

Issing, Otmar

**Working Paper**

## Europe's Hard Fix: The Euro Area

Working Paper, No. 120

**Provided in Cooperation with:**

Oesterreichische Nationalbank (OeNB), Vienna

*Suggested Citation:* Issing, Otmar (2006) : Europe's Hard Fix: The Euro Area, Working Paper, No. 120, Oesterreichische Nationalbank (OeNB), Vienna

This Version is available at:

<https://hdl.handle.net/10419/264712>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



OESTERREICHISCHE NATIONALBANK

Stability and Security.

# WORKING PAPER I 20

## EUROPE'S HARD FIX: THE EURO AREA

OTMAR ISSING

WITH COMMENTS BY MARIO BLEJER AND LESLIE LIPSCHITZ



## **Editorial Board of the Working Papers**

Eduard Hochreiter, Coordinating Editor  
Ernest Gnan,  
Guenther Thonabauer  
Peter Mooslechner  
Doris Ritzberger-Gruenwald

## **Statement of Purpose**

The Working Paper series of the Oesterreichische Nationalbank is designed to disseminate and to provide a platform for discussion of either work of the staff of the OeNB economists or outside contributors on topics which are of special interest to the OeNB. To ensure the high quality of their content, the contributions are subjected to an international refereeing process. The opinions are strictly those of the authors and do in no way commit the OeNB.

Imprint: Responsibility according to Austrian media law: Guenther Thonabauer, Secretariat of the Board of Executive Directors, Oesterreichische Nationalbank

Published and printed by Oesterreichische Nationalbank, Wien.

The Working Papers are also available on our website (<http://www.oenb.at>) and they are indexed in RePEc (<http://repec.org/>).

## Editorial

On February 24 - 25, 2006 an international workshop on “Regional and International Currency Arrangements” was held in Vienna. It was jointly organized by George Tavlas (Bank of Greece) and Eduard Hochreiter (Oesterreichische Nationalbank). Academic economists and researchers from central banks and international organizations presented and discussed current research and tried to review and assess the past experience with and the future challenges for international currency arrangements. A number of papers and the contributions by the discussants presented at this workshop are being made available to a broader audience in the Working Paper series of the Oesterreichische Nationalbank and simultaneously also in the Working Paper Series of the Bank of Greece. The papers and the discussants comments will be published in *International Economics and Economic Policy*. This volume contains the first of these papers. In addition to the paper by Otmar Issing the Working Paper also contains the contributions of the designated discussants Mario Blejer and Leslie Lipschitz.

April 28, 2006



# Europe's Hard Fix: The Euro Area\*

Otmar Issing

## 1. Monetary union as a corner solution to exchange rate regimes

The selection of exchange rate regime is one of the most fundamental policy issues in macroeconomics. The spectrum of possible choices ranges from the hard peg to a freely floating nominal exchange rate, with a variety of intermediate arrangements that are often called soft pegs. This latter group of regimes includes the conventional fixed (but adjustable) exchange rate, the crawling peg, an exchange rate band, and a crawling band. A crawling peg is given by a peg that can shift gradually over time. An exchange rate band is defined by the central bank having committed itself to a certain range for the exchange rate, while a crawling band is an exchange rate band that can shift over time. A managed float is an exchange rate regime that lies between the soft pegs and the freely floating. In this case the central bank may intervene in the exchange rate market, but it has not committed itself to a certain exchange rate or exchange rate band. The hard pegs include currency boards and situations where a country does not have a domestic currency, such as in a monetary union.

There are three main reasons why a country may want to peg its exchange rate. First, a floating exchange rate can be highly volatile and be difficult to predict not only in the short run, but also in the longer run. The costs that are linked to such exchange rate uncertainty are difficult to quantify and differ according to factors like size and degree of openness of a country. Second, pegging to a low-inflation currency may serve as a commitment device to help contain domestic inflation pressures. Third, for countries attempting to bring inflation down from excessive levels, fixed rates may help to control price developments for traded goods and provide an anchor for inflation expectations in the private sector.

Throughout modern history we have seen a number of periods when a fixed exchange rate has been the dominant regime. A common feature of such regimes seems to be the key role of the currency of a leading country ("key currency") such as the British Pound in the 19<sup>th</sup> century and the US dollar after the second world war (see Issing, 1965). During the late 1800s and early 1900s the classical gold standard prevailed (see, for example, Eichengreen, 1996). After its political unification in 1871 Germany, adopting the British example, went on a gold

---

\* I would like to thank Rudolfs Bems and Anders Warne for their valuable contributions.

standard and a large number of European as well as South and North American countries followed suit, thereby creating a system of fixed exchange rates (with small fluctuation bands reflecting the costs of gold transportation). The first negotiated system of fixed exchange rates, however, was the Bretton Woods system. In contrast with the classical gold standard, the Bretton Woods arrangement initially involved strict limits on capital mobility and the price for domestic currency was fixed relative to the U.S. Dollar (respectively to gold). This arrangement dominated the international monetary system from its introduction after World War II until its final collapse in 1973.

After the breakdown of the Bretton Woods system, a majority of countries in a series of steps have dismantled their still existing capital controls. In Europe we have seen a number of attempts to create a fixed exchange rate arrangement, such as the so called ‘Snake’ and later the Exchange Rate Mechanism (ERM) of the European Monetary System (EMS). Following the major speculative attacks on several currencies in the early 1990s, however, some European countries, like Sweden and the United Kingdom, opted for a different regime and let their exchange rate float. Other countries preferred to remain within the ERM with the goal of forming a monetary union in Europe.

To classify exchange rate regimes is not always easy in practise. What the authorities say they do (*de jure*) and what they actually do (*de facto*) sometimes differs considerably. Moreover, parallel and dual exchange rate markets sometimes existed, which further complicates a *de facto* classification. Fischer (2001) presents some evidence on the development of *de facto* exchange rate regimes for the IMF’s member countries for 1991 and 1999. Given the IMF’s evaluations of *de facto* regimes, 38 percent of the countries had either a hard peg or a floating exchange rate in 1991, while 62 percent had various types of soft peg arrangements. By 1999 the situation had essentially reversed when 66 percent of the countries had a hard peg or a floating exchange rate whereas only 34 percent had a soft peg arrangement.<sup>1</sup>

Any scheme for classifying *de facto* exchange rate regimes is inherently subjective and therefore open to criticism. For example, it may in some circumstances be difficult to judge whether an exchange rate is *de facto* a soft peg with a very broad exchange rate band or a managed float. In the case of Europe, however, it seems fair to say that since the speculative attacks on several European currencies in the early 1990s there has been a strong tendency for

---

<sup>1</sup> Reinhart and Rogoff (2004) develop a system for classifying exchange rate regimes that also makes use of market determined parallel exchange rates and that goes back to 1946, covering 153 countries. Their system is likely to give different percentage numbers for the three exchange rate arrangements listed by Fischer (2001).

the countries to move towards the corners of the exchange rate regime spectrum and, in particular, in the direction towards the hard peg. By 2006 there are now 12 countries that have given up their domestic currency in favour of the euro and the 10 countries that joined the European Union in 2004 have stated their intent of adopting the single currency once they fulfil the Maastricht criteria.

At this stage we may ask what may help explain the observation that many countries, especially in the developed world, seem to move towards the two corners of the exchange rate spectrum: a hard peg or a flexible exchange rate? A well-known proposition for addressing this question is Mundell's "impossible trinity". It states that among the three desirable objectives:

- stabilize the exchange rate;
- free international capital mobility; and
- an effective monetary policy oriented towards domestic goals;

only two can be mutually consistent. In this context it is interesting to note that this "impossibility theorem" was well developed before and has been "reinvented" several times.<sup>2</sup>

The impossible trinity has several other names, including the "uneasy triangle" and the "holy trinity", and I will focus my attention on it in the next section. Section 3 discusses implications of the optimum currency area theory for EMU, while political aspects of monetary union are considered in section 4.

## **2. The power of the uneasy triangle**

To understand the working of the uneasy triangle, it is instructive to consider separately each of the mutually consistent policy pairs in a very simplified setting. If a country opts for a fixed exchange rate and wants to set the domestic interest rates, cross border capital flows need to be restricted.<sup>3</sup> Otherwise, sooner or later an arbitrage possibility between domestic and foreign interest rates will arise. Policies of full international capital mobility and fixed exchange rate will similarly lead to arbitrage opportunities, unless domestic and international interest rates are equal. Thus, in this case an independent monetary policy is not possible. Using the same argument, independent monetary policy and unrestricted international capital flows can coexist only if the exchange rate is allowed to fluctuate.

---

<sup>2</sup> For reference to the literature, see Issing (1964).

<sup>3</sup> Assuming that capital controls can be applied efficiently over time, which might be questionable.



This leads to an important question which policymakers have too often ignored. Which one of the three objectives should be given up? In the European context the question imposed by the trilemma of the uneasy triangle can, in fact, be further narrowed down. If we are willing to take for granted the achievements of the European common market, then clearly restriction of international capital mobility is no longer a viable policy choice for the EU. The trilemma is thus reduced to a dilemma. The policymaker has to choose between mutually inconsistent policy of exchange rate stabilization and monetary policy oriented towards domestic goals.

Given the stark implications of the logic of the uneasy triangle, it is important to test if the predictions of the trilemma find empirical support. The available empirical studies generally provide a positive answer. Rose (1996) concludes that exchange rate volatility is linked to monetary policy divergence and the degree of capital mobility as predicted by the trilemma, but the connection is surprisingly weak. One potential problem of this study is the association of monetary policy independence directly with divergence in economic fundamentals. In a subsequent study Obstfeld, Shambaugh and Taylor (2004) identify monetary policy with short term nominal market interest rates rather than economic fundamentals in general and find a strong empirical support for the logic of the trilemma during the last 130 years.

In the context of the European policy trade-offs (i.e., capital movements control is not an option), two more empirical studies should be mentioned. Frankel, Schmukler and Servén (2002) explore whether the choice of exchange rate regime affects the sensitivity of local interest rates to international interest rates. In support of the dilemma faced by European policymakers, the authors find that in the short run interest rates in countries with more flexible exchange rate regimes adjust more slowly to changes in international interest rates. In the long run only large industrial countries appear to have a choice of pursuing an independent monetary policy. These long-run findings are questioned by Shambaugh (2004), who concludes that the trade-off between exchange rate stabilization and independent monetary policy finds support in the data even in the long run.

