

## **The Enlargement of the Euro area and Optimum Currency Areas**

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## **1. Introduction**

The entry into the euro area by the new EU-member states is inevitable. The Maastricht Treaty in fact mandates these countries to join as soon as they satisfy the convergence criteria. Whether or not one likes these convergence criteria, they are on the books, and many new member states have made it clear that they wish to join the euro area in the way which is prescribed by the Treaty. There can be no doubt that many among the new EU-member states will be successful and will join the euro area pretty soon.

All this has led to some unease -- especially but not only among the euro area's central bankers,. Some feel, in fact, that the entry of the new member states into the euro area should not be rushed. This has in turn lead to some calls for patience and, after all, the euro area itself is the culmination of a process of integration that started – for some EU members—already in the 1950s. Hence, such a feeling of unease has much to do with a perception that the new member states might not yet be ready for a monetary union. This perception is, in turn, very much influenced by the traditional theory of optimum currency areas (OCAs). The latter lays out several conditions that need to be satisfied by a group of partner countries to obtain net benefits from their currency unification. If strictly interpreted, the traditional OCA theory may create a pessimistic outlook on the desirability of entering into a monetary union.

In this paper we first briefly survey some aspects of the traditional OCA theory to address the question of their appropriateness for the new EU-member states. Second, we reflect on some forward looking aspects of the OCA-theory. The start of the euro area has in fact spurred a new interest in the debate on the endogenous effects of monetary integration: i.e., on whether sharing a new single currency might set free forces bringing euro area countries closer together. We survey this literature and analyse its relevance for the new member countries

## **2. The traditional OCA-theory**

The traditional theory of optimal currency areas can be phrased in a nutshell as follows. Countries subjected to asymmetric shocks (*vis-à-vis* some partner countries with whom they are contemplating monetary unification), and lacking flexibility in wages and prices face potentially large adjustment costs when they are members of a

monetary union. The reason is that once they enter such a union these countries cannot use national monetary policies (including the exchange rate) anymore to deal with these shocks. Put differently, when entering a monetary union countries give away an instrument of economic policy that introduces some flexibility in an otherwise rigid economy. Thus entering a monetary union increases the rigidity of these economies.

This analysis continues to be influential and has led to countless empirical studies attempting to measure the size and the frequency of asymmetric shocks. The problem with this analysis, however, is that it pays insufficient attention to the distinction between permanent and temporary shocks. We turn to the need to make this distinction more explicitly in the next section.

### **3. Permanent versus temporary shocks**

Let us call shocks permanent when they entail a change in relative prices, and temporary when they do not necessitate relative price changes. The former arise as a result of changes in preferences and changes in technology (productivity). The latter are typically the result of business cycle movements which tend to reverse themselves.

In general, *permanent* shocks cannot be dealt with by national monetary policies, including exchange rate policies. The reason is that money and the exchange rate are variables that cannot permanently alter relative prices within an economy. All they can do is to change the general price level in the long run. Thus the fact that a country faces a lot of asymmetric shocks is insufficient evidence to conclude that it is unfit to enter a monetary union. If these shocks are permanent in nature it really does not make a difference whether the country is in a monetary union or not.

The only reason such a country might want to remain outside the monetary union is that the use of one's national money and exchange rate may facilitate the dynamics towards the new relative price structure after a permanent shock. Thus, even if shocks are permanent, countries may still have a preference for keeping their monetary policy instruments so as to have a smoother ride towards the new long run equilibrium.

This reasoning can be found in many recent exercises using new open macro models à la Obstfeld-Rogoff. In these models in which a fully informed representative agent

continuously solves a dynamic program, the exchange rate smoothes the adjustment path towards the long-run equilibrium in the presence of price rigidities. As a result, invariably monetary union turns out to be costly compared to the free float alternative.

Is there a reason to believe that national moneys and their exchange rates can perform this smoothing trick in the real world? We will argue that they cannot, and that this is all the more so in the new member states.

First, for exchange rates to perform this stabilizing function, financial markets must be well-developed. There is now a large body of research (see Hausmann and Eichengreen, McKinnon) showing that in the face of poorly developed financial markets the exchange rate behaves erratically and is not a stabilizing force in the economy. Instead, more often than not it becomes a source of disturbance. There is no doubt that the new member states are still far removed from having developed well-functioning financial markets, allowing the exchange rate to become a stabilizing force. In addition, as these countries are very open, these exchange rate movements are likely to be quickly transmitted into local prices, thereby destabilizing the domestic economies.

Second, even if the precondition of well-functioning financial markets are satisfied, there is still an issue of market efficiency. The models referred to earlier that are now being used to evaluate the desirability of a monetary union, all assume efficient markets in which fully informed agents make investment decisions. In such a world, exchange rates reflect underlying fundamentals, and thus always adjust in the right direction when shocks in fundamentals occur. It is now becoming increasingly obvious that this view of the world should be rejected. The amount of empirical evidence against the efficient market model has been building up such that this hypothesis can no longer be taken seriously as a scientific construction. For example, we have discovered that exchange rates like many other asset prices are too volatile given the underlying volatility of the fundamentals, that returns have fat tails and that the random walk is not a good representation of how the exchange rate behaves.

All this casts doubt on the capacity of exchange rates to play a role in stabilizing the real economy for the new member states, as the traditional OCA-theory has led us to believe. Thus, if permanent asymmetric shocks occur in the new member states it is unlikely that the exchange rate will be an efficient instrument to smooth the

adjustment process towards the new long run equilibrium. It is quite possible that the maintenance of national moneys and their exchange rates may make the adjustment process to the new long-run equilibrium more costly compared to a scenario in which these countries get rid of their national moneys and join the euro area.

