5. Conclusions and policy implications

The next couple of years may prove difficult as the European Union (EU) faces the eventual transition to monetary union. The Maastricht Treaty has created a transition-automatism towards monetary union, so that by the end of the century at least two countries will have adopted a common currency. While the legal enactment of the Maastricht Treaty represents a major step forward in the European integration process, at the beginning of 1996, it is as unclear as ever which countries will eventually join European Monetary Union (EMU). Germany may meet the requirements to join, but this does not mean that it will necessarily want to, and the same is true of England. Other countries who may wish to join, may not be allowed to do so. There is also much uncertainty surrounding the eventual starting date, and the possibility still remains of postponing monetary union. Moreover, and probably most importantly, the real economic effects of a common currency are still difficult to evaluate. The economies in Europe currently exhibit immense structural differences, in terms of productivity, in wage formation mechanisms, and in living standards.

One reason for the prevailing uncertainty towards the shape of the future monetary union lies in the formulation of the Maastricht Treaty’s convergence criteria itself. The Treaty has set out a path to move towards monetary union in three stages. Entry into the third, final, stage is conditional upon achieving nominal convergence in terms of inflation rate performance, budget positions, exchange rate stability and long-term interest rates. However, the Maastricht Treaty’s convergence criteria not only neglect real economic convergence, but are largely economically inconsistent (as seen in Chapter Two) and are not able to provide credibility to the future union.

Whilst a monetary union, by definition, requires nominal convergence, real economic (or structural) convergence is not a technical necessity for its functioning. However, nominal convergence will be associated with restrictions on macroeconomic policy that will prove to be an additional burden on the union, particularly on the less-prosperous members. Therefore, the union itself may reduce its own political support and widen existing structural differences. In addition, if the union consists of countries with very different equilibrium unemployment rates or productivity growth rates, its long-term stability may be threatened. Such a situation may result in transfer payments from low to high level unemployment countries or, at the least, put pressure on politicians to advocate such transfers. However, if the European Union was unwilling to provide any finan-
cial support to a country or region, the cries of politicians seeking to blame any depression on EMU can be expected. In both cases, willingness to remain within EMU may be affected. As has been argued by Goodhart (1995), the costs of withdrawing from a single currency and re-establishing a separate currency are not, in reality, as great as is generally perceived. Once the central political institutions disintegrate, as has happened in the USSR, Yugoslavia and Czechoslovakia, the costs of moving from a common to multiple currencies are of only secondary importance. The possibility of a monetary disintegration can therefore a priori not be ruled out categorically. It follows that real economic convergence - the gradual reduction of real economic differences over time - would be helpful for the working of monetary union as it would tend to restrict political frictions and thereby secure long-term macroeconomic stability.

In view of this political and economic background, this study has analyzed real economic convergence in the European Union. Through this it contributes to the discussion on the feasibility of EMU and the economic effects of monetary union. Using a stepwise approach the analysis concentrated, firstly, on the dynamics of labor and goods market adjustment processes and, secondly, on long-run growth and convergence as indicators for real economic convergence.

5.1. Conclusions

The empirical evidence obtained provides an ambiguous picture as to the real economic convergence performance in the European Union. The results of the comparative analysis of the dynamics of goods and labor market adjustment processes are summarized below. The dynamic behavior of output and unemployment are found to be relatively similar in the European and the North-American countries, although demand and supply shocks in Europe tend to have somewhat more persistent effects on output and unemployment. In addition, the demand and supply shocks affecting the North-American countries are more evenly distributed than those affecting Europe. Moreover, the degree of symmetry of shocks is higher among sub-groups of countries than for the whole group of European countries. Finally, the fifteen member states of the European Union do not form an optimum currency area as a whole, as shocks affect economies relatively unevenly. Therefore, from an economic point of view, a monetary union involving all EU member countries is an inefficient idea and is likely to put unbearable pressure on the European Central Bank. This would threaten its ability to implement a stable and predictable monetary policy. Whereas the results
suggest that the EU-15 should not form a monetary union, there is a strong conviction that a subset of EU countries could do so [see also De Grauwe, 1996]. The minimum set of countries that could form a monetary union is believed to include Germany, the Benelux countries and France.