### ***Historical evidence from Europe***

In addition to considering systematic empirical evidence for economies around the world, it is instructive to examine the historical evidence for European economies. Do the recent experiences in Europe comply with the predictions of the trilemma? In fact, the 1979-1992 period of EMS in Western Europe offers a prime example of policymakers' refusal to succumb to (or failure to acknowledge) the unpleasant logic of the trilemma. Without doubt, both exchange rate stabilization and independent monetary policy featured high on the policymakers' agenda. Until 1987, the unavoidable consequences of the trilemma were

addressed partly by occasional exchange rate realignments and partly by remaining capital controls.<sup>4</sup>

There is a general agreement in the literature that the power of the trilemma's logic caught up with the EMS policy arrangements in the 1992 crisis. After 1987 remaining capital restrictions were eliminated (or further relaxed in case of some countries) and a commitment was made to avoid future realignments of the EMS currencies. However, by 1992 the interest rate levels required to maintain the exchange rate parities were not (or were perceived by the markets as being not) consistent with the needs of the domestic economies. The pressures of unification necessitated an increase in German interest rates. At the same time, a number of Germany's partner countries were experiencing a period of economic weakness reflecting either the effects of cumulated losses of competitiveness in previous years due to high inflation or the impacts of the unwinding of earlier booms. These apparent policy dilemmas were exacerbated as markets began to doubt the credibility of the parities. This led to a wave of speculative attacks, resulting in the devaluations of a number of currencies and even exits from the exchange rate mechanism.

### ***EMU as the only feasible solution***

Less than a decade after the 1992 crisis, all the EMS members (except Denmark and the United Kingdom) joined EMU. Not only have they given up monetary policy independence, they have also altogether eliminated exchange rates by substituting national currencies with the Euro – the common currency of EMU.

One way to understand this drastic change is to revisit the mutually consistent policies of the uneasy triangle. First, as already argued above, in the context of the successful economic integration in Europe, the possibility of reinstituting even partial restrictions on capital mobility was not a viable option. It directly contradicts with integration of financial markets, which is part of the common market initiative. This leaves open the question if capital controls can be permanently implemented successfully at all.

Second, the option of monetary policy oriented towards domestic goals combined with flexible exchange rates was seriously considered in academic circles, but was never seen as a viable option by European policymakers. This is mostly because of political considerations and lessons learnt from the European history of the first half of the 20<sup>th</sup> century.

---

<sup>4</sup> See Eichengreen and Wyplosz (1993) for more detailed discussion and further references.

This leaves us with the option of stabilizing the exchange rates and giving up independent monetary policy. An alternative, and perhaps more insightful, way to express the same policy option under a paper money standard is to have exchange rate stability as the only goal of monetary policy for all countries but one (the  $n-1$  regime) – the latter being the home of the currency to which the other currencies are pegged.

Empirical evidence suggests that commitment to stabilize exchange rates in an environment of full capital mobility can rarely be sustained for periods longer than a few years. Only a handful of relatively small and open economies that are ready to subordinate, rather than coordinate, their monetary policy with respect to some base country have succeeded in maintaining fixed exchange rates (see Issing, 1965, Obstfeld and Rogoff, 1995). The few examples here include currency boards of countries such as Hong Kong and Estonia. For larger and more closed economies the commitment of monetary policy to pursue exchange rate stability as its sole objective is bound to lack credibility.

Similar insights can be gained by restricting our attention to Western Europe. It was the smaller, relatively more open and more closely integrated countries – such as Austria or the Netherlands - that managed to avoid any exchange rate realignments with the DM already from 1979 onwards (1983 in case of the Netherlands). One can also note the success of the long-standing exchange rate arrangement between Luxemburg and Belgium. Of course, being small and open does not by itself guarantee the success of a peg, as the experience of Ireland within the EMS showed.

Economists have also emphasized the self-fulfilling crisis dimension of exchange rate stabilization policies.<sup>5</sup> In this line of argument, the viability of a fixed exchange rate depends crucially on the markets' perception of the credibility of the peg. If the peg is credible, then the costs involved for the country concerned in maintaining the peg should be manageable. However, if markets begin to doubt the commitment to the peg – e.g. because of political or economic developments - then the maintenance of the peg could require high levels of interest rates. In this latter case, the national authorities would have an incentive to abandon the peg, further exacerbating the speculative pressure on the currency. A number of episodes during the various currency crises of the early 1990s seem to be explicable by this type of phenomenon.

Where do these observations leave us with respect to a possibility of stable exchange rates among European economies? The options of achieving a more credible fix need to be

---

<sup>5</sup> See, for example, Eichengreen and Wyplosz (1993) for a discussion of the role of self-fulfilling expectations in the EMS 1992 crisis.

explored and were explored following the EMS crisis in 1992. As already advocated by the Delors report in 1989, EMS countries had to proceed from formulation of (in)credible exchange rate rules to a commitment to pursue a common monetary policy under a supranational central bank.

Several possibilities were considered. The option of a DM and Bundesbank centred arrangement was neither politically acceptable, nor economically feasible. The Bundesbank as a *national* central bank with a national mandate could not be expected to conduct monetary policy with the view of the whole 'DM-area'. By the same token, the Bundesbank could not have credible control over monetary policies of other countries of the 'DM-area'.

In view of problems accompanying the ERM as well as the political constraints, EMU was the obvious option for Europe. It is a credible arrangement for achieving exchange rate stability and ensuring continuation of the integration process. By eliminating exchange rates altogether and instituting a supranational central bank with a common monetary policy, a credible commitment has been made to eliminate once and for all exchange rate fluctuations and any divergence in monetary policy between the member states.

However, outside theoretical models the credibility of commitments can always be questioned. Two potential problems need to be pointed out. First, countries still have control over a wide spectrum of policy tools that can lead to a divergence in economic policies (e.g. fiscal policy) across the EMU countries. Second, large country-specific shocks which alter the benefits and costs of EMU participation for individual countries cannot be ruled out. Both of these potential problems are discussed in more detail in the following sections.

### **3. Economic integration and EMU**

The conviction underlying the Maastricht Treaty was that nominal exchange rates should be irrevocably fixed to achieve and maintain a unified single European market. Without a single currency and a single monetary policy, the achievements made regarding economic integration and the deepening of the Single Market would be in danger. Monetary Union in Europe was launched in January 1999 and the single currency eliminates, once and for all, internal nominal exchange rate fluctuations and supports the continuing process of economic integration. Monetary Union involves one supranational central bank, the ECB, and a single monetary policy. At this stage we may ask ourselves the famous question: Does one size fit all?

In view of the uneasy triangle, the main advantage of a flexible exchange rate in a world of free international capital mobility is that it allows a country to pursue an independent monetary policy. With such a tool at its disposal, the government of a country can react by, say, lowering the short-term interest rate when the domestic economy is likely to go into a recession after an adverse shock. This raises the issue what a country will lose when giving up this instrument. Alesina, Barro and Tenreyro (2002) argue that countries showing large co-movements of income and prices have the lowest costs from giving up their monetary independence. This suggests that the presence of important country-specific shocks make it particularly costly to abandon this policy instrument.

The ability of a country to achieve and maintain low inflation is also a factor that can affect the costs of losing domestic control of the monetary policy instrument. Some governments may have an incentive to renege on a credible low inflation commitment in order to reduce unemployment (see, for instance, Barro and Gordon, 1983). The agents of the economy are likely to learn about such policy behaviour, leading to a loss of credibility and higher inflation. Countries with a history of high inflation or low credibility of its monetary policy are therefore less likely to face large costs from giving up their monetary policy independence.

A second advantage of a flexible exchange rate is the shock absorbing role that it can play. Although the protection is unlikely to be complete, movements in the nominal exchange rate can work to offset some of the effects from a temporary shock. In the case of permanent shocks, changes in the nominal exchange rate may also facilitate the transition to a new equilibrium. It should, of course, also be kept in mind that even if a country has a flexible nominal exchange rate, the economic policy response to a given adverse shock may be better addressed through another policy instrument than the short-term interest rate.

### ***Optimum currency areas***

Historically, currency areas have typically coincided with national territory. But this does not necessarily mean that all countries are better off when they have their own currency. The theory of optimum currency areas (OCA) is a useful framework for addressing the question about the appropriate domain of a currency area. Inspired by previous work due to Friedman (1953) and Meade (1957), the OCA theory took off with the seminal work by Mundell (1961), with essential early contributions by McKinnon (1963) and Kenen (1969). Further important contributions to this literature include Corden (1972), Mundell (1973), and more recently Tavlas (1993).

An OCA is the optimal geographic domain of a single currency or of several currencies whose exchange rates are irrevocably fixed. Optimality is regarded in terms of a set of OCA criteria that are primarily related to the economic integration of regions or countries. These criteria include price and wage flexibility, the mobility of labour and capital, economic openness, diversification in production and consumption, similarity in inflation rates, and fiscal integration. Optimality of a currency area can be defined in terms of the above criteria. When shared across countries, these criteria reduce the need for nominal exchange rate adjustments, foster internal and external balances and help to isolate individual countries from certain shocks. A “meta” criterion that has been suggested is the similarity of shocks and the responses to these. That is, the synchronisation of shocks and cycles (see, e.g., Bayoumi and Eichengreen, 1993, and Giannone and Reichlin, 2005).

The empirical literature on the status of the euro area as an OCA is too extensive for me to present in much detail in this article. Instead I will only summarize some of the evidence with the United States as a reference for comparisons. For a survey of this literature the interested reader is referred to Mongelli (2002) and references therein.

The euro area countries performed unfavourably in comparison with the United States in terms of price and wage flexibility before the start of EMU (see, e.g., OECD, 1999). Improvements in price stability had been achieved, but structural reforms overall still lacked ambition. But, one can expect that the drive to continue implementing the Single Market Programme and product market reforms is likely to have a positive impact on its future development. Furthermore, one important factor behind the relatively low price flexibility is low wage flexibility. In this respect, several labour market institutions seem to be particularly important when attempting to explain the latter.

Labour mobility could alleviate some of the problems linked to low wage flexibility. The empirical evidence, however, suggests that it is roughly 2-3 times lower in Europe than in the United States (OECD, 1999). Bertola (2000), for example, suggests that quantity and price factors of labour market rigidity are connected and that lack of employment flexibility with wage rigidity reinforce one another. For a recent study on structural reforms in labour and product markets, see Duval and Elmeskov (2005).

On the positive note, the euro area countries are highly diversified and tend to behave more as a group than the United States. For instance, Krugman (1993) provides evidence that the degree of specialisation is larger in the United States than in Europe. OECD (1999) examines the degree of similarity in the composition of consumption across euro area countries and finds evidence of very high similarities in most countries. Accordingly, the greater

homogeneity among the euro area countries together with lower degree of specialisation suggests that they are less likely to suffer from asymmetric shocks than regions in the United States.

Furthermore, financial market integration is high and rising (see ECB, 2005). This OCA criterion is usually evaluated using the intensity of cross-border financial flows, the law of one price, as well as similarities in financial institutions and markets. Regarding asset price differentials, for example, yield differentials among euro area government bonds have converged significantly (see, e.g., Baele, Ferrando, Hördahl, Krylova and Monnet, 2004, and ECB, 2006).

