

Preliminary draft

**What have we learnt about monetary integration
since the Maastricht Treaty?**

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The late 1980s and the early 1990s are turning points in the history of monetary unification in Europe. It is the time of the Delors report which provided the intellectual basis of the Maastricht Treaty. The latter was signed in 1991 and developed the blueprint for monetary union in Europe. At the end of the 1990s monetary union became a fact of life in the largest part of the European Union. .

What have we learned since the Treaty was signed? This is the question we attempt to answer in this paper. Let us first look at the views prevailing at the time of the signing of the Treaty. We will then return to the question of what we learned since then.

1. Mundell I and Mundell II

At the time of the signing of the Treaty the economic profession was still struggling with the pros and cons of monetary union. This is also evident from my textbook “The Economics of Monetary Integration” first published in 1992, which could not make up its mind whether a monetary union in Europe was a good idea. The reason is that at the time there were really two theories competing for academic attention, with very different policy implications. Following McKinnon(2004), I will call the first of these theories, Mundell I, and the second theory, Mundell II. Mundell I provided the basis for widespread skepticism about the desirability of a monetary union in Europe, while Mundell II was used by the proponents of monetary union.

Mundell I is the traditional theory of optimal currency areas (OCA) pioneered by Mundell(1961) in the early 1960s and further elaborated by McKinnon(1963), Kenen(1969) and others. The OCA-theory determines the conditions that countries should satisfy to make a monetary union attractive, i.e. to ensure that the benefits of the monetary union exceed its costs. This theory has been used most often to analyze whether countries should join a monetary union. It can also be used to study the conditions in which existing members of a monetary union will want to leave the union. (I will come back to this aspect of the theory later).

The conditions that are needed to make a monetary union among candidate member states attractive can be summarized by three concepts

- Symmetry (of shocks)
- Flexibility

- Integration

Countries in a monetary union should experience macroeconomic shocks that are sufficiently correlated with those experienced in the rest of the union (*symmetry*). These countries should have sufficient *flexibility* in the labour markets to be able to adjust to asymmetric shocks once they are in the union. Finally they should have a sufficient degree of trade *integration* with the members of the union so as to generate benefits of using the same currency.

One can summarize this theory in the form of graphical representations (see De Grauwe(2005)). This is done in figures 1 and 2.

Figure 1 presents the minimal combinations of *symmetry* and *flexibility* that are needed to form an optimal currency area by the downward sloping OCA-line. Points on the OCA-line define combinations of 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. To the right of the OCA-line the degree of flexibility is sufficiently large given the degree of symmetry to ensure 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.

Figure 2 presents the minimal combinations of *symmetry* and *integration* that are needed to form an optimal currency area. The OCA-line represents the 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 raises the costs of a monetary union. These costs are mainly macroeconomic in nature. 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.

Figure 1: Symmetry and flexibility as OCA-criteria

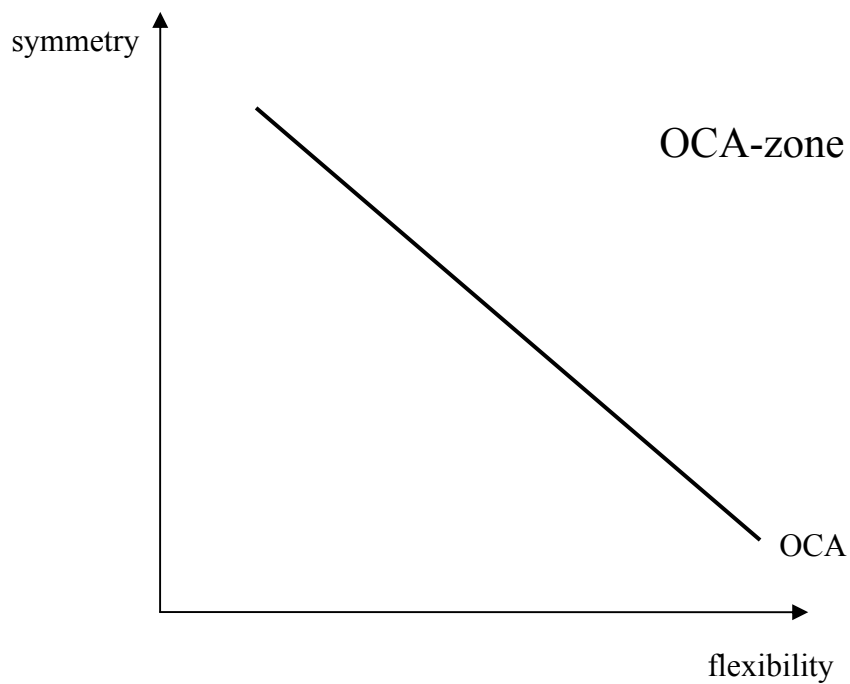
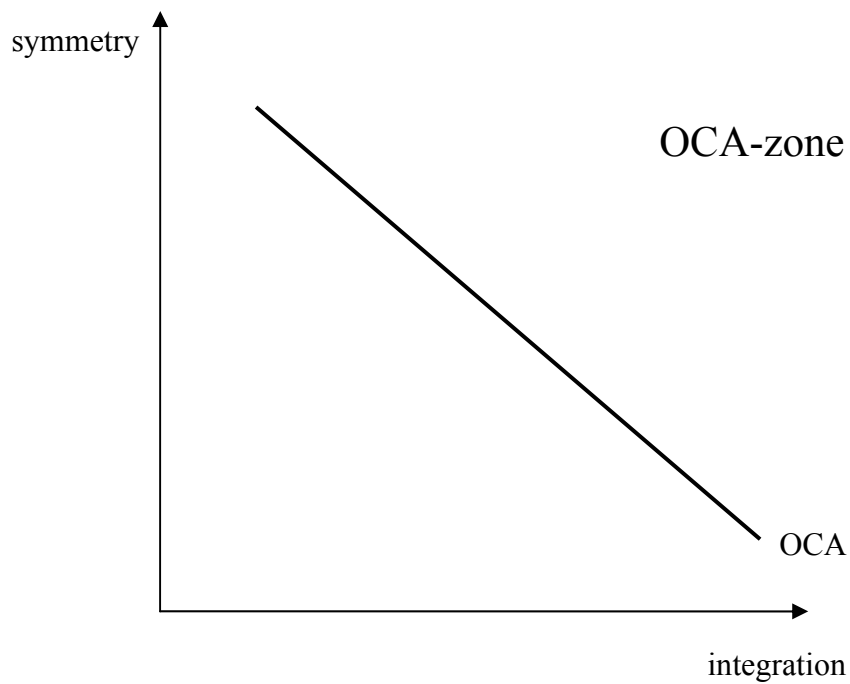


