Europe´s Lack of Structural Transformation and Necessary Policy Changes of EMU

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Primary goal of stabilization policy in the Treaty of European Union is price stability. That goal may be in conflict with the goal of full employment in the member states, particularly, then the union is hit by an asymmetric shock. Assuming perfect capital mobility an initial adverse shock (Krugman 1993) may have permanent effects by releasing a self-reinforcing process, which will result in lower relative growth. Given the specification of a model that captures the crucial element of efficient structural transformation it is easy to conclude the lack of necessary structural transformation within EMU. In addition, the basic foundation of economic policy by EMU, as manifested by the Treaty of European Union, is by latter research put into question. Therefore this paper suggest, it is necessary that the Treaty of European Union must be supplemented, changed, or both.

1. *The European Monetary Union*

According to the Treaty of European Union (better known as the Maastricht Treaty) for creating European Monetary Union (EMU), a European Central Bank (ECB) have been established to carry out the common monetary and exchange rate policy, while fiscal policy essentialy remain a question for national governments. However, flexibility of fiscal policy is subject to common rules on government deficits and depts with the aim of ensuring budget discipline according to the Maastricht Treaty and the Stability and Growth Pact.[2]

   EMU implies the loss of national monetary autonomy. The effects of monetary policy will move all the member state economies in the

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[2] The Maastricht convergence criteria and the restictions on fiscal policy rules that follow is further reinforced, even with penalities on countries that fail to correct situations of excessive deficits and dept, by the Stability and Growth Pact.

same directions. That implies that the supervision of monetary policy is a matter of common concern. Primary goal of stabilization policy in the Treaty on European Union is price stability. Stabilization policy to expand employment may produce a high and unstable inflation, and is inconsistent with the Treaty.[3]

Change in the exchange rate or national monetary policy have often been useful, but now an alternative adjustment policy have to be provided for in EMU. To implement an active fiscal policy in the member states would likely conflict with the current constraints by the Maastricht Treaty and the Stability and Growth Pact. Hence, short-term stabilization is highly dependent on flexibility in the labour market. However, since labour is rather immobile within EMU,[4] the EMU countries will have to relay on adjustment through wages to return to full employment. On the other hand, if capital mobility is high and wages cannot be adjusted, only by reducing employment the return on capital will be restored to keep the country attractive to investment after an economic shock.

Consequently, as capital will be highly mobil in EMU a fall in the relative expected return on investment would lead to an outfow of capital. Since highly mobile capital implies the equalization of the cost of capital across EMU, the relative expected return on investment will not recover and the outflow of capital will continue. That would result in lower total investment. Hence, under perfect capital mobility, the initial adverse shock may have permanent effects by releasing a self-reinforcing process, which will result in lower relative growth. Thus, external shock could have a permanent effect (Krugman 1993). Consider, for instance, that the ultimate origin of the shock is of a structural nature. The net exports are falling because the industries in the country are not longer able to compete on the international market (asymmetric shock). In a sovereign country the currency have been depreciated by the market, or in a country with fixed exchange rates,

[3] To reduce the conflict between a stabilization policy to expand employment and a high and unstable inflation the development of a federal system (fiscal federalism) in EMU have been discussed. A proposal in that direction (Italianer and Vanheukelen, 1993) is that the EMU countries should subsidize the national budgets of members states that are hit by asymmetric shocks.

[4] Labour mobility in Europe is low compared with USA. That is explained by obstacles as language barriers, social and cultural barriers that exist between the European countries.

devaluated by economic policy. If not, an expansionary monetary policy had probably been pursued. The budget crises that will follow, in turn will force fiscal policy to move in a pro-cyclical direction, and the following slump will become aggravated.[5] Thus, traditional fiscal policy is not possible, and above all, the union important question of economic structure and growth must be payed attention to.

From this point of view, a reinforcement of the conditions for higher productivity and growth is necessary. Thus, economic policy measures to affect economic transformation will become most significant. The research of endogenous transformation activities is one important step in that direction. The result of this research, and the economic policy that will follow, is for the EMU countries most significant because structural differences among EMU members would be the ultimate cause of shocks having asymmetric effects. To get better knowledge of structural differences, and perhaps an economic policy to reduce that differences, discussion of the concept of economic transformation in an simple equilibrium context may be useful. In other words, to find the conditions to achive necessary structural flexibility and minimize asymmetric shocks across the monetary union.