Regarding trade integration of the euro area countries, the empirical evidence is favourable. Due to the price liberalisation process, stimulated also by the implementation of the Single Market Programme, and the deepening of industry trade, prices of tradables are becoming more aligned across the EU (see, e.g., Beck and Weber, 2001). Furthermore, differences in inflation rates across euro area countries have been declining over the past 20 years, a period during which inflation rates have converged to levels consistent with price stability (for a recent study, see Angeloni and Ehrmann, 2004). As a consequence of this convergence process, EMU began in a low inflation environment and the stability-oriented monetary policy of the ECB has succeeded in keeping inflation low. National developments and catching-up effects will continue to cause some inflation differentials, but these are self-correcting and can therefore be expected to be limited in time.

### ***Effects of monetary union***

At this stage it is worthwhile to mention some important limitations of the OCA theory. First and foremost, the theory is backward-looking and thus cannot account for the fact that a monetary union of 12 European countries already exists. The economic and institutional framework of the euro area and the EU is also changing over time and this has an impact on the status of the OCA criteria. Specifically, monetary union is a structural change and as such has an effect on the behaviour of the euro area economies at both macroeconomic and microeconomic levels. The two main sources of behavioural change that have been suggested in the academic literature are often referred to as the *specialisation* and the *endogeneity of OCA* hypotheses.

The specialisation hypothesis predicts that as countries become more integrated they will specialise in the production of those goods and services where they have a comparative advantage (see Krugman, 1993, and Krugman and Venables, 1996). A consequence of this prediction is that production becomes more specialized across countries of a monetary union

and incomes across countries therefore less correlated.<sup>6</sup> If this specialisation force is strong enough, the OCA status of the currency area could weaken.

The endogeneity of OCA hypothesis, in contrast, predicts that there is a positive relation between trade integration and income correlation (see Frankel and Rose, 1998). The intuition behind this claim is that monetary integration reduces trading costs beyond those related to nominal exchange rate volatility. Among other things, a common currency prevents devaluations and thus removes risks linked to devaluation expectations. It also facilitates foreign direct investment, the building of stable long-term relationships, and may encourage political integration. This, in turn, further promotes reciprocal trade as well as economic and financial integration and business cycle synchronisation.

There is some empirical support for both of these hypotheses. For instance, Rose (2000) uses a gravity model to assess the separate effects of exchange rate volatility and currency unions on international trade and finds evidence of a large positive effect of currency unions. This suggests that the endogeneity of OCA criteria is potentially a strong force. Other studies, such as Persson (2001), argue that this effect is lower and statistically highly uncertain.<sup>7</sup> Alesina et al. (2002) applies a different methodology than the gravity model and reports evidence that currency unions are likely to increase co-movements of prices and, potentially, of output.

Beck and Weber (2001), using a methodology similar to Engel and Rogers (1996), investigate the impact of the introduction of the euro on goods market integration. Based on data for 81 European cities in six euro area countries (and in Switzerland for controls), the study finds that there has been a strong decline in cross border volatility of relative prices since January 1999. In fact, border effects have been reduced to 20 percent of pre-EMU levels, although distance and border effects still matter post-EMU. Engel and Rogers (2004) study prices on a variety of comparable goods and services across a large number of cities worldwide over the period 1990 to 2003. For the euro area countries they find a decline in price dispersion over much of the 1990s but no evidence of price convergence after the introduction of the euro. Engel and Rogers suggest that their results may either be explained by the short sample after January 1999 or by other developments in the EU, such as the Single Market Programme, which contributed greatly to market integration throughout the 1990s. By 1999 the markets for consumer goods were already highly integrated. For in-depth discussions on various “endogeneities of OCA’s”, see, for example, De Grauwe and Mongelli (2005).

---

<sup>6</sup> See Frankel (1999) for a critique on this hypothesis based on the instability of such a process.

<sup>7</sup> See also Rose (2001) for a response to Persson’s results and Baldwin (2005) for a thorough discussion of this topic and further references to the literature.



To summarize, the euro area may not yet be an optimum currency area to the extent that the United States is. It scores well in terms of several OCA criteria and has great potential for considerable improvements concerning, for example, price and wage flexibility. But with the specialisation and endogeneity of OCA hypotheses in mind, static thinking in terms of costs and benefits at a certain point in time can be highly misleading. It is possible that a large share of the costs of monetary union occur during the early years, while many of the benefits become important more gradually. In fact, the net benefits may not even be guaranteed, but depend on future economic developments, the policies that are carried out, and on the implementation of institutional reforms. The OCA criteria where the euro area performs poorly can be greatly affected by structural reforms. Let me therefore turn my attention to some political aspects of monetary union.

#### **4. Political aspects of monetary union**

The creation of a monetary union raises some interesting issues of political nature, not present in other exchange rate arrangements. In particular, monetary union requires a transfer of monetary sovereignty from national authorities to a common central bank and irrevocably fixes the nominal exchange rate. This reduces the scope for national governments to stabilise the domestic economy. In this environment, major adjustments in the national policy domain are necessary.

##### ***Need for flexible markets***

The major source of external imbalances before EMU was due to different degrees of inflation across countries, which made readjustments of national exchange rates necessary. In Monetary Union this adjustment tool is no longer available and the monetary policy regime is the same for all member countries. Therefore, a straightforward consequence of monetary union is that nominal contracts in general and wages in particular have to respect this regime switch, thereby avoiding the need for adjustments which were necessary before.

Beyond this fundamental principle, need for economic adjustments between the EMU member states is likely to remain a policy concern for the national governments. In this regard, it has been argued rather convincingly in the academic literature that national policies should focus on increasing market flexibility, in particular, product market flexibility, labour market flexibility as well as financial integration.

The arguments in favour of flexibility are well known.<sup>8</sup> More flexible nominal prices and wages ensure that the adjustment process, induced by a negative shock, is less likely to lead to

---

<sup>8</sup> See Mongelli (2002) for a comprehensive survey of these arguments.

sustained adverse changes in economic fundamentals (e.g. unemployment). Similarly, labour mobility reduces the need to alter real factor prices between countries and financial integration allows for more risk sharing across the members of a monetary union.

The state of market flexibility in EMU was already discussed in the previous section. It should be stressed that in recent years we have witnessed significant improvements in market flexibility across the EMU, yet more reforms and progress are urgently required. This is particularly the case for labour markets, where the degree of flexibility remains limited. Real wages adjust much more slowly to economic shocks in the EMU than in the United States. Also labour mobility in the EMU is relatively low. Furthermore, this applies even to inter-regional and occupational mobility within the EMU countries. The existence of various barriers, institutional and administrative, makes large-scale migration in the EMU an unlikely – and considering cultural diversity probably also an unwelcome – response to economic shocks.<sup>9</sup>

### ***Need for a fiscal framework***

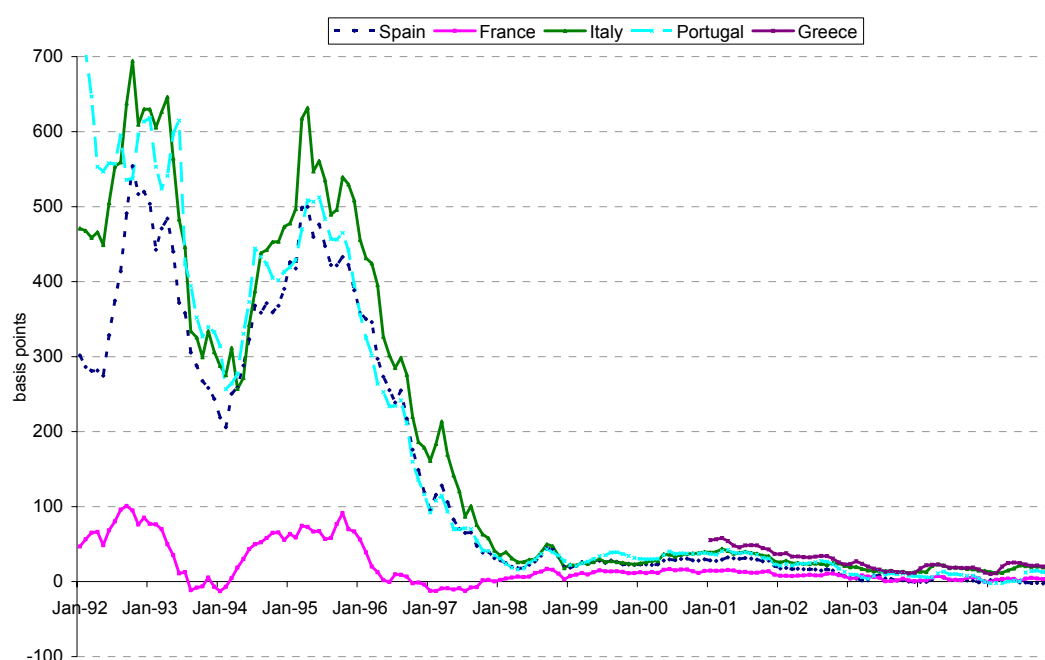
Another implication of monetary union is that the usual interplay between fiscal and monetary authorities at the national level is replaced by a potentially more complex interaction between a group of national governments and a common central bank. Should the common monetary policy be accompanied by any restrictions on the fiscal policies of the member states?

One important recent fiscal development has been the dramatic narrowing of the interest rate spreads on government debt which started already in the run up to EMU (see Figure 1). While some of the decrease can be attributed to global economic conditions during the period, there is no doubt that a dominant share of the trend is a consequence of the elimination of exchange rate risk from national debt (see ECB, 2006, and Detken, Gaspar and Winkler, 2004).

---

<sup>9</sup> See OECD (1999) for a detailed study of price and labour market flexibility in Europe.

**Figure 1: Ten-year government bond spreads against Germany**



Source: ECB (2006).

As a result, we have an integrated European bond market, but at the same time an important channel for restraining unsound fiscal behaviour at the national level has been lost. The considerably smaller premium that less prudent governments have to pay on their debt presents a problem for the union. Given the muted interest rate response, each member state is exposed to incentive of running a higher level of public debt. In essence, while potential short term economic and especially political benefits of excessive government spending continue to accrue at the national level, fiscal authorities fail to fully internalize the costs of their debt policies. In equilibrium this would lead to higher public debt levels and eventually higher interest rates in the whole union.

In principle, market forces should help to constrain the less prudent governments. Indeed, numerous studies (see e.g. Codogno, Favero and Missale, 2003, Bernoth, von Hagen and Schuknecht, 2004) show that yield spreads across the EMU countries are positively correlated with fiscal vulnerability. However, the constraints imposed by financial markets tend to be either too slow and weak or too sudden and disruptive and, therefore, cannot single-handedly ensure sound public finances. As was already well recognized long before the start of EMU (see Delors Report, 1989), a common market and currency require a fiscal framework, which constrains national policies.