What about *temporary* asymmetric shocks? Countries are subjected to business cycle shocks which they would like to smoothen. There is no doubt that *in principle* monetary policy can be used to dampen the amplitude of business cycle movements. As a result, a country which for some structural reason faces business cycle movements that are not synchronized with the rest of the monetary union, loses its capacity to smoothen these business cycle movements when entering the monetary union. In that sense there is a cost of membership in a monetary union.

How much is lost? This is the question of the effectiveness of monetary policy as a stabilization instrument. One influential school of thought has it that monetary policies cannot really stabilize the business cycle. The reason is that the systematic use of monetary policies for stabilization purposes undermines the credibility of the central bank's objective of price stability. Too much activism creates an inflation bias and increased macroeconomic instability. This idea which goes back to Friedman and which was further popularized in the Barro-Gordon model is now the consensus view among European central bankers. The European Central Bank makes no secret of its view that the best contribution the Bank can make to maintaining macroeconomic stability, consists in keeping inflation low. To quote the ECB: " a monetary policy that maintains price stability in a credible and lasting way will make the best overall contribution to improving economic prospects and raising living standards " (Monthly Report, January 1999, p. 39-40). In this view there is no need to pursue a specific target for output or unemployment. In fact pursuing such targets would be harmful.

In such a view of the world, it is difficult to see what the new member countries lose by joining a monetary union which promises them price stability, and by the same token, promises them the lowest possible variation in output and employment. If the monetarist paradigm is the correct one, there is no cost for them to join the euro area. There are only benefits that arise from the efficiency gains of using a common currency (lower transaction costs, less exchange risk, more price transparency).

Whether this is the correct view of the world remains to be seen. Some argue that central banks could do better than just targeting the rate of inflation. Most probably, they could, at least in principle. The question that arise here is whether in practice the new EU member states will be more successful in stabilizing their economies by staying outside the euro area than by joining this zone.

Success in macroeconomic stabilization depends on many factors, but most of all on institutional and political ones. Institutional features that enhance the capacity of a central bank to stabilize the economy include political independence. Political stability and sustainable fiscal policies are other features that appear to be of great importance. Without these political and institutional prerequisites the monetary authorities are likely to be handicapped in pursuing stable monetary policies. Although the new member countries have made impressive steps towards building a stable institutional and political infrastructure, the job is not completed yet. As a result, it is unclear whether these countries can deliver more macroeconomic stability by staying outside the euro area than by joining the zone, at least in the medium term.

In the long run there is no doubt that Central European countries will succeed in developing stable institutional and political environments that make it possible to pursue more active stabilization policies. Some Scandinavian countries (Norway, Sweden) come to mind as examples of countries that have been successful in this area. Most new member countries will however not take the risk of staying outside the euro area until they have perfected their institutions, so as to be able to experiment with national stabilization policies before making up their mind about entry in the union. They are more likely to enter the euro area soon. Since membership in the euro area is irreversible (to the extent that such a thing exists) they will never know how well they could have done outside the union in terms of stabilization.

#### **4. Endogeneity of the OCA-criteria**

The launch of the euro area has spurred a rich debate on the endogenous effects of monetary integration. Much of the merit for having kick-started this debate goes to Andrew Rose and Jeffrey Frankel (see Rose (2000 and 2002 a and b) and Frankel and Rose (1997 and 2001)). In this part of the paper we explore four areas in which

endogeneities are likely to occur and analyse their pertinence for the new member states, including:

- a. the endogeneity of trade integration,
- b. the endogeneity of financial integration or equivalently of insurance schemes provided by capital markets.
- c. the endogeneity of symmetry of shocks;
- d. the endogeneity of product and labour market flexibility.

#### **4.1 Some theoretical considerations**

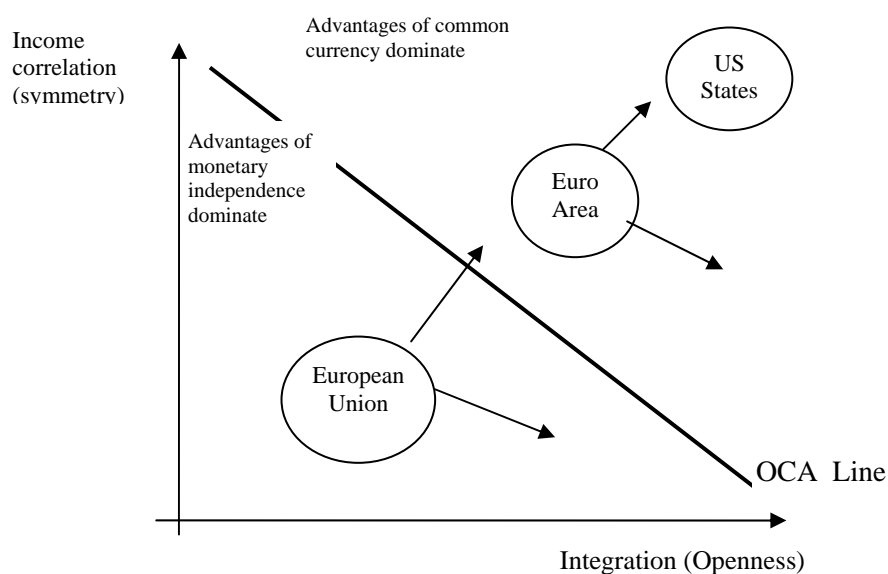
The four endogeneities are linked together. In this section we develop some theoretical considerations about these links. We begin by looking at interaction between integration (both trade and financial) and symmetry of shocks. We

