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Analysis of the Convergence Process

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Following Hungary's accession to the European Union, the greatest challenge facing economic policy is compliance with the criteria for joining Economic and Monetary Union. Although the adoption of the euro is a medium-term objective, economic policy decision-makers must consider the convergence criteria even now, in order to be able to comply with them at the lowest possible cost.

Similarly to the other Member States wishing to participate in Monetary Union, prime responsibility for the elaboration and execution of the Convergence Programme rests with the government in Hungary. However, the central bank also plays an important role in execution, primarily in the field of monetary and exchange rate policies. The major milestones of convergence, i.e. accession to ERM II and adoption of the euro, can only be reached if the government and the central bank act in mutual agreement. Moreover, convergence indirectly affects the central bank's operations, and the manner in which money and capital market participants perceive future developments in the economy. Furthermore, convergence fundamentally influences domestic monetary conditions, including the scope of interest and exchange rate policies. For this reason, the central bank must continuously evaluate progress in convergence and Hungary's steps towards preparing for the euro.

Due to the role the MNB plays in the convergence process, this overview of the central bank's position regarding the current state of convergence and the challenges expected in the near future may be of public interest. This new MNB publication intends to raise the awareness of decision-makers, professionals and the wider public regarding the frequently intricate issues of participation in Monetary Union and ultimately help Hungary to adopt the euro under the best possible conditions.

This issue of the *Analysis of the Convergence Process* was prepared by the Monetary Strategy and Economic Analysis and the Financial Analysis Departments of the MNB. The work was supervised by Ágnes Csermely and co-ordinated by Attila Csajbók. The *Analysis* was approved for publication by Ferenc Karvalits.

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The analyses in this issue incorporate valuable input from Monetary Council members' comments and suggestions. However, the analyses in this publication reflect the views of the Monetary Strategy and Economic Analysis and the Financial Analysis Departments staff and do not necessarily reflect those of the Monetary Council or the MNB.

Contents

Overview

This year's issue of the MNB's *Analysis of the Convergence Process* is devoted to the strategic considerations related to the adoption of the euro. As early as 2002, the Bank prepared a comprehensive cost-benefit analysis in relation to the introduction of the euro.[1] According to the main conclusions of that analysis, the benefits of adopting the single currency considerably exceed the related costs, as adoption results in faster Hungarian GDP growth and quicker catching-up with Western Europe in terms of income (real convergence) over the longer term. The risks of giving up an independent monetary policy are moderate, because in most respects the euro area is at least as much of an optimum currency area for Hungary as it is for less developed euro area countries. Hence, the answer to the question of the best timing for entry seemed simple: as soon as possible, i.e. as soon as the country meets the Maastricht criteria.

Six years have elapsed since the publication of that analysis. During this period, a significant amount of new experience has been gained in connection with the operation of both the Hungarian economy and the euro area. Some doubts have also been raised at domestic and international fora in respect of Hungary and the new EU Member States quickly moving forward with euro area membership. Due to the aforementioned reasons, we thought that the time had come for another review of the strategic issues related to adopting the euro in Hungary.

In our new analysis, we discuss whether meeting the Maastricht criteria is still a sufficient condition of adopting the single currency in Hungary, or if new aspects have also arisen on the basis of recent years' experience. It was not our intention to prepare a new, comprehensive cost-benefit analysis: we have examined those points where we experienced changes in the period under review, and we also outline some completely new aspects. The main conclusions of our analysis regarding the adoption of the euro can be summarised as follows:

The advantages of the single currency for Hungary are considerable. Naturally, the adoption of the euro involves risks as well, as shown by the example of some more weakly performing euro area member countries. We believe that, due to Hungary's more advantageous economic and export structure, more flexible labour market and closer trade integration with the core of the euro area, Hungary is less exposed to the risk of a weak performance in the euro area. However, all this does not mean that these risks need not be reduced further. Hungary must still implement additional reforms in its product and labour markets, to become a competitive economy with high employment and a convincing increase in productivity over the long run as well. Such reforms may facilitate maximum utilisation of the benefits stemming from the single currency, although they are not preconditions for adoption of the euro. The sooner these reforms are carried out the better, but they do not influence the timing of eurozone entry.

[1] A. Csajbók and Á. Csermely (eds.) (2002): Adopting the euro in Hungary: expected costs, benefits and timing, MNB Occasional Papers No. 24.

In light of the above, as regards the euro *we are still of the opinion that it should be adopted as soon as possible*. Nevertheless, in light of recent years' experience in and outside of Hungary, clearly there are risks involved, too, and we must be prepared to address them. Launching labour and product market reforms – noting that this does not necessarily have to take place before the introduction of the common currency – should be given high priority in the list of medium-term objectives of the nation's economic policy. It is important to ensure that there will be sufficient room for manoueuvre available at the right time to take the necessary fiscal measures for the management of possible shocks after joining the euro area. Accordingly, the fiscal consolidation process must be pursued relentlessly even after the Maastricht deficit criterion is met, working towards the 0.5% GDP-proportionate deficit level prescribed for Hungary in the Stability and Growth Pact as a medium-term objective. This process, and any effort to maintain the sustainability of the consolidation programme would receive a great boost from the adoption of a properly designed new public finances act with broad parliamentary support. However, apart from institutional guarantees, concrete steps are also required. An important threat to the sustainability of fiscal adjustment is if such adjustment leads to unfavourable long-term growth. Consequently, long-term success in consolidation relies largely on growth-friendly measures, such as reducing the tax wedge or cutting back on social policies which hinder labour supply. Ultimate success relies on strict measures carried out in a manner ensuring that the process of cutting the deficit remains on the path designated in the convergence programme.

Our conclusion regarding the adoption of the euro is based on the following results:

1 Hungary's similar economic structure and its close trade integration with the euro area have remained broadly unchanged, which reduces the probability of asymmetrical shocks. However, one unfavourable development is that business cycle synchronicity – which was strong starting from the mid-1990s – has weakened since the turn of the millennium. Our analyses suggest that this was mainly the result of the fiscal expansion taking place in this period in Hungary. If fiscal consolidation is completed successfully, and the expansion is not repeated, *cyclical synchronisation may automatically be restored as a consequence of the high level of trade integration.*

2 However, it cannot be ruled out that, in addition to fiscal expansion, the rapid increase in household credit has also played a role in the disturbance of cyclical synchronisation. This phenomenon, although related to the fiscal expansion in many ways, would have probably taken place to some extent, independently of fiscal expansion as well. This is also suggested by the similar phenomena observed during this period in a number of other new EU members. On some views, due to the ongoing dynamic credit expansion in the newly joined countries, it is expedient to postpone the adoption of the single currency to a later date. However, one must not forget that the increase in financial deepening is a natural process in these countries, and the real question is whether the rate of expansion in a given country can be considered an equilibrium financial deepening or not. According to a detailed econometric analysis conducted earlier at the MNB, there are clear signs that credit is expanding at an unsustainable rate in several countries in the region. However, Hungary is not one of these countries: the findings of the analysis suggest that the risks of credit expansion exceeding the equilibrium level are moderate. This conclusion is also supported by the fact that credit expansion in

Hungary has been accompanied by a far smaller degree of increases in real estate prices than observed in the countries in the region which are in a critical situation in terms of credit growth. Based on all the above, *in relation to credit growth we do not see any economic reason which could serve as a basis for postponement of the adoption of the euro in Hungary*. Moreover, the risks stemming from the rapid increase in foreign currency-based lending to households tend to justify the quickest possible introduction of the single currency.

3 In a currency union, one of the most important mechanisms which reduces the effect of asymmetrical shocks is labour market flexibility. The Hungarian labour market can be considered *flexible in terms of wage flexibility*. In this regard, the institutional conditions of the labour market are favourable, and empirical experience also suggests that both real and nominal wages can more or less flexibly adjust to shocks to the economy. However, adjustment has been hindered in the past by the series of shocks stemming from economic policy (the increase in minimum wages in 2001 and 2002, as well as the sizeable pay raise for civil servants in 2002). This channel still represents a risk in terms of the development of wages (e.g. the guaranteed minimum wage introduced in 2006). It is also questionable whether the flexibility observed so far will continue to persist in a lower inflation environment as well.

4 In terms of the *structural flexibility* of the labour market, however, Hungary is in an extremely *unfavourable* position, which is most clearly reflected in the employment rate, which has been low for a long time. This is important because there are some arguments that a permanently high employment rate is a reliable comprehensive indicator of a country's competitiveness and resilience to shocks. In this respect, Hungary clearly must make reform efforts, mainly in the direction of reducing the tax wedge, which is very high by international standards, and mitigating other factors hindering labour supply, as well as in respect of improving the quality of education and better meeting the structure of labour demand. At the same time, one must see that independent monetary policy cannot substitute the labour market's *structural* flexibility in the adjustment to shocks, i.e. this characteristic feature does not play a direct role in the decision on the adoption of the single currency.

5 Another important mechanism which can play a role in the management of asymmetric shocks is fiscal policy. According to recent calculations, in terms of strength, the automatic stabilisers of fiscal policy do not lag far behind the values characteristic of the euro area. However, this may prove insufficient within a currency union: at times fiscal policy must react to an asymmetrical shock in a discretionary manner as well. A precondition of this is to have adequate room for manoeuvre, so that counterbalancing the shock should not jeopardise fiscal sustainability. In order to ensure this, the Stability and Growth Pact requires EU Member States to set medium-term budgetary targets (MTOs). Hungary has set its MTO at a deficit of 0.5% of GDP as an average over the business cycle. One serious risk for the Hungarian economy is that *this kind of fiscal room for manoeuvre has never been attained since the change of the political system*. Indeed, there was only one year, when the deficit remained below 3 per cent.

6 Following the introduction of the euro, price level convergence, which occurs in tandem with the convergence of the real economy, is likely to result in higher inflation, that may be above the average of the euro area for some time. After joining the euro area, real interest rates will drop somewhat. In order to avoid any major cyclical fluctuations, it is of the utmost importance that inflation expectations be well anchored and the labour market remain flexible. The degree of anchoring inflation expectations is very different among the new EU Member States. The inflation shocks in Hungary are considered long term by the economic agents affected, and inflation expectations are not anchored. As far as the degree of inflation persistence is concerned, within the euro area the closest countries to Hungary are Greece and Portugal. According to our analysis, upon joining the euro area expectations are projected to become more anchored, however, as far as Hungary is concerned, we are still far from the level of Greece or Portugal before the introduction of the euro. The currently high level of inflation persistence constitutes a potential risk factor concerning the efficiency of the common monetary policy. Accordingly, the greatest challenge facing Hungary's monetary policy before the adoption of the euro is to anchor inflation expectations at a sufficiently low level.

7 With regard to the quantifiable benefits resulting from the single currency, the earlier, ex ante estimations can now be compared with the concrete experience of the first 6–7 years of the euro area. Most of the previously-estimated, quantifiable benefits originated from the significant increase in foreign trade due to the single currency. According to the latest and most reliable estimates, as a result of the single currency, intra euro area trade increased by an average of 20–25 per cent until 2005, and the trade boosting effect grew over time. This extent is *lower* than the *total effect* which we calculated in the past, *but in pro rata terms it is roughly in line with our old estimate*, since according to our assumption the effect unfolds only over a longer, 20-year time horizon. However, as we have very little knowledge of the expected timepath, it cannot be ruled out that the foreign trade expanding effect will not be greater than the currently observed one. Consequently, we can expect that the expansion of foreign trade and the ensuing *welfare effect will be considerable in Hungary, but may be smaller than previously estimated.*

8 Since the launch of the euro area, the economic performance of some member countries (mainly Portugal and Italy) has been disappointing. We examined in more detail the experiences of a somewhat wider group, the so-called 'Club Med' countries (including Spain and Greece, in addition to the aforementioned countries). Our aim was to compare the macroeconomic and structural features of Hungary with those of the above countries, in order to assess Hungary's risks in the event of weak performance within the euro area. We concluded that *in terms of the structure of the economy and labour market flexibility Hungary is in a more favourable position than the weakly performing countries*, which reduces the risk that it will have to follow the same path when it becomes a member of the euro area. At the same time, we also found that structural factors and lagging in product market and labour market reforms may also underlie weaker macroeconomic performance. Occasionally, behaviour problems, mainly the indiscipline of fiscal policy and developments in wages which impair competitiveness may also add to it. *Product market regulations strongly limit competition both in the Club Med countries and Hungary.* Consequently, gains

in both competitiveness and productivity may be slower than desirable. In labour markets, Club Med countries combine strict EPL (Employment Protection Legislation) with high taxes and weak participation policy. As a result, adjustment problems and problems related to catching up, which are present from the outset due to product market rigidities, continue to increase. *In Hungary, in terms of the institutional part of the labour market, the situation is much more favourable*, although the tax wedge is high in Hungary as well, the efficiency of active labour market tools is low, and sometimes economic policy interferes with wage developments to a significant degree (e.g. in the form of considerable increases in the minimum wage and pay raises for civil servants). Therefore, in addition to the aforementioned employment increase, the structural comparison with Club Med countries highlights a new area of reform, namely *product market liberalisation*, for Hungary, if the country intends to reduce the risks of poor economic performance in the euro area. At the same time, the comparison with Club Med countries *confirms the necessity of long-term fiscal adjustment as well*, since experience suggests that insufficient fiscal room for manoeuvre aggravates the problems resulting from structural weakness.

9 In respect of reducing the budget deficit, in addition to meeting the Maastricht criteria, a close-to-balance position must be set as the ultimate target. This is required not only by compliance with the Stability and Growth Pact, but also by fulfilling the optimum currency area criteria. *However, in addition to reducing the deficit, the structure used to accomplish the improvement in equilibrium is also important, due to the sustainability of the improvement and its impact on potential growth.*

At present, budget expenditures as a proportion of GDP significantly exceed the level of budget expenditures of the countries exhibiting a similar state of development as Hungary, and expenditures in Hungary are unlikely to decline to this level until 2010. In addition, the structure is also different from that of developed European countries and countries in the region, and based on the changes indicated in the convergence programme, most items are not even approaching the international average. On the expenditure side, within welfare functions, the percentage share of expenditures on education and health is declining, while that of expenditures on pensions and social benefits is increasing and stagnating, respectively. This contrasts with both the pre-EMU evolution of structural changes in those euro area Member States which were able to successfully avoid an EDP (excessive deficit procedure) and the conclusions drawn from the relevant literature regarding the optimum structure.

Accordingly, in Hungary, *a reduction in social expenditures would be needed*, while *in the case of expenditures affecting human capital (education, health) it would be justified to consider stopping the decline in expenditures.* On the revenue side of the budget there are also perceptible structural problems, which *inter alia* significantly influence the labour market as well. Although the GDP-proportionate revenue level conforms with the level of development of the country, this level is coupled with *tax rates which are high in international comparison.* In connection with the tax system, three major, interrelated factors are worth highlighting. First, it would be important to reduce the ratio of distorting taxes via *a reduction in the taxes and contributions on labour*, although over the short run this cannot mean a reduction in the total amount of taxes. Second, *increasing the efficiency of tax collection* has to be emphasised, which can partly pave the way for the implementation of the first factor. Third, it is important to emphasise

the need to *simplify the tax system* and *revise tax benefits*, the latter of which would not only mean additional revenues, but could also contribute to an improvement in the efficiency of the social welfare system.