It is instructive to note here that similar ‘debt bias’ problems are present in a single country setting. The build-up of public debt in many industrialized countries since the 1970s has lead

to an extensive literature addressing this topic. The issues involved are by now well understood. The usual arguments draw on some political distortion, resulting from short-sightedness of policy-makers, and lead to excessive levels of public debt.<sup>10</sup> There is a consensus among economists that such ‘debt bias’ has significant negative welfare effects. Furthermore, constraints on fiscal policy, especially in the form of institutional constraints, can help to alleviate the problem.<sup>11</sup> Interestingly, one of the findings in this literature is that countries with more decentralized budget processes exhibit more ‘debt bias’. The EMU without well-functioning fiscal constraints can be seen as an extreme case of such decentralization.

Another argument in favour of fiscal constraints is offered by the literature examining the complex interaction between national fiscal authorities and a supranational central bank. Dixit and Lambertini (2003) show that in a setting of a monetary union discretionary fiscal policies of the member states can undermine the monetary commitment of the common central bank. Chari and Kehoe (2003) and Beetsma and Uhlig (1999) in turn argue that without the monetary policy commitment, fiscal policy has a free-riding problem and restrictions on national fiscal policies may be desirable. Similar conclusions are reached by Uhlig (2002) after examining different potential EMU crisis scenarios, including possibilities of fiscal and systemic crises.

To be sure, there is also some concern about the costs that come with restrictions on fiscal policy. Under a common monetary policy, fiscal policy is the main domestic tool available to handle country-specific shocks. There is, however, a general scepticism in the literature about the ability of fiscal policy to handle shocks beyond the effects of automatic stabilizers. In addition to undermining soundness of budgetary positions, discretionary fiscal policies have too often proved to be pro-cyclical rather than counter-cyclical, thereby exacerbating macroeconomic fluctuations (see Issing, 2005).

Overall, despite the ongoing debate about the exact shape of the fiscal restrictions, there is an overwhelming consensus in the literature in favour of the necessity of a fiscal framework in a monetary union.

The response of the EMU to this challenge has been the Stability and Growth Pact (SGP) (see Schuknecht, 2004). Unfortunately, the implementation of SGP has proved problematic, in particular, the enforceability of its rules. The SGP, and the necessity of a fiscal framework in

---

<sup>10</sup> See Persson and Tabellini (2000) for a summary of the main theoretical arguments.

<sup>11</sup> For a survey see Fatas and Mihov (2003).

general, are being heavily tested by several countries, especially by those which are subject to the excessive deficit procedure.

It appears that there was no widespread and deep understanding about the implications that signing the Maastricht Treaty and joining EMU would have on the domestic policy domain. Policies pursued by the national governments, in particular fiscal and labour market policies, need to be consistent with the framework set by the monetary policy of the central bank following its mandate of maintaining price stability. To achieve this, EMU needs to continue to catalyse reforms with a steady support from all member states.

### ***Monetary Union and Political Union***

Monetary union as a corner solution raises an issue which is singular for all options of exchange rate regimes. Only monetary union implicitly and unavoidably requests reflections on the complementarity, if not precondition, of a political union.

The need for a fiscal framework is already a step in that direction. But monetary union in itself already has a clear political dimension. The transfer of national sovereignty in such an important field as the currency to a supranational institution – in the case of EMU from national central banks to the ECB – is a substantial contribution to political integration. A central bank is, after all, an element of statehood.

A common central bank conducting a single monetary policy, an efficient framework for fiscal discipline and flexible markets comprise an institutional arrangement on which monetary union can deliver the expected positive results. This leaves open the question on future steps in the direction of a fully fledged political union (see Issing, 2004).

### **References**

Alesina, A., Barro, R.J., and S. Tenreyro (2002), “Optimal Currency Areas”, in Gertler, M. and K. Rogoff (eds), *NBER Macroeconomics Annual*, Cambridge, MA: MIT Press.

Angeloni, I. and M. Ehrmann (2004), “Euro Area Inflation Differentials”, ECB Working Paper Series No. 388.

Baele L., Ferrando, A., Hördahl, P., Krylova, E. and C. Monnet (2004), “Measuring Financial Integration in the Euro Area”, ECB Occasional Paper Series No. 14.

Baldwin, R.E. (2005), “The Euro’s Trade Effects”, Manuscript, Graduate Institute of International Studies, Geneva.

- Barro, R.J. and D.B. Gordon (1983), "Rules, Discretion and Reputation in a Model of Monetary Policy", *Journal of Monetary Economics*, 12, 101-121.
- Bayoumi, T. and B. Eichengreen (1993), "Shocking Aspects of European Monetary Unification", in Giavazzi, F. and F. Torres (eds.), *Adjustment and Growth in the European Union*, Cambridge: Cambridge University Press, 193-230.
- Beck, G. and A.A. Weber (2001), "How Wide are European Borders? New Evidence on the Integration Effects of Monetary Policy", CFS Working Paper No. 2001/07.
- Beetsma, R. and H. Uhlig (1999), "An Analysis of the Stability and Growth Pact", *The Economic Journal*, 109: 546-571.
- Bernoth K., von Hagen, J., and L. Schuknecht (2004), "Sovereign Risk Premia in the European Government Bond Market," ECB Working Paper No. 369.
- Bertola, G. (2000), "Labor Markets in the European Union", *Ifo-Studien*, 46, 99-122.
- Chari, V.V. and P.J. Kehoe (2003), "On the Desirability for Fiscal Constraints in a Monetary Union", *Federal Reserve Bank of Minnesota, Staff Report No. 330*.
- Codogno L., Favero, C., and A. Missale (2003), "Yield Spreads on EMU Government Bonds," *Economic Policy*, October, 503-527.
- Corden, W.M. (1972), "Monetary Integration", *Essays in International Finance No. 93*, International Finance Section, Princeton University.
- De Grauwe, P. and F.P. Mongelli (2005), "Endogeneities of Optimum Currency Areas: What Brings Countries Sharing a Single Currency Closer Together?", ECB Working Paper Series No. 468.
- Delors Report (1989), "Report on Economic and Monetary Union in the European Community," Committee for the Study of Economic and Monetary Union, Commission of the European Community, Brussels.
- Detken C., Gaspar, V. and B. Winkler (2004), "On Prosperity and Posterity: The Need for Fiscal Discipline in a Monetary Union," ECB Working Paper No. 420, December.
- Dixit, A. and L. Lambertini (2003), "Interactions and Commitment and Discretion in Monetary and Fiscal Policies," *American Economic Review*, Vol. 93, No. 5, pp 1522-1542.
- Duval, R. and J. Elmeskov (2005), "The Effects of EMU on Structural Reforms in Labour and Product Markets", *OECD Economics Department Working Papers*, No. 438, OECD Publishing.
- ECB (2005), *Indicators of Financial Integration in the Euro Area*, Frankfurt.
- ECB (2006), "Fiscal Policies and Financial Markets," *Monthly Bulletin*, February.

- Eichengreen, B. (1996), *Globalizing Capital: A History of the International Monetary System*, Princeton: Princeton University Press.
- Eichengreen, B. and C. Wyplosz (1993), "The Unstable EMS", *Brookings Papers on Economic Activity*, 1993:1, p. 51-124.
- Engel, C. and J.H. Rogers (1996), "How Wide is the Border?", *American Economic Review*, 86, 1113-1125.
- Engel, C. and J.H. Rogers (2004), "European Product Market Integration after the Euro", *Economic Policy*, 19, 347-384.
- Fatas A., and I. Mihov (2003), "On Constraining Fiscal Policy Discretion in EMU," *Oxford Review of Economic Policy*, Vol. 19, No. 1, pp 112-131.
- Fischer, S. (2001), "Exchange Rate Regimes: Is the Bipolar View Correct?", *Journal of Economic Perspectives*, 15, 3-24.
- Frankel, J.A. (1999), "No Single Currency Regime is Right for all Countries or at all Times", Essays in International Finance No 215, International Finance Section, Princeton University.
- Frankel, J.A. and A.K. Rose (1998), "The Endogeneity of the Optimum Currency Area Criteria", *The Economic Journal*, 108, 1009-1025.
- Frankel, J., Schmukler, S., and L. Servén (2002), "Global Transmission of Interest Rates: Monetary Independence and Currency Regime," NBER Working Paper No. 8828, March.
- Friedman, M. (1953), *Essays in Positive Economics*, Chicago: University of Chicago Press.
- Giannone, D. and L. Reichlin (2005), "Trends and Cycles in the Euro Area: How Much Heterogeneity and Should We Worry About it?", Manuscript, Université Libre de Bruxelles, Belgium. Presented at the ECB Conference "What effect is EMU having on the euro area and its member countries?", 16-17 June, 2005.
- Issing, O. (1964), *Monetäre Probleme der Konjunkturpolitik in der EWG*, Berlin: Duncker & Humblot.
- Issing, O. (1965), *Leitwährung und internationale Währungsordnung*, Berlin: Duncker & Humblot.
- Issing, O. (2004), "Economic and Monetary Union in Europe: Political Priority versus Economic Integration", in Barends, I., Caspari, V., and B. Schefold (eds.), *Political Events and Economic Ideas*, Glos: Edward Elgar.
- Issing O. (2005), "Stability and Economic Growth: The Role of the Central Bank," speech international conference, Mexico City, 14 November.

- Kenen, P. (1969), "The Theory of Optimum Currency Areas: An Ecclectic View", in Mundell, R.A. and A.K. Swoboda (eds.), *Monetary Problems of the International Economy*, Chicago: University of Chicago Press.
- Krugman, P. (1993), "Lessons from Massachusetts", in Giavazzi, F. and F. Torres (eds.), *Adjustment and Growth in the European Union*, Cambridge: Cambridge University Press, 241-261.
- Krugman, P. and A.J. Venables (1996), "Integration, Specialization, and Adjustment", *European Economic Review*, 40, 959-967.
- McKinnon, R.I. (1963), "Optimum Currency Areas", *American Economic Review*, 53, 717-724.
- Meade, J.M. (1957), "The Balance of Payments Problems of a European Free Trade Area", *The Economic Journal*, 67, 379-396.
- Mongelli, F.P. (2002), "'New' Views on the Optimum Currency Area Theory: What is EMU Telling Us?", ECB Working Paper Series No. 138.
- Mundell, R.A. (1961), "A Theory of Optimum Currency Areas", *American Economic Review*, 51, 657-665.
- Mundell, R.A. (1973), "Uncommon Arguments for Common Currencies", in Johnson, H.G. and A.K. Swoboda (eds.), *The Economics of Common Currencies*, Allen and Unwin.
- Obstfeld, M. and K. Rogoff (1995), "The Mirage of Fixed Exchange Rates", *Journal of Economic Perspectives*, 9, 73-96.
- Obstfeld, M., Shambaugh, J.C., and A.M. Taylor (2005), "The Trilemma in History: Tradeoffs Among Exchange Rates, Monetary Policies, and Capital Mobility", *The Review of Economics and Statistics*, 87, 423-438.
- OECD (1999), "EMU: Facts, Challenges and Policies", Paris: Organisation for Economic Cooperation and Development.
- Persson, T. (2001), "Currency Unions and Trade: How Large is the Treatment Effect?", *Economic Policy*, 16, 435-448.
- Persson, T. and G. Tabellini (2000), *Political Economics: Explaining Economic Policy*, Cambridge, MA, MIT Press.
- Reinhart, C.M. and K.S. Rogoff (2004), "The Modern History of Exchange Rate Arrangements: A Reinterpretation", *The Quarterly Journal of Economics*, CXIX, 1-48.
- Rose, A.K. (1996), "Explaining Exchange Rate Volatility: An Empirical Analysis of 'The Holy Trinity' of Monetary Independence, Fixed Exchange Rates, and Capital Mobility," *Journal of International Money and Finance* 15 (6): 925-45.