##### **Economic integration and symmetry of shocks**

The degree of economic integration and the symmetry of shocks are crucial in assessing the net benefits from currency union. We illustrate this in Figure 1. The OCA-line is the collection of combinations of symmetry and integration among groups of countries for which the cost and benefits of a monetary union just balance. It is downward sloping for the following reason. A decline in symmetry (increase in asymmetry) raises the costs of a monetary union. These costs are mainly macroeconomic in nature. They arise because the loss of a national monetary policy instrument is more costly as the degree of asymmetry increases. Integration is a source of benefits of a monetary union, i.e. the greater the degree of integration the more the member countries benefit from the efficiency gains of a monetary union. Thus, the additional (macroeconomic) costs produced by less symmetry can be compensated by the additional (microeconomic) benefits produced by more integration. Points to the right of the OCA-line represent groupings of countries for which the benefits of a monetary union exceed its costs. We have put the US states and the Euro area to the right of the OCA-line because we believe that the microeconomic benefits of these monetary unions more than compensate their macroeconomic costs.

To the left of the OCA line the benefits from monetary independence dominate the efficiency gains from the union. We have put the European Union as a whole to the left of the OCA-line because we believe that these countries are not yet sufficiently integrated to generate efficiency gains that will compensate for the macroeconomic costs of the union. We realize, however, that this is a controversial issue and that not all economists may agree on this.

**Figure 1. Integration, symmetry and OCA**



The degree of economic integration and symmetry evolve over time. There are different views on such evolution (as illustrated by the arrows around the EU and Euro circles in Figure 1). As is discussed below, most authors agree that integration is likely to increase among countries sharing a single currency. The intuition is the following: the introduction of the single currency will contribute to reducing trading costs both directly and indirectly, e.g., by removing exchange rate risks (and the cost of hedging) and diminishing information costs. The single currency will also spur transparency and competition, lessen segmentation, and reduce transportation and transaction costs.

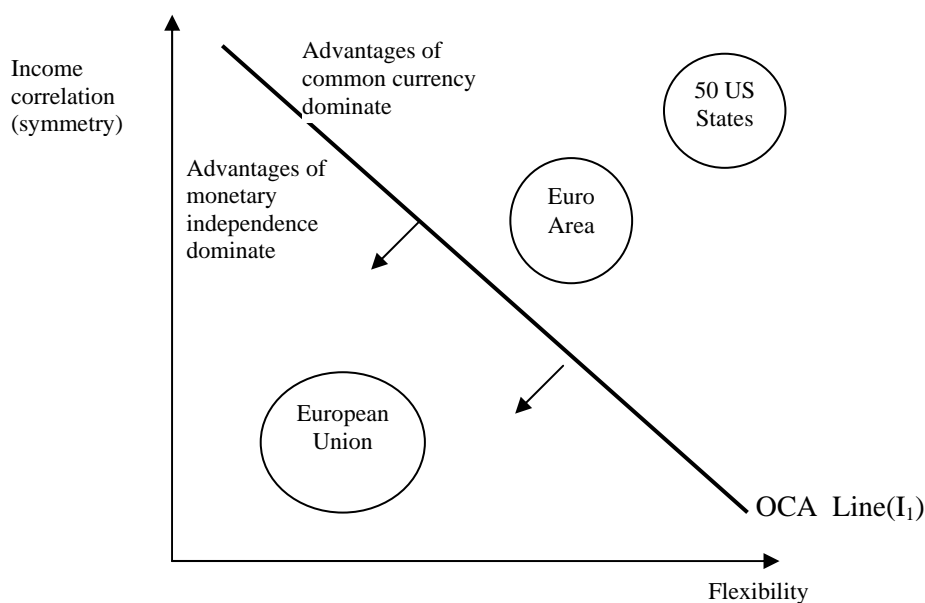
There is disagreement concerning the extent to which symmetry will be affected in a monetary union. In one case the increased integration raises income correlation (and reduces asymmetry of shocks). The EU then moves along the upward arrow. In another case, that we call the specialisation case, we move along the downward sloping arrows in figure 1. This then produces the opposite effect, and more flexibility for the monetary union would be required as is discussed next.



## Symmetry and flexibility

In addition to the degree of economic integration and income correlation there is another important dimension to judge the merit of monetary integration, i.e., the degree of flexibility. The trade-off between symmetry and flexibility is illustrated by the downward sloping “OCA line” in Figure 2. Points on the OCA-line define combinations of income correlation (symmetry) and flexibility for which the costs and the benefits of a monetary union just balance. It is negatively sloped because a declining degree of symmetry (which raises the costs) necessitates an increasing flexibility (which is a source of benefits of a monetary union). To the right of the OCA-line the degree of flexibility is large given the degree of symmetry, so that the benefits of the union exceed the costs. To the left of the OCA-line there is insufficient flexibility for any given level of symmetry. Note that the OCA-line is drawn for a given level of integration ( $I_1$ )

**Figure 2. Symmetry, flexibility and OCA**



We locate the 50 US States and the current a on the right of the OCA line, but this can be disputed. Some authors doubt that the European Union (EU) as a whole should share a single currency, and we illustrate this by placing the EU on the left of the OCA line. Assuming that the newly enlarged EU25 is not yet in the OCA zone, how does further integration affect the movement towards OCA? The OCA-line was drawn for a given level of integration ( $I_1$ ). Increasing integration has the effect of shifting the OCA-line downwards, i.e. when integration increases the benefits of the union increase so that we need less flexibility and/or less symmetry to make the monetary union beneficial. If there is endogeneity in integration then starting a monetary union among the EU will bring it closer to

the OCA-zone .Thus the dynamics of integration of the new member countries will by itself improve the tradeoff between symmetry and flexibility.