10 Accordingly, reassessment of the OCA (optimum currency area) criteria and analysis of the experiences of the Club Med countries underscore the need to carry out reforms in three fields in Hungary: (i) increasing employment, (ii) increasing competition on the product market and (iii) structural changes in the budget to make the results of consolidation permanent. The question is whether implementation of these reforms must precede adoption of the euro. This can be decided on the basis of two aspects. One of them is whether the given reform is a precondition for adoption of the euro from an OCA point of view. The other, in turn, is whether the incentive to carry out the given reform may decline following entry into the currency union. Increasing employment and liberalising product markets, although they somewhat facilitate the adjustment to asymmetrical shocks through the higher productivity, are not primary OCA criteria. However, the existence of an adequate fiscal room for manoeuvre is clearly one of these criterion.

With regard to political economy incentives, it can be said that giving up independent monetary policy is not a strong disincentive to structural reforms. Within the currency union, fiscal policy remains the only efficient 'painkilling' economic policy tool for handling possible initial growth sacrifices entailed by the reforms. Thus the availability of a fiscal room for manoeuvre is also indispensable for launching structural reforms and for the creation of a favourable environment for such reforms.

Introduction

This year's issue of the regular MNB publication entitled *Analysis of the Convergence Process* is devoted to the strategic considerations related to the adoption of the euro. As early as 2002, the Bank prepared a comprehensive cost-benefit analysis on the introduction of the euro. According to the main conclusions of that analysis, the benefits of the adoption of the single currency considerably exceed the related costs, resulting in an increase in Hungarian GDP growth and a faster catching-up with Western Europe in terms of income (real convergence) over the longer term. The risks of giving up an independent monetary policy are moderate, because in most respects the euro area is at least as optimum a currency area for Hungary as it is for less developed euro area countries. Therefore, the answer to the question about the optimum timing of the entry seemed simple: as soon as possible, i.e. as soon as the country meets the Maastricht criteria.

Six years have elapsed since the publication of that analysis. In this period, a significant amount of new experience has accumulated in connection with the operation of both the Hungarian economy and the euro area. Many doubts have also been formulated at domestic and international forums regarding Hungary and the newly joined EU Member States moving to quickly join the euro area. Due to the aforementioned reasons, we thought that the time had come for a review of the strategic issues of adopting the euro in Hungary.

In our new analysis we look for an answer to the question of whether meeting the Maastricht criteria is still a sufficient condition for adopting the single currency in Hungary, or whether new aspects have also arisen on the basis of the experience from recent years. It was not our intention to prepare a new, comprehensive cost-benefit analysis: instead we have examined those points where we experienced changes in the period under review, and we also discuss some completely new aspects.

The structure of the analysis is as follows: Chapter 1 presents a review of the criteria of the optimum currency area (OCA). Chapter 2 discusses the rapid credit expansion observable in the new EU Member States. This is a phenomenon which, as some believe, may also influence the optimum timing of adopting the euro. Chapter 3 examines the relevance of the degree to which inflation expectations are anchored from the perspective of entering the currency union. In Chapter 4, in the light of the euro area's experience to date, we revise our estimate of the benefit resulting from trade expansion, which is the most significant previously-identified, quantifiable benefit of the euro. Chapter 5 analyses the background of the weaker macroeconomic performance of some euro area member countries. Chapter 6 also discusses an issue which has frequently arisen at various economic policy forums recently, namely, whether the structural reforms to be carried out by the countries intending to join must be completed before adopting the euro. Finally, Chapter 7 introduces the necessity and possible directions of the fiscal structural transformation.

1 The criteria of optimum currency areas and Hungary

Upon joining the European Economic and Monetary Union (EMU), Hungary will give up its independent monetary policy, which is an important tool in managing shocks to the economy. According to the theory of optimum currency areas (Mundell, 1961; McKinnon, 1963; Kenen, 2000), the single monetary policy within the union can only adequately substitute independent monetary policy if there is a high probability that the shocks to the economy are similar to the shocks to the other member countries of the union. According to the theory, similar economic structure, close integration through foreign trade and the related synchronisation of business cycles ensure the symmetry of shocks which affect the economic area. However, even if this condition is missing, it can be advantageous to join a monetary union, provided that the mechanisms which substitute independent monetary policy work in an adequate manner, and offset the consequences of an asymmetrical economic shock, should the latter take place. The functioning of these mechanisms is usually ensured by the existence of two important factors: a flexible labour market (wage elasticity, mobility of labour) and the flexibility of fiscal policy.

According to the latest trend in the theory of optimum currency areas, fulfilment of the above conditions is not independent of currency union membership, i.e. the optimum currency area is endogenous (see Frankel and Rose, 1998). The underlying reason is that upon entering the currency union the exchange rate risk ceases to exist, which results in an increase in foreign trade integration. This, in turn, brings individual countries' business cycles closer, and reduces the chance of asymmetrical shocks. Thus it may be advantageous to enter the monetary union even for an economy which meets the conditions of the optimum currency area to a lesser extent, as membership will become optimal later in any case. However, this argument cannot be considered valid in general. Entering the monetary union strengthens the co-movement of business cycles only if the increase in foreign trade integration boosts inter-industry and not intra-industry foreign trade. Otherwise, monetary union may also result in increasing specialisation through the exploitation of comparative advantages (Krugman, 1993), which weakens cyclical co-movement, and adds to the expenses of giving up independent monetary policy.

In the following, we examine whether Hungary at present constitutes an optimum currency area with the EMU on the basis of the criteria determined by the theory. In the past, Csajbók and Csermely (eds., 2002) conducted a comprehensive analysis of this subject, drawing their conclusions on the basis of data of the period until the turn of the millennium. Therefore, in this analysis, in addition to the assessment of the situation, special attention is paid to the changes which have taken place since 2000, both in Hungary and in other European states. Of these countries, the new EU Member States on the verge of joining EMU and the Club Med countries (Greece, Italy, Portugal and Spain) on the periphery of the EMU represent a special reference point. Treating the latter group of countries as a special basis for comparison is mainly important because the economic performance of these countries within the euro area was not satisfactory, and their experiences may also carry useful messages in connection with the adoption of the euro in Hungary (see more details in Chapter 5).

In the first part of the chapter, we assess the most important indicators which reflect the probability of occurrence of asymmetrical shocks. These indicators include: the similarity of the structures of the economies, foreign trade integration and co-movement of business cycles. In the section on business cycles we separately deal with the extent of the role the

expansive Hungarian fiscal policy after the turn of the millennium may have played in the decline in the Hungarian cyclical co-movement. We also devote a separate section to the risks of increasing credits to households, which add to the chance of asymmetrical shocks in the new Central and Eastern European member states. The second part of the chapter evaluates the flexibility of the labour market, and draws conclusions as to whether the flexibility of the wage-system and the employment structure provide an adequate adjustment channel in the event of an asymmetrical shock. One of the important means of managing asymmetrical shocks, i.e. the flexibility and room for manoeuvre of fiscal policy, is discussed in a separate part of the analysis (Chapter 7).

1. 1 The probability of asymmetrical economic shocks

The exposure to asymmetrical shocks of an economy which intends to join a currency area is usually measured using three economic criteria. The first is the *similarity of the economic/production structure*, i.e. whether the respective shares of the various sectors of the economy are close to the averages of the currency area. If there is a similar economic structure it is likely that the economy of the country in question will be exposed to symmetrical shocks together with the currency area, and the shocks to the currency area as a whole will entail effects of similar magnitude.

The second is the *depth of foreign trade integration*, which means the country's openness to the currency area and primarily the intensity of intra-industry foreign trade. Close foreign trade integration means there are close sectoral interrelationships between countries, strengthening the synchronisation of economic cycles and thus reducing the probability of asymmetrical shocks.

The third criterion is the *synchronisation of the country's economic cycles and of the currency area.* If a strong cyclical co-movement between the economy of the candidate country and the economies of the currency union was observed in the past, it is thus probable that economic fluctuations between the two areas will be similar in the future as well, and thus the single monetary policy will be optimal for the new member too. This dimension is not independent of the previous two: structural similarity and the degree of foreign trade integration exhibit a close relationship with the synchronisation of business cycles.

Similarity of the structure of economy with the euro area

In terms of the structural dimension, our earlier analyses, which were based on the economic situation at the turn of the millennium, led to the conclusion that the structure of the Hungarian economy is at least as similar to that of the euro area as the structure of the less developed EMU members. While the role of industry is relatively significant compared to the euro area, this represents a smaller problem to the extent that it is precisely this sector which is closely linked to the euro area economic cycle via foreign trade.

During the last seven years, the structure of the Hungarian economy has hardly changed (Table 1–1). Structural similarity with the euro area, measured on the basis of the ratio of individual sectors according to value added and number of employees, can still be considered very advanced. The most remarkable difference is still related to the high share of manufacturing, as opposed to the lower ratios of certain market services (real estate, renting and business activities) compared to the euro area. Considering the ratios between sectors according to the number of employees the shifts that have taken place since 2000

have brought the structure of the economy slightly closer to that of the euro area, i.e. the ratio of industrial sectors typically declined, while that of market services increased.

Table 1–1 Shares of sectors in the euro area and Hungary

	2006		change since 2000		2006		change since 2000	
NACE branches	value added	employment	value added	employment	value added	employment	value added	employment
Agriculture, hunting and forestry	6,2	4,7	0,8	-1,6	2,1	4,2	-0,3	-0,5
Fishing	0,0	0,1	0,0	0,0	0,1	0,1	0,0	0,0
Mining and quarrying	0,3	0,4	0,0	-0,1	0,4	0,2	-0,1	0,0
Manufacturing	**24,4**	**22,1**	**0,9**	**-2,3**	**19,5**	**17,1**	**-0,4**	**-1,6**
Electricity, gas and water supply	1,9	1,7	-1,6	-0,3	1,9	0,6	0,1	-0,1
Construction	4,8	8,1	-0,2	1,1	5,6	7,5	-0,1	0,1
Wholesale and retail trade	12,3	15,0	1,6	0,6	11,4	14,8	-0,1	-0,1
Hotels and restaurants	1,3	4,0	-0,5	0,4	2,8	4,7	-0,2	0,3
Transport, storage and communication	8,1	7,6	-0,2	-0,5	7,2	5,7	0,6	0,0
Financial intermediation	5,2	2,1	1,9	-0,1	5,0	2,8	0,1	-0,1
Real estate, renting and business activities	**16,6**	**7,2**	**-0,3**	**1,9**	**22,1**	**12,3**	**0,7**	**1,1**
Public administration and defence, social security	7,3	7,3	-1,1	0,4	6,4	7,1	-0,2	-0,3
Education	4,3	8,2	-0,5	-0,2	4,7	6,4	-0,3	0,2
Health and social work	3,9	7,0	-0,4	0,5	6,7	9,2	0,3	0,6
Other community, social, personal service activities	3,6	4,6	-0,5	0,2	3,5	4,6	-0,2	0,2
Activities of households	-	-	-	-	0,6	2,8	0,0	0,3
TOTAL ECONOMIY	100,0	100,0	0,0	0,0	100,0	100,0	0,0	0,0

Source: Eurostat.

In several cases, sectoral realignment in Hungary diverged in terms of value added and the number of employees. While the ratio of employees in manufacturing has declined markedly since 2000, the weight of the sector calculated on the basis of value added has increased slightly. As opposed to this, in several branches of services (especially in public services) the ratio of value added has declined considerably, although the ratio of employed has increased. This phenomenon, which can also be translated as the increasing productivity differential between the industrial and services sectors, may have been facilitated by two factors. On the one hand, as a result of increasingly keen international competition, realignment has taken place within manufacturing in the direction of higher-productivity and less labour-intensive production. On the other hand, the strong domestic demand and fiscal expansion typical of the period under review created a favourable environment for the labour-intensive expansion of certain branches of services.

The realignment of manufacturing towards less labour-intensive sectors was seen in the whole euro area, suggesting a global scope of this phenomenon (Table 1–2). Labour-intensive sectors with low value added (mainly the textile industry) have declined, while capital- and research-intensive production (electrical and transport equipment) has come to the fore. This realignment has been stronger in Hungary than in the euro area, and thus within manufacturing the two production structures have drifted apart to a slight degree. Manufacturing of electrical and optical equipment, which has represented an especially high ratio in the Hungarian structure, has further increased its share at the expense of other sectors, which have already been relegated to the background on the basis of value added compared to the euro area.

Table 1–2 Shares of branches of manufacturing in the euro area and Hungary

	HUNGARY				EURO AREA-13			
	2005		change since 2000		2005		change since 2000	
NACE branches in Manufacturing	value added	employment	value added	employment	value added	employment	value added	employment
Food products, beverages and tobacco	8,4	15,9	-5,9	-0,1	10,5	13,2	-0,3	0,5
Textiles and textile products	2,9	9,7	-2,6	-4,2	3,7	7,1	-1,0	-1,0
Leather and leather products	0,4	1,6	-0,7	-2,2	0,8	1,7	-0,2	-0,2
Wood and wood products	1,8	4,4	-0,1	0,3	2,2	3,2	-0,1	-0,1
Pulp, paper products, publishing and printing	5,3	5,3	0,1	0,6	8,3	7,6	-0,4	-0,2
Coke, refined petroleum products and nuclear fuel	4,1	0,6	-1,7	-0,1	1,4	0,5	-0,5	0,0
Chemicals, chemical products	8,6	5,4	-0,8	0,1	11,1	5,3	1,0	0,0
Rubber and plastic products	5,0	4,4	1,1	-0,4	4,7	4,7	0,3	0,1
Other non-metallic mineral products	4,0	3,5	-0,6	0,0	4,5	4,6	-0,1	-0,1
Basic metals and fabricated metal products	8,6	12,0	-0,6	2,1	13,4	15,3	-0,3	0,7
Machinery and equipment n.e.c.	8,4	6,9	2,1	-0,3	11,4	11,0	0,2	0,4
Electrical and optical equipment	**27,0**	**18,3**	**8,5**	**2,1**	**14,0**	**10,4**	**1,3**	**-0,3**
Transport equipment	13,1	6,8	1,2	1,7	10,6	9,1	0,7	0,2
Manufacturing n.e.c.	2,0	5,2	-0,1	0,4	3,5	6,1	-0,5	0,0
TOTAL MANUFACTURING	100,0	100,0	0,0	0,0	100,0	100,0	0,0	0,0

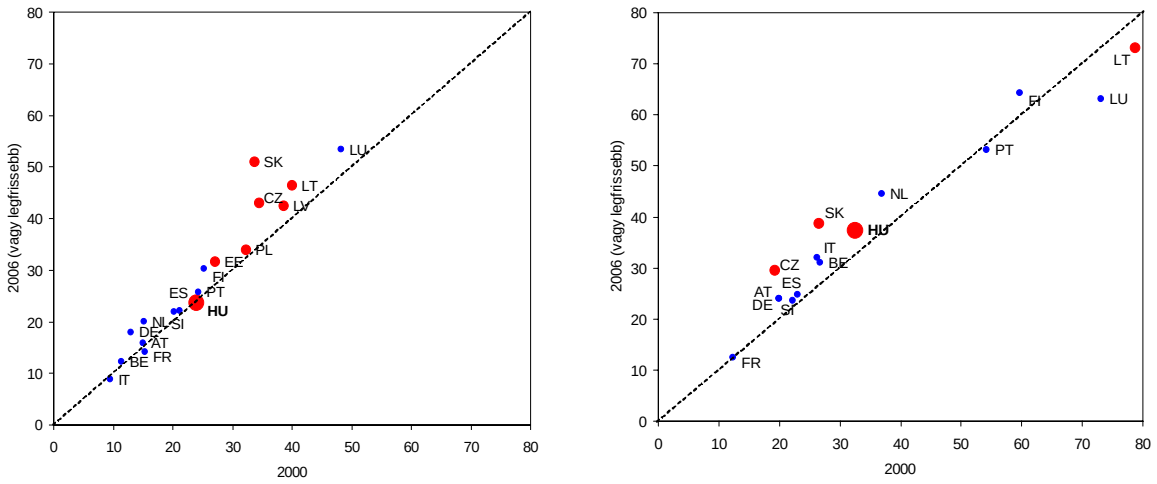
Source: Eurostat. Detailed data on manufacturing in Hungary are available up to 2005 only. Manufacture of electrical and optical equipment includes manufacture of office machines and computers, telecommunications products, instruments (medical, optical instruments and process control systems) as well as other electrical machinery.