- Rose, A.K. (2000), "One Money, One Market: The Effect of Common Currencies on Trade", *Economic Policy*, 15, 9-45.
- Rose, A.K. (2001), "Currency Unions and Trade: The Effect is Large", *Economic Policy*, 16, 449-461.
- Schuknecht L. (2004), "EU Fiscal Rules: Issues and Lessons from Political Economy," ECB Working Paper No. 421.
- Shambaugh, J.C. (2004), "The Effects of Fixed Exchange Rates on Monetary Policy," *Quarterly Journal of Economics* 119 (February): 301-52.
- Tavlas, G.S. (1993), "The 'New' Theory of Optimum Currency Areas", *The World Economy*, 1993, 663-685.
- Uhlig, H. (2002), "One Money, but Many Fiscal Policies in Europe: What are the Consequences?", in Buti, M. (ed.), *Monetary and Fiscal and Coordination*, Cambridge: Cambridge University Press.

## Discussion

**Mario I. Blejer**

*Director, CCBS, Bank of England*

Otmar Issing's paper on the evolution of thinking about monetary unification, the analytical underpinnings of the single currency, and the actual experience since the introduction of the Euro, is an excellent survey of the many issues raised by this truly historical and unique event. It covers a wide spectrum of subject and clarifies, with the insider's hindsight, a variety of questions that are an integral part of this distinctive process.

A particular focus of Issing's paper is to consider the European Monetary Unification (EMU) process as an optimal alternative to the fixing of exchange rates among the European Union members (but without actually adopting a common currency). It is sustained that the dynamics of European integration necessitates the maintenance of high degree of exchange rate stability. This is so because continuous exchange fluctuations, volatility, and uncertainty cannot but be detrimental to the integration process, retarding it and reducing its reach and deepness. Initial attempts to reduce these harmful effects led to exchange rate agreements that were not, generally, very successful. Issing's paper convincingly argues that the monetary unification route has been, indeed, the most suitable one, given European needs and circumstances—despite the fact that it is not easy to make the case that optimal currency area conditions were holding, at least at the time of the Euro's inception.

Within this context, Issing points out that, despite the analytical and practical superiority of currency unification, there are two potential problems that can complicate policy implementation and that could also weaken the positive implications of EMU. He stresses (i) the possible **divergence in economic policies** (particularly at the fiscal level, but also regarding structural policies) and the implications that such divergences have for the smooth operation of a monetary union; and (ii) the fact that **country-specific shocks** could be more difficult to accommodate in the absence of country-specific monetary and exchange rate instruments.

In addition to the considerations exposed in the paper, it is possible to suggest that these two problems could interact between them and could also interact with other country-specific conditions, resulting in serious divergences in price behaviour that bring about different performances of the *real* exchange rates (see Figure 1). This, in turn, leads to differential competitiveness patterns and divergent evolution of trade variables (Figure 2).

While these asymmetries could lead to worrisome conflicts among the members of the monetary union—and some of these potential tensions are analysed in the paper—it is also possible to focus, alternatively, on some of the potential benefits of monetary union, when compared with the alternative of attempting to create a system of national currencies linked by a strong peg. Two of these potential benefits that I would like to highlight are: (i) the “internationalization” of the Euro, i.e., the enhancement of the international role of the single currency; and (2) the role of the Euro in facilitating the integration of European financial markets.

## The Euro as a World Currency

It is possible to assess, after a few years of operation, the success of the Euro in establishing itself as one of the major currencies in the financial world.<sup>1</sup> In this sense one should weigh up the various quantitative measures available and measure to what extent there has been a universal recognition of the Euro as an important player in the foreign exchange markets. One traditional measure of the acceptance of a currency as an international store of value is its share in *international reserve holdings*. On this account, the Euro has done better than the currencies of the countries that founded it. Compared with them, the share of international reserves maintained in Euro denominated assets is up from 14 % in 1999 (versus 65 % for the US Dollar) to the current 22 % (versus. 63 % for US\$).

The role of the Euro as an *invoicing* currency is also up substantially, but where the Euro has done particularly well is as a currency of *securities issuance*. In this area, the Euro took off dramatically from the very outset and is, currently, on a par with the U.S. dollar. Where the Euro has done less well is in the *foreign exchange market*. As can be seen in Table 1, the Dollar is still strongly dominant and there has been small changes since the Euro inception. It is interesting to stress that this is not a small or a stagnant market but one that has grown immensely in the past few years and today more than US\$ 120 billion are transacted every day in that market..

In summary, the Euro has made inroads as a world-class currency and has improved over its founding currencies in many regards. However, it has not yet challenged the US Dollar as the main world currency and is not fully reaping the benefits of its world currency

---

<sup>1</sup> For a comprehensive treatment of this subject, see Portes (2004)

status. Moreover, the Euro Zone does not speak with a single voice and lacks a clear role in international financial policy – the Zone has had only minor, although currently increasing, influence on the financial architecture debate.

### **Financial Integration in Europe**

The second potentially positive upshot of the choice of monetary unification over a system of rigid exchange rates is the potential consequences on the speed of financial market integration. The question to be asked is to what extent there are clearly identifiable supportive effects arising from the single currency on the observed developments in the European financial markets.

A detailed ECB study on the subject<sup>2</sup> concludes that the developments have been quite uneven in the various different layers of the financial market. They analyse the money, government bond, corporate bond, equity, and credit markets and cannot reach a unified conclusion.

Following a detailed analysis of each of the above mentioned markets the study concludes that integration is “near perfect” in the money market since dispersion in Euro Area *unsecured* lending rates reduced to almost zero, for most maturities. Similarly, integration is very high in government bond market, “reasonable” in corporate bond and in equity markets, and low in credit markets (covering mainly short and medium term loans to enterprises, consumer loans, and mortgages).

---

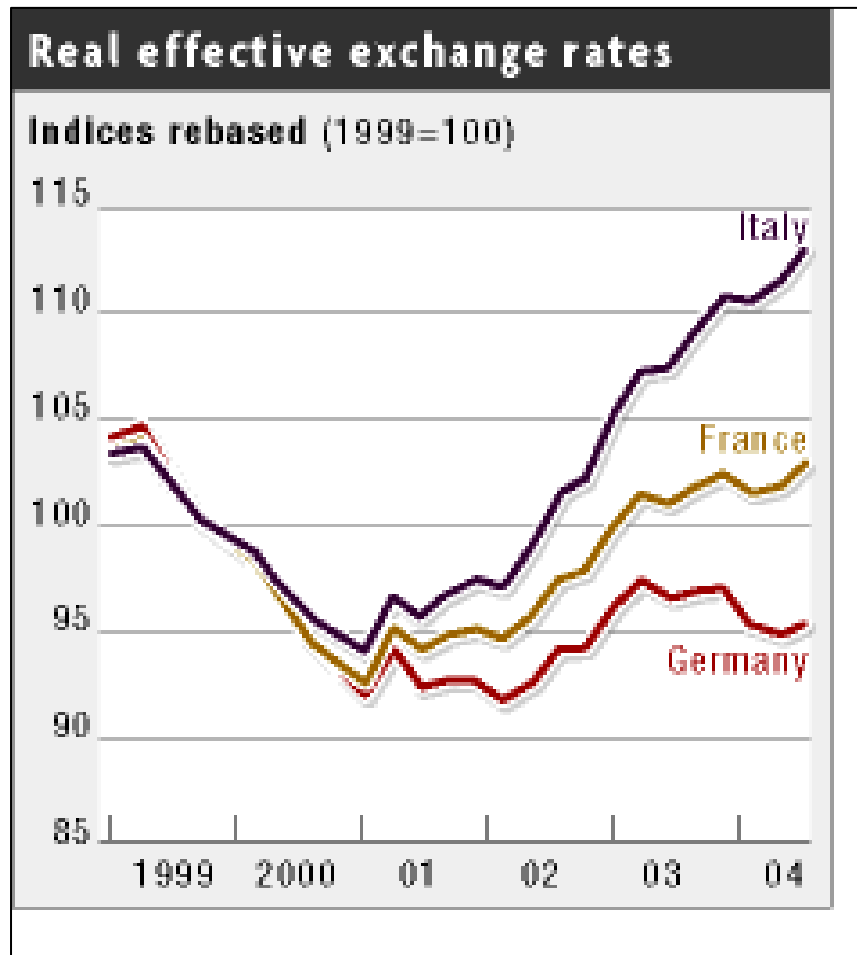
<sup>2</sup> See Baele et al (2004) for a detailed analysis of the various aspects of financial integration in Europe.

Of particular interest is the conclusion, that there has been a very high degree of integration in the government bond market, reflected by the strong convergence of yields, even among countries with quite dissimilar performance (See Figure 3). While this can be attributed to the elimination of exchange rate risk, as pointed out by Issing, it is also likely that convergence arises from a reduction in the perception of default risk. This, in turn, may reflect the market view that the “no-bailing out clause” is not really credible. In other words, it could be strongly believed by market participants that members of the Euro zone will not default on their debt, even if they confront extreme financial stress, because there would be collective action within the zone to prevent non-payment from any country adopting the Euro. While observationally this could be equivalent to the elimination of exchange risk, the consequences, particularly in terms of moral hazard, could be quite different.

A very actual issue that could be brought into the discussion, in the context of financial integration has to do with the recent reappearance of cross-country barriers for institutional integration and mergers. While this type of financial market protectionism is worrisome in general, it is particularly worrying in the context of monetary integration. It is to be hoped that if the problems created by the current divergence of economic policies, analyzed in Issing’s paper, are alleviated, these trends will not prevent the further strengthening of financial market integration.