2. *A Model of Optimal Structural Transformation*

With this requirement in mind, we will now add the transformation process to the open economy. Given the specification of a vintage model[6], the key concept of the transformation process is the rate of capital rent by sector endogenously determined by the exchange rate, labour costs, and value added in each sector, respectively. Technically, the necessary transformation pressure, in order to remain in a continuous state of full employment, is derivable from the rate of domestic capital rent. In the equilibrium context, the rate of domestic capital rent coordinates investment and the process of deterioration (obsolescence) of the capital stock, and thus, the structure of the transformation process.

As is well known, structural change is a continuous process, in which commodities and methods of production are renewed or re-

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[5] For a discussion see Buti and Sapir (1998), Chapter 12.

[6] The model presented in this section is based on Norén (1998).

placed all the time.[7] For a country where international trade represents a significant proportion of the economic activity the equilibrium of the domestic economy is to a great extent determined by the conditions given abroad. Most countries are sufficiently small to take foreign demand as given. Against this background, a crucial factor is the extent to which the industry sector can adjust to changes in foreign market conditions.

Stated in the preceding discussion, the problem of structural change has two interrelated aspects. One is the need to close down uncompetitive capacity. The other is the lack of expansion in potentially competitive parts of industry, to be solved only by transferring resources from uncompetitive to more expansive sectors of the economy.

However, industrial adjustment does not imply industrial transformation and long-term growth effects, if the model does not incorporate the specification of an endogenous response in the change of the capital stock. The change of the capital stock is a dynamic process in a dual sense dismantling of old investments subject to physical or economic deterioration, and investment in new and more efficient machines brought into production. Needless to say, both components of this process must be taken into consideration when the effects of long-term policy measures are under discussion.

The exchange rate, factor prices, and the value of output are in the context of the transformation process important variables. Decreased production costs (perhaps through a innovation and/or increased productivity) increases competitiveness, raises the profit rates, and thus, there is a risk that necessary cost reductions will not be realized. Hence, the incentives to dismantling old investments on obsolescence diminish. On the other hand, a fall in relative productivity can imply, due to decreasing competitiveness and falling profit rates, a risk of exaggregated cost cuts. Anyhow, the incentives to dismantling old investments on obsolescence increase. These two examples are simple but provide a strong argument for recognizing the disinvestment (dismantling of capital stock) process in the economic analysis. Indeed, this leads to the question of finding the appropriate balance between

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[7] Here, the term *structural change* refers primarily to arrangements affecting the use of resources, and the patterns of domestic production and trade resulting from their allocation (structural transformation) in different sectors of the economy.

competitiveness and an efficient transformation in the industry sector to sustain a desirable growth path in the economy.

The mechanism discussed above illustrates a visible image of the principles of the industrial transformation process in the open economy. The objective is now to develop one approach that incorporates Salters´s (1960) notion of the vintage structure of industry sectors in the transformation process. Within this framework, the individual country is regarded as small in the union market: hence, the union market rate of return (operation surplus ratio)[8] on production (r_j^U), for any industry and time period, is assumed exogenously fixed, that is:

$$r_j^U \ = \ r_j^{Uo} \tag{1}$$

However, the domestic operation surplus ratio, denoted r_j^D, is endogenously determined for the industry sector in question by the ratio of the operation surplus[9] (value added, VA_j , reduced by wage costs, p_j^L) to the value added of each industry respectively, and the union exchange rate *ER*, measured as €$. A higher value of *ER* implies a low value for €, i.e., a depreciation of € We get:

$$r_j^D \ = \ \frac{(VA_j - p_j^L)}{VA_j} \ ER \tag{2}$$

Within the competitive framework of the small open economy, it is here assumed that financial resources are free to flow between different countries. Given this specification, the operation surplus ratio between the home country and the foreign countries in question will become crucial for the producer´s decision to expand production capacity, and likewise for financial circles to invest, domestically as well as abroad.[10] Or, to state the matter otherwise, in high-profit-rate countries investment will increase and thus attract funds from low-profit-rate countries.