In order to compare economic structures at the international level, we calculated structural asymmetry indicators based on the value added of both the entire national economy and the manufacturing sector (Chart 1–1). A lower value of the indicator is considered more favourable from the aspect of structural similarity. Based on a breakdown of the national economy into 16 sectors, the asymmetry of the Hungarian economy is the lowest of the non-euro area countries, and has not grown since the turn of the millennium, as opposed to the other new EU Member States. The magnitude of asymmetry is close to that of the less developed EMU countries (Portugal, Spain, Slovenia), and is also smaller than the asymmetry of Finland and Luxembourg. Looking only at the asymmetries within manufacturing, greater structural differences can usually be observed. However, Hungary's position in the peer group is also acceptable here as well; indeed, in this regard, Hungary's asymmetry is even much smaller than that of Portugal or Holland.

The cases of Finland and Portugal, a Club Med country, allow for interesting comparisons. Based on the total national-economy asymmetry with the euro area, both countries' indicators are very close to Hungary's. At the same time, however, the structural difference within manufacturing in these two countries is much stronger than the Hungarian one. The underlying reason is that compared to the euro area (and the Hungarian) manufacturing industry, a greater role is played by the lower technological level of production in case of Portugal and a higher one in the case of Finland. This also highlights an important imperfection of the asymmetry indicator, that it only measures the extent of the differences between sectoral ratios, but not their character. As we pointed out above, the Hungarian production structure is more similar to the Finnish one and is different from the euro area average mainly because of the greater weight of higher-technology production.

Chart 1–1 Structural asymmetries of European economies*

Whole economy **Manufacturing**



Source: Eurostat. Asymmetry indicator calculated on the basis of the value added of 16 NACE branches and 14 manufacturing sub-branches $= \sum_j \left| s_{ij} - s_{EAj} \right|$, *where* s_{ij} *is the ratio of sector j in country i, while* s_{EAj} *is the ratio of sector j in the euro area-13. In the whole-economy chart the latest data for Slovenia and Lithuania are for 2005, while they are for 2003 in case of Portugal and Spain. In the manufacturing chart the latest data for Lithuania, Hungary, Germany, Slovakia and Slovenia are for 2005, while they are for 2003 in the case of Portugal and Spain.*

One interesting phenomenon is that most of the individual EMU member countries' structures have departed from the average since 2000. In terms of monetary integration, an unfavourable interpretation of this is that despite the single currency economic structures have not converged, which apparently contradicts the hypothesis of endogeneity of optimum currency areas. Instead, the increases in the asymmetry of typically foreign trade-oriented manufacturing may be signs of increasing specialisation between regions, as mentioned by Krugman (1993). Nevertheless, the period under review is very short and too atypical to decide on the above dilemma. In certain member countries, in the sectors where value added is lower, increasing international competition in the market of processed products may have resulted in a strong compulsion to comply.[2] Therefore, the period under review can be considered a transitional period, when different methods and rates of adjustment may have caused a divergence of economic structures within the monetary union on a temporary basis as well.

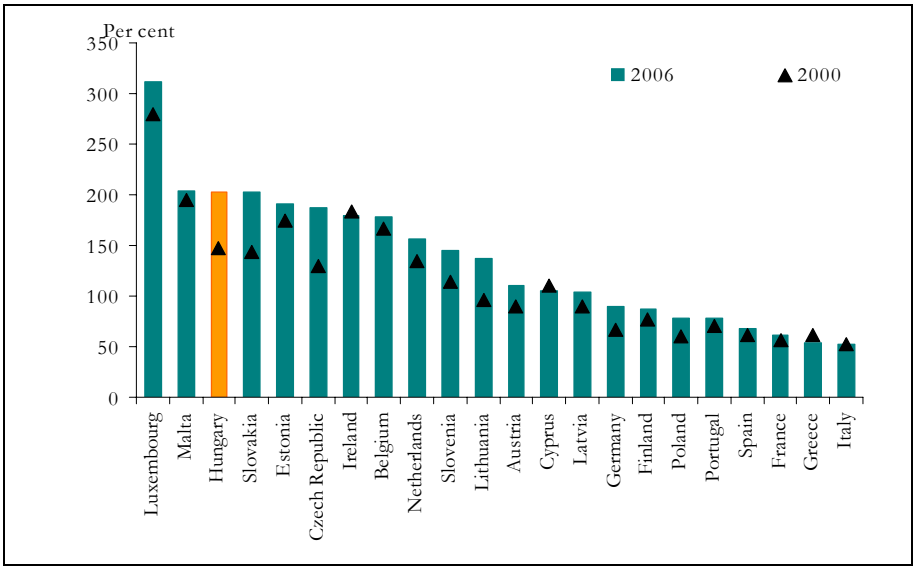
Foreign trade integration and product-mix

Hungary's foreign trade openness and, within that, the degree of integration with the euro area were already very advanced at the turn of the millennium. Foreign trade openness was one of the most significant across European countries, and more than 60 per cent of the total turnover was with the euro area. The ratio of intra-industry foreign trade – a good indicator of foreign trade relations – which strengthen the co-movement of business cycles, was only slightly below the euro area average. In addition, the specialisation of the export sector became concentrated mainly in medium-high and high-technology production.

[2] With regard to the subject of global competition and euro area adjustment, see Baumann and di Mauro (2007).

Over a period of six years, this situation only changed slightly. The extent of foreign trade openness increased further, and in 2006, the total volume of foreign trade (exports and imports of goods and services together) was twice as high as GDP, placing Hungary in third place in the European openness ranking (Chart 1–1). The turnover of foreign trade in goods continues to be mainly with the euro area (55 per cent) and other EU member countries (20 per cent). The significance of EU markets within Hungary's foreign trade is even higher than the average of the euro area countries (Chart 1–2).

Chart 1–2 Foreign trade openness in 2000 and 2006

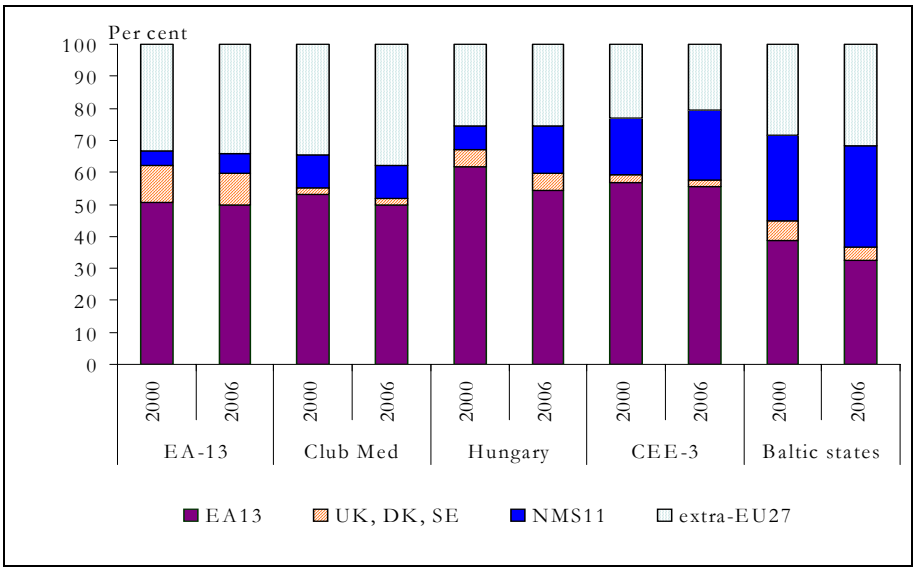


Source: Eurostat. Based on goods and services trade flows in year 2000 constant prices. Openness = (exports + imports)/GDP.

However, the geographical reorganisation of foreign trade relations which has been seen in recent years should not be disregarded. In case of Hungary and the new Member States in general, the role of trade between one another has increased at the expense of the trade with the euro area. Since the turn of the millennium, this realignment has been the strongest in the case of Hungary, although earlier the share of intra-regional trade was also the lowest in Hungary.[3] At the same time it is important to see that the decline in the weight of the euro area across the trading partners has not been accompanied by a drop in the volume of turnover with the euro area, i.e. integration with the euro area in absolute terms continued to increase after 2000 as well (Chart 1–3).

[3] Based on the estimates of gravity equations, the studies measuring the level of potential foreign trade integration between the new member countries produced contradictory results. Examining the late 1990s, Jakab, Kovács and Oszlay (2000) found that the trade between CEFTA member countries was significantly below its potential level. However, a more recent study (Bussiere, Fidrmuc and Schnatz, 2005) on data up to 2003 found that the integration of Hungary, the Czech Republic and Poland with the new member countries reached its potential level.

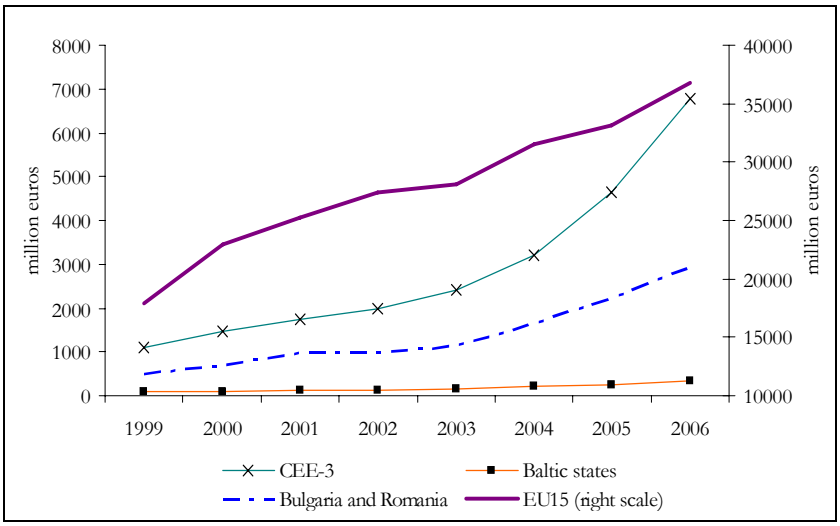
Chart 1–3 Foreign trade by partners (exports and imports)



Source: Eurostat. Goods turnover data in euros. UK, DK, SE: UK, Denmark and Sweden; NMS11: Bulgaria, Cyprus, Czech Republic, Estonia, Lithuania, Latvia, Poland, Malta, Romania, Slovakia; CEE-3: Czech Republic, Poland, Slovakia.

The increasing share of new Member States accelerated in 2004, when Hungary joined the EU. With the exception of the Baltic states, these countries had formed a free trade area within the framework of CEFTA well before they joined the EU. Only food and agricultural products had been an exception, for which various customs duties and quotas had remained effective until joining the EU. Following that, lifting the existing trade barriers really resulted in an increased foreign trade activity in food and agricultural products. But the strengthening of foreign trade integration was a general phenomenon, which affected other products as well. This is well illustrated by the fact that the share of food within Hungary's trade with the new member countries remained unchanged between 2000 and 2006.

Chart 1–4 Hungarian exports to the EU-15 and the new EU Member States



Source: Eurostat. Goods turnover data in euros. CEE-3: Czech Republic, Poland, Slovakia.

The depth of foreign trade intensity, however, is not the best indicator of the risk of asymmetrical shocks to the economy. According to the relevant literature on optimum currency areas, only the strengthening of *intra-industry* foreign trade, which indicates increased horizontal or vertical interrelationships of production structures, leads to synchronisation of business cycles. Based on the typical indicator of intra-industry trade, i.e. the Grubel-Lloyd (GL) index, Hungary's intra-industry trade with the developed EU member countries (EU-15) exceeded the indices of the new Member States and the euro area average as well (Table 1–1). Compared to 2000, there has been a significant increase in the Hungarian indicator as well, i.e. within the scope of trade with developed EU member countries – which fell relatively – the ratio of intra-industry trade, which reflects sectoral interrelationships, has increased. It is worth noting that the GL index calculated for the entire EU-27 market is higher for the newly joined countries, including Hungary as well. Therefore, compared to what was described above, in the future expanded euro area the new member countries will better meet the foreign trade criteria of optimum currency areas.

Table 1–3 Intra-industry foreign trade with the EU-15
Grubel-Lloyd index in the order of year 2006 values

	2000	2006	change
France	0,82	0,80	-0,03
Germany	0,75	0,76	0,02
Austria	0,74	0,76	0,02
Belgium	0,75	0,75	0,00
Spain	0,67	0,70	0,03
Hungary	**0,58**	**0,65**	**0,08**
Czech Republic	0,65	0,65	0,00
Netherlands	0,65	0,62	-0,04
EA13 unweighted average	**0,61**	**0,61**	**0,00**
Italy	0,60	0,60	0,00
Portugal	0,54	0,59	0,05
Slovenia	0,58	0,59	0,01
Poland	0,52	0,57	0,06
Slovakia	0,47	0,51	0,05
Estonia	0,34	0,45	0,11
Ireland	0,50	0,43	-0,07
Finland	0,41	0,42	0,01
Greece	0,25	0,29	0,04
Lithuania	0,28	0,29	0,01
Latvia	0,16	0,25	0,09

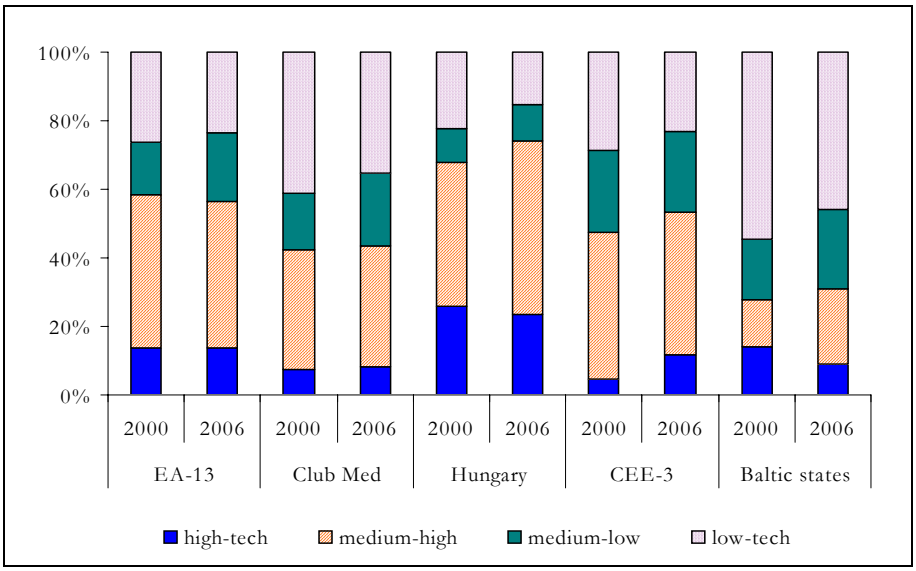
Sources: Eurostat and MNB calculation in SITC-3 breakdown. Grubel-Lloyd index = $1 - \sum_j |x_j - m_j| \Big/ \sum_j (x_j + m_j)$*, where a given country's sectoral export to the EU-15 is* x_j*, and its import is* m_j*.*

However, it is worth complementing an assessment of foreign trade integration with an examination of the character of the specialisation of export production. Based on past experience, for economies with high value added, specialising mainly in human capital-

intensive and high-tech production there is a lower chance of negative cost-competitiveness shocks than for their peers pursuing mainly labour-intensive and low-tech production. In the event that within the euro area a country is affected by such an asymmetric external competitiveness shock, independent interest rate and exchange rate policies are no longer available to reduce the costs of the adjustment process.