Figure 2: Symmetry and integration as OCA-criteria



The presumption of many economists at the end of the 1980s was that the EU-countries should be located to the left of the OCA-lines in Figures 1 and 2, i.e. given the degree of integration achieved in the EU there was still too much asymmetry and

too little flexibility for the EU to form a monetary union whose benefits would exceed the costs.

There was another intellectual tradition, however, going back to a relatively obscure paper of Mundell published in 1973 (Mundell(1973)). Its main insights can be summarized as follows. The new Mundell (Mundell II) starts from the situation of a world of free mobility of capital; a situation that was emerging in the seventies but that seemed remote at the start of the sixties. In a world of free mobility of capital the exchange rate ceases to be a stabilizing force. Instead, according to Mundell II, the exchange rate becomes a target of destabilizing speculative movements and thus a source of large asymmetric shocks. Thus, the view of Mundell I implying that the exchange rate could be used to stabilize the economy after an asymmetric shock should be abandoned. Needless to say that this view is not very popular among the crowd of believers in the efficiency of the foreign exchange markets. In fact, the view expressed by Mundell II is based on the idea that foreign exchange markets are not efficient and should not be trusted to guide countries towards macroeconomic equilibrium.

There is a second insight in Mundell II. This is that only in a monetary union capital markets can be fully integrated so that they can be used as an insurance mechanism against asymmetric shocks (see Asdrubali et al. (1996)). When countries remain outside a monetary union they cannot hope to profit from insurance against asymmetric shocks provided by capital markets in the rest of the world. The reason is that the large and variable exchange risk premia prevent these capital markets from providing insurance against asymmetric shocks.

Thus the world of Mundell II is one in which countries that stay outside a monetary union will have to deal with large asymmetric shocks that arise from the instability of international capital flows. In addition, these countries' ability to insure against traditional asymmetric shocks is severely restricted when they stay outside a monetary union. With such an analysis it should not be surprising that Mundell II became a major promoter of monetary union in large parts of the world, and in particular in Europe.

At the time the Maastricht Treaty was signed most academic economists' minds were framed by Mundell I and skepticism about the prospects of a monetary union was widespread. In the end Mundell II prevailed. Why did this happen?

There was first the collapse of the EMS in 1992-93. This historical episode made clear that in a world of free mobility of capital fixed exchange rates were unsustainable as long as central banks maintained their own independent monetary policies. The EMS-crisis convinced many continental European economists that a choice had to be made for one of the two "corner solutions" in exchange rate regimes, i.e. full flexibility of exchange rates or monetary union. Many decided that the latter would be the least bad choice. Mundell II triumphed on the European continent.

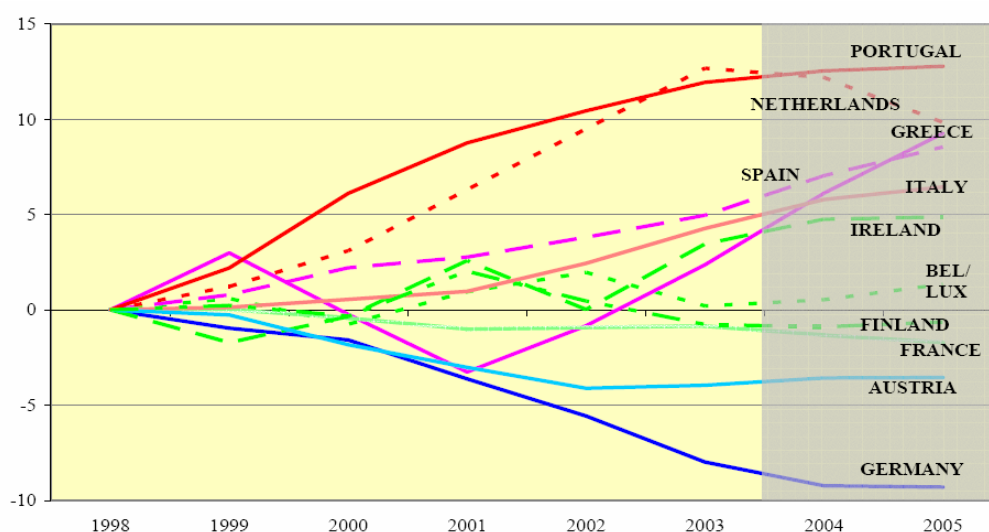
There was also the effect of an intellectual revolution that was started in the 1970s in the academic world and that reached the policy world during the 1980s. This was monetarism. Mundell I is very much a Keynesian theory, stressing that in a world of price and wage rigidities monetary policies, including exchange rate policies, can be used effectively to stabilize the economy. Monetarism, instead stressed that activist monetary policies become sources of instability and that central banks should focus on their core business which is to maintain price stability. The logical consequence of monetarism was the view that central banks do not lose their capacity to stabilize their national economies when entering a monetary union, since they did not have such a capacity in the first place. In this monetarist vision (and Mundell II was also an outgrowth of monetarism) the costs of a monetary union are small. In terms of our figures 1 and 2, the OCA line is located very close to the origin. The OCA-region is a vastly expanded one.