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[8] Definition is given below.

[9] Given perfect competition, the share of marginal product of capital.

[10] This implies that households and firms can borrow and lend at the going interest rate on world capital markets.

The discussion above has stressed that the capital stock is subject to physical as well as economic deterioration (obsolescence). In the latter case, as the capital stock gets older, the quasi-rent in the Marshallian sense falls and eventually becomes zero. The economic decision is then taken to scrap the capital object as obsolescent despite its continuing physical durability. Hence, in technical terms, the model incorporates a condition that determines the economic life of a capital unit. This can be shown by using the following equation:

$$DEPR_j^D \;=\; DEPR_j^{Do}\Big(\frac{r_j^{D*}}{r_j^D}\Big)^{\gamma_j^D} \tag{3}$$

where γ_j represents the operation surplus ratio elasticity of sectoral obsolescence of capital equipment (machines) for each sector respectively and $DEPR_j^o$ is a constant term reflecting scrapping of sectoral capital equipment on obsolescence when, at equilibrium, $r_j = r_j^*$ (the initial operation surplus ratio). Thus, the sectoral obsolescence of capital is here uniquely determined by the sectoral operation surplus ratio.

Given the union market operation surplus ratio, changes in r_j^D will not affect r_j^U, but it will have effects on the demand for investment (I_j^D) in the domestic country. For example, a decrease in the domestic labour costs leads to an increase in r_j^D and hence, with constant r_j^U, will increase the demand for investment in the domestic country. Given the small-country assumption, domestic investment will expand until domestic labour costs rise, and hence, decrease r_j^D to the level of union market operation surplus ratio r_j^U. However, investment demand is affected by variables other than the relative operation surplus ratio. The change in total activity level, the change of each country respectively and the need to replace the capital stock due to physical deterioration are two important variables.[11]

Stipulated in this way, a proposition of structural equilibrium emerges. Labour is released from all old machines; this release and the growth in the total labour force is what provides the labour resources to operate the new vintage of machines brought into production.[12] Given

[11] The supply of funds available for investment to the particular sector, industries in countries with relatively increased operation surplus ratios are assumed to gain share at the expense of industries in other countries.

[12] The reader should note that the equilibrium condition (Equation 4) is stated for the national economy as a whole.

the assumption of full employment, the transformation process is stated to be in equilibrium (structural equilibrium condition) when machines scrapped (physical deterioration and obsolescence) releases enough labour to operate the new and more efficient machines brought into production. Hence, the dual effect of variations in the operation surplus ratio, the key variable of the transformation process, now appears.

The fundamental equation, constituting the necessary transformation pressure in order to remain in a continuous state of full employment, is thus given by:

$$\sum_j DEPR_j^D = \sum_j \frac{I_j^D}{(1+\omega_j^o)} \tag{4}$$

Within the framework, the capital stock in use comprises machines of different vintages. The more recent vintages will have lower labour costs per unit of output, because they embody technical progress, i.e machines of successive vintages become more efficient with technical progress.[13] Thus, to reflect this situation ω_j^o is used to measure the rate (exogenously set) of technical progress embodies in machines of new vintages in use.

For instance, a decrease in domestic labour costs leads to an increase in r_j^D and hence, with constant r_j^U, will in the long run increase the demand for investment in the domestic country. In addition, the incentives to dismantling old investments on obsolescence diminish. As a consequence, the aggregated capital stock is increasing. Given the structural equilibrium condition (equation 4 above), domestic labour costs will rise, and thus decrease r_j^D, due to a beginning scarcity of labour to operate the new machines brought into production. Finally, a new equilibrium will be established. However, different sectors adjust differently, and a structural transformation between sectors will take place. The outcome of this transformation is a new structural profile of the economy (industry sectors). Technically, the necessary transformation pressure is derivable from the r_j^D equilibrium values. That transformation pressure is also optimal for the individual country then the expected domestic rate of return is equal to the expected rate of

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[13] The analysis envisaged here is base on the assumption of substitutability between capital and labour before the installation of new capital equipments but fixed labour requirements after installation.

return in the union, provided price stability and full employment in the domestic economy as well as in the union.