There is interaction between integration, flexibility and symmetry that we now analyze in more detail. Let's postulate that the net benefits of monetary union (B) are a positive function of :

- the degree of flexibility (F)
- the degree of symmetry (S)
- the degree of integration (I)

We can specify the relation between net benefits (B) and the three variables, F, S; and I as follows (assuming that these relationships are linear)

$$B = \alpha F + \beta I + \gamma S$$

where  $\alpha$ ,  $\beta$ ,  $\gamma$  are positive parameters. This allows us to derive the OCA-plane, i.e. the combinations of F, I and S for which the net benefits of a monetary union are zero. Set  $B=0$ , then:

$$F = -\beta'I - \gamma'S$$

where  $\beta' = \beta/\alpha$  and  $\gamma' = \gamma/\alpha$  . A graphical representation of this relation is given in figure 3. We have normalized the variables such that

$$0 < I < 1 \text{ and } -1 < S < 1;$$

Thus, S can be positive and negative depending on whether shocks are symmetric or asymmetric. Figure 3 synthesises the three trade-offs:

- the trade-off between flexibility and integration
- the trade-off between symmetry and flexibility
- the trade-off between symmetry and integration

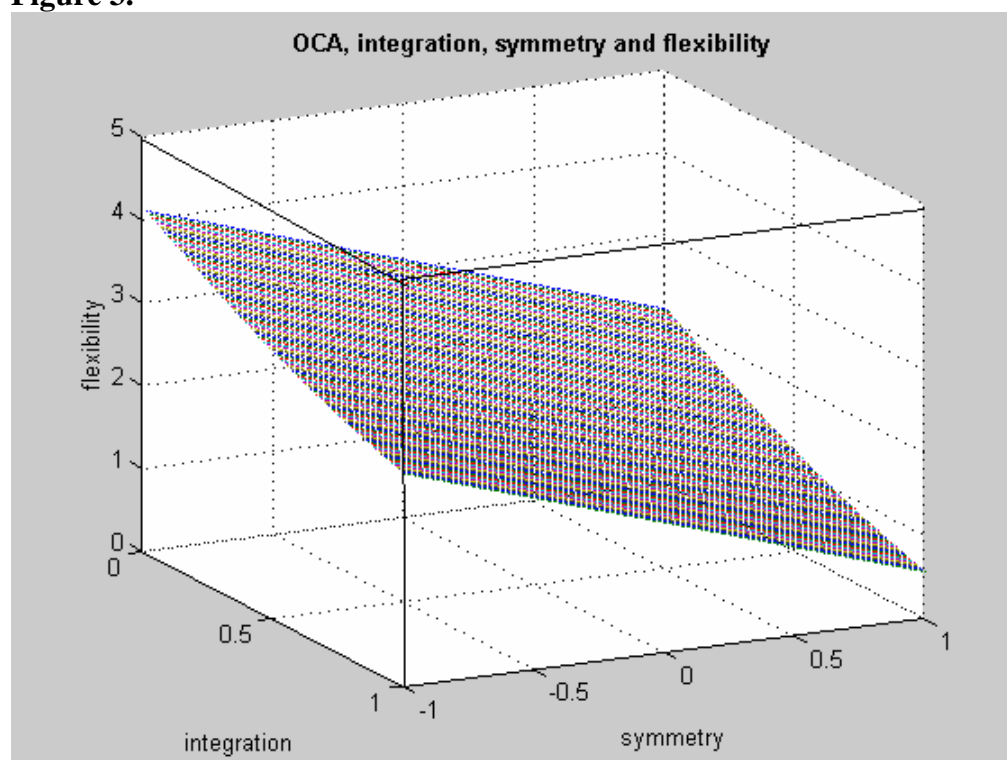
The figure also highlights the interaction between these tradeoffs. To illustrate this, let us concentrate on the trade-off between symmetry and flexibility, which shows that when symmetry declines more flexibility is needed to make OCA beneficial. It can be seen that this trade-off depends on integration. Start with zero integration and let it gradually increase. Then the relationship between symmetry and flexibility is shifted downwards, i.e. one needs less flexibility for any given level of symmetry.

There are more such interactions. Let us focus on the trade-off between integration and flexibility. This trade-off is influenced by the degree of symmetry. An increase in the latter leads to a downward shift of the trade-off between integration and flexibility. Finally, there is a trade-off between integration and symmetry. This trade-off is influenced by the degree of flexibility. When flexibility increases the trade-off between integration and symmetry shifts downwards so that one needs less of both integration and symmetry to make a monetary union advantageous.

These interactions are important for understanding endogeneities and their interdependence. Let us assume that the European Union 25 as a whole is located below the OCA-plane. A decision to form a monetary union then sets in motion different endogeneities. First, integration is likely to increase. This has the effect of improving the symmetry-flexibility trade-off thereby facilitating the movement into the OCA-zone. A second endogeneity is symmetry. The decision to enter monetary union has the potential to increase symmetry. This in turn improves the trade-off between flexibility and integration, thereby facilitating the movement into the OCA-zone.

In this sense, endogeneities in integration, symmetry and flexibility reinforce each other, and speed up the process into the OCA-space. In the next section we discuss the empirical evidence about these endogeneities.

**Figure 3.**



## 4.2 Empirical evidence on endogeneity of economic integration

In what follows we start by discussing some research focussing on trade. Financial integration is discussed in 4.2.

### a. Monetary union and trade

Several recent studies have improved our knowledge of the effects of a monetary unification (union) on trade. First, Engel and Rogers (1995) found that crossing the border between the US and Canada has an impact on relative price volatility, equivalent to an addition of, at least, 1780 miles, to the distance between cities. Second, McCallum (1995) and Helliwell (1998) conclude that Canadian provinces are 12 to 20 times more likely to trade with each other than with US states. Third a series of studies initiated by Andrew Rose<sup>1</sup> and using large panel data sets, find that membership in a currency union leads to a multiplication of trade by a factor of three or more.