These developments explain why EMU became possible on the European continent. One of the paradoxes, however, is that as the Mundell II framework that explains the successful start of the Eurozone will be pushed in the background and will increasingly be forgotten, the Mundell I analysis will gain in importance again. This is already evident in a number of countries that have recently experienced large losses of competitiveness (an asymmetric shock). We show the real effective exchange rates in the Eurozone since 1998 (see figure 3). The striking fact is the extent to which yearly inflation differentials have led to sustained changes in these real exchange rates. As a result of these trends, some countries (Portugal, Netherlands, Spain and Italy) have

lost a significant amount of price competitiveness. Others, like Germany and Austria have gained a significant amount of price competitiveness.

This phenomenon will lead to the need to adjust in many countries¹. In particular, the countries that have lost competitiveness will have to restore it. In a monetary union this can only come about by having lower rates of price and wage inflation than the average of the Eurozone. However, since the ECB is targeting a rate of inflation below 2%, the countries that have lost competitiveness will find it very difficult to lower their inflation rates below the Eurozone average without introducing outright deflation, and large increases in unemployment. As a result of the low inflation target, these countries are forced to stretch their adjustment process over many years making the whole process very costly in terms of output and employment². This is Mundell I with a vengeance.

Figure 3 : Intra-euro area real effective exchange rates (based on ULC)



Source: European Commission, EMU after Five Years, European Economy, Special Report.

¹ To the extent that these real exchange rate changes reflect the Balassa-Samuelson effect, the need to adjust does not exist. This effect may be important in a country like Greece. It is probably less so in the Netherlands, Italy and Spain. See also Gros and Ubide(2005).

² It can be argued that by making it more difficult for countries to restore their lost competitiveness, the low inflation target of the ECB introduces a powerful rigidity in the Eurozone. Thus paradoxically a higher inflation target would introduce more flexibility. It would also lead to less tension within the Eurozone.

What have we learned since the Treaty of Maastricht? I would like to focus on two ideas. The first one is the idea, first elaborated by Frankel and Rose(1995) of the endogeneity of the OCA-criteria; the other idea relates to the governance of the monetary union.

2. Endogeneity of the OCA-criteria

Frankel and Rose(1998) came up with the idea that the OCA-criteria are “endogenous”. By that they meant that these criteria are affected by the very decision to start a monetary union. Thus countries that before the start of the union fail to satisfy the OCA-criteria, may by the very fact that that they form a monetary union change economic conditions in such a way that these conditions get satisfied. As a result the decision to start a monetary union has a self-fulfilling property. By starting the monetary union the conditions that are favorable for a monetary union get satisfied, making the decision to form a monetary union the right one. Conversely, a decision not to start a union when the conditions are not satisfied helps to maintain unfavorable conditions so that the negative decision also appears to have been the right one.

There are different mechanisms that can make the OCA-criteria endogenous. First, monetary union can effect trade flows and intensify trade integration, thus increasing the benefits of the monetary union. Second, monetary integration leads to more intense financial integration thereby facilitating the emergence of insurance mechanisms. The latter reduce the costs of asymmetric shocks. Third, a monetary union affects the functioning of the labour markets and can potentially increase their flexibility, thereby reducing the costs of adjusting to asymmetric shocks in the monetary union³.

We show the effects of these mechanisms in figures 4 and 5 which are the same as figures 1 and 2. We have now put the Eurozone to the left of the OCA-line, taking the view that when the Eurozone was started its members were not yet ready to form a monetary union. We do this not because we are convinced that this was necessarily the case, but rather because it allows us to show that even if this is the case, the future looks good for the union.

³ For a detailed discussion of these different mechanisms see De Grauwe and Mongelli(2005).