In other words, the conditions above meets the demand for the required conditions of necessary structural flexibility, i.e., the structural flexibility that is required to achive full employment and price stability within the union. In addition, structural flexibility is linked to productivity and growth. As we allready know, structural differences between the member states are the origin of asymmetric shocks. Logically, the growth linked to the definition of the optimal transformation pressure also minimize asymmetric shocks across the monetary union.

3. *Restrictions on Structural Flexibility in EMU*

Wheras the rate of industrial growth in the advanced economies in general has been restricted by a failure to absorbe labour in expanding sectors, the transformation process has often been prevented by the unresponsiveness of the stagnating sectors to release labour. Obviously, the lack of transformation in the labour market, not only affect, but also to a great extent determine the conditions for the whole industry in the long run. As we know, structural change in the economy is essential to expected progress. If traditional labour market policy are devoted mainly to resisting change that will mean slower growth for the whole economy. In other words, labour market policy must be seen in a structural context and how economic growth will be affected.[14] Logically, economic policy to support capacity expansion must comprise both investment as well as disinvestment, because disinvestment and investment are both the components of the industrial transformation process. A natural question concerns the elaboration of an economic policy necessary to increase the adaptability of the domestic industrial sector to meet the demands for structural change.

With a symmetrical shock the direction of changes are the same in all union countries. Consequently, a symmetrical decreasing demand in

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[14] The imbalances in the European economy and the discussion of the need for greater flexibility of resources to meet the demands for structural change is not new. A study by Svennilson (1954) of the economic development of Europe between the two world wars indicated that, in most cases, the resistance to a structural renewal, i.e. a structural transformation directed to investments in new technology and the establishment of new industries, was based not only on imperfections in the competitive system but also on private agreements (vested interests).

the commodity market of the monetary union will automatically lead to a depreciation of the union currency, provided that the union currency is floating. The depreciation increases competitiveness (under normal conditions), raises the profit rates, and thus, there is a risk that necessary cost reductions will not be realized. Hence, the incentives to dismantling old investments on obsolescence diminish. On the other hand, assume that aggregated demand in the union increases, That implies that money demand, and thus, interest rates tend to rise. Provided that the union central bank is not increasing the union money supply, the union currency appreciates. Due to decreasing competitiveness and falling profit rates, a risk of exaggregated cost cuts appear. Logically, the incentives to dismantling old investments on obsolescence increase. These two example are simple, but provide a strong argument for recognizing the endogenous disinvestment process in the economic analysis. It is easy to see by this example that the value of the exchange rate has a strategic significance. In the long run a new equilibrium will be established. However, different sectors adjust differently, and a structural transformation between sectors will take place. The outcome of this transformation is a new structural profile of the economy. Indeed, this leads to the question of finding the appropriate balance between competitiveness and an efficient transformation in the industry sector to sustain a desirable growth path in the economy.

Considering an asymmetric shock, a chock where only parts of the union will change in the same direction, the situation will become more serious. Once an individual country has joined the monetary union the national exchange rate, as an adjustment to shocks hitting the domestic economy, have ceased to exist. The same apply to the national money supply and the nominal interest rate.[15]

If we assume r_j^D is derivied according to the specification above, and we have two regions, region U, which stand for the monetary union itself, and region 2, which stand for a arbitrary region in the monetary union. Assume now $r_U^D > r_2^D$, and capital is perfectly mobile across the union. Capital will move from K_2 to K_U, i.e., from region 2 to other regions in the union. Assuming constant capital-labour ratio and that labour is perfectly mobile. This implies that labour will move in the same direction as capital. In technical meaning no problem will occure. However, if labour is fixed the situation will be quite different. Unemployment vill raise togheter with a lower price of labour in region

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[15] Note, the real interest rate depends on the inflation in each region.

2, at the same time labour costs will raise in the rest of the union. A new equilibrium in returns ($r_U{}^D = r_2{}^D$) will be established, but with a significant and persistent unemployment in region 2. The only remaining method to use for the individual EMU region, is fiscal policy. However, the flexibility of EMU members to carry out fiscal policy at the national level is restricted by the Stability and Growth Pact. In addition, an increasing deficit in region 2 further restricts the possibility of an active fiscal policy. Thus, the initial adverse shock may have permanent effects by releasing a self-reinforcing process, which will result in lower relative growth. These are also Krugmanns (1993) main arguments in his critics of EMU policy arrangements.