Based on the product composition of exports, the Hungarian export sector is strongly concentrated in the high-tech and medium-high technology segment (Chart 1–4). The technological level is high compared to both the euro area average and the other new member countries. It also deserves special attention that in respect of this dimension there is a striking difference between Hungary and the less well-performing southern countries (Club Med) of the euro area.

Chart 1–5 Composition of goods exports according to technological classification



Sources: Eurostat and MNB calculation based on the SITC-3 data of exports to the EU27. The data of Club Med (Greece, Italy, Portugal, Spain), CEE-3 (Czech Republic, Poland, Slovakia) and the Baltic states are unweighted averages.

The ratio of high-tech and medium-high-tech production dominates not only in export revenues, but based on value added as well. This is important to note because the prominent role of *vertical* international production integrations based on foreign direct capital inflow is usually typical of the exports of new member countries, which become involved in these international production chains in the stages of lower value added.[4] In economies with specialisation of this nature, high-value export turnover may be accompanied by lower value added, and the export sector's sensitivity to cost-competitiveness shocks may be high, despite the high-tech exports. Although within the Hungarian manufacturing industry the ratio of the two high-tech and medium-high-tech

[4] Several sources confirm that in the Central and Eastern European new EU Member States the ratio of vertical intra-industry foreign trade is around 80–90 per cent. See Aturupane–Djankov–Hoekman (1999) and Cernosa (2007). According to the estimate for 2001 of the latter study, in Hungary, at about two thirds of this, production is running in a stage of lower value added of the international production chain.

sectors (manufacturing of electrical and optical equipment, transport equipment) is clearly higher on the basis of export turnover than on the basis of value added (Table 1–2), the value added of the two sectors is still high enough to constitute a major part of the total manufacturing value added, exceeding the euro area average as well.

However, holding ground in international competition depends not only on the current ratio of high-tech production. One important question is whether the Hungarian export sector – considering the high level of foreign investment in particular – is able to maintain this position. In this respect, the following developments warrant a more cautious assessment: compared to the turn of the millennium, within Hungarian export products, the ratio of high-tech production declined slightly to the benefit of medium-high technology (Chart 1–4), albeit it dropped from a high level. Moreover, the fact that Hungary's steady export market share gain in the past years was accompanied by declining export prices relative to our regional competitors, may point out an insufficient upgrading of the export product structure.[5] Maintaining the high technological level also depends *inter alia* on factors such as the magnitude of human capital investment (the quality of education and health services) as well as the intensity of research and development and the use of developed information technologies (ICT). As discussed in Chapters 5 and 6 of our analysis, Hungary's performance is already less satisfactory in these dimensions.

Table 1–4 Role of manufacturing sectors in exports and GDP
In per cent

	Export share within Manufacturing	Value-added share within Manufacturing	Value-added share in total economy	Share of export production in the branch (based on revenues)	Direct effect on GDP of a 10% export fall in the branch
Total manufacturing	100,0	100,0	24,4	63,3	
Food products, beverages and tobacco	4,4	8,4	2,1	23,3	-0,05
Textiles and textile products	3,5	2,9	0,7	72,8	-0,05
Leather and leather products	0,8	0,4	0,1	77,2	-0,01
Wood and wood products	0,7	1,8	0,4	51,7	-0,02
Pulp, paper products, publishing and printing	0,9	5,3	1,3	18,2	-0,02
Coke, refined petroleum products and nuclear fuel	3,2	4,1	1,0	27,2	-0,03
Chemicals, chemical products	6,5	8,6	2,1	59,2	-0,12
Rubber and plastic products	3,5	5,0	1,2	49,1	-0,06
Other non-metallic mineral products	1,3	4,0	1,0	23,2	-0,02
Basic metals and fabricated metal products	7,3	8,6	2,1	49,7	-0,10
Machinery and equipment n.e.c.	5,1	8,4	2,1	66,9	-0,14
Electrical and optical equipment	**39,1**	**27,0**	**6,6**	**88,8**	**-0,59**
Transport equipment	**22,4**	**13,1**	**3,2**	**89,8**	**-0,29**
Manufacturing n.e.c.	1,2	2,0	0,5	50,0	-0,02

Sources: Eurostat, CSO and MNB calculation; 2005 data.

Regardless of the technological development, the high concentration of export specialisation is an unfavourable feature from the aspect of asymmetrical shocks. It can be shown that the concentration of Hungarian exports is one of the highest by European standards. Due to the high level of concentration, there is higher probability that a shock in a key sector will lead to an asymmetrical shock at whole-economy level. However, within the national economy as a whole – due to the significant weight of services sectors – these key manufacturing sectors only play a less prominent role. The sector 'manufacturing of electrical and optical instruments', which accounts for 40 per cent of exports, has only a weight of around 7 per cent of GDP, and a 10 per cent fall in export revenues of the sector, on a mere accounting basis, would result in an approximately half per cent decline in GDP. Although a shock to such a key sector could most probably feed through to other

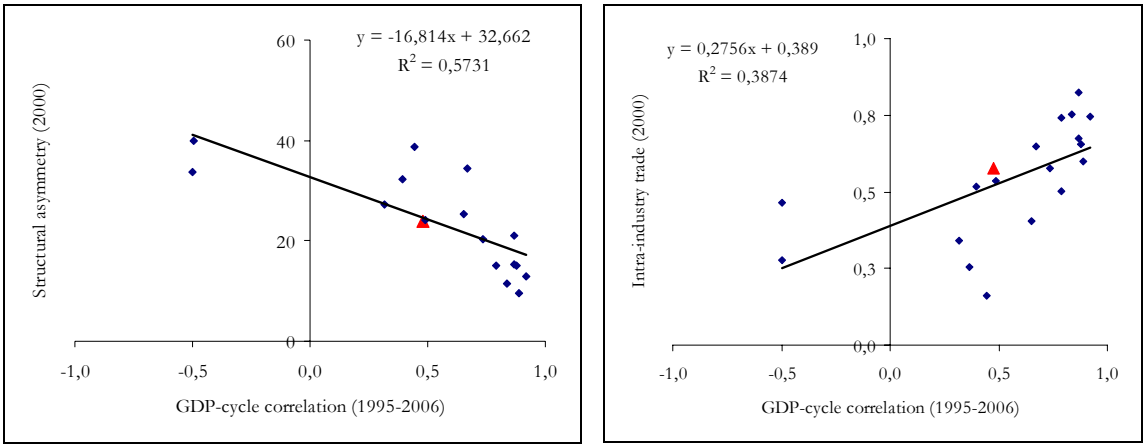
[5] For more details on this issue see MNB Quarterly Report on Inflation, May 2007, Box 2-1.

sectors of the economy as well (suppliers, service providers), its whole-economy impact would presumably remain moderate.

Synchronisation of business cycles

The previous sections contained a review of structural factors which affect the probability of the occurrence of asymmetrical shocks. Analysis of the co-movement of business cycles, on the other hand, can provide us with answers as to what extent past economic fluctuations were in synchronicity with euro area business cycles. Based on this, it is possible to draw conclusions regarding the risks associated with future asymmetrical shocks. Structural and cyclical approaches are two sides of the same coin. Taking the example of European countries, it also possible to show that the structural indicators indicating cyclical co-movement and the risk of asymmetrical shocks are strongly correlated (Chart 1–1). The structural asymmetry indicator presented in the previous section shows a strong negative relationship, while the indicator of intra-industry trade exhibits a close positive relationship with cyclical correlations.

Chart 1–6 Ratio of cyclical co-movement, structural asymmetry and intra-industry foreign trade in EU member countries



Sources: Eurostat and MNB calculations. The triangle indicates Hungary.

Numerous studies have focused on the cyclical co-movement of new member states with the euro area. Using industrial production data, based on the separate examination of demand and supply cycles Csajbók and Csermely (2002) found that the synchronisation of the Hungarian business cycle corresponds to that of several euro area Member States. This conclusion is not unique. Summarising the findings of 27 analyses conducted using different methods and data sets, the meta-analysis by Fidrmuc and Korhonen (2004) confirms that of the new Member States the Hungarian co-movement is the strongest, and its extent exceeds that of several euro area countries.

However, most of the above results reflect the state around the turn of the millennium, and in several cases they also take into account the early 1990s period, which can be considered special due to transitional recessions. Regarding the 1995–2006 period, our calculations show a weakening of the Hungarian cyclical co-movement measured on the basis of GDP since the turn of the millennium (Table 1–1). The correlation coefficient of the economic business cycles calculated with a band-pass filter with that of the euro area declined to below 0.5, while the extent of co-movement measured until the turn of the millennium was

close to 0.7. Although Hungary, second to the Czech Republic, is still in the leading group of the new member countries, amongst the euro area countries it comes in ahead of Greece only.

Table 1–5 Cyclical correlations with the euro area based on GDP and industrial value added
In the order of correlation according to GDP

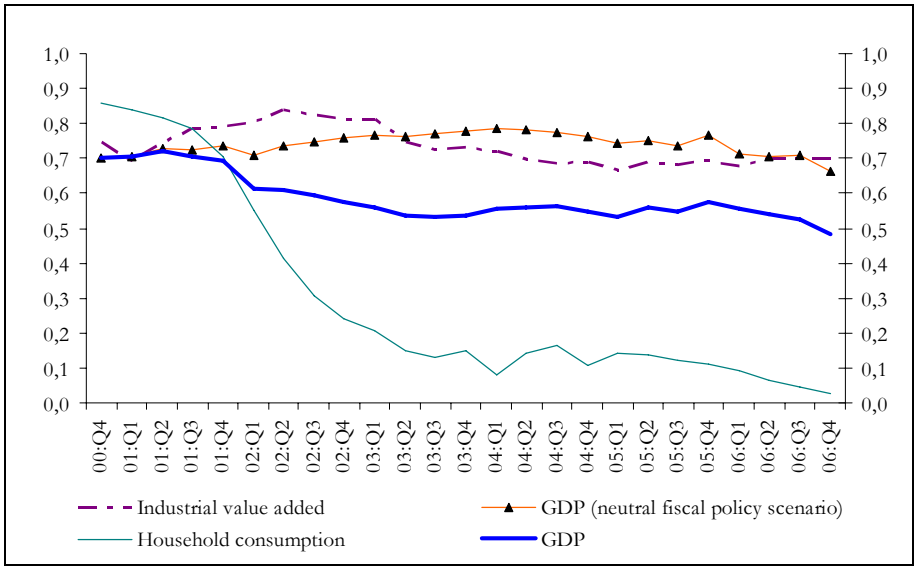
	1995-2006			1995-2006	
	GDP	Industry		GDP	Industry
Germany	0,92	0,98	Czech Republic	0,67	0,48
Italy	0,89	0,85	Finland	0,65	0,90
Netherlands	0,88	0,58	Portugal	0,49	-0.05*
Spain	0,87	0,63	**Hungary**	**0,48**	**0,70**
France	0,87	0,75	Latvia	0,44	-0.27*
Belgium	0,84	0,76	Poland	0,40	0,47
Austria	0,79	0,87	Greece	0,36	n.a.
Cyprus	0,79	-0.12*	Estonia	0,32	0,71
Ireland	0,79	0,69	Lithuania	-0,50	-0.11*
Luxembourg	0,74	0,66	Slovakia	-0,50	-0,44
Slovenia	0,73	0,75			

** Statistically, at a 5 per cent significance level it is not different from zero.*
Sources: Eurostat and MNB calculation. Correlation coefficients of economic business cycles calculated with a band-pass filter with the cycle of the euro area-13.

The weakening of cyclical co-movement was not due to weakening of the Hungarian economy's integration with external markets. Hungarian industry, which is strongly export-oriented and driven by external demand, continued to show a high degree of synchronisation with the euro area, similar to earlier estimates. This peculiarity sharply distinguishes Hungary from the Portuguese economy, which is closest to Hungary on the basis of correlation according to GDP, and where practically there is no industrial synchronisation (and never has been according to past estimates). In this respect, Finland and Estonia, where the moderate correlation according to GDP is coupled with a high industrial co-movement, are closer.

Within GDP, developments in the cyclical co-movement of household consumption, which is a significant growth item and is the least affected by external demand, indicate fairly clearly that the weakening of co-movement between GDP cycles is attributable to divergence in the domestic demand cycle (Chart 1–2). Estimated on a rolling sample, the correlation coefficients of the cycles declined from a high level to practically zero by end-2002, while the co-movement of industrial cycles remained high and stable. We must point out that the co-movement of consumption cycles is often very weak, with regard to the more developed countries within the euro area well. However, in developed countries, where the advanced state of financial intermediation better facilitates the smoothing of consumption against income fluctuations, consumption cycles are much less volatile. Consequently, their weak co-movement does not influence the co-movement of GDP cycles.

Chart 1–7 Quarterly developments in Hungarian cyclical correlations in the individual items of GDP

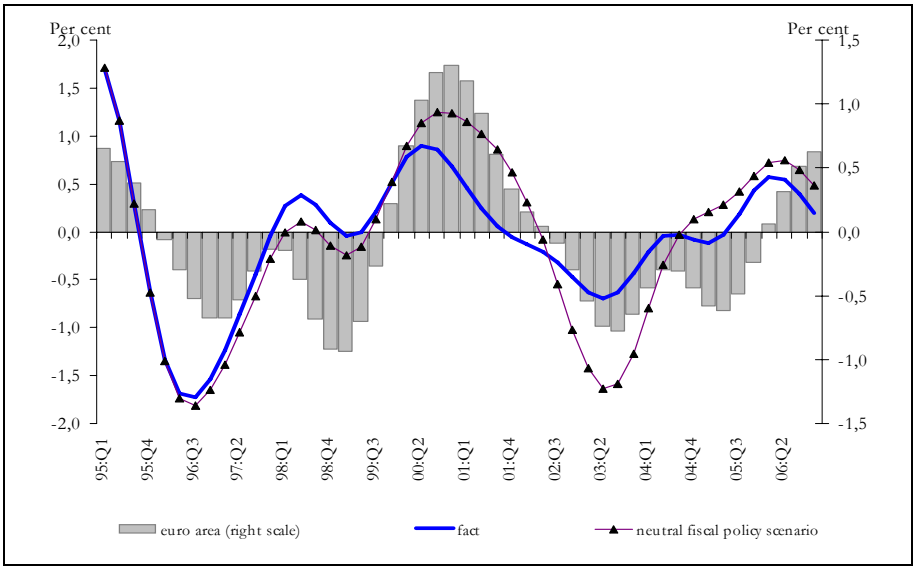


Sources: Eurostat and MNB calculation. Correlation coefficients of cycles calculated with a band-pass filter with the cycle of the euro area-13. Calculated on a gradually increasing sample starting from 1995 Q1.

Accordingly, the underlying reasons for weaker cyclical co-movement may be found among the factors which influence domestic demand. The first possible of these factors is fiscal policy. As Darvas, Rose and Szapáry (2005) also pointed out, the differences in fiscal positions and the high deficit of the primary balance reduce the synchronisation of business cycles. Starting from 2001, strong fiscal expansion took place in Hungary, resulting in an increase in the general government deficit to close to 10 per cent of GDP. The expansion was reflected through a number of fiscal channels: in the areas of public wages and employment, transfers to households, housing loan subsidies and government purchases together. During the first two years these measures entailed a total positive demand effect of 6 per cent of GDP. The expansion affected economic growth strongly exactly in the period when a temporary slowdown in the euro area economy was taking place, and thus the Hungarian and euro area business cycles departed from one another significantly.

Within the framework of a model simulation, we examined how economic growth would have evolved, if a 'neutral' fiscal policy defined by us had been carried out instead of fiscal expansion (see the Appendix for the details of the simulation). With this neutral fiscal path, GDP growth in 2001–2002 temporarily decelerates to between 2–3 per cent in accordance with the euro area business cycle, before increasing again to the level of the actual GDP growth. As opposed to the actual path of Hungarian GDP growth, this hypothetical business cycle shows a consistently high correlation with the euro area cycle (Charts 1–2 and 1–3). Accordingly, our calculations prove that the weakening of the co-movement of business cycles observed in recent years was mainly – or perhaps exclusively – the result of expansive fiscal policy.

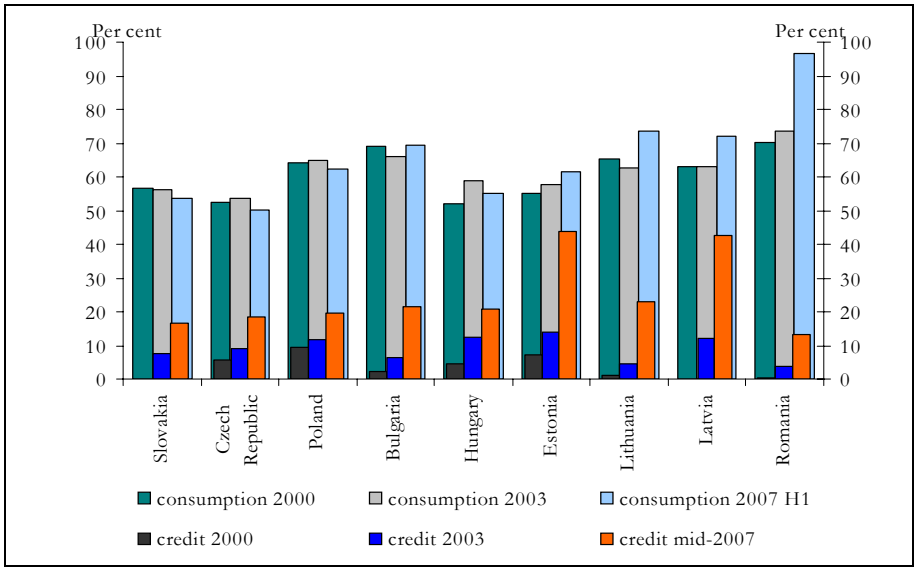
Chart 1–8 Hungarian GDP, actual and hypothetical path
Percentage deviation from the trend calculated using a band-pass filter



Sources: Eurostat, MNB calculation and NEM simulation. Cycles calculated using a band-pass filter.

It cannot, however, be ruled out that other factors also may have played a role in the divergence of domestic demand cycles, in addition to fiscal policy. Since the early 2000s a rapid expansion of lending to households was observed in several new EU Member States, including Hungary. With the deepening of financial intermediation, it became possible for households expecting an increase in their future income to bring their consumption and housing investment forward, which allowed a faster increase in household consumption and investment, irrespective of the general business cycle. Although it cannot be considered as general, this credit expansion entailed an increase in consumption ratios in several countries of the region. The increase in consumption ratios was most significant in those countries where the growth in outstanding loans was abrupt, for example in the Baltic states (Chart 1–4).

Chart 1–9 Household credit and consumption in the new Member States
As a percentage of GDP; loans outstanding at end of period



Sources: Eurostat and national central banks. Loans only through domestic banking system (including foreign currency loans). There are no credit data for Slovakia and Latvia for 2000.

In the case of Hungary, the relationship between credit expansion and the consumption ratio is obscured by the effect of fiscal policy. The ratio of consumption to GDP was very high in the years marked by fiscal expansion, and then declined in the consolidation period, which started in the second half of 2006. Fiscal expansion itself, with the subsidised housing loan scheme existing until early 2004, played a role in the expansion of loans to households. However, the expansion of loans did not decelerate when the state-subsidised housing purchase scheme was terminated, only the source of loan expansion switched over to the rapidly increasing foreign currency loans. As it is difficult to judge what the rate and extent of household credit expansion would have been without government intervention, it is also difficult to measure what size of the role that lending may have played in Hungary in terms of the decline in the cyclical co-movement with the euro area.

In the event that fiscal balance is finally restored, past fiscal expansion only diverts business cycles temporarily, and thus does not represent a risk in terms of entering the euro area. On the other hand, the divergence of business cycles due to credit expansion may carry the risk of future asymmetrical shocks, as credit expansion may take place in line with an equilibrium path of convergence in terms of lending, but its magnitude may also be so great that it leads to an unsustainable external equilibrium position and an asset price bubble. In the event of the latter developments there is high probability of a sudden correction at a later point in time, i.e. an asymmetrical shock. In Chapter 2 we assess whether there are signs that credit expansion is beginning to exceed the equilibrium convergence rate in Hungary.

Summary

In summary, we can establish that on the basis of the criteria of optimum currency areas regarding economic structure, foreign trade integration and the co-movement of business cycles Hungary can still be considered as an optimum currency area with the euro area.

The sectoral structure of the economy is very similar to the euro area average, and the magnitude of asymmetry is not greater than that of several current EMU member countries. One peculiarity increasing the risk of asymmetrical shocks may be the very considerable weight of some sectors within manufacturing. Since the turn of the millennium the structural asymmetry within manufacturing has increased somewhat, as a result of realignment from labour-intensive sectors to ones with higher value added.

The relatively high ratio of production of a higher technological level is observable in the product composition of exports as well. In respect of EMU membership, this is favourable because a high-tech, human capital-intensive export sector is usually less exposed to cost-competitiveness shocks. However, based on the current indicators of human capital investment, one important question is how Hungary will be able to maintain this position. Finally, although the high concentration of the export product structure may also be disadvantageous in terms of asymmetrical shocks, given the high share of the services sector, these key manufacturing industries play only a more moderate role within the whole economy.

Foreign trade integration with the euro area is at a very high level, and has continued to increase since the turn of the millennium. However, the share of the euro area in Hungary's total foreign trade declined, as a result of sudden acceleration in trade with the new Member States after Hungary joined the EU. At the same time, from the aspect of a later, expanded euro area, the more intensive foreign trade conducted with the new Member States is also a favourable phenomenon. In addition, in the EU markets the ratio of intra-industry foreign trade, which strengthens the co-movement of business cycles and reduces the probability of asymmetrical shocks, is also expressly high.

The co-movement of the Hungarian business cycle with the EMU business cycle can be considered as a medium one, although it is the second strongest among the new Member States. Although the cyclical co-movement has declined since the turn of the millennium, this is most probably a temporary decline, because the slackening of the synchronicity of business cycles was the result of a weakening of the cyclical co-movement of domestic demand and not that of industry. This was most likely an effect of the fiscal expansion which took place in the years after 2001.

It cannot, however, be ruled out either that the increase in lending to households – which is typical of the new member countries in general – also contributed to the departure of domestic demand from that of the euro area, in addition to fiscal policy. A possible major credit expansion, if it subsequently leads to a sudden correction, carries the risk of a negative asymmetrical shock, the consequences of which can no longer be mitigated within the euro area using monetary policy.

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1. 2 Labour market flexibility

This chapter focuses on assessing the flexibility of the Hungarian labour market. From an OCA point of view, this area is of special importance. Within the monetary union, an economy can react relatively smoothly to asymmetrical shocks if the labour market is sufficiently flexible.

Categories of labour market flexibility

Originally, from the aspect of OCA, a flexible re-allocation of labour across various territorial units within the single currency area was considered important (e.g. Mundell, 1961). However, employees of European countries are typically not mobile, so it became increasingly discussed what other adjustment channel could substitute geographical mobility. Currently, it is generally accepted that if employees' wages can change flexibly, this can make up for the mobility of employees (Eichengreen, 1997). Of course, in addition to wage elasticity, a number of other factors are also important in terms of labour market efficiency. In recent years, the institutional approach has become increasingly widespread in analysing the flexibility of the labour market. Studies which fit into this category point out that more successful labour market models exist, and explaining individual countries' labour market performance is only possible if the interaction between institutions connected to the labour market is also addressed.[6]

Studies analysing the labour market have interpreted and categorised labour market flexibility in innumerable ways. In this analysis, for the assessment of the labour market only two, rather broad categories of flexibility are used. They can be defined as follows:

Wage flexibility: One can talk about flexible wages if companies are able to adjust employees' wages easily. In this case, the change in wages is in accordance with the change in productivity. Rapid wage adjustment also facilitates the flow of labour into the more productive sectors.

Structural flexibility: Structural flexibility is interpreted broadly. It includes all of the institutional factors which are necessary for the level of employment to remain continuously high, even in the event of significant negative shocks to the economy (e.g. considerable deterioration of competitiveness in an important sector). On the one hand, this requires the labour force to have relatively good general skills, and to be able to fill quite different jobs, if necessary. It is also important that the labour force should not only be able to take certain jobs, but also to be adequately motivated to do so. Of course, in addition to supply factors, the flexibility of labour demand is also indispensable, and the economy must be sufficiently innovative to be able to create new jobs quickly.

From the aspect of joining the euro area, wage flexibility has a direct importance. If wages cannot adjust smoothly, monetary policy can offset the consequences of a slower labour market adjustment, and hence abandoning an independent monetary policy is costly. At the same time, monetary policy cannot provide a solution to the structural problems of the labour market. However, in an indirect manner, structural features may also be important in terms of giving up independent monetary policy, since in the case of a structurally inflexible labour market wages should react to shocks to the economy in an extremely

[6] A good example for the application of the institutional approach is the study published by UK Treasury in 2003, which analysed the flexibility of the UK labour market.

flexible manner. As opposed to this, if wages are inflexible, the role of monetary policy, which is partly able to substitute wage flexibility, appreciates.

Of course, the above categories of flexibility – especially structural flexibility – are too wide to be discussed from all aspects. Nevertheless, we attempt to evaluate the flexibility of the Hungarian labour market according to the aforementioned categories, and highlight those institutional factors which may be important in explaining its flexibility.

Wage flexibility

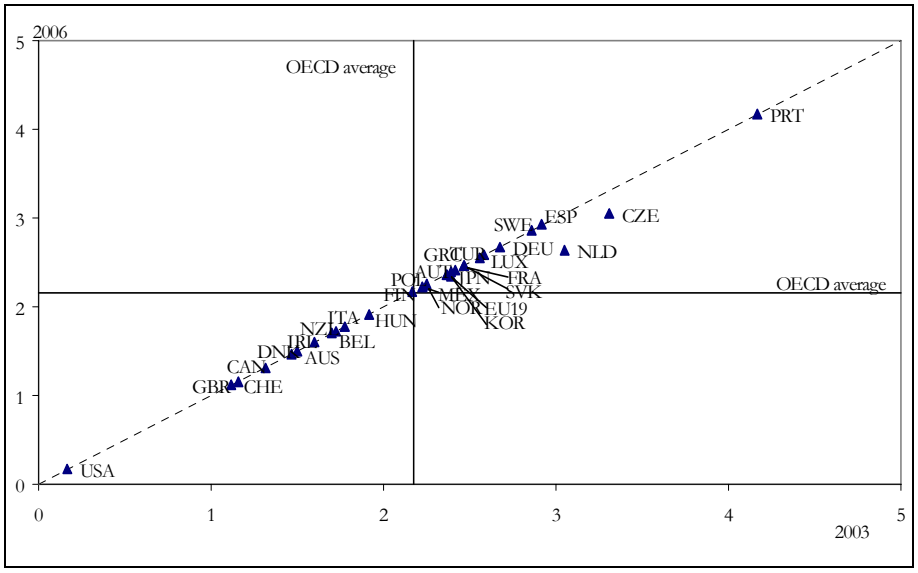
First, we examine the adjustment of the Hungarian labour market through wages. We review the institutional background of wage agreements, and then evaluate how flexible wages have proven to be in recent years.

Institutional background of wage agreements

In Hungary, the institutional background of wage agreements allows companies to adjust employees' wages in a flexible manner. Trade unions' position is weak, and the number of union members is also low compared to other member countries of the EU. It further strengthens employers' position that wage agreements are typically reached at the company level, and thus employees cannot act together to enforce their wage demands.[7]

Employees' wage demands may also be limited, if the cost of hiring and firing is low. The OECD's Employment Protection Legislation (EPL) index intends to capture this cost. It can be seen that in case of Hungary this is below the OECD average, and the lowest among the newly joined EU countries.

Chart 1–10 Protection of full-time employees (EPL)
Higher values represent higher protection



Source: OECD.

Adjustment of employees' wages may be hindered by the excessively high minimum wage as well. For international comparability, it is expedient to compare the minimum wage to

[7] The institutional background of wage agreements is analysed in detail by Pula (2005).

the average salary. In Hungary, the ratio of the minimum wage to the average wage has fluctuated on a wide scale in recent years. Before 2001 it ranked as expressly low in international comparison, then, following the increases in the minimum wage in 2001 and 2002, it exceeded the European average (OECD, 2007a). Subsequently, until 2006, the growth rate of the minimum wage remained behind the growth rate of nominal wages, apparently diminishing the role of the minimum wage regulation. In 2006 a new development took place, namely that minimum wages were defined in advance for several years, and the guaranteed wage minimum was introduced.

Based on the institutional background, wage adjustment in Hungary is considered to be fundamentally flexible by European standards. As far as the regulatory system is concerned, the regulation of minimum wages is the most likely candidate to hinder adjustment the most, although the minimum wage is not overly high in international terms. To assess the institutional background properly it should be stressed that the labour markets in Europe are, generally speaking, quite inflexible, and several countries are planning to introduce labour market reforms. Consequently, it is quite important to preserve these relatively positive features of the Hungarian labour market. It is essential to block efforts to unilaterally raise the level of protection of the labour force (EPL) to the level commonly seen in continental Europe, without adjusting other elements of the institutional setup in compensation.

Wage adjustment

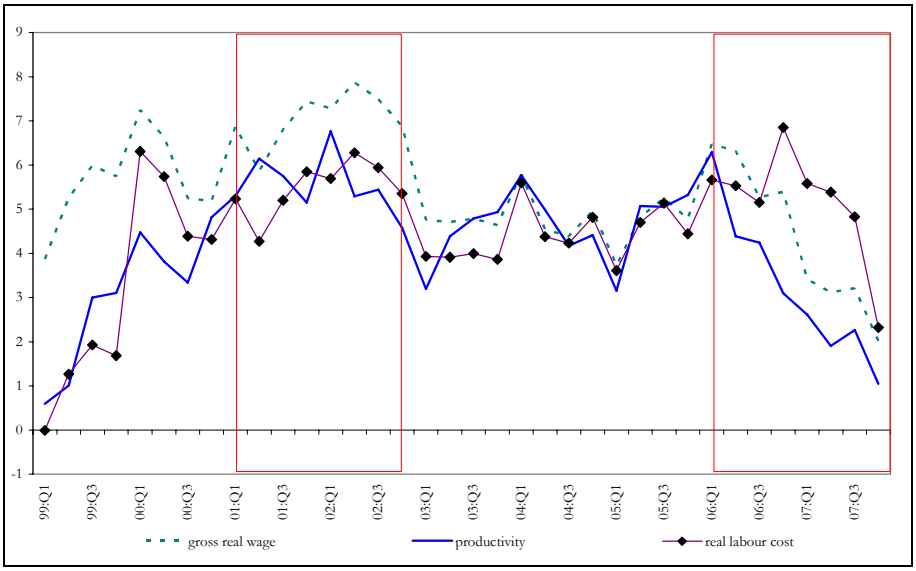
Based on the above, it appears that the institutional framework assures the conditions of flexible wage adjustment. In the following, we examine to what extent companies were able to adjust their employees' wages to their changing economic environment.

Research on the domestic labour market has mainly focused on the analysis of the flexibility of real wages, using corporate and regional databases. Based on the studies, the Hungarian labour market can be considered flexible by European standards. Real wages react flexibly to changes in productivity (Kertesi and Köllő, 1999; Kátay, 2007; Kőrösi 2007), and are also sensitive to the magnitude of local unemployment (Kertesi and Köllő, 1999; Huber, 2003; Büttner, 2003).

Analysis of the aggregate time series leads to basically similar conclusions. From 1999 to 2006, for the most part of the period, changes in real labour cost[8] and productivity tracked one another closely.

[8] The change in real labour cost differs from the change in real wage, as it also mirrors the changes in the social security contribution paid by the employers.

Chart 1–11 Real-wage adjustment in the competitive sector
Annual growth rates



Sources: CSO, MNB calculation.

It is worth, however, highlighting two periods (red boxes in the chart). The first is the 2001–2002 period, when minimum wages increased considerably. Although real labour cost did not diverge from productivity in this period either, adjustment did not take place through the wages. As a result of the increase in minimum wages, real wages grew significantly, which companies could only offset by reducing employment.[9] Rising the minimum wages especially affected those companies which employed less qualified labour, and presumably played a role in the decline of the textile industry.[10]

The other period to be emphasised started in 2006. In this period, the growth rate of real labour costs significantly exceeded the rate of productivity growth, which damaged the profitability of enterprises. The divergence of the two time series from one another is attributable to a slowdown in productivity growth, which may be related to fiscal restrictions. It is apparent that the growth rate of labour costs followed the deceleration in productivity change only with a delay. This may also indicate wage rigidity, but there may be other underlying explanations as well. It is conceivable that in setting wages, companies took into account that employees' net wages were already reduced by the increase in taxes. In this case, companies deliberately undertook to smooth employees' wages through a temporary reduction of their profits.

Although the aforementioned two periods somewhat modify the overall picture, on aggregate the real wage adjustment of the labour market in Hungary can be considered as flexible. However, this by itself does not necessarily mean that employers will be able to flexibly change employees' wages within the euro area as well. In several European countries it was experienced that one of the reasons for the rigidity of wages is that due to

[9] During 2001 and 2002 the number of employees in the competitive sector fell by 40 thousand.

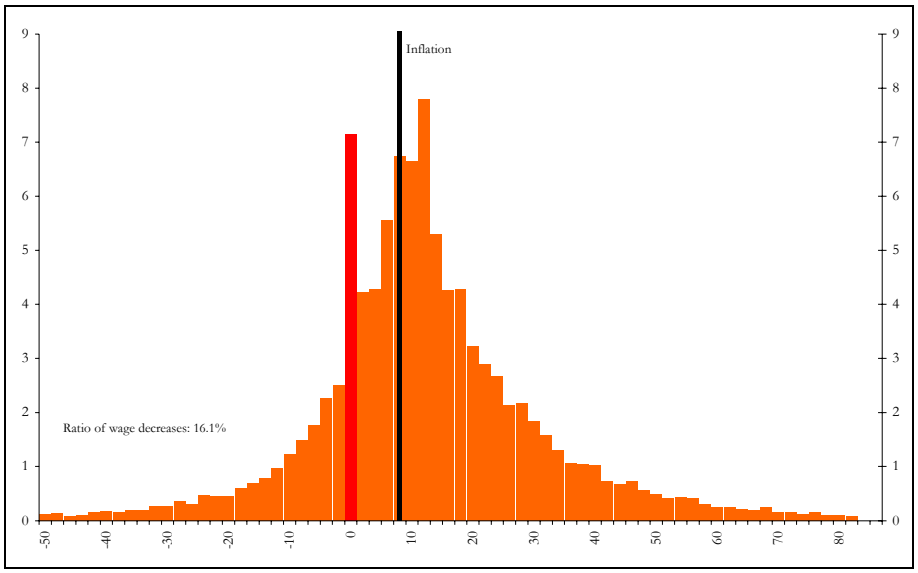
[10] In addition to the increase in the minimum wage, the appreciating forint exchange rate, which impaired the competitiveness of the sector, may also have played a role in the decline of the textile industry.

employees' strong resistance, employers are unable to reduce wages in absolute terms (this phenomenon is called nominal wage rigidity).

In recent years, inflation in Hungary was not consistently low, so little information is available about the magnitude of nominal wage rigidity. The cross-sectional distribution of individual annual wage changes may provide some assistance in this issue. The chart below shows that the nominal rigidity of wages is low. In international comparison, the ratio of nominal wage reductions is relatively high, and the ratio of unchanged wages is not too high either.[11]

Chart 1–12 Distribution of annual nominal wage changes

Changes in nominal wages between May 1999 and May 2000; percentages[12]



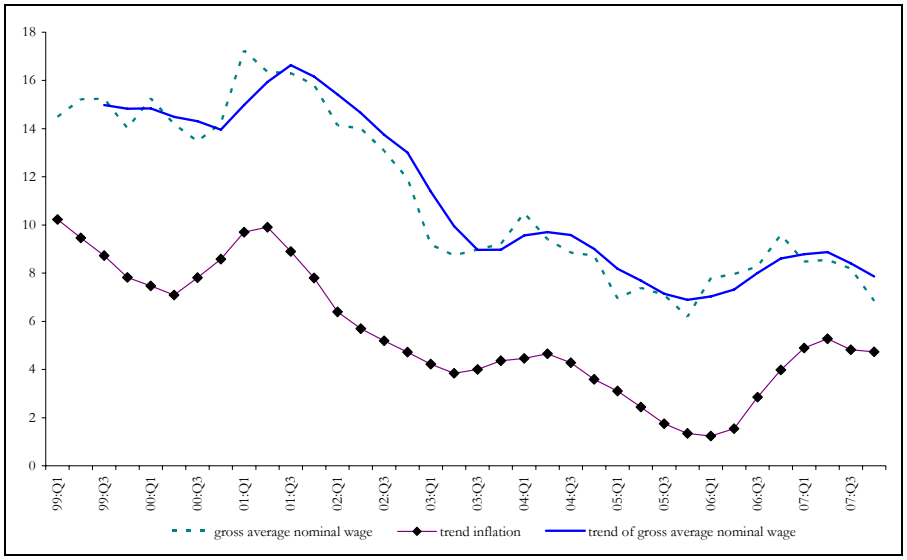
Based on aggregate data, nominal wages also cannot be considered too rigid. However, a more thorough examination of Chart 1–13 suggests that the growth rate of nominal wages followed the changes in the rate of trend inflation with a slight delay, and that the changes in the growth rate of wages lagged behind the rate of trend inflation changes.[13] All this may indicate that nominal wages have a more persistent component as well. There is high probability that the more persistent component may be related to inflation expectations. In this case, the developments in nominal wages also provide information on how fast the labour market can adjust to a lower inflation environment. Based on aggregate data it seems that although adjustment would not be immediate, it would presumably take place quickly, and would not entail too high costs.

[11] The nominal wage elasticities of the labour markets of several European countries are compared on the basis of cross-sectional data by Dickens et al (2006).

[12] We have chosen the year 1999 and 2000 for calculating the changes in wages because in this period the developments in wages were not distorted by changes in the regulatory environment.

[13] When calculating the trend inflation, we excluded the effect of the changes in the VAT and regulated prices from inflation. Using the resulting indicator we approximate the average price increase that employers can take into account from the aspect of corporate profitability.

Chart 1–13 Nominal wages and inflation
Annual growth rates



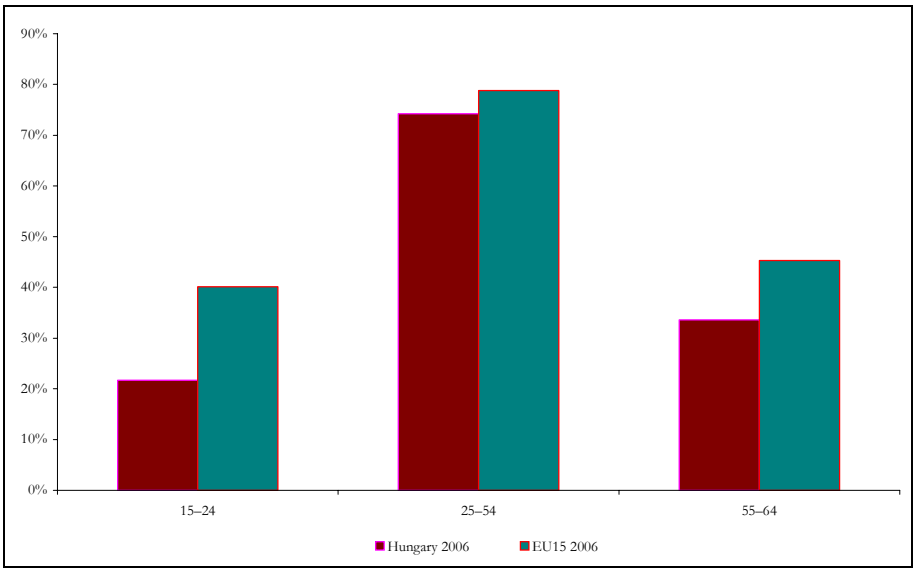
Sources: CSO, MNB calculation.

Structural flexibility

Despite the flexible wage adjustment, the labour market is characterised by numerous structural problems. Based on domestic employment data, it is conspicuous that the level of employment is extremely low by European standards, and there are no signs of catching up. On the basis of data according to age groups, compared to more developed European countries, employment is particularly low in the younger and older age groups, although the difference is not negligible for the middle-aged either.[14]

[14] The developments in employment by age groups were analysed in detail by the MNB's 'Analysis of the Convergence Process' (2006).

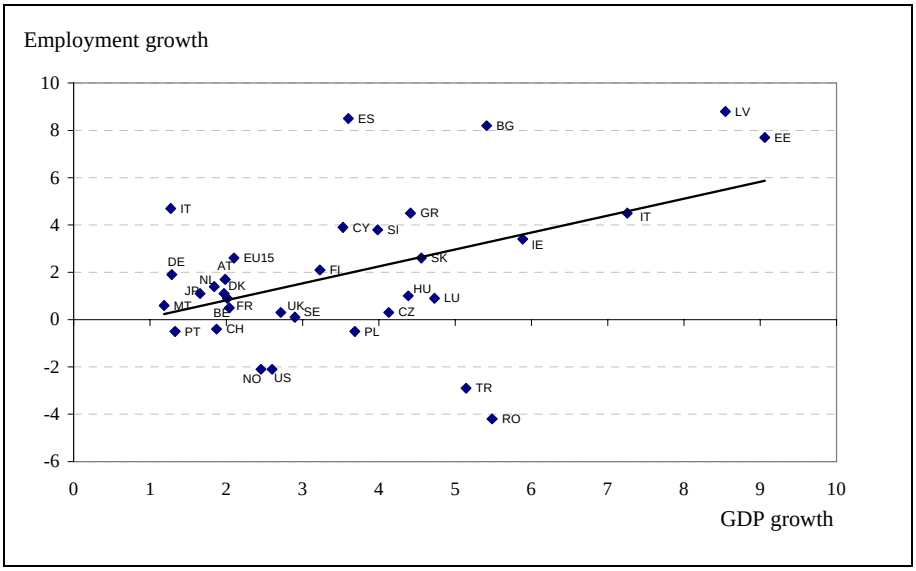
Chart 1–14 Employment rate by age groups (2006)



Source: CSO.

It is especially alarming that the employment rate has not been able to move closer to the European average in the recent period, despite the fact that the average growth rate of the economy was relatively high.

Chart 1–15 Changes in the employment rate and average GDP growth in the European Union (2000–2006)



Source: OECD.

As we will see below, the institutional background of the Hungarian labour market offers a number of potential explanations of the low level of employment. We arranged the factors explaining the low employment level in three groups. First, we present the distortions

caused by the tax system, then we call the attention to some labour market incentives which reduce the labour force's willingness to take jobs. Finally, the problems related to the qualifications of the labour force are analysed. The institutional factors presented below cover only a part of the institutional background of the labour market, thus this analysis cannot be considered as complete by any means. The selection of the institutional factors below was basically justified by our opinion that they may have played an important role in the development of the low level of employment.[15]

High tax wedge

In Hungary, the way of taxing of labour income carries a number of distorting elements. The magnitude of the tax wedge is one of the highest by European standards. This may reduce companies' demand for labour directly as well, if the company is compelled to pay higher gross wages because of the higher taxes. Due to employees' weaker ability to enforce their interests it is presumable that the high tax wedge is mainly reflected in the lower net wages rather than in the higher labour cost. However, the lower net wages on the one hand may lead to a decline in labour supply, and on the other hand they may affect employees' motivation and the demand for labour through that.[16]

Despite the high tax wedge, the fiscal revenue from taxes on labour is not outstanding by European standards. A main underlying reason is that in Hungary the extent of tax evasion is considerable (Krekó–P. Kiss, 2007). However, the opportunities of tax evasion are different across sectors, which represents another distorting factor. In the sectors which pay taxes legally, labour is relatively more expensive, thus in this case even direct labour demand effects may appear. The different effective tax rates distort the allocation of labour across sectors, which may entail significant welfare consequences.

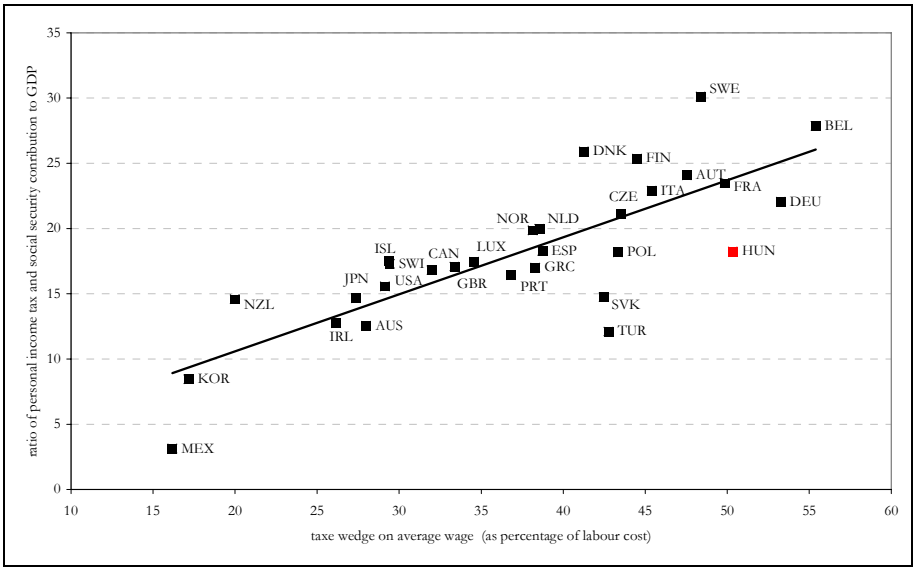
Although the tax burden on labour tend to decrease employment mainly in the low wage sectors, it may also have a negative impact in the case of employees earning higher wages. On the one hand, the high tax burden on the income of those who have high earnings induces tax evasion, and on the other hand, over the longer term this may amplify the flow of qualified – and therefore more mobile – labour to abroad.[17]

[15] The institutional background of the Hungarian labour market is described in detail by Horváth and Szalai (2007).

[16] Both total labour cost and net wage are of importance for employers. Total labour cost means the cost of employing the employee, while net wage may influence employees' performance. Consequently, at a fixed labour cost level it is more advantageous for the employer as well if net wages are higher, because this also adds to employees' motivation and productivity. The relationship between employees' income and productivity is presented by Akerlof and Yellen (1986).

[17] Although the mobility of the Hungarian labour force is increasing, it is still rather low. However, labour outflows already represent a problem for several new member states (Baltic states, Poland).

Chart 1–16 Tax wedge on labour income and the ratio of personal income tax and social security contributions to GDP in the OECD (2004)



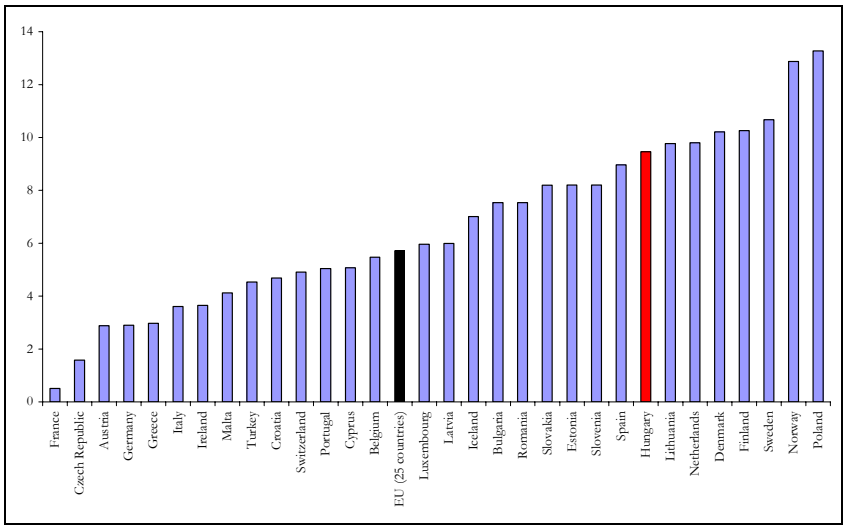
Source: OECD.

Incorrect labour market incentives

For attaining a high level of employment it is indispensable that labour market incentives support taking jobs as much as possible. However, in the domestic labour market, there were alternatives to taking jobs which did not entail a drastic decline in income.

The employment level of older employees was negatively affected by the fact that after losing their jobs many people did not try to find a new job, but added to the number of those living on disability assistance. In Hungary, the rather loose control system resulted in one of the highest numbers of disabled in Europe.

Chart 1–17 Share of disabled in the total population (40–64 years of age, %, 2006)

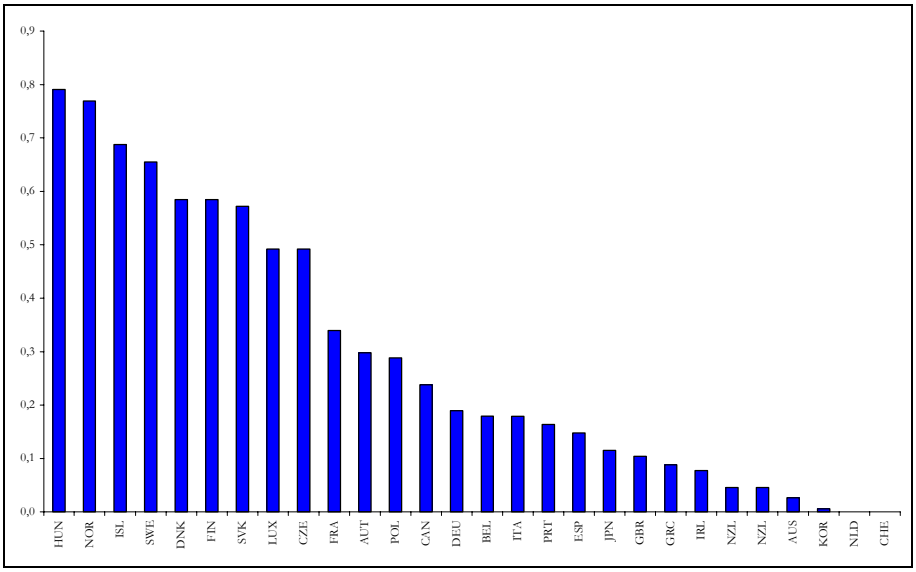


Source: OECD.

The low employment of older working-age people is also explained by the fact that on average, employees retire much earlier than the official retirement age (in 2005 women and men retired 4.8 and 2.4 years earlier, respectively).[18] One underlying reason is that the difference between the pension and the income before retirement is small by European standards, and on the other hand, this difference does not increase significantly if one retires before the retirement age (OECD, 2007b).[19]

Child care allowances, which are generous even in international terms, also contribute to the low level of employment.

Chart 1–18 Ratio of child care allowances to GDP (2003)



Source: OECD.

The original aim with the child care allowance was to compensate for the income lost because of raising a child. However, in the late 1990s the availability changed in several steps, and it is no longer related to working before having a child. Consequently, the child care allowance has become one of the most important type of social aid in Hungary. At the same time, however, the employment rate of mothers bringing up small children has also decreased and is now among the lowest in Europe. Over the longer term it would be expedient to alter the child support system in a way to reduce the ratio of money transfers, and greater emphasis should be put on in-kind benefits, which would mainly reduce the costs of taking a job.

[18] Retiring before the official retirement age is a problem which can be observed in a number of European countries. However, in Hungary, in case of women the difference between the retirement age and the average age at retirement is very high even in European comparison.

[19] The ratio of the pension to the income before retirement is 77 per cent (if the employee had an average income), and in case of retiring one year before the retirement age this ratio is only a little more than 2 per cent less. The OECD average, in turn, is 59 and 5 per cent, respectively.

Harmony between skills and demand for labour

It also contributes to the attainment of a high employment level, if the labour force has good general skills, and can relatively easily adjust itself to the structural changes in the demand for labour. In this respect, the Hungarian labour market does not seem to be flexible.

One of the underlying reasons is to be found in the educational system, and within that both the number of participants in various levels of education and the quality of education may be important. The ratio of participants in secondary and higher education has increased steadily, and is not far from the European average. However, the distribution of degrees obtained in higher education across various areas calls the attention to the fact that higher education does not adequately comply with the structure of demand for labour. Of the OECD countries, in Hungary there are especially few graduates with degrees in natural sciences or with technical degrees, while the ratio of those who choose social sciences, business studies or law is extremely high (OECD, 2007c). International comparison of the quality of education systems is a difficult task, but the comparison of the results of the PISA tests conducted in several countries may serve as a basis for the assessment of the quality of elementary and secondary education. Based on them, Hungary belongs to the lower medium category.[20]

Table 1–6 PISA test results (2003)

Mathematics		Reading skills		Science		Problem solving	
	Mean score		Mean score		Mean score		Mean score
OECD countries							
Finland	544	Finland	543	Finland	548	Korea	550
Korea	542	Korea	534	Japan	548	Finland	548
Netherlands	538	Canada	528	Korea	538	Japan	547
Japan	534	Australia	525	Australia	525	New Zealand	533
Canada	532	New Zealand	522	Netherlands	524	Australia	530
Belgium	529	Ireland	515	Czech Republic	523	Canada	529
Switzerland	527	Sweden	514	New Zealand	521	Belgium	525
Australia	524	Netherlands	513	Canada	519	Switzerland	521
New Zealand	523	Belgium	507	Switzerland	513	Netherlands	520
Czech Republic	516	Norway	500	France	511	France	519
Iceland	515	Switzerland	499	Belgium	509	Denmark	517
Denmark	514	Japan	498	Sweden	506	Czech Republic	516
France	511	Poland	497	Ireland	505	Germany	513
Sweden	509	France	496	Hungary	503	Sweden	509
Austria	506	United States	495	Germany	502	Austria	506
Germany	503	Denmark	492	Poland	498	Iceland	505
Ireland	503	Iceland	492	Slovak Republic	495	Hungary	501
Slovak Republic	498	Germany	491	Iceland	495	Ireland	498
Norway	495	Austria	491	United States	491	Luxembourg	494
Luxembourg	493	Czech Republic	489	Austria	491	Slovak Republic	492
Poland	490	Hungary	482	Spain	(2,6)	Norway	(2,6)
Hungary	490	Spain	481	Italy	486	Poland	487
Spain	485	Luxembourg	479	Norway	484	Spain	482
United States	483	Portugal	478	Luxembourg	483	United States	477
Portugal	466	Italy	476	Greece	481	Portugal	470
Italy	466	Greece	472	Denmark	475	Italy	469
Greece	445	Slovak Republic	469	Portugal	468	Greece	448
Turkey	423	Turkey	441	Turkey	434	Turkey	408
Mexico	385	Mexico	400	Mexico	405	Mexico	384

Source: OECD.

[20] The low quality of education may strengthen the negative effect of minimal wage regulation on employment. The minimal wage is not extremely high in European comparison, but because of the lack of sound general skills the productivity of low skilled labour can be even below this level.

Surveys conducted among companies also indicate that the skills of available labour do not match companies' requirements. In 2005, one-third of the corporate executives interviewed indicated the shortage of qualified labour as one of the most important obstacles to his/her company's growth.

Adjusting labour skills in accordance with companies' demands may also be facilitated by training programmes financed by the government.[21] In Hungary, in international comparison, the budget for funding training programmes is relatively small, while among the new member states it belongs to the average.

In the light of this review of the features of the labour market, the following conclusions may be drawn. Based on experience to date and the institutional background, the Hungarian labour market may basically be considered flexible in terms of real wage adjustment. As inflation has not been consistently low in recent years, aggregate time series provide little information on nominal wage rigidity. However, corporate cross-sectional data show that wages can be considered flexible in nominal terms as well. Wage adjustment was also sometimes made difficult by increases in the minimum wage. The minimum wage increase and the introduction of a guaranteed minimum wage in 2006 may still entail negative labour market consequences. Overall, however, we believe that wages in Hungary have adjusted flexibly to the shocks to the economy, and the labour market meets the conditions of the single currency area. At the same time, the structural inflexibility of the labour market is alarmingly high, and the level of employment is extremely low by international standards as well. This low employment may be explained by the high tax wedge and incorrect labour market incentives as well as the fact that the skills of the labour force on the whole do not match corporate requirements. Should the level of employment fail to increase, it may hinder the convergence of the Hungarian economy to euro area economies, irrespective of whether Hungary joins the euro area or not.

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[21] It is important to mention that opinions on the efficiency of these programmes vary. In several countries it was found that they could not significantly add to employment.

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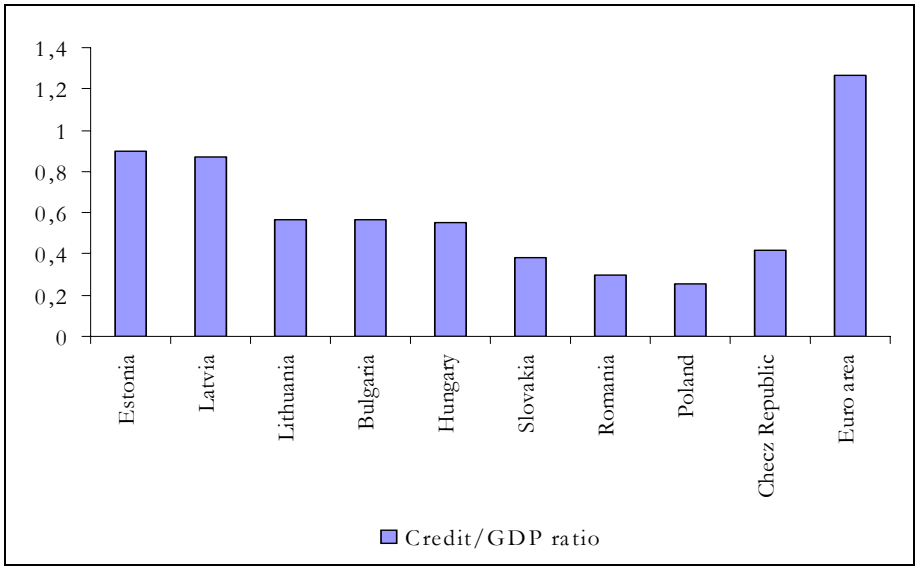
2 Risks of a dynamic credit growth

In addition to the criteria of the ideal euro area well known from works of hypothetical literature, a new concept emerged in recent years among economic policy reports targeting the introduction of the euro, notably a credit boom that takes place in most new Member States of the European Union. In this Chapter, we will provide an overview of the risks such boom is likely to generate in terms of economics, and the impact it may thereupon have in any potential strategy for and in the timing of the introduction of the euro. In this report we will focus mainly on Hungary, with some insight in and around the region for reasons of assessment of relative risk factors.

In the EU Member States of the Central and Eastern European region, a process of economic transition has begun in the early 1990s, however, its implications were hardly noticeable for quite some time as far as private sector loans are concerned, and the financial depth index (volume of loans-to-GDP) remained very low for quite a while. In most countries it took longer to lay down the foundations for an advanced financial system, and from the initial lows the corporate loan portfolio began to grow, with the household sector loitering a few years behind. However, in recent years the overall picture has changed considerably: credit boom emerged and quickly became the main subject of interest, for it far exceeded the growth rate seen in the advanced EU economies. However, the loans-to-GDP index is still lower than in the euro area.

Chart 2–1 Domestic bank credit-to-GDP ratios in 2006 in the new EU Member States and the euro area

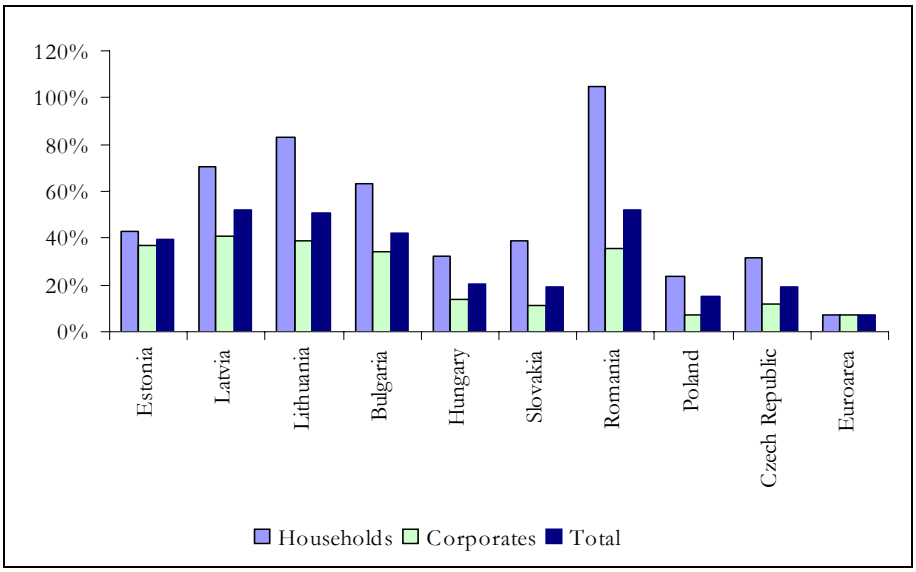


Source: National central banks.

Let us point out the differences in developments in the household and corporate sectors. On general principle, the volume of household loans grew – from an initially low level – significantly faster than corporate loans during the past five years. The volume of loans to households has increased by more than 30 per cent in Hungary on the average during the past five years, that being close to 20 percentage points above the growth rate seen on the

corporate sector. Nevertheless, by regional comparison, Hungary is listed among the countries showing the lowest growth rate of credit dynamics.

Chart 2–2 Lending in the new EU Member States
Domestic bank lending; annual average growth rates between 2003 and 2007



Sources: National central banks.

Balanced growth or credit boom?

In light of the above, the most important issue in terms of economics is to decide as to whether the credit growth seen in recent years can be viewed as a balanced financial decline, or a part of real convergence or convergence, or it is merely a reflection of risky trends that leads to a credit boom then ultimately to costly corrections. In this study we will analyse the costs of a potential and sudden adjustment process, whether they are greater or smaller for members of the euro area as oppose to the countries operating under their own monetary policy, as well as the leeway that remains in economic policy to manage the credit boom in both instances. In finding an answer for the first question we relied considerably on a previous MNB study (Kiss, Nagy and Vonnák, 2006), using the analysis framework it contains to evaluate the findings resulting from the most recent information available.

Credit boom and excessive credit growth means a situation where the actual rate of credit growth exceeds in an economy the equilibrium rate of credit growth. We based our analysis on the fact that the magnitude of the boom, and the ensuing risks, can be best described by comparison of the actual credit growth to the equilibrium path. In other words, the key issue is to define the equilibrium loan portfolio and the rate of credit growth.

In international circles credit boom is typically investigated in terms of economic impact along partial correlations and macroeconomic variables, rather than relying on a micro-funded equilibrium framework. Relying on empirical literature on economics, the MNB study mentioned in the prior considers the following explanatory variables as the most important factors. Financial depth and economic development are closely and positively related, according to which the per capita GDP is one of the single most important explanatory variable. On the convergence path loan portfolio is growing faster than GDP, meaning that the loans-to-GDP index is also rising. The causal relationship applies in both

directions: a more advanced economy enhances a broader financial spectrum, and in turn broader financial markets tend to augment economic growth through the more efficient allocation of savings. Real interest rates constitute a fundamental financial factor, and it influences credit demand through the costs of credit. The impact of inflation will mainly be felt via two channels. On the one hand, higher inflation tends to increase uncertainty throughout the entire economy, and on the other hand any rise in inflation results in declining credit demand through the liquidity constraints of borrowers. Moreover, there are numerous other factors in determining the equilibrium loan portfolio, such as the level of development of the banking sector, the openness of the money and capital markets, the regulatory environment, and the intensity of competition between financial institutions.

It is necessary, however to emphasise the difficulty of capturing the equilibrium credit path even with the aforementioned explanatory variables. The above-illustrated approach is considered the most popular in international circles, yet there is no solid theoretical background to support it. Hence, any conclusion in terms of economics must be taken with caution, and there is good reason to muster alternative indicators to look into for the purposes of evaluation of risks from the standpoint of economic policy.

Risks

Before coming out with the results, let us briefly review the additional aspects that may have to be taken into consideration in connection with the introduction of the euro apart from the most common risks originating from the credit boom.

According to a comprehensive study – covering all regions of the globe (IMF 2004) – 75 per cent of all credit booms in emerging markets eventually led to a crisis in the banking system of that country, and to currency crises to an even greater degree (85 per cent). A bank crisis could be induced by deteriorating portfolio quality, as lending standards are typically looser at times of rapid credit growth, and the loan portfolio is growing rapidly in segments which are considered risky. The relationship between a currency crisis and credit boom are determined by the international inflow of capital. According to international observations, frequently, domestic savings are unable to keep up with growth in credit demand, where the gap is usually filled with foreign capital. When the outlook on the market in terms of risks takes a sudden dive, it frequently results in a wave of disinvestment, apart from sudden adjustments in the credit boom, which in turn could bring about a significant depreciation of exchange rates.

Cyclical conformity among the various economies is a major factor of the optimum euro area criteria. Theoretically, the expansion of the loan portfolio in the private sector could have the capacity to influence the economic cycles through the corporate and household sectors alike. In Hungary, being a small and open economy, as far as the corporate sector is concerned, external demand – more precisely demand from the euro area – has a dominant role, whereas in the household sectors, in consumption smoothing borrowing from domestic banks could well have a greater significance. According to empirical studies – see Aguiar-Gopinath (2004), for example – in the emerging nations of Asia and South America the volatility of consumption is significantly higher than the volatility of income. On the other hand, in more advanced countries it is practically the same. In the Communities the pattern is similar: in the new Member States consumption is more volatile than income, while in the euro area it is almost to the same. Looking ahead, it is safe to assume that in the new Member States, a deepening in the equilibrium of borrowing in the household sector carries the potential to make consumption smoothing easier, and consequently to

bring the economic cycles of that country and the euro area closer. On the other hand, if the credit boom cannot be controlled in a country, it tends to weaken cyclical conformity by comparison to the euro area. If the rate of credit growth is too high, plus the following adjustment could have a major impact in diverting the dynamics of household consumption from that of the euro area, drifting the economic cycles further apart. In this case an economy going through a credit boom will not benefit from the single monetary policy.

Results

On the basis of the aforementioned explanatory variables (GDP, real interest rate, inflation), because of the short data series we prepared our estimate for the equilibrium credit path based on the 1980–2002 period for the countries of the euro area, rather than for the new EU Member States. An out-of-sample approach for estimation is particularly justified due to the financial markets operating with a single currency, as the new Member States will have to integrate into this financial system. The estimates prepared by the pooled mean group estimator method show common long-term parameters, however, some deviations may occur in short-term dynamics, or in the constant of certain countries.

In Table 2–1, we must point out the importance of the estimate drawn up on the aggregate loan portfolio. The results are significant from a statistical standpoint and they are in conformity with economics impressions, and they are consistent with the results of previous projections. Any 1 per cent growth in GDP raises the loans-to-GDP index by 0.5 per cent. Any 1 per cent rise in inflation or in real interest rates tends to reduce the equilibrium loans-to-GDP index by about 2 per cent. These latter figures also mean that the nominal interest rate resulting from adding together inflation and real interest rates carries some significance in developments in the loan portfolio.

These results – even though they cannot be compared directly – are consistent in terms of volume with the results previously estimated for the euro area[22], spread between 0.34 and 0.49 in the case of GDP, and between -1.99 and -5.1 in terms of real interest rates.

Sectoral results also carry an important message from the perspective of economics, for as we have seen, in most new EU Member States the dynamics of household loans far exceeded that of the corporate sector. The results of forecasts on household loans are similar to the aggregate estimate, at least as far as main directions are concerned: they are of the same sign, and the parameters of inflation and real interest rates are of the same magnitude. However, one derogation remains relative to the aggregate results, notably that in the case of household loans all three indicators are significantly greater. As for the corporate sector the parameters are similar to what we have seen in the aggregate estimates, yet, surprisingly enough, in this sector higher inflation generates an increase in the equilibrium loan portfolio.

Nevertheless, for the interpretation of sectoral results we must make two important notations. One is that the concept of lending and loan portfolio means the loans outstanding in the Hungarian banking sector, in other words, foreign loans are left out of the equation due to the absence of adequate information. In light of all this, due to the out-of-sample projection approach, we could be forced to underestimate the equilibrium level in the new EU Member States, where foreign loans are likely to have a greater role in

[22] See, for example, studies by Cottareli at al (2003), Schadler at al (2004) and Backé et al (2006).

corporate financing than in the euro area. On the other hand, sectoral projections provide less reliable results from an econometric perspective on the account of the short data series, which means that these results should be handled with caution.

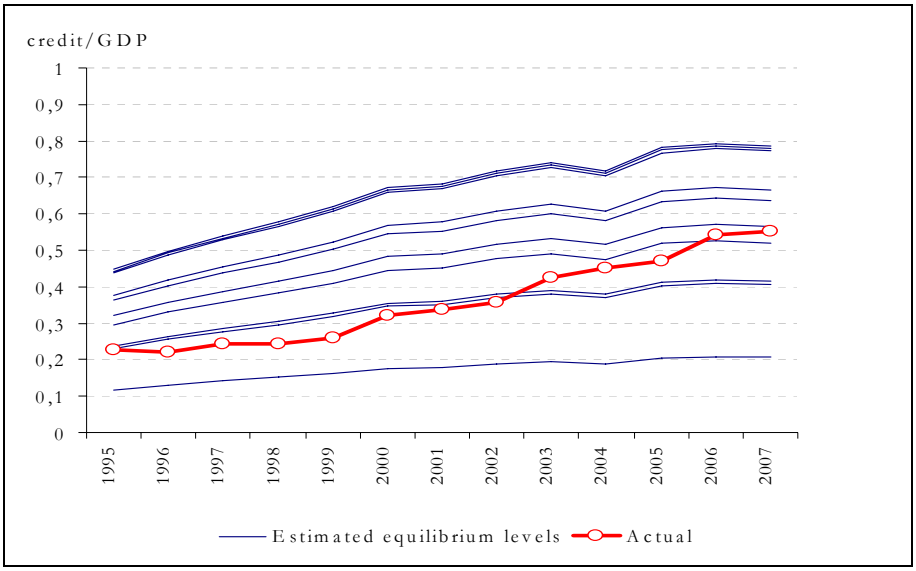
Table 2–1 Summary results

	Aggregate yly	Household yly	Corporate yly
Period	1980-2002	1995-2002	1995-2002
Explanatory variables			
GDP	**0,51**	**1,37**	**0,45**
t-statistics	-5,36	-6,47	-5,5
RIR	**-1,88**	**-8,14**	**-2,69**
t-statistics	(-4.33)	(-7.61)	(-16.45)
CPI	**-2,04**	**-11,18**	**1,78**
t-statistics	(-3.93)	(-6.81)	-6,68

Source: Kiss-Nagy-Vonnák (2006).

There are two steps to using the above results out-of-sample. In the first step we applied the estimated parameters contained in Table 2-1 out-of-sample, assuming that they have the same impact in the new EU Member States as well. The second step, however, is a little more complex. Notably because, it is difficult to grasp country-specific factors out-of-sample, which are represented by the constant in the estimate. The results are best shown in a single range, using all country constants resulting from the estimate for calculating the equilibrium path. Chart 1, that demonstrates the aggregate Hungarian equilibrium and actual loans-to-GDP index, clearly shows that the results occupy a very broad spectrum. According to local results, since 1995 the loans-to-GDP index should have gone up substantially according to economic fundamentals, such as massive growth, declining inflation. In spite of the level of uncertainty resulting form the broad spectrum, it can be seen that in 2007 the risk of the loans-to-GDP index surpassing the equilibrium did not appear excessive.

Chart 2–3 Credit in Hungary: estimated equilibrium and actual levels



Relying on the above-illustrated method, risks can be captured from three different directions. The first option is to compare the estimates with the actual loans-to-GDP index. Taking dynamics into consideration, in addition to the level, presents two additional alternatives . In the latter case, risks are assessed based on the dynamics seen alongside the equilibrium path. And finally, the model enables us to compare actual credit dynamics not only with the equilibrium growth rate seen in Chart 2–3, but also with a certain equilibrium convergence path, as shown by the model. What the latter means is that if the loans-to-GDP index is below the equilibrium, we expect to see growth at a rate in excess of equilibrium dynamics, we have determined the convergence path based on the forecast as well. Thus, on the whole, credit boom risk in the new EU Member States can be assessed on the basis of three different criteria: equilibrium path, equilibrium dynamics, and convergence path implied by the model, as it is shown in Table 2-2.

Table 2–2 Credit boom risk in the new EU Member States

	Level	Equilibrium dynamics	Cathing up dyniamcs
Estonia	**high**	**high**	**high**
Latvia	**high**	**high**	**high**
Lithuania	medium	**high**	**high**
Bulgaria	medium	**high**	medium
Hungary	medium	medium	low
Romania	low	medium	low
Czech Republic	low	medium	low
Poland	low	low	low
Slovakia	low	low	low

Source: MNB, Kiss-Nagy-Vonnák (2006).

For the purposes of this analysis, the most important notion is that Hungary is considered a low-risk country in the region. The countries under review are classified in three categories. According to our findings, credit boom risk is a significant factor in the Baltic

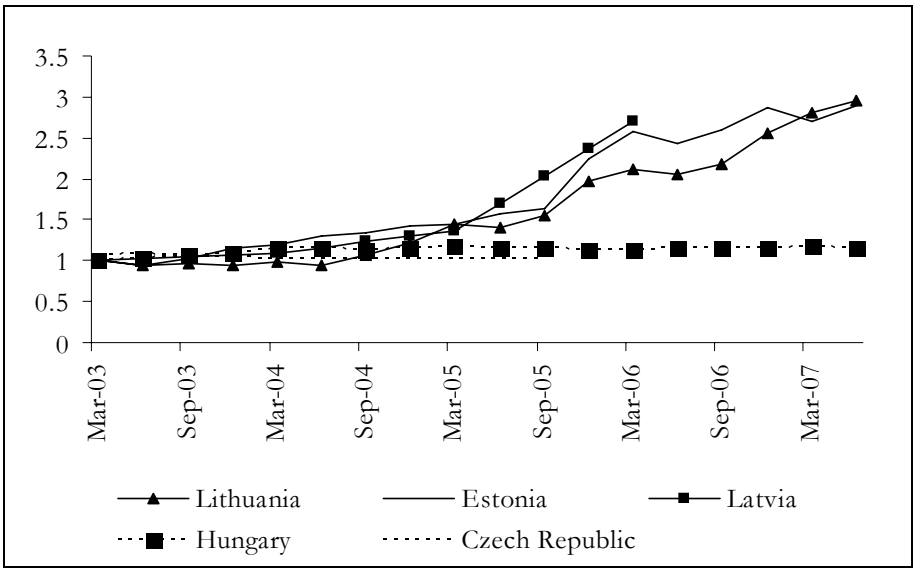
nations and in Bulgaria. These countries have their own currency councils, risks are excessive according to all three indicators, and they were rising steadily in recent years. Hungary is in the second category, along with the Czech Republic and Romania. In these countries the financial depth grew faster in recent years than what is likely to be justified based on the equilibrium path, however, in light of the loans-to-GDP index as well, the rapid rise in credit growth appears to be a part of the convergence path. Finally, in Slovakia and Poland there is no sign of credit growth in excess of the equilibrium. Our findings for the region are in tune – in terms of key issues – with the findings of Backé et al (2006). The study looks into the period before 2004, and came to the conclusion that risk levels in Hungary are low, with very little chance for the loans-to-GDP index to actually surpass the long-term equilibrium level.

Another aspect to consider for the purposes of assessment of Hungarian results is that the government adjustment package introduced in 2006 pushed inflation up, and simultaneously the growth rate of the economy slowed down considerably, and in consequence the equilibrium level declined in 2007, however, looking far into the future the equilibrium loans-to-GDP index is expected to rise further.

In light of the uncertainties addressed previously, in order to provide a robust picture, it is worth looking into other indicators apart from the method based on econometric estimates for the purposes of evaluation of credit boom risks from the standpoint of economic policy. This indicators include real estate prices in connection with household loans, and the external financing requirement of the economy on the whole, and among the various sectors the net savings position of the household sector. Situated between real estate prices and a potential credit boom is the financial accelerator impact. Real estate properties are often pledged as collateral for loans, consequently the market price of a property has a considerable role on the volume of secured loans. Rising home prices permit the expansion of lending operations. Any increase in credit supply has the potential to boost demand on the real estate market, which then leads to even higher prices, and that ultimately results in a positive feedback between the two factors. Accordingly, there lies a risk that real estate prices and loans will depart concurrently from the fundamentals. Consistent with the theoretical models, a recent study of the real estate markets of new EU Member States (Égert and Mihaljek. 2007) came to the conclusion that any growth in the volume of real estate loans is largely responsible for the rise in home prices. The real estate prices shown in the BIS database[23] support the theory attached to credit growth: in the Baltic countries home prices increased sharply, whereas in Hungary, on the other hand, home prices rose less intensely in recent years, below the rate of inflation.

[23] In most new EU Member States there is no time series available that contains the latest information from throughout the country. Consequently, in connection with Hungary and the others countries affected we had to rely on price indexes limited to the larger cities only.

Chart 2–4 Home prices in selected new EU Member States (2003, Q1=1)