**Figure 1:**

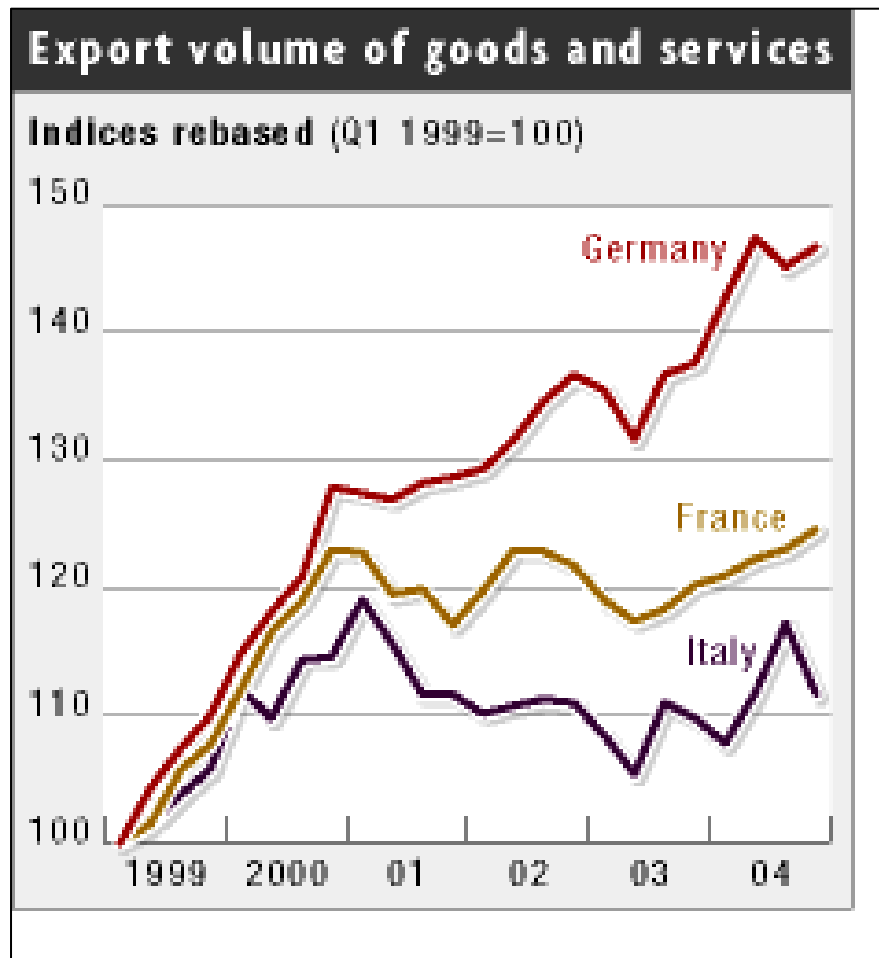
**France, Germany and Italy – Real Effective Exchange Rates**



*Source:* Financial Times

Figure 2:

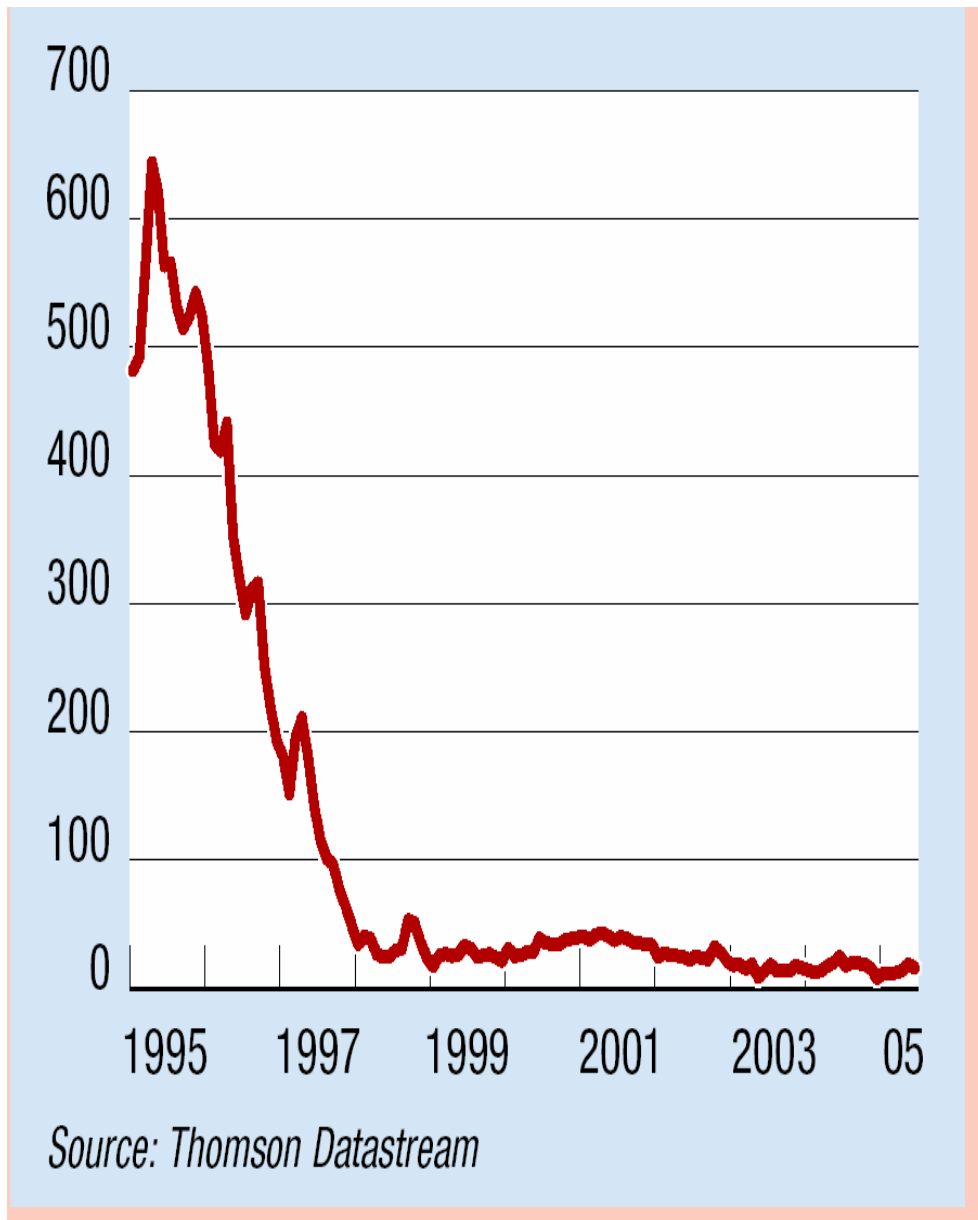
**France, Germany and Italy – Export Performance**





**Figure 3:**  
**Germany-Italy Sovereign Debt Differential Yields**

(ten years bonds – in basis points)



**Table 1: Currency Shares in Foreign Exchange Trade**

|     | 2001 | 2004 |
|-----|------|------|
| USD | 90.3 | 88.7 |
| EUR | 37.6 | 37.2 |
| JPY | 22.7 | 20.3 |
| GBP | 13.2 | 16.9 |
| CHF | 6.1  | 6.1  |

*Source:* BIS Triennial FX Market Survey press release (global market), September 2004. Each trade is counted twice.

## **References**

Baele, Ferando, Hordahl, Krylova, and Monnet (2004) “Measuring Financial Integration in the Euro Area”, European Central Bank Occasional Paper, No. 14, April

Portes, Richard, “The Euro and the International Monetary System”, presented at the Euro Conference “The Euro after Five Years”, Amsterdam, October 2004.

## Leslie Lipschitz

### *International Monetary Fund*<sup>3</sup>

It is a great pleasure to comment on this paper by Otmar Issing—especially as the two of us have been debating these issues now for a couple of decades. The questions we debated many years ago were very similar—albeit less textured than in their current incarnation—but I think the answers have evolved considerably. This paper covers some of this evolution, but I shall argue that it does not cover all of it. In particular, (a) it exaggerates the insulation properties of flexible exchange rates, and underplays the value of joining the euro area, in circumstances where disturbances arise from capricious shifts in risk premia in global capital markets; and (b) it ignores some new mechanisms of adjustment within the euro area. This latter issue—exemplified in the work of Elhanan Helpman and others on the implications of new models of trade and the theory of the firm for global labor markets—is of particular relevance.

#### **1. The motivation of the paper.**

Let me start, however, with the motivation of the paper. Otmar Issing exploits the *impossible trinity* and the fact that recourse to capital controls was incompatible with (and probably unsustainable in) a single market to argue that after the ructions in the foreign exchanges in 1992 it became clear that EMU was the only feasible solution. Without capital controls one could not have both stable exchange rates and independent monetary policies. He throws out the possibility of flexible exchange rates because of “the lessons learned from the European history of the first half of the 20<sup>th</sup> century”, so that all that is left is a fixed exchange rate system, and, of the fixed rate options, EMU is the most credible, stable, fair, and likely to succeed.

This is a neat story; but, I fear, the actual path to EMU was less neat and logical. The truth lurks in the phrase “what we learned from the European history of the first half of the 20<sup>th</sup> century”—that is, I see this as a political project at its deepest level, a desire to cement together a union through monetary and real integration that would make unthinkable the wars waged by our forefathers. The paper gives primacy to the economic logic, and it

---

<sup>3</sup> The author thanks, without implication, Jörg Decressin, Hamid Faruquee and Peter Isard for helpful comments. The views expressed are those of the author and should not be construed as the views of the IMF.

returns to the political issues only on the last page. My take on the history is that political forces were primary drivers of the whole economic project.

## **2. The limits to monetary independence under flexible exchange rates.**

Let me take up next an analytical issue: Just how much insulation—and insulation from what sorts of disturbances—do flexible exchange rates provide? Flexible exchange rates can facilitate an independent choice on inflation, but they do not insulate the economy from external financial influences. It is easy to show that global influences on interest rates and risk premia can exert a huge influence on (actual or incipient) capital flows into a particular country and that country's exchange rate or credit expansion, its inflation of both goods and asset prices, its competitiveness, and all the other macroeconomic variables in the economy.<sup>4</sup>

If, for example, Italy had opted to float instead of joining the monetary union, and for some exogenous reason there had been a sudden upward shift in the risk premium on the Italian lira, either the Bdl would have had to raise interest rates—so much for an independent monetary policy aimed at domestic needs—or it would have faced a substantial depreciation. In this latter case it may well have lost control of inflation, especially if there was a degree of downward real wage rigidity. Joining countries together in EMU is a way of reducing the influence of capricious shifts in risks on individual currencies.

EMU moreover does something a peg, and even a hard peg, cannot do. Pegged currencies, by seeming to provide a government guarantee on the exchange rate, encourage foreign exchange exposure. The Baltics, for example, with their very low capital:labor ratios and high real returns to capital, have seen huge capital inflows, rapid credit growth, wide current account deficits, and large and growing euro exposure.<sup>5</sup> As long as they are outside the euro area, there is a probability that a sudden rise in risk premia will elicit a reversal of capital flows and a balance sheet crisis. But joining the euro area—really the seemingly irreversible act of abandoning a domestic currency for the euro—would change this. To be sure, individual borrowers would still be at risk—if some go bankrupt the shock to the

---

<sup>4</sup> See Lipschitz, Lane, and Mourmouras (2005).