In assessing the discussion above, the creation of a monetary union in itself is not the basic problem, the main problem is EMU. At first, EMU is not an optimal currency area. Second, characteristic for EMU countries is their structural differences, both in economy and culture. That, of course, increase the risks of shocks having asymmetric effects. Finally, that the flexibility of fiscal policy is restricted by common rules on government deficits and depts with the aim of ensuring budget discipline, a policy to reach the primary goal of price stability. The final restriction have its origon in that the economic policy by EMU, as manifested by the Maastricht Treaty and carried out by the Stability and Growth Pact, is based on the horisontal Philips curve.

The theoretical basis of a vertical Philips curve have been questioned in latter research (Akerlof, Dickens and Perry 1996, 2000). Compatible with these studies, estimations based on Swedish data (Lundborg and Sacklén 2001), shows that there exists a negatively sloped Phillips curve. According to their empirical work, regressions on quarterly data 1963-2000 and estimated inflation expectations show that this Phillips curve is relatively robust and that an unemployment rate of close two percent is consistent with an inflation target slighly above its present level of two percent. However, Lundborg and Sackléns estimations based on survey data suggest that a considerably higher inflation rate, of around four percent, is necessary to yield a lowest unemployment rate. In summary, the empirical study by Lundborg and Sacklén for Sweden and the studies of Akerlof, Dickens and Perry for US strongly suggest that different forces are at work at low inflation levels than at high inflation levels. Thus, that the inflation rate that minimize unemployment should be identical across EMU, is by this research objectionable.

Considering the Europena labour market, most of the labour force in EMU can not so far be classified as mobile across different countries within the EMU region. To avoid the emergence of labour market conflicts between different regions in EMU it is important to have similar institutional rules within the labour market of the union. Subsidies to increase the competitiveness by attract investment recourses to a specific part of EMU may also increase a potential economic-political conflict, and thus, is not recommendable. But investment to create an equal and high level education is important, so is also the creation of a common labour market legalization. If that policy is not provided by EMU, and subsidies to attract investment resources to different parts of EMU is not restricted, real wage differentials between low and high skilled labour will increase at the end. The result will be transitory or permanent growth differentials across the EMU member states. To avoid that development, the EMU integration policy must be implemented, and further, must be added with increasing mobility on the national level to increase the transformation process across the EMU states. With this knowledge the labour markets in several advanced countries would be more flexible and the result would also be a better performing. Nedless to say, industrial concentration, measured through localization, will become an important issue. The issue of localization naturaly put attention to the importance of including disinvestment as well as investment. In the process to find a new equilibrium the importance of these two variables may vary depending on localization.

International localization (globalization) has become important then structural change and transformation is under discussion, compared to the situation from two and three decades ago, then structural change was more a kind of a domestic matter. That introduce us to economics of scale,[16] and particulaly, to that is called the New Economic Geography[17]. Economic localization is not only an analytical

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[16] When economies of scale apply at the level of the industry rather than at the level of the individual firm, they are called external economics. External economics can give rise to increasing returns to scale at the level of whole domestic industry. This is an important knowledge in our understanding of a geographical concentration of industry in a cluster of firms, and play an important role in international trade, and hence, structural issues.

[17] Two pathbreaking articles in the litterature of New Economic Geography are Krugman (1991), and Krugman & Venables (1995).

concept, it is also an concept of economic policy, and economic transformation is the basic starting point of the formulation of that policy.

In the EU region it will become important if the development between the members will be more inter-industrial trade, and thus to more geographical specialization, or more intra-industrial trade, and to greater similarity of industrial structures. In the first case we vill have greater vunerability to asymmetric shocks, in the second cast we will have less risk of asymmetric shocks. Anyhow, as more countries enter EU the possibility of asymmetric economic shocks in EMU member countries will raise.

