion is the open door to indiscipline. These arguments are dubious. The evidence on the cyclical nature of fiscal policy in Europe is muddled. In general, fiscal policy is found to be mildly counter-cyclical, with the notable exception of Germany where procyclicality seems to have prevailed over the last decades.[5] Furthermore, if lags are the culprit, steps ought to be taken rather than giving up on the last remaining macroeconomic stabilization instrument.

9. As to the view that discretion ought to be eliminated to uphold discipline, it presumes that rules always dominate discretion, a conclusion contradicted by both theory and evidence. Theory establishes that, even for moderately undisciplined governments, it is never desirable to discard discretion. Experience shows that, when adverse shocks hit, binding rules lead to disastrous situations (the Great Depression), or are ignored (many IMF programmes), or both (Argentina).

10. The short experience with the SGP buttresses these conclusions. A number of countries have indeed moved to positions of budget balance or surplus, others did not. The failures to take advantage of the relatively prosperous early years can be seen as proof of indiscipline. Alternatively, they can be seen as confirmation of the asymmetric nature of the SGP, which provides little incentive to adopt tight policies when the economy grows satisfactorily.

11. It was always understood that the early years would be the most challenging ones since, by 1999, budgets were in sizeable deficits in most countries. The hope was that favourable economic conditions would lay the ground for deficit cutting in time for the next slowdown. This was not to happen. The downturn came unexpectedly soon and the larger countries did not act as aggressively as they should have.

12. Many governments face large demands for higher spending and/or reduced tax pressure, all of which have sound justifications and are democratically supported. The fact that the SGP is monitored "from outside" greatly undercuts its democratic legitimacy. While small countries seem more sensitive to peer pressure, public opinions in large countries look down upon "Brussels". Perceived national spending or tax priorities take precedence, a fact that can be deplored but that should not come as a surprise and has to be fully factored in.

[5] See Buti et al. (1997), Melitz (2000), Wyplosz (2001).

LINKS WITH FISCAL FEDERALISM

13. Part of the difficulty with the SGP is that Europe is far from operating a federal redistributive system. When a country undergoes a recession, it is optimal to borrow to repay in better times. Many households and firms are credit-rationed and therefore have to rely on state transfers to smooth incomes and employment. The state can either borrow or receive temporary support akin to an insurance mechanism. In federal systems, a variety of procedures provide some degree of cushioning through automatic and discretionary transfers. The absence of cyclical transfers in the EU implies that states can only borrow.

14. The US example is interesting in this respect. Most states operate under very restrictive budgetary rules, typically capping deficits or outlawing them altogether. On the other side, the federal budget allows for automatic transfers which typically offset about 15-20 per cent of revenue shortfalls. In addition, people move easily across states. Mobility in Europe is limited even within countries, but cross-border mobility is hampered not only by obvious language barriers, but also by institutional features in the area of pensions and health insurance.

15. The SGP is not as strict as the US state borrowing restrictions, but its political and economic acceptability would be greatly enhanced by some features of federal federalism as well as enhanced mobility (even though the latter seems to be perceived as painful and should therefore not be seen as an important adjustment channel). In the meantime, the SGP is far too rigid.

THE WAY FORWARD

16. Following the realization that the SGP is proving difficult to implement and enforce, the current debate can summarized in terms of three main views:

(i) The strict rule-enforcers. The first view is that those countries which are failing to meet their commitments have been undisciplined. The SGP is achieving its aims and should be fully applied. This view is held in the smaller countries that are running surpluses and by the ECB. It is predicated on the hope that, eventually, all countries will run budgets close to balance or in surplus and that this will leave sufficient room for the working of the automatic stabilizers. The claim is that any relaxation of the pact will be a sign that discipline has been abandoned, with severe financial market implications, notwithstanding the fact that market participants in fact mostly fear a deepening of the slowdown.

(ii) The marginal reformers. The second view, well represented by the Commission, is that the SGP needs to be adapted, especially in its early years. It recognizes the need for the automatic stabilizers to be allowed to operate somewhat, while calling for a procyclical discretionary action (i.e. reducing the structural deficit). It aims at eliminating some of the most glaring flaws of the SGP with minimal formal changes. Proposals to shift to structurally-adjusted measures and/or to give more prominence to the golden rule raise as many questions as they solve. As noted above, both changes stand to open up Pandora's boxes that are bound to greatly complicate matters in the future.

(iii) The radical reformers. The last view, so far confined to academic researchers, considers that the SGP suffers from too many flaws for a light patch up. A brief summary of the proposal advanced by Eichengreen et al. (1999) and Wyplosz (2001) runs as follows.

- Fiscal discipline ought to be defined in terms of the public debt (including contingent liabilities currently conspicuously overlooked) over the duration of a business cycle.[6]
- Most European countries currently need to lower their debt to GDP ratios, but debt targets ought to recognize the different starting positions of EU members.
- The definition of the objectives cannot be left to arbitrary rules (e.g. the Maastricht 60 per cent limit). These objectives, and the horizon for achieving them, must be agreed upon by each country – with full involvement of national governments and parliaments – and its partners. Countries must own their commitments.
- Enforcement must be delegated to national watchdog institutions. These institutions must be based on the same set of principles across the EU.
    - They ought to have the sole legal power to set the annual deficits, with no say whatsoever on the size and composition of spending and taxes.
    - Much like with central banks, the task ought to be delegated to independent experts who are given a clear long term mandate (a debt target) with full short-term discretion.[7]
    - They must be accountable to their respective national parliaments, but only for their compliance with the long term mandate.

[6] This is in line with the British Code for Fiscal Stability.

[7] This would considerably reduce the lags that mar the discretionary use of fiscal policy.

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