Figure 4: Symmetry and flexibility as OCA-criteria

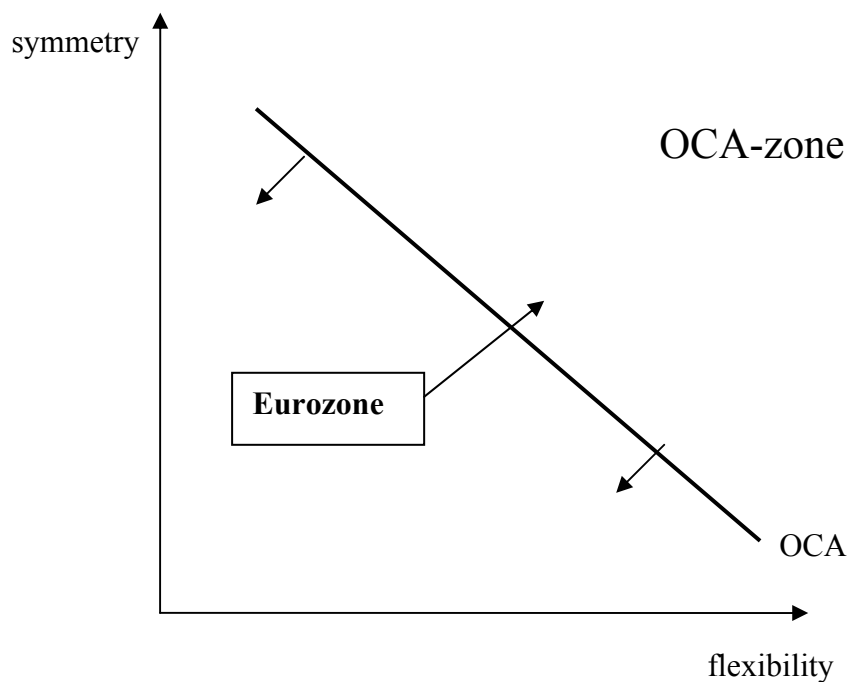
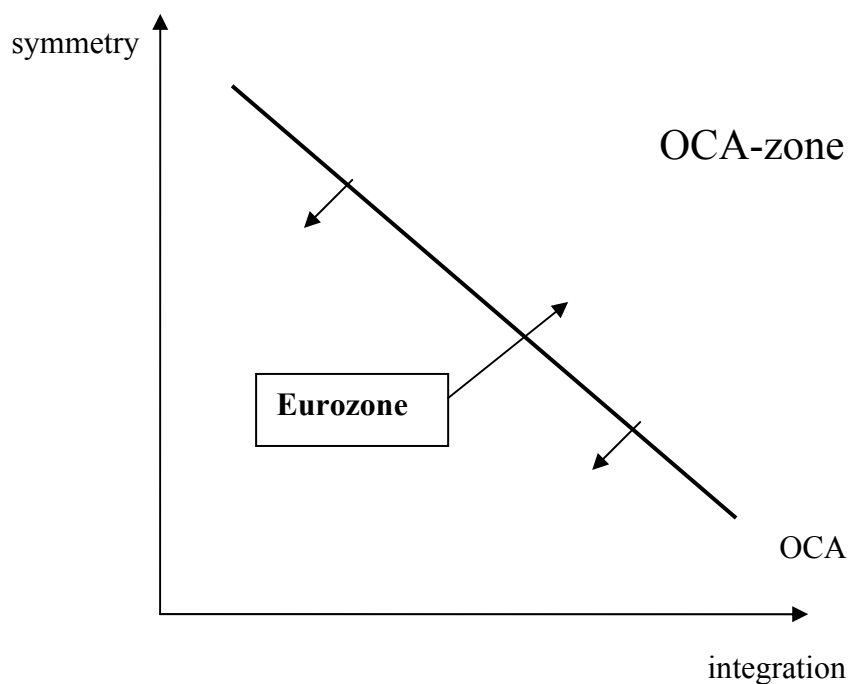


Figure 5: Symmetry and integration as OCA-criteria



The endogenous mechanisms have the effect of moving the Eurozone towards the OCA-zone in figures 4 and 5. This happens because monetary union increases the degree of economic (trade) integration (figure 5). The spectacular studies of Rose(2000), Rose and van Wincoop(2001) suggest that this effect may be

quantitatively very strong. Although later econometric studies have scaled down this “Rose-effect” substantially, there is still a lot left over (see e.g. Mélitz(2001), Bun and Klaassen(2002) and Micco, et al. (2003)), so that it is safe to conclude that a monetary union has a significant positive effect on economic integration thereby moving the Eurozone towards the OCA-area.

What about flexibility? If monetary union increases the pressure for labour markets to become more flexible, the decision to enter a monetary union also improves the OCA-criteria tending to shift the eurozone upwards towards the OCA-zone. It must be admitted that there is no consensus about this flexibility effect. Some authors (Bertola and Boeri(2003) and Blanchard and Giavazzi(2003)) argue that the monetary union tends to increase the degree of flexibility of labour markets, while other authors (Sibert and Sutherland (2000), Soskice and Iversen, (2001)) conclude that a monetary union may not lead to more labour market flexibility.

The effect of monetary union on symmetry has been heavily debated among economists (see De Grauwe(2005)). No consensus seems to have emerged here, although the empirical work of Frankel and Rose() indicating that trade integration and output correlation go hand in hand has become quite influential.

On the whole the theory and the evidence seem to suggest that there is a dynamics of endogeneity that has the potential of moving the Eurozone countries towards the OCA-zone. How important this endogeneity effect, however, cannot be determined at his stage of our knowledge.

3. The governance of the monetary union

There is a fundamental difference between the monetary union among the US states and the European monetary union. The US Federal government has a monopoly of the use of coercive power within the union, and will surely prevent any state from seceding from the monetary union. The contrast with the member states of the Eurozone is a very strong one. There is no supranational institution in the EU that can prevent a member state of the Eurozone from seceding. Thus, for the Eurozone to survive the member states must continue to perceive their membership of the zone to be in their national interest. If that is no longer the case, the temptation to secede will exist and at some point this temptation will lead to secession.

The previous leads to the following question. In the absence of a coercive power that can keep the member states within the union, what kind of governance of the union can ensure that countries willingly stay in the union? This leads to the question of the political ties that are essential to achieve this goal. Put differently, what is the nature of the political union that can maintain the cohesiveness of the monetary union? We return to the OCA-theory to answer these questions.

3.1 Political union in the OCA-theory

The theory of optimal currency areas determines the conditions that countries should satisfy to make a monetary union attractive, i.e. to ensure that the benefits of the monetary union exceed its costs. This theory has been used almost exclusively to analyze whether countries should join a monetary union. It can also be used to study the conditions in which existing members of a monetary union will want to leave the union.

In this perspective, the OCA-theory says that if the benefits of the monetary union exceed the costs, member countries have no incentive to leave the union. They form an optimal currency area. Or put differently, they are in a Nash equilibrium, and the monetary union is sustainable. The same conditions of symmetry, flexibility and integration apply here, i.e. countries in a monetary union should experience macroeconomic shocks that are sufficiently symmetric with those experienced in the rest of the union (*symmetry*) and they should have sufficient *flexibility* in the labour markets to be able to adjust to asymmetric shocks once they are in the union. Finally they should have a sufficient degree of trade *integration* with the members of the union so as to generate benefits of using the same currency. If these criteria are not satisfied the monetary union will not be sustainable⁴.