Unless labour markets become more flexible individual EMU countries will have a difficult time adjusting to asymmetric economic shocks. Since labour is rather immobile within the EMU area, wages should adjust to return to full empoyment. Is that scenario possible within EMU? The answer is no, if we only think in terms of lower wages, but it will become yes if we consider increasing adaptability of the different national economies to meet the demand for structural change together with an active policy to support structural trans-formation in all EMU states. The result will be a higher and more equal productivity for all member countries. Hence, the effects of asymmetric shocks will be reduced. However, the absence of substantial fiscal federalism within EMU implies that the transferability of fiscal resources across member states to offset the economic stability loss due to a common EU currency, is very small.

4. *Economic Policy Recommendations for EMU*

Primary goal of stabilization policy in the Treaty on European Union for EMU, is price stability. Change in the exchange rate or national monetary policy is no longer possible for the single country in the union. The choice for the individual member state is now fiscal policy, but fiscal discipline must ensure that the public-sector budget and public-sector dept are in accordance with the rules of Treaty of European Union.[18] Therefore, an alternative adjustment policy have to

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[18] Or to put it in other words, The EMU member states have not abolished, but strongly weakened, the Keynesian element in the discussion of economic policy. That have further been emphasized in the Stability and Growth Pact.

be provided for in EMU. Hence, short-term stabilization is highly dependent on fexibility in the labour market. From this point of view, economic economic transformation will become most significant. Therefore, a model of structural transformation (optimal transformation pressure) was introduced.

The essence of the model stipulated in this paper is that the transformation process is endogenously determined in the model. The key concept of the transformation process is the domestic operation surplus ratio, endogenously determined by exchange rate of the union, labour costs, and value added in each sector respectively. Technically, the necessary transformation pressure, in order to remain in a continuous state of full employment, is derivable from the the domestic operation surplus ratio. In the equilibrium context, the domestic operation surplus ratio coordinates investment and the process of deterioration (obsolescence) of the capital stock, and thus, the structure of the transformation process. Finally, the transformation pressure is optimal for the individual country then the expected domestic rate of return is equal to the expected rate of return in the union, provided price stability and full employment in the domestic economy as well as in the union. In theory, that guarantees also necessary structural flexibilty within the union.

But as stipulated above, EMU is not an optimal currency area and short-term stabilization is highly dependent on flexibility on the labour market, what unfortunately does not exist. An active fiscal policy[19] is the only policy left to the member states, and may theoretically be a way out of the problem. However, to implement an active fiscal policy in the member states would likely conflict with the current constraints by the Maastricht Treaty and the Stability and Growth Pact. Due to the absence of substantial fiscal federalism within the EU, constraints on national fiscal policy du to the Stability and Growth Pact are likely to be especially painfull. The recommendation concerning EMU is to go back to the Treaty of European union and the basic policy rules that is here stipulated and to confront them to the actual economic situation of the member states. Two main alternatives, or strategies, turn out as the most significant for EMU.

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[19] Fiscal policy may include corporate income taxes, investment tax credit that reduces the cost of capital and raises investment, and the system called investment fund, much like a investment tax credit during periods of recession, but revoked when the economy has recovered.

Given the Maastricht Treaty and the Stability and Growth Pact, increased flexibility on European labour market is necessary. In addition, the EMU member states must accept fiscal federalism. Not necessary to rule, but to coordinate and support fiscal policy of the member states. If not, conflicts between members may emerge, and the credibility of the monetary union fails. However, if the EMU member states does not accept fiscal federalism, and is unable to manage the labour market to increase its necessary flexibility, the treaty of European union and the Stability and Growth Pact must be changed in a less restrictive way. In particular, the substance of the Stability and Growth Pact must be discussed in a new round of negotiations.

These two alternatives can in political words be the choice between the view of centralisation of EMU economic policy matters in fiscal federalism, a strategy preferable by France, and the view of the strong independent and cooperating member states, a strategy preferable by Germany. That two strategies would, without no doubt, be the dominant alternatives in the coming discussions. To find a sustainable economic-political strategy is now the most important question of the EMU member states. That strategy is necessary, so we can concentrate on the question of increased flexibility on the labour market, higher productivity, and thus, reduced structural differences across the EMU member states. As the reader very vell know, this is the only way to reduce assymetric shocks, and it only takes place in the long run.

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