<sup>5</sup> Note that, since the Asian crisis, much of the discussion about the relative merits of exchange regimes has focused on the problem that implicit exchange rate guarantees encourage foreign exchange exposure; the resulting balance sheet vulnerabilities can easily produce a “fear-of-floating” syndrome, delaying adjustment

macroeconomy will depend on the efficiency of the bankruptcy proceedings—but this differs from macroeconomic currency risk.

### **3. Labor Mobility and Labor Market Flexibility**

Issing raises the issues of labor mobility and labor market flexibility in revisiting the OCA criteria.<sup>6</sup> He laments the fact that the euro area exhibits much lower flexibility and mobility than the US. In mitigation, however, he cites Krugman in arguing that the high degree of homogeneity among the euro states will likely militate against asymmetric shocks.

This is an interesting discussion, but it strikes me as incomplete.

My guess is that the euro area will never have cross-country labor mobility anything like that in the US. Blanchard and Katz (BPEA, 1992) have shown that real wages in US states that have suffered an adverse shock barely fall at all—the people simply pack their bags and leave and real estate prices drop. Without this mechanism in Europe, real wages would have to adjust more than in the US for a given shock. I wonder, moreover, whether the homogeneity argument will hold for a larger euro area—one that eventually includes all the New Member States.

The conventional wisdom is that there are two solutions: (i) pick a low inflation target and work hard at forcing more flexibility in the labor market through the learning process of occasional bouts of painful adjustment, or (ii) allow more inflation to grease the wheels. Clearly the ECB has opted for the first solution. But I think that this whole discussion has become much more interesting and complex of late, and that to understand adjustment mechanisms we need to look at the new work of Elhanan Helpman and others on trade and the theory of the firm (see, for example, Helpman 2005).

---

and exacerbating the eventual crisis. A free floating regime has the major advantage of discouraging excessive foreign exchange exposure.

<sup>6</sup> An incidental quibble: Issing mentions the conventional view that membership in a currency union makes sense if cycles are positively and closely correlated. This is true if the shocks emanate from the demand side, but not necessarily so if they come from the real economy—e.g., from productivity—as is presaged in the Mundell (1973) article cited. Thus, if the economies are characterized by Kydland-type real business cycle models, negative correlations may help reduce the variance of consumption in the currency union as a whole. (See, for example, Guajardo, 2005.)

Put somewhat crudely, the essential result of this work is that massive increases in trade in both final goods and intermediates—coupled with new organizational options like insourcing, outsourcing, and a broad array of locational choices for each stage of production—have greatly facilitated adjustment. The bad news for Europe from this work is the following: there is now something approaching a global market for different categories of labor; if an individual country or a cluster of countries wants to set a reservation real wage above the going global rate for raw unskilled labor, it will face unemployment and uncompetitiveness; if, for reasons of an egalitarian social policy, it seeks to compress wage relativities, it will reduce human capital investment and probably precipitate a brain drain.<sup>7</sup> So individual countries or areas will not be able to insulate themselves from global wage competition without incurring substantial costs. (Of course, to the extent there is some degree of money illusion, the absence of an exchange rate instrument exacerbates the problem.)

There is also, however, some good news for Europe—or, at least, for European corporations and their shareholders. Dalia Marin, drawing on this new trade-cum-theory-of-the-firm literature, finds that German and Austrian firms have done an extraordinary job of improving their competitiveness chiefly by subcontracting out a great deal of skilled work to the New Member States (see, for example, Marin, 2005). Based on a great deal of firm-level data, she finds that, while compressed wage relativities have discouraged human capital investment, German and Austrian entrepreneurs have gained enormously by exploiting skills and locational advantages in the NMS and eastern Europe. Developments of this sort must, eventually, lead to greater labor market flexibility in the euro area. I believe, moreover, that EU enlargement—together with globalization more generally—is already adding substantially to the pressure for flexibility.

#### **4. Fiscal Policy**

I argued above that one of the advantages of a country joining the euro area was that it reduced the likelihood of capricious shifts in currency risk premia. My guess is that for countries where the foreign borrowing is private and the fiscal position is sound, once they

---

<sup>7</sup> Perhaps the global price for raw unskilled labor is being set in China. Interesting comparative wage costs in manufacturing are provided by the Bureau of Labor Statistics of the US Department of Labor. For 2002 in US dollars, hourly wage costs were \$24.20 in Germany, \$21.40 in the US, \$18.25 in the UK, \$3.92 in Hungary, \$3.83 in the Czech Republic, and \$0.63 in China. Of course, the more relevant comparison is in unit labor costs—i.e., productivity-adjusted wage costs.

are in the euro area there will simply be discrimination between good and bad borrowers in the area as a whole and less country-based discrimination. This disappearance of an aggregate foreign exchange risk premium is good news for individual private borrowers. I agree with Otmar, however, that the virtual disappearance of market premia on government debt—that is, the failure of markets to discriminate between responsible and irresponsible fiscal policies—is a problem. If markets will not exert discipline then there needs to be a rigorous fiscal framework to restrain renegade governments.

Having said this, I have no idea how one goes about setting up an ideal fiscal framework.

Clearly fiscal policies are the principal mechanism for dealing with uncorrelated cycles, so they should be able to be differentiated across countries. The SGP allows for such differentiation—even for deviations from the 3% of GDP limit in the event of a recession (albeit not in the event of a prolonged period of sub-par growth).

There is some infatuation with the idea of letting the automatic stabilizers play out, but this seems odd to me. The stabilizers depend on the structure of the tax and welfare systems and, last time I looked, they were quite different for different countries. If a one percentage point drop below the sustainable (potential) growth rate elicits an increase in the government deficit of half a percentage point of GDP in Germany but only one tenth of a percentage point in Greece, for example, one would have to ask which is the appropriate response. If the German response is sensible, this would argue that Greece should couple its automatic stabilizers with some discretionary support—provided, of course, that this support could really be removed subsequently.

Ideally one would want a really wise and fair body to examine each case on its merits with the added concern about precedents and the implications for the euro area as a whole. The notion of an independent Fiscal Policy Authority is not appealing—fiscal policy is so much the business of government that one cannot subcontract it out to technicians and remove it from the political arena—but a group of nonpartisan experts to help elevate the political debate may not be a bad idea.

As I said, I have no special wisdom in this area. One hopes only that the current muddling through will gradually, over time, arrive at some sort of consensus on sensible and equitable sanctions for irresponsible policies.

## 5. Conclusion

Reading this paper has been a great pleasure. It reminds me of how far we have come in these discussions over the last decade or two, of how far we still have to go, and most of all of just how privileged many of us have been to be such close witnesses to this history. It also reminds me of the important role that Otmar Issing has played in this great intellectual and political journey.

## References

- Banister, Judith, Study on China for the Bureau of Labor Statistics (BLS), US Department of Labor, December 2004.
- Blanchard, J.B., and L. Katz, *Regional Evolutions*, Brookings Papers on Economic Activity (3): pp. 369 – 402, 1992.
- Guajardo, Jaime C., *Business Cycles in Small Developed Economies: The Role of Terms of Trade and Foreign Interest Rate Shocks*, unpublished, IMF Institute September 2005.
- Helpman, Elhanan, *Trade, FDI, and the Organization of Firms*, unpublished, September 26, 2005.
- IMF Institute, Joint Vienna Institute (JVI), and National Bank of Poland, papers for the Conference on *Labor and Capital Flows in Europe Following Enlargement*, Warsaw, Poland, January 30-31, 2006. Papers, presentations, and the program are available on the websites of the IMF Institute and the JVI; the Helpman paper cited above and the Marin paper cited below, together with a number of related papers, are available here.
- Lipschitz, Leslie, Timothy Lane, and Alex Mourmouras, *Real Convergence, Capital Flows, and Monetary Policy: Notes on the European Transition Countries*, in Susan Schadler (ed.) Euro Adoption in Central and Eastern Europe: Opportunities and Challenges, IMF, 2005.
- Marin, Dalia, *A New International Division of Labor in Europe: Outsourcing and Offshoring to Eastern Europe*, University of Munich, September 2005.
- United States Department of Labor, Bureau of Labor Statistics (BLS) release, November 18, 2005.





## **Index of Working Papers:**

|                   |                                                                                                        |    |                                                                                                            |
|-------------------|--------------------------------------------------------------------------------------------------------|----|------------------------------------------------------------------------------------------------------------|
| January 2, 2002   | Sylvia Kaufmann                                                                                        | 56 | Asymmetries in Bank Lending Behaviour. Austria During the 1990s                                            |
| January 7, 2002   | Martin Summer                                                                                          | 57 | Banking Regulation and Systemic Risk                                                                       |
| January 28, 2002  | Maria Valderrama                                                                                       | 58 | Credit Channel and Investment Behavior in Austria: A Micro-Econometric Approach                            |
| February 18, 2002 | Gabriela de Raaij and Burkhard Raunig                                                                  | 59 | Evaluating Density Forecasts with an Application to Stock Market Returns                                   |
| February 25, 2002 | Ben R. Craig and Joachim G. Keller                                                                     | 60 | The Empirical Performance of Option Based Densities of Foreign Exchange                                    |
| February 28, 2002 | Peter Backé, Jarko Fidrmuc, Thomas Reininger and Franz Schardax                                        | 61 | Price Dynamics in Central and Eastern European EU Accession Countries                                      |
| April 8, 2002     | Jesús Crespo-Cuaresma, Maria Antoinette Dimitz and Doris Ritzberger-Grünwald                           | 62 | Growth, Convergence and EU Membership                                                                      |
| May 29, 2002      | Markus Knell                                                                                           | 63 | Wage Formation in Open Economies and the Role of Monetary and Wage-Setting Institutions                    |
| June 19, 2002     | Sylvester C.W. Eijffinger (comments by: José Luis Malo de Molina and by Franz Seitz)                   | 64 | The Federal Design of a Central Bank in a Monetary Union: The Case of the European System of Central Banks |
| July 1, 2002      | Sebastian Edwards and I. Igal Magendzo (comments by Luis Adalberto Aquino Cardona and by Hans Genberg) | 65 | Dollarization and Economic Performance: What Do We Really Know?                                            |