Let us return to the graphical analysis of figures 1 and 2 to study how the nature of the political union can affect the cost benefit analysis underlying the OCA-theory. Let us now suppose that the Eurozone is safely located in the OCA-zone (to the right of the OCA-line). How can political union be brought into the analysis? We take the view that the degree of political integration affects the optimality of a monetary union in several ways. First, political union makes it possible to organize systems of fiscal transfers that provide some insurance against asymmetric shocks. Thus when one

⁴ For illuminating insights on the link between monetary and political union see Alesina, et al. (2001).

member-country is hit by a negative economic shock, the centralized union budget will automatically transfer income from the member states that experience good economic conditions to the member state experiencing a negative shock. As a result, this member state will perceive the adherence to the union to be less costly than in the absence of the fiscal transfer.

Second, a political union reduces the risk of asymmetric shocks that have a political origin. To give some examples that are relevant for the Eurozone. Today spending and taxation in the Eurozone remain in the hands of national governments and parliaments. As a result, unilateral decisions to lower (or to increase) taxes create an asymmetric shock. Similarly, social security and wage policies are decided at the national level. Again this creates the scope for asymmetric shocks in the Eurozone, like in the case of France when that country decided alone to lower the working week to 35 hours. From the preceding it follows that political unification reduces the scope for such asymmetric shocks.

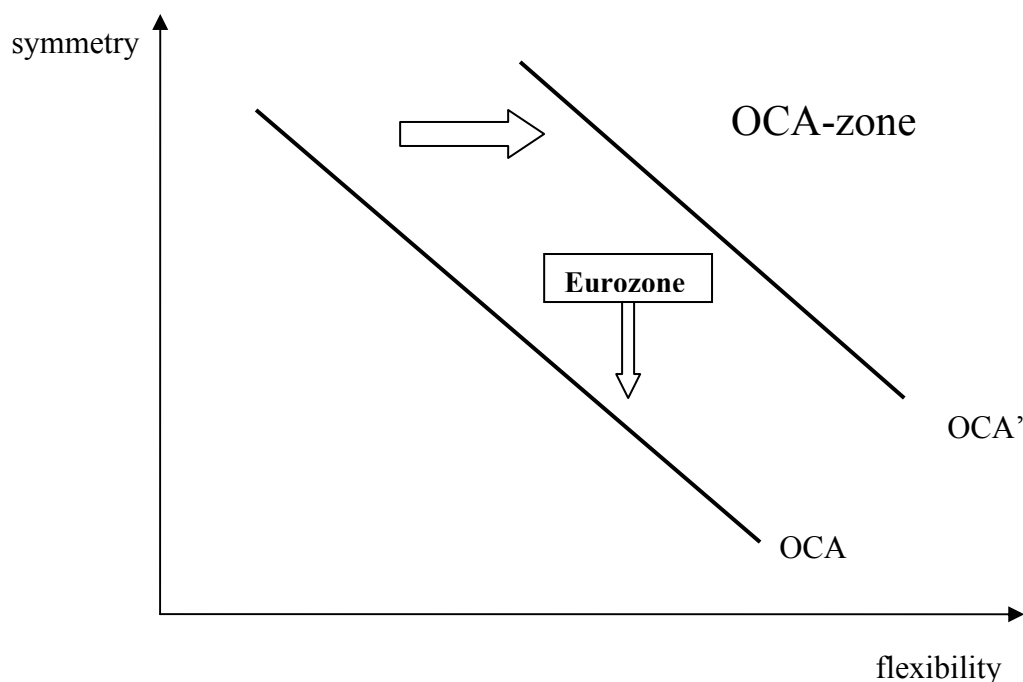
The way one can represent the effect of political unification is twofold. First, the existence of a centralized budget makes it possible to alleviate the plight of countries hit by a negative shock. Thus the cost of the union declines for any given level of asymmetry. This has the effect of shifting the OCA-lines downward in figures 1 and 2⁵. Second, political union reduces the degree of asymmetry, thereby shifting the Eurozone upwards. As a result, of these two shifts political unification increases the long-term sustainability of monetary unions. Conversely a political disintegration shifts the OCA-lines upwards thereby shrinking the OCA-zone and shifts the Eurozone downwards, creating the risk that the EU-12 ceases to be an optimal arrangement⁶. We represent the latter scenario in figure 6. A political disintegration shifts the EU-12 downwards and shifts the OCA-line to the right to the new position

⁵ It is important that these transfers be reversible to maintain their insurance character. If these transfers attain a permanent one way character they are likely to become unpopular in the “donator”-country, leading to a perception of a high cost of the monetary union. This calls for the use of transfers only to alleviate the effects of temporary asymmetric shocks (business cycle movements) or in the case of permanent asymmetric shocks to make these transfers temporary allowing receiving countries to spread the adjustment cost over a longer time.

⁶ For important additional insights into the link between monetary and political union see von Hagen(1996), where it is argued that political unification can also lead to increased tensions between member states. As a result, the link between monetary and political union is not a linear one.

OCA'. As a result, it becomes more likely that the Eurozone ceases to be an optimal currency area, thereby undermining its long-term sustainability⁷.

Figure 6: Political disintegration and the optimality of the Eurozone



We conclude that in order to enhance the sustainability of a monetary union it is important to have a central budget that can be used as a redistributive device between the member states and it also matters to have some form of coordination of those areas of national economic policies that can generate macroeconomic shocks. The reason why this coordination is important is that these macroeconomic shocks spillover into the monetary union. For example, the decline in the working time in France was equivalent to a negative supply shock in France. This affected aggregate output in the Eurozone and thus the conduct of monetary policies by the ECB. This in turn influences all the other member states of the Eurozone.