The analysis of technology, growth and convergence consists of a descriptive statistical and an econometric analysis. In short, the descriptive statistical analysis confirms the impressions obtained from other empirical studies; that the EU is characterized empirically by economic convergence. However, the process of convergence has not been stable, either over time or across countries. The subsequent econometric analysis implies that, over the post World-War II period, European economies have been converging in terms of output per capita. Other things being equal, poor countries in Europe tend to grow faster than richer ones. Technological differences, however, are found to be an important factor for our understanding of growth and convergence in the European Union. The econometric analysis seems to support a model with technological diffusion, in which technologically lagging economies manage to catch-up to technological leaders by innovating and imitating at a lower cost. In addition, the exhaustion of catch-up opportunities, which is associated with initial technical backwardness, may be a factor that helps to explain the slowdown of growth and convergence in more recent years. With respect to the causes of the non-stable convergence processes in Europe over time and across countries, the econometric analysis does not give a conclusive answer, but rather points to several responsible factors. The distance of the economy to the technological leader differed across economies, which contributed to differences in convergence and growth behavior. In addition, the finding of conditional convergence implies that economies converge to different steady state levels of income per capita. Poor economies, like Portugal, Greece, Spain and Ireland presumably converge to lower steady state levels of income per capita, which leads to persistent differences in income per capita. It follows that investment efforts, from private or public sources, will be needed in peripheral countries to limit such disparities in the long-term. If we think of the responsibility of policymakers to reduce disparities in Europe, based on Article 130a of the Maastricht Treaty, the estimates may indicate that EU-wide fiscal transfers would be helpful to secure this goal. However, at the same time it needs to be emphasized that cohesion does not require that incomes or social conditions should be equalized. Nevertheless, if gaps are too large, it is clear that it will be difficult for the union to be cohesive. Plausible targets for reductions in disparities, which pass the test of being politically acceptable, would therefore be helpful [Begg and Mayes, 1993]. In order to reduce the foreseeable political and eco-
nomic tensions associated with prevailing real economic differences, the establishment of a stabilization scheme, as part of the union's federal budget could prove to be fruitful, even as a temporary agreement [Goodhart and Smith, 1993]. While fiscal transfer payments may contribute to reducing disparities, they do need to be handled with care with regard to the financial situation of the governments of member states.

5.2. Implications for European monetary integration

In addition to those policy proposals reviewed in chapter two, the following four policy implications may be formulated. The first refers to an operational policy interpretation of the Maastricht Treaty's convergence criteria, while the others refer to more long-term economic policy issues. The second policy implication stems from the empirical analysis of optimum currency areas in Chapter Three, where the possibility of creating currency blocks was indicated. The other policy implications are based on the observation that while the transition process will culminate in the adoption of a common currency by at least two countries in Europe by the end of the century, the convergence strategy will not contribute to macroeconomic stability in the future union. Therefore, with respect to the goal of achieving a successful and stable monetary union in the presence of structural differences it seems particularly relevant, first, to strengthen the monetary institutions in order to be even less vulnerable to political pressure and, second, to improve market transparency and information flows.

1. Broad interpretation of convergence criteria

An important issue on the transitional path to monetary union is how the convergence criteria determined in the Maastricht Treaty are to be applied. Three alternative transition strategies have emerged [Straubhaar and Schmidt, 1996]. The first strategy is to strictly adhere to the Maastricht Treaty's convergence criteria. The transition towards EMU follows gradually, although "as soon as possible". Only those countries which fulfill the monetary and fiscal convergence criteria are admitted into the third stage. However, hardly any country will be able to fulfill the convergence criteria if the numerology is taken seriously. "Realistically", at least, Germany and France should be members of EMU from the very beginning. In other words, by strict adherence to the convergence criteria either the number of countries would be sub-optimally low or the entry date would have to be postponed. Therefore, an alternative possibility is to postpone monetary union as a monetary union without a "critical mass" seems to be implausible. A multi-speed approach would reduce the advantages of participating
in the union for the member states. It may then make sense not to stick to the entry date and instead to wait until a larger number of countries will be able to enter into the third stage [Ohr, 1996]. However, postponement of monetary union may not be the answer, as it would further reduce the credibility of the monetary integration process. The third strategy is to interpret the existing convergence criteria in a wider sense. In principle, each country should be able to join monetary union as soon as it wants to do so. Each country may evaluate the costs and benefits of joining the union and decide if it is in its national interest to participate. However, according to Art. 109j, the "necessary preconditions" need to be taken into consideration. A broad interpretation is preferable to a strict adherence because some flexibility for the eventual participants is needed. Strict adherence would imply that only two countries will currently qualify, which is not a particularly realistic possibility. In this sense, a broad interpretation of the criteria is a political necessity in order to achieve monetary union. A broad interpretation is also more desirable than a postponement of the union, because the latter would imply high political costs in terms of credibility.