|                    |                                                                                                                   |    |                                                                                                             |
|--------------------|-------------------------------------------------------------------------------------------------------------------|----|-------------------------------------------------------------------------------------------------------------|
| July 10, 2002      | David Begg<br>(comment by Peter Bofinger)                                                                         | 66 | Growth, Integration, and Macroeconomic Policy Design: Some Lessons for Latin America                        |
| July 15, 2002      | Andrew Berg,<br>Eduardo Borensztein,<br>and Paolo Mauro<br>(comment by Sven Arndt)                                | 67 | An Evaluation of Monetary Regime Options for Latin America                                                  |
| July 22, 2002      | Eduard Hochreiter,<br>Klaus Schmidt-Hebbel<br>and Georg Winckler<br>(comments by Lars Jonung and George Tavlas)   | 68 | Monetary Union: European Lessons, Latin American Prospects                                                  |
| July 29, 2002      | Michael J. Artis<br>(comment by David Archer)                                                                     | 69 | Reflections on the Optimal Currency Area (OCA) criteria in the light of EMU                                 |
| August 5, 2002     | Jürgen von Hagen,<br>Susanne Mundschenk<br>(comments by Thorsten Polleit, Gernot Doppelhofer and Roland Vaubel)   | 70 | Fiscal and Monetary Policy Coordination in EMU                                                              |
| August 12, 2002    | Dimitri Boreiko<br>(comment by Ryszard Kokoszczyński)                                                             | 71 | EMU and Accession Countries: Fuzzy Cluster Analysis of Membership                                           |
| August 19, 2002    | Ansgar Belke and<br>Daniel Gros (comments<br>by Luís de Campos e<br>Cunha, Nuno Alves and<br>Eduardo Levy-Yeyati) | 72 | Monetary Integration in the Southern Cone: Mercosur Is Not Like the EU?                                     |
| August 26, 2002    | Friedrich Fritzer,<br>Gabriel Moser and<br>Johann Scharler                                                        | 73 | Forecasting Austrian HICP and its Components using VAR and ARIMA Models                                     |
| September 30, 2002 | Sebastian Edwards                                                                                                 | 74 | The Great Exchange Rate Debate after Argentina                                                              |
| October 3, 2002    | George Kopits<br>(comments by Zsolt Darvas and Gerhard Illing)                                                    | 75 | Central European EU Accession and Latin American Integration: Mutual Lessons in Macroeconomic Policy Design |

|                    |                                                                                                                 |    |                                                                                                             |
|--------------------|-----------------------------------------------------------------------------------------------------------------|----|-------------------------------------------------------------------------------------------------------------|
| October 10, 2002   | Eduard Hochreiter, Anton Korinek and Pierre L. Siklos<br>(comments by Jeannine Bailliu and Thorvaldur Gylfason) | 76 | The Potential Consequences of Alternative Exchange Rate Regimes: A Study of Three Candidate Regions         |
| October 14, 2002   | Peter Brandner, Harald Grech                                                                                    | 77 | Why Did Central Banks Intervene in the EMS? The Post 1993 Experience                                        |
| October 21, 2002   | Alfred Stiglbauer, Florian Stahl, Rudolf Winter-Ebmer, Josef Zweimüller                                         | 78 | Job Creation and Job Destruction in a Regulated Labor Market: The Case of Austria                           |
| October 28, 2002   | Elsinger, Alfred Lehar and Martin Summer                                                                        | 79 | Risk Assessment for Banking Systems                                                                         |
| November 4, 2002   | Helmut Stix                                                                                                     | 80 | Does Central Bank Intervention Influence the Probability of a Speculative Attack? Evidence from the EMS     |
| June 30, 2003      | Markus Knell, Helmut Stix                                                                                       | 81 | How Robust are Money Demand Estimations? A Meta-Analytic Approach                                           |
| July 7, 2003       | Helmut Stix                                                                                                     | 82 | How Do Debit Cards Affect Cash Demand? Survey Data Evidence                                                 |
| July 14, 2003      | Sylvia Kaufmann                                                                                                 | 83 | The business cycle of European countries. Bayesian clustering of country-individual IP growth series.       |
| July 21, 2003      | Jesus Crespo Cuaresma, Ernest Gnan, Doris Ritzberger-Gruenwald                                                  | 84 | Searching for the Natural Rate of Interest: a Euro-Area Perspective                                         |
| July 28, 2003      | Sylvia Frühwirth-Schnatter, Sylvia Kaufmann                                                                     | 85 | Investigating asymmetries in the bank lending channel. An analysis using Austrian banks' balance sheet data |
| September 22, 2003 | Burkhard Raunig                                                                                                 | 86 | Testing for Longer Horizon Predictability of Return Volatility with an Application to the German DAX        |
| May 3, 2004        | Juergen Eichberger, Martin Summer                                                                               | 87 | Bank Capital, Liquidity and Systemic Risk                                                                   |

|                    |                                                                                                |     |                                                                                                                 |
|--------------------|------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------|
| June 7, 2004       | Markus Knell, Helmut Stix                                                                      | 88  | Three Decades of Money Demand Studies. Some Differences and Remarkable Similarities                             |
| August 27, 2004    | Martin Schneider, Martin Spitzer                                                               | 89  | Forecasting Austrian GDP using the generalized dynamic factor model                                             |
| September 20, 2004 | Sylvia Kaufmann, Maria Teresa Valderrama                                                       | 90  | Modeling Credit Aggregates                                                                                      |
| Oktober 4, 2004    | Gabriel Moser, Fabio Rumler, Johann Scharler                                                   | 91  | Forecasting Austrian Inflation                                                                                  |
| November 3, 2004   | Michael D. Bordo, Josef Christl, Harold James, Christian Just                                  | 92  | Exchange Rate Regimes Past, Present and Future                                                                  |
| December 29, 2004  | Johann Scharler                                                                                | 93  | Understanding the Stock Market's Response to Monetary Policy Shocks                                             |
| Decembert 31, 2004 | Harald Grech                                                                                   | 94  | What Do German Short-Term Interest Rates Tell Us About Future Inflation?                                        |
| February 7, 2005   | Markus Knell                                                                                   | 95  | On the Design of Sustainable and Fair PAYG - Pension Systems When Cohort Sizes Change.                          |
| March 4, 2005      | Stefania P. S. Rossi, Markus Schwaiger, Gerhard Winkler                                        | 96  | Managerial Behavior and Cost/Profit Efficiency in the Banking Sectors of Central and Eastern European Countries |
| April 4, 2005      | Ester Faia                                                                                     | 97  | Financial Differences and Business Cycle Co-Movements in A Currency Area                                        |
| May 12, 2005       | Federico Ravenna                                                                               | 98  | The European Monetary Union as a Commitment Device for New EU Member States                                     |
| May 23, 2005       | Philipp Engler, Terhi Jokipii, Christian Merkl, Pablo Rovira Kaltwasser, Lúcio Vinhas de Souza | 99  | The Effect of Capital Requirement Regulation on the Transmission of Monetary Policy: Evidence from Austria      |
| July 11, 2005      | Claudia Kwapil, Josef Baumgartner, Johann Scharler                                             | 100 | The Price-Setting Behavior of Austrian Firms: Some Survey Evidence                                              |

|                       |                                                                                                     |     |                                                                                                                        |
|-----------------------|-----------------------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------|
| July 25, 2005         | Josef Baumgartner,<br>Ernst Glatzer, Fabio<br>Rumler, Alfred<br>Stiglbauer                          | 101 | How Frequently Do Consumer Prices<br>Change in Austria?<br>Evidence from Micro CPI Data                                |
| August 8, 2005        | Fabio Rumler                                                                                        | 102 | Estimates of the Open Economy New<br>Keynesian Phillips Curve for Euro Area<br>Countries                               |
| September 19,<br>2005 | Peter Kugler,<br>Sylvia Kaufmann                                                                    | 103 | Does Money Matter for Inflation in the Euro<br>Area?                                                                   |
| September 28,<br>2005 | Gerhard Fenz,<br>Martin Spitzer                                                                     | 104 | AQM – The Austrian Quarterly Model of the<br>Oesterreichische Nationalbank                                             |
| October 25, 2005      | Matthieu Bussière,<br>Jarko Fidrmuc,<br>Bernd Schnatz                                               | 105 | Trade Integration of Central and Eastern<br>European Countries: Lessons from a Gravity<br>Model                        |
| November 15,<br>2005  | Balázs Égert,<br>László Halpern,<br>Ronald MacDonald                                                | 106 | Equilibrium Exchange Rates in Transition<br>Economies: Taking Stock of the Issues                                      |
| January 2,<br>2006    | Michael D. Bordo,<br>Peter L. Rousseau<br>(comments by<br>Thorvaldur Gylfason<br>and Pierre Siklos) | 107 | Legal-Political Factors and the Historical<br>Evolution of the Finance-Growth Link                                     |
| January 4,<br>2006    | Ignacio Briones,<br>André Villela<br>(comments by Forrest<br>Capie and Patrick<br>Honohan)          | 108 | European Banks and their Impact on the<br>Banking Industry in Chile and Brazil: 1862 -<br>1913                         |
| January 5,<br>2006    | Jérôme Sgard<br>(comment by Yishay<br>Yafeh)                                                        | 109 | Bankruptcy Law, Creditors' Rights and<br>Contractual Exchange in Europe, 1808-1914                                     |
| January 9,<br>2006    | Evelyn Hayden,<br>Daniel Porath,<br>Natalja von<br>Westernhagen                                     | 110 | Does Diversification Improve the<br>Performance of German Banks? Evidence<br>from Individual Bank Loan Portfolios      |
| January 13,<br>2006   | Markus Baltzer<br>(comments by Luis<br>Catão and Isabel<br>Schnabel)                                | 111 | European Financial Market Integration in the<br>Gründerboom and Gründerkrach: Evidence<br>from European Cross-Listings |

|                   |                                                                                   |     |                                                                                              |
|-------------------|-----------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------------|
| January 18, 2006  | Michele Fratianni, Franco Spinelli (comments by John Driffill and Nathan Sussman) | 112 | Did Genoa and Venice Kick a Financial Revolution in the Quattrocento?                        |
| January 23, 2006  | James Foreman-Peck (comment by Ivo Maes)                                          | 113 | Lessons from Italian Monetary Unification                                                    |
| February 9, 2006  | Stefano Battilossi (comments by Patrick McGuire and Aurel Schubert)               | 114 | The Determinants of Multinational Banking during the First Globalization, 1870-1914          |
| February 13, 2006 | Larry Neal                                                                        | 115 | The London Stock Exchange in the 19th Century: Ownership Structures, Growth and Performance  |
| March 14, 2006    | Sylvia Kaufmann, Johann Scharler                                                  | 116 | Financial Systems and the Cost Channel Transmission of Monetary Policy Shocks                |
| March 17, 2006    | Johann Scharler                                                                   | 117 | Do Bank-Based Financial Systems Reduce Macroeconomic Volatility by Smoothing Interest Rates? |
| March 20, 2006    | Claudia Kwapil, Johann Scharler                                                   | 118 | Interest Rate Pass-Through, Monetary Policy Rules and Macroeconomic Stability                |
| March 24, 2006    | Gerhard Fenz, Martin Spitzer                                                      | 119 | An Unobserved Components Model to forecast Austrian GDP                                      |
| April 28, 2006    | Otmar Issing (comments by Mario Blejer and Leslie Lipschitz)                      | 120 | Europe's Hard Fix: The Euro Area                                                             |