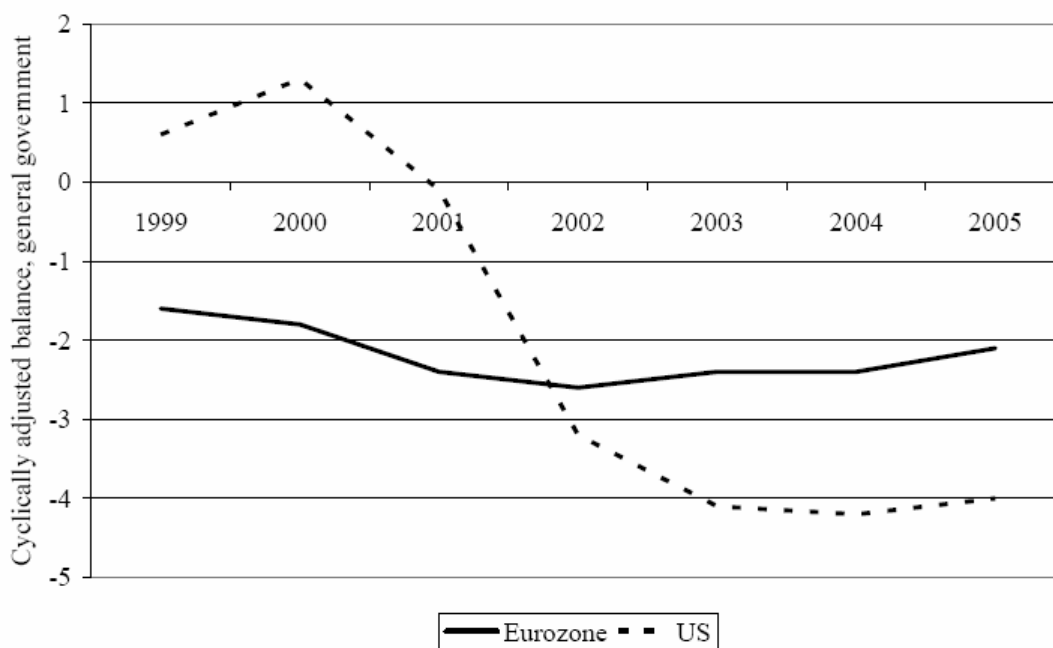
A central budget is important as a redistributive device. It also matters as a stabilizing instrument⁸. The absence of a central budget in the Eurozone implies that no budgetary policy aimed at stabilizing the business cycle in the union is available. The

⁷ A similar analysis can be done using the symmetry-integration space of figure 2. For a similar analysis see Von Hagen(1996).

⁸ Musgrave(1959) introduced the different functions of a government budget, as a distributive, a stabilizing and a

question that arises here is how important this is. In figure 7 we show the contrast between the US and the Eurozone since 1999.

Figure 7: Cyclically adjusted budget balance in the Eurozone and the US



Source: European Commission.

We observe that the US allowed its budget deficit to increase significantly as a response to the recession of 2001. There is no central budget in the Eurozone but the aggregate of the national budget balances could work in a similar stabilizing way. The evidence of figure 7, however, shows that this aggregate did not respond to the worsening economic conditions in the Eurozone from 2002 on. Thus there is an absence of a system-wide budgetary policy in the Eurozone capable of performing a stabilizing role at the level of the Eurozone.

3.2 The Brussels-Frankfurt consensus

The previous analysis and its conclusion that a further political union is necessary for the long-run sustainability of the Eurozone is very much disputed by the Brussels-Frankfurt consensus, which has also become the official view. This view can be summarized as follows.

First, the way to deal with asymmetric shocks is to increase flexibility. As we showed in figure 1, an increase in flexibility raises the sustainability of a monetary union. Thus a monetary union can be made sustainable by introducing structural reforms.

Second, the Stability and Growth Pact (SGP) provides all the needs for countries to use national fiscal policies as an instrument to deal with asymmetric shocks that have a cyclical (temporary) component. By following the SGP-prescription of a balanced budget over the medium run, countries have enough flexibility to allow their budget deficit to increase up to 3% during an economic downturn. As a result, the Eurozone countries have the instrument to deal with business cycle movements.

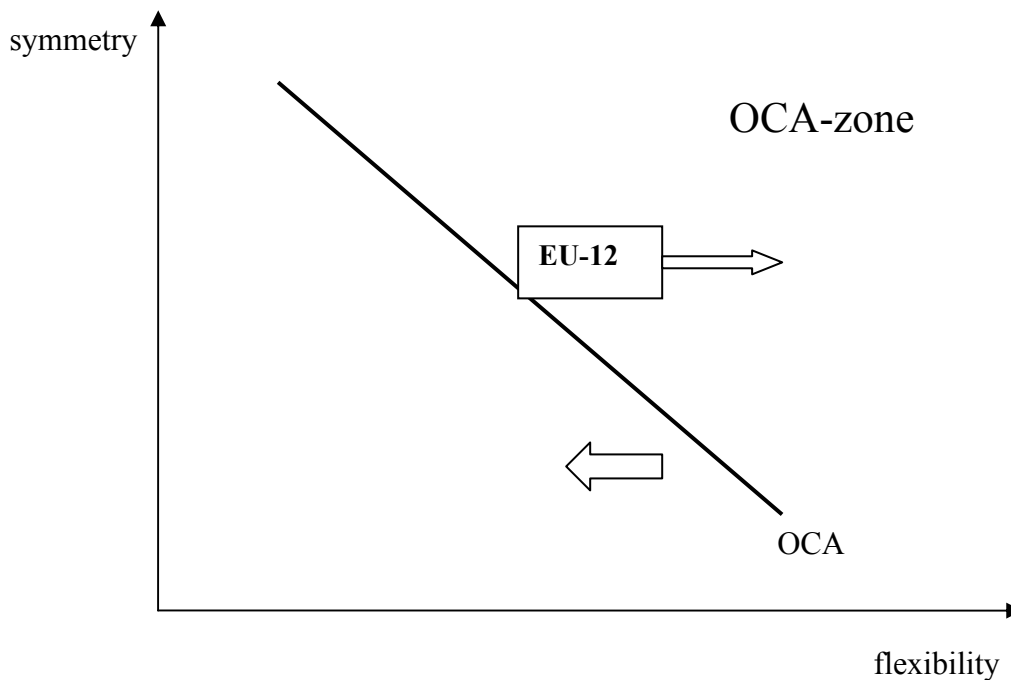
Third, there is no need to have a system-wide budgetary policy to stabilize the business cycle. Monetary policy of the ECB is perfectly equipped to provide for macroeconomic stability in the Eurozone. By focusing on price stability the central bank does all that can be done to stabilize output movements at the Eurozone level. The reason is the following. If the output shocks are due to demand movements, inflation targeting will not only stabilize the rate of inflation but also the output movements. If these output movements are due to supply shocks they cannot be dealt with by monetary policies and/or budgetary policies.

The Brussels-Frankfurt consensus can be represented graphically in figure 8. Structural reform has the effect of making the Eurozone countries more flexible thereby shifting it to the right deep into the safe OCA-territory. At the same time the SGP-rules allow for the use of national budgetary policies to alleviate the pain of asymmetric disturbances. This has the effect of shifting the OCA-line to the left. The Eurozone can settle safely in the OCA-zone.

The conclusion from this analysis is that the present European institutions and their governance are appropriate to sustain the monetary union in the long run⁹. There is no need to increase the degree of political unification to make the monetary union sustainable. The Eurozone can survive in the long run without the need to create a European super state.

⁹ See Padoa-Schioppa(2004) who as an insider develops a powerful criticism of this view which is implicit in the Brussels-Frankfurt consensus.

Figure 8: The Brussels-Frankfurt consensus



3.3. An evaluation

What to think of these two strongly opposing views. At the outset it can be interesting to focus on the underlying economic paradigms of these two views.

The Brussels-Frankfurt consensus is based on two academic theories. One is the monetarist theory which we discussed earlier, in which the central bank cannot do much to stabilize the economy. If it tries too hard to “fine-tune” the economy it will end up with more inflation. Thus the best thing a central bank can do is to stabilize the price level. This will have the incidental effect of producing the best possible outcome in terms of stability of the economic cycle. The second theory that influences the Brussels-Frankfurt consensus is the real business cycle theory. This says that the sources of economic cycles are shocks in technology (supply side shocks) and changes in preferences (unemployment being mainly the result of workers taking more leisure). There is very little the central bank can do about these movements. The best is to keep the price level on a steady course. This will minimize the effects of these shocks. In addition, a macroeconomic policy based on the objective of price stability is the best thing the central bank can do to promote growth. As Lucas has stressed, the central bank’s contribution to economic growth by maintaining price

stability is immensely more important than an ephemeral success in reducing business cycle movements.

It will come as no surprise that if one adheres to these theories the present governance of the Eurozone is the right one: a central bank that cares about price stability and in so doing makes the best possible contribution to maintaining macroeconomic stability and to fostering economic growth; and national governments that keep budgetary discipline and do their utmost to introduce market flexibility. In such a world the productivity driven shocks can best be dealt with by governments keeping budgets in balance. Furthermore, in such a world the need to have an active budgetary policy at the Eurozone level does not exist¹⁰.

The theoretical underpinnings of the alternative OCA-view are very different and are deeply rooted in Keynesian and neo-Keynesian ideas. In this view there are shocks in the economy that do not originate in the supply side but find their origin in the demand side. “Animal spirits”, i.e. waves of optimism and pessimism capture consumers and investors. These waves have a strong element of self-fulfilling prophesy. When pessimism prevails, consumers and investors alike hold back their spending, thereby reducing output and income, and validating their pessimism. Similarly, when optimism prevails, consumers and investors will spend a lot, thereby increasing output and income, and validating their optimism.

The corollary of this effect is the well-known savings paradox. When pessimism prevails and consumers attempt to save more, the ensuing decline in income will prevent them from increasing their savings ex post. These phenomena have been analyzed by Keynes long ago, but have been thrown in the dustbins of economic history. Yet these ideas remain powerful, and have important influences on the governance of the monetary union.

In the logic of these Keynesian ideas, a monetary union needs a central budgetary authority capable of offsetting the desire of consumers gripped by pessimism to increase their savings, by dissaving of the central government. In addition, to the extent that there are asymmetric developments in demand at the national level, the existence of an automatic redistributive mechanism through a centralized budget can

¹⁰ It will also not come as a surprise to those who have studied economic history that these were also the views that prevailed prior to the Great Depression.

be a powerful stabilizing force. Finally, in this view the responsibility of a central bank extends beyond price stability (even if this remains its primary objective). There are movements in demand that cannot be stabilized by only caring about price stability.

From the preceding analysis it appears that the present governance of the Eurozone has been devised based on the assumption that the world is one which fits the monetarist-real-business-cycle (MRBC) theory. If the latter theory is indeed the correct view of the world, there is little need to move on with political integration in the Eurozone, and the present political governance of the Eurozone is perfectly adapted to the world in which we live.

But what if the MRBC-theory is not a correct representation of the world? What if there are large movements in optimism and pessimism that affect consumers' and investors' behaviour? If we live in a world where such large movements are possible, then the Eurozone may have the wrong institutional design.

4. Conclusion

What have we learnt about monetary unions since the Treaty of Maastricht. A first idea which may have helped to convince the critics of monetary union is that even if the Eurozone countries do not yet satisfy the OCA-criteria they will in the future as the monetary union sets in motion a process of more intense integration. This good-news-theory suggests that the Eurozone may be moving safely into the OCA-zone by the very fact that the Eurozone was started.