Although these results were received with some scepticism, the trade creation effects from monetary unification proved to be quite robust qualitatively. There are however some qualifications.<sup>2</sup> Recent research by Melitz (2001) and Persson (2001) comes out with substantially lower estimates. The minimum point estimate (from Persson) still suggests a 13 per cent increase in trade from currency unification with a preferred estimate of around 40 per cent.

### b. Some “early” evidence: the effects of the euro on euro area trade

The empirical evidence discussed above relates to monetary unions in general. Does the introduction of the euro have a similar potential for trade creation. Recently this question has been analysed. Rose and Van Wincoop (2001) use an estimated version of the theoretical model of Anderson and van Wincoop (2001) to infer the impact from EMU on intra Euro Area trade and welfare. They conclude that intra euro area trade would expand by more than *50 percent*. Interestingly a similar order of magnitude is also postulated by Bun and Klaassen (2002) who use a dynamic panel model finding a cumulated long-run effect of about *40 percent*. Micco, Stein and Ordoñez (2003) corroborate these findings.

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<sup>1</sup> See amongst others Rose (2000), Rose (2001), Frankel and Rose (2000), and Rose and van Wincoop (2001).

<sup>2</sup> For example, Quah (1999) notes that this empirical evidence pertains to a narrow set of relatively small (or even tiny) countries/territories representing about 1% of the sample used by Frankel and Rose (2002) and Rose (2000). Such entities have at times adopted the currency of a much larger partner country: often the US or some other former coloniser, or a large neighbour, or an important trading or financial partner of the small country.

The previous results relate to the likely long-term effects. They are impressive. As far as the short-term effects are concerned, the evidence suggest that it may take some time for these effects to be realized. Bun and Klaassen (2002) using a dynamic panel model find that the euro has increased trade by 4 percent in the first year.

Anderton and Skudelny (2001) estimate an import demand function for the euro area vis-à-vis its main extra-area trading partners which takes into account the possible impact of both intra- and extra-euro area exchange rate uncertainty. Using some panel estimates they find that extra-euro area exchange rate volatility may have reduced extra-euro area imports by around 10 per cent resulting in some substitution between extra- and intra-euro area imports. This is an important qualification of the above Trade Evidence.

In summary, the above trade evidence leads to some ambiguities. The theory and the empirical evidence of the trade creating effects of a monetary union is now well-established. At the same time, the evidence of such an effect in the euro area is still limited. An explanation might be that the trade creating effects of a monetary union take a lot of time to be felt (see Mongelli, Dorrucchi and Agur (2004) on this issue).

### **4.3 Empirical evidence on endogeneity of financial integration (i.e., insurance schemes)**

Defining financial integration is a broad and complex task as it embraces a wide array of financial intermediaries, a variety of financial market segments, and an assortment of financial instruments. Following Ferrando et alii (2004) we postulate that financial integration is achieved when all potential market participants with the same relevant characteristics: (1) face a single set of rules when they decide to deal with those financial instruments and/or services; (2) have equal access to the above-mentioned set of financial instruments and/or services; and (3) are treated equally when they are active in the market.

#### **a. Effects of financial integration**

Financial integration generates several widely accepted benefits such as the improved allocation of capital, higher efficiency, and higher economic growth. Graphically, financial integration has the effect of endogenously shifting the OCA lines in Figures 1 and 2 downwards (i.e., raising the net benefits from EMU). Amongst others, financial markets can provide a significant source of insurance against asymmetric shocks. To the extent that monetary unification enhances financial integration, it will endogenously improve insurance against asymmetric shocks, thereby reducing the costs of a monetary union: an important endogenous component for EMU.

One interesting line of research has led to the identification of a “border effect” also for financial market integration. Atkeson and Bayoumi (1993), Bayoumi and Klein (1997) and Crucini (1999) all find that risk sharing across the regions of a country is significantly larger than across countries. Asdrubali, Sorensen and Yosha (1996) looked at channels of interstate risk sharing in the US. They focused on shocks to gross state product and found that: 39% of the shocks were smoothed through *capital markets*, 23% are smoothed through *credit markets* and 13% through the *federal government*. 25% are not smoothed. Hence, financial markets and institutions in the US contribute with 62% (i.e., 39% + 23%) to the absorption of state idiosyncratic shocks. The effect is about five times more important than the federal budget.

However, the above findings do not carry over to the EU/euro area because the European Union is not currently endowed with a “Federal Budget” i.e., a supranational shock-absorbing scheme. Also, European monetary integration is in its infancy, and financial integration is still modest overall (but rising) as we shall see. But over time financial market integration in the EU/euro area might lead to stronger inter-national risk sharing.

### **c. Some “early” evidence: the effects of the euro on financial prices, interest rates and equity returns**

Money markets integrated almost immediately after the introduction of the euro. The transition was smooth and swift. However, even in money markets, integration has not progressed in a uniform way in the different market segments. The unsecured deposit market may be regarded as fully integrated. The repo segment, where market participants exchange short run liquidity against collateral is less well integrated (see Berg, Grande and Mongelli (2004) and ECB, July 2001 “The Euro area Money Market Report”).