II. Monetary policy coordination among the nonparticipants

The gradual transition approach will probably lead to a multi-speed monetary union. If this is the case, the risk of splitting the European Union apart should be taken into consideration. As suggested in Chapter Three, one solution may be the creation of currency blocks in Europe. Those countries not initially eligible to enter the third stage might benefit from forming a separate monetary union (or unions). The efficiency gains obtained from these currency blocks would enable the lagging countries to catch-up to those already in the third stage of monetary union.

III. Institutional strengthening

To strengthen the institutional arrangements of the EU, the implementation of incentive contracts is proposed. Incentive contracts are measures by which the central banker can be penalized for inflation [D.Romer, 1996]. Incentives are affected by such facets of institutional design as the appointment and reappointment procedures for members of the policy-making committee, the existence of reporting requirements, and the presence of legislated policy goals [Walsh, 1995]. Several concrete forms for the formulation of incentive contracts for the executive board of the ECB can be thought of. Firstly, the incomes of the members of the executive board of the European Central Bank might be made contingent on the state of the economy, thereby influencing the incentives the executive board faces in choosing the rate of inflation. Secondly, targeting rules might be enforced by making the ECB's budget depend on adherence to the rules [Rogoff,
1985]. Thirdly, an even stronger measure is to define a procedure for removal of the executive board of the ECB should it fail to maintain price stability. Whatever its concrete form, an incentive contract would make the future ECB more accountable. At the same time, it would be costly for the governors of the ECB to follow national political pressures and would thereby contribute to price stability even in the future union. The contract should contain an inflation targeting procedure, which many central banks already follow successfully and such a procedure would be useful within the ECB.

IV. Public debt management

A way to make policies more credible is to enforce a time-consistent public debt management scheme. One way to do this is to issue short-term maturity bonds. Short maturities reduce the government's incentive to produce surprise inflation and thereby contribute to solve the time-consistency problems of fiscal policies as discussed in Chapter Two. This increases the willingness of wealth owners to buy the debt and lowers the borrowing costs of the government [Missale and Blanchard, 1994; De Grauwe, 1996]. An alternative, or complementary, way is to issue inflation-indexed bonds; bonds whose interest payments and principal are tied to inflation. Inflation index-linked bonds have been used recently in Australia, Canada, New Zealand, and Great Britain. The United States has decided to introduce them in May 1996. In Britain, 57% of marketable debt in 1995 consisted of outstanding index-linked bonds [The Economist, 1996]. Index-linked bonds change a governments' incentives and so tend to make monetary policies more credible. When debt-service payments are denominated in nominal terms, higher than expected inflation rates lower the debt burden, whilst fully anticipated inflation does not lower the debt burden [Calvo, 1978; Persson and Tabellini, 1990]. By engineering these inflation surprises the government expects to cause a reduction in the real public debt burden, which allows a reduction in the tax rate whilst keeping the solvency constraint intact. In equilibrium, with rational private agents who take this information into account in forming their inflation expectations, the public will anticipate the inflation surprises and hence render them ineffective. As a consequence, the inflation rates will be relatively high in the long-run without a positive effect on the debt burden. In short, with nominal public debt, governments have an incentive to inflate debts away at the bondholders' expense. If payments of interest and principal increase with rising price levels, governments will be less tempted to let inflation rise. Index-linked bonds can help governments to estimate financial markets' expectations of inflation. This is useful for monetary policymaking, as a rise in the expected inflation rate may be a signal that policy should be tightened. Therefore,
the conduction of monetary policies could be improved. In addition, it would help to predict long-term interest rates as they contain inflation rate expectations and would thereby contribute to the more precise evaluation of risk. At the same time, index-linked bonds may contribute to a stabilization of the interest rate level as well as of the term structure, since interest rates on indexed bonds will supposedly approach the level of the real interest rate in the economy [Pilchner et.al., 1979]. In addition, index-linked bonds provide benefits in that they increase the supply of alternative financial instruments which leads to more competition and which enhances the utility of savers [Pilchner et.al., 1979]. In sum, inflation-indexed bonds would help markets to evaluate risk both by providing estimates of inflationary expectations and making monetary policies more credible by changing governments' incentives. While in Germany the Bundesbank Act (Gesetz über die Deutsche Bundesbank) rules out, in a strict adherence to the nominal value principle, the use of indexation as a policy instrument, the regulations of the European Central Bank does not preclude their use [Rebelo, 1994]. One might thus require the member states of the monetary union to issue inflation-indexed bonds. To obtain a self-balancing mechanism, high-debt countries may be required to issue a larger share of their outstanding government bonds in the form of inflation-indexed bonds than low-debt countries.
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SCHRIFten ZUR WIRTSCHaFTSTHEorie UND WIRTSCHaFTSPOLITIK

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