The existence of the Eurozone has also led economists to think about the governance of the monetary union. The central idea here is that the absence of a political union is an important flaw in the governance of the Eurozone. For example, the lack of a political union has had the unfortunate effect during the economic slowdown since 2001, to put all the burden of macroeconomic management in the Eurozone on the shoulders of the ECB. The ECB, however, is neither ready nor willing to carry this burden. Yet the European population and its politicians will continue to expect the ECB to take on this role. It is clear, however, that the ECB alone cannot fulfill this role. This contrasts very much with the US where we have seen that both the central

bank and the federal government have used their respective instruments to stabilize the business cycle.

The European monetary union is a remarkable achievement. Yet it also remains fragile because of a flaw in its governance. This is the absence of a sufficient degree of political union which includes a central European government with the power to spend and to tax, and which is independent of national governments. Such a government is necessary to complement the macroeconomic management of the Eurozone which is now entrusted exclusively to the ECB. In addition, a central European government is the only institution that can fully back the ECB. Its absence is a flaw in the design of the governance of the system that will have to be fixed. It should be clear, however, that it will be very difficult to do so. There is a general “integration fatigue” in Europe so that it is doubtful whether the European population wants to fix this flaw in the design of the Eurosystem.

References

- Alesina, A., Angeloni, I., and Etro, F., (2001), *The Political Economy of Unions*, NBER Working Papers, Cambridge, MA.
- Asdrubali, P., B. Sorensen and O. Yosha, 1996, Channels of Interstate Risk Sharing: United States 1963-1990, *Quarterly Journal of Economics*, CXI, November: 1081-1110.
- Bertola Giuseppe, 2000, "Labor Markets in the European Union," *Ifo-Studien*; 46(1), pp. 99-122.
- Blanchard, Olivier and Francesco Giavazzi, 2003, "Macroeconomic Effects of Regulation and Deregulation in Goods and Labor Markets," *Quarterly Journal of Economics*, August, 118(3), pp. 879-907.
- Boeri Tito, Agar Brugiavini and Lars Calmfors (2001) *The Role of Unions in the Twenty-first Century - A Report for the Fondazione Rodolfo Debenedetti*, Oxford University Press.
- Bun, Maurice and Frank Klaassen, 2002, "Has the Euro Increased Trade?" Tinbergen Institute Discussion Paper TI 2002 -108/2.
- Cukierman, Alex and Francesco Lippi, 2001, "Labour Markets and Monetary Union: A Strategic Analysis," *Economic Journal*, July, 111(473) pp. 541-65.
- De Grauwe, P., (2005), *The Economics of Monetary Union*, 6th Edition, Oxford University Press.
- European Commission, *EMU after Five Years*, European Economy, Special Report.
- Frankel, J. and A. Rose, 1998, The Endogeneity of the Optimum Currency Area Criteria, *Economic Journal*, 108, 1009-1025.
- Gros, D., Mayer, T., and Ubide, A., 2005, *The EMU at Risk*, 7th Annual Report of the CEPS Macroeconomic Policy Group, Brussels.
- Kenen, Peter B., 1969, "The Optimum Currency Area: An Eclectic View", In Mundell and Swoboda, (eds.), *Monetary Problems of the International Economy*, Chicago: University of Chicago Press.
- McKinnon, R., 1963, Optimum Currency Areas, *American Economic Review*, 52, 712-725.
- McKinnon, R., 2004, Optimum Currency Areas and Key Currencies: Mundell I vs. Mundell II, *Journal of Common Market Studies*, Volume 42. Number 4. pp. 689–715
- Melitz, Jaques, 2001, "Geography, Trade and Currency Union," CEPR Discussion Paper no. 2987.
- Micco, Alejandro, Ernesto Stein and Guillermo Ordonez, 2003, "The Currency Union Effect on Trade: Early Evidence from EMU" *Economic Policy*, October, 0(37), pp. 315-56.

- Mundell, R., 1961, A Theory of Optimal Currency Areas, *American Economic Review*, 51, 657-665.
- Mundell, R., (1973), Uncommon Arguments for Common Currencies, in H. Johnson and A. Swoboda, (eds.), *The Economics of Common Currencies*, London: Allen&Unwin, pp. 114-32.
- Musgrave, R., 1959, *The Theory of Public Finance*, New York: McGraw-Hill
- Padoa-Schioppa, Tommaso, 2004, *The Euro and Its Central Bank: Getting United after the Union*, ISBN 0-262-16222-9.
- Rose, A., 2000, One money, one market: the effect of common currencies on trade, *Economic Policy*, April.
- Rose, A., 2004, A Meta-Analysis of the Effects of Common Currencies on International Trade," NBER Working Paper no. 10373.
- Rose, A. and E. van Wincoop, 2001, National Money as a barrier to trade: the real case for currency union, *American Economic Review (Papers and Proceedings)*, 91:2, May, 386-390.
- Sibert, A., and Sutherland, A., 2000, Monetary Union and Labor Market Reform", *Journal of International Economics*, 51, August: 421-436.
- Soskice, David and Torben Iversen, 2001, "Multiple Wage Bargaining Systems in the Single European Currency Area," *Empirica*, 28(4), pp. 435-56.
- Von Hagen, J., 1996, Währungsunion, Fiskalunion, Politische Union, mimeo, Universität Mannheim, May .
- Von Hagen, J., and Hammond, G., 1995 Regional Insurance against Asymmetric Shocks, CEPR Discussion Paper, no. 1170.
- Wallace, H. and Wallace, W., (2000), *Policy-Making in the European Union*, Oxford University Press, Oxford.