Looking at bond markets it is clear that the integration of financial markets in the euro area started well before Stage 3 of Economic and Monetary Union. Yield differentials among euro area government bonds converged markedly since 1996. This convergence accelerated further after the pre-announcement of the irrevocable fixing of parities in May 1998. Since May 1998 yield differentials have only rarely exceeded 40-50 basis points while in early nineties spreads of more than 500 basis points – mostly reflecting inflation differentials – were not uncommon.<sup>3</sup> However, Adjaoute, Danthine and Isakov (2003) discern no obvious pattern in

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<sup>3</sup> There are diverse explanations for this phenomenon: institutional investors have, to some extent, seized the opportunities opened by the disappearance of relevant currency matching restrictions. there was also a sharp drop in interest rate volatility for each country; and a convergence in nominal yields due to the convergence in inflation rates.

the dispersion of *ex-post* real yields *pre- and post*-EMU. But still there is a considerable decrease in volatility of real yields.

Adjaoute, Danthine and Isakov (2003) find some new evidence that the equity risk premium may have decreased in Europe reducing the cost of capital. There is also evidence that the structure of equity returns has changed in Europe: country factors now appear to be dominated by the factors associated with industries or sectors. Adjaoute, Danthine and Isakov conclude, however, that there is little evidence in support of the hypothesis that the average European investor is now more financially diversified than in the recent past. Rather European financial markets continue to be seriously undiversified. See Galati and Tsetsaronis (2001) BIS.

Angeloni and Ehrmann (2003) seek evidence of euro area-wide banking integration and the degree of interest rate pass-through using post-1999 data. They show that the pass-through of changes in money market rates is not only faster and more complete but also increasingly homogenous across the euro area. Bank retail rate spreads have also fallen steadily.

From the preceding evidence, one can conclude that some progress has been made towards more financial integrations in the euro area. There is no doubt that this progress, especially in the money and bond markets has been due to the introduction of the euro. Yet, the euro area is still far from a unified financial market. The view of Giovannini (2002) according to which European financial markets are still a *juxtaposition* of national markets may not be far off the mark. .

#### **4.4 Empirical evidence on endogeneity of symmetry of shocks.**

Several authors note that the process of economic integration affects the symmetry of output fluctuations through diverse channels. According to Frankel and Rose (1998) the removal of trade barriers raises trade, allows demand shocks to more easily spread across the trading partners, and leads to more correlated business cycles. They also mention that policy shocks will become more correlated. Coe and Helpmann (1995) argue that knowledge and technology spillovers will also increase with economic integration and support symmetry of output fluctuations.

Kalemli-Ozcan, Sørensen, Yosha (2001) argue instead that higher financial integration may lead to more asymmetric macroeconomic fluctuations, possibly counterbalancing the other channels. The argument runs as follows. Economic integration leads to better risk-sharing opportunities (income insurance) through financial market

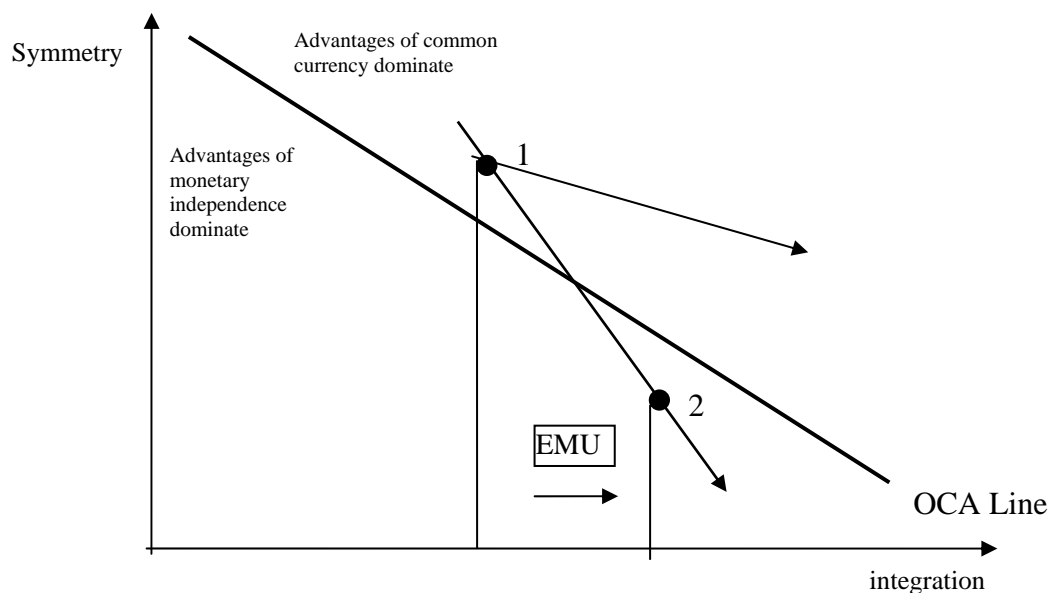
integration. This in turn makes specialisation in production more attractive, rendering macroeconomic fluctuations less symmetric.

The implications for EMU of the work of all these channels could be substantial. We illustrate these with the following two distinct (illustrative) paradigms -- specialisation versus endogeneity of OCA -- which have different implications for the benefits and costs of a single currency.

#### a. The specialisation paradigm

The specialisation paradigm postulates that as countries become more integrated, they become increasingly specialized. The dynamics underlying this process is based on economies of scale and agglomeration effects. Members of a currency union would then become less diversified and more vulnerable to asymmetric shocks. Correspondingly their incomes will become less correlated. Kalemli-Ozcan, Sørensen and Yosha (2001) provide empirical evidence that financial integration enhances specialisation in production. The consequence is that an increase in integration could move a group of countries that are in the OCA-zone outside this zone, e.g., from point 1 in Figure 11 to point 2. Whether it does this depends on the relative strength of two opposing forces that result from increased integration: the increase in asymmetry which increases the costs of the union and the increase in the efficiency gains of the monetary union.

**Figure 4. Specialisation Increases and Correlation of Incomes**

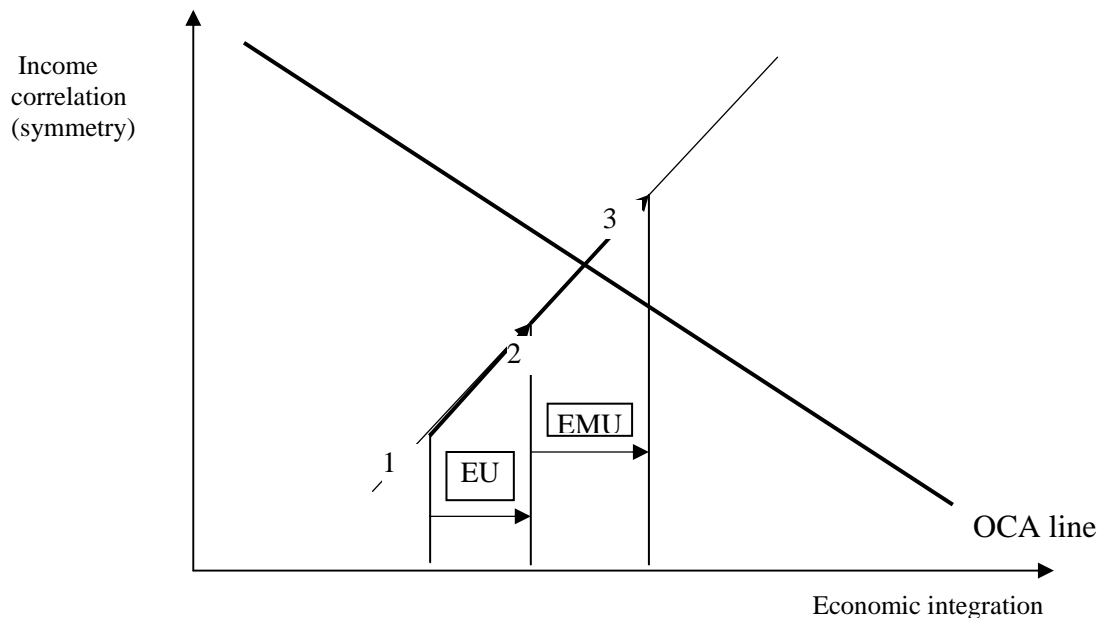




## b. The “endogeneity of OCA” paradigm

The second paradigm is the “*endogeneity of OCA*” hypothesis that postulates a positive link between income correlation and trade integration. The basic intuition behind this hypothesis is that a common currency as “a serious and durable commitment” (McCallum (1995)). It precludes future competitive devaluations, facilitates foreign direct investment and the building of long-term relationships, and may over time encourage forms of political integration. This will promote reciprocal trade, economic and financial integration and it will foster business cycle synchronisation among the countries sharing a single currency. This idea is represented graphically in Figure 12.

*Figure 5. A Country Joins the EU and then EMU and the “Endogeneity” of OCA Dominates*



The group is initially on the left of the OCA line. If these countries join together and form a “union,” such as the European Union (EU), both trade integration and income correlation within the group will rise: i.e., they will gradually move to point 2. If the same countries were to start a currency area -- e.g., EMU -- the degree of trade integration and income correlation within this group would rise even further and the group would subsequently find itself on the right of the OCA line.

## d. The empirical evidence thus far for specialization or endogeneity of OCA

Frankel and Rose (1996) have undertaken important empirical research relating to this issue. They analysed the degree to which economic activity between pairs of countries is correlated as a function of the intensity of their trade links. Their conclusion was that

a closer trade linkage between two countries is strongly and consistently associated with more tightly correlated economic activity between the two countries. This is also confirmed in the studies of Rose and Engel(2001) and Rose(2002). Similar evidence is presented in Artis and Zhang (1995), who find that as the European countries have become more integrated during the 1980s and 1990s, the business cycles of these countries have become more correlated.

There is another piece of empirical evidence that enhances the view that economic integration may not lead to increased asymmetric shocks within a union. This has to do with the rising importance of services. Economies of scale do not seem to matter as much for services as for industrial activities. As a result, economic integration does not lead to regional concentration of services in the way it does with industries. As services become increasingly important (today they account for 70% or more of GDP in many EU-countries) the trend towards regional concentration of economic activities may stop even if economic integration moves forward. There is some evidence that this is already occurring in the USA. In a recent study, the OECD(2000) came to the conclusion that the regional concentration of economic activities in the USA started to decline after decades of increasing concentration.

#### **d. Concluding observations on the endogeneity of symmetry of shocks**

In summary, there seems to be some evidence indicating that in the past increased integration has led to more symmetry in economic shocks. Whether this will continue to be so in the future remains uncertain. Economies of scale and agglomeration effects may do their work in enhancing asymmetries. In addition, it is difficult at this stage to gauge the effect of financial integration on specialisation. Nevertheless we are inclined to conclude that the endogeneity of the OCA-paradigm will tend to prevail.

#### **4.4. Endogeneity of product and labour market flexibility**

In this section we analyse the conditions in which a monetary union will be a device to increase product and labour market flexibility. The task of this section is probably the most difficult of all because measuring product and labour market flexibility is a delicate task. Hence, we will use also indirect measures and indicators (and some proxies of flexibility), including national income policies, labour market reforms, and so forth.

**a. Some “early” evidence: the effects of the euro on wages**

A visible phenomenon of recent years has been an impressive progress toward nominal stabilisation in the run-up to EMU and since the start of Stage 3 of EMU. A large part of this stabilisation of nominal wages has to do with the decline in inflation observed during the same period. There may, however, be more involved. Calmfors (2001) and Pichelmann (2003) note that this wage moderation had coincided with a reappearance of national income policies, a strengthening of national wage co-ordination in some countries, and longer contract periods in some others (as a result also of lower negotiation costs and a higher predictability of real wages).

The increased use of national wage policies is probably linked to the monetary discipline imposed by a common currency. There are other areas in which the common currency affects the wage bargaining process. In particular, monetary unification, may affect wage bargaining more generally by enhancing price transparency and fostering competition in product and service markets. This reduces the potential rent to be shared by workers and firms and encourages a de-centralisation of wage bargaining.

**c. Looking at labour market reforms and policies**

Is EMU encouraging or hindering labour market reforms? As so often in economics there are strikingly opposing views on this issue. One view is pessimistic and argues that a monetary union weakens the incentives to introduce structural reforms. This view is exemplified by Saint-Paul and Bentolila (2002). These authors note that the loss of monetary policy discretion at the country level lowers the incentive to undertake large-scale reform of labour markets as it precludes a “two-handed” approach according to which macroeconomic stimulus should facilitate structural reforms. They conclude, however, that EMU increases the likelihood of having *gradual* reforms and co-ordination of reform across countries.

Other representatives of this pessimistic school of thought are Soskice and Iversen (1998) and Coricelli, Cukiermann and Lippi (2000)). These authors are concerned that with EMU the “deterrence argument” might be weakened, or at least diluted, so that incentives for real wage restraints could be diminished.

A second more optimistic view is to be found in Blanchard and Giavazzi (2001) according to these authors, product market deregulation and enhanced competition decrease total rents to be shared, the incentives for workers to appropriate such rents would then decrease making labour unions weaker, reducing insider power and leading to labour market deregulation. In this connection, Jean and Nicoletti (2001) find a significant relationship between product market regulations in several sectors and wage premia.

#### **d. Empirical evidence on an EMU-effect of labour market reforms**

*Which labour market reforms do we actually see?* Bertola and Boeri (2003) conduct an insightful experiment: they take stock of reforms carried out in Europe in the field of employment protection and non-employment benefits. In a first step they look at the broad orientation of reforms: in the case of employment protection whether they are becoming more or less stringent, and in the case on non-employment benefits whether their “reward” would increase or decrease. Non-employment benefits include a variety of rewards: the most important are unemployment benefits, but various other cash transfers are also included, as well as pensions and some forms of employment protection.

The second step in their exercise is articulated in two distinct stages. In a first stage they classify reforms as marginal or radical depending on whether the reforms are comprehensive, involve existing entitlements and reduce replacement rates of the average production worker by 10 percent or more. The second stage is a validation procedure to verify the actual behaviour of the series. This requires collecting a number of successive observations to confirm the initial qualitative assessment (and exclude that a reform has been reverted). An important working assumption by the authors is that they choose a relatively early EMU break, i.e., 1995, presuming that the convergence process led by the Maastricht Treaty Criteria, and expectational effects of EMU even preceding 1997 were at work.

They report then reform frequencies on -- per-country and per-year basis -- for 1987 through 2002 for euro area and non-euro area EU countries. The impact of EMU on reforms is visible since mid-1990s and particularly for reforms of non-employment benefits. The data indicate an acceleration of reforms especially in the euro area and in the field of non-employment benefits. Bertola and Boeri caution against any over-interpretation of these results as it will take more time to understand the joint effect of many reforms (several of which are marginal or are offset or compensated by measures to compensate specific interest groups).

A very different approach is pursued by Morgan and Mourougane (2003) who show an increasing relevance of Active Labour Market Measures (ALMMs) across all European countries during 1985 and 2000. In percentage of GDP, ALMMs grew to about 1 % in 1999/2000 .

#### **d. Some concluding observations on the endogeneity of labour market flexibility**

In summary, there has been significant progress towards wage moderation and discipline. This progress, however, was made prior to the start of EMU, and has been maintained since.

It is not inconceivable that the wage moderation occurring prior to 1999 was influenced by the expected start of EMU and the discipline imposed by the Maastricht convergence requirements.

More importantly, several empirical studies have uncovered an endogenous component in labour market flexibility. Despite the fact that the theory is unable to predict whether a monetary union gives incentives to introduce labour market reforms, the preliminary empirical evidence suggests that EMU does create incentives to introduce more labour market flexibility.

## **5. Conclusion**

In this paper we brought together some insights from the theory of optimum currency areas and applied it to the issue of enlargement of the euro area. We started by stressing that a distinction should be made between permanent and temporary asymmetric shocks. This analysis led to the conclusion that the member countries face two kinds of costs of entering the monetary union. One arises from the fact that shocks requiring relative price changes (permanent shocks) may be more difficult to accommodate for once these countries are in a monetary union. The second source of costs arise from the fact that these countries will not be able to use monetary policies to stabilize the business cycle. We argued, however, that these costs are likely to be small for most prospective candidates.

In the second part of the paper we analysed endogeneities in the OCA-criteria. This idea stresses that even if today these criteria may not be satisfied (which is uncertain given our previous conclusion) the endogeneity of the OCA-criteria will solve this problem and move the new member countries safely into the euro area. We surveyed the theoretical and empirical literature and came to a conclusion of moderate optimism. The different endogeneities that exist in the dynamics towards optimal currency areas are at work. This should lead to a situation in which the enlarged euro area becomes an area in which both the existing members and the newcomers find it to their advantage to live in. We should recognize, however, that so much is uncertain about the optimality of currency unions that this conclusion cannot be taken for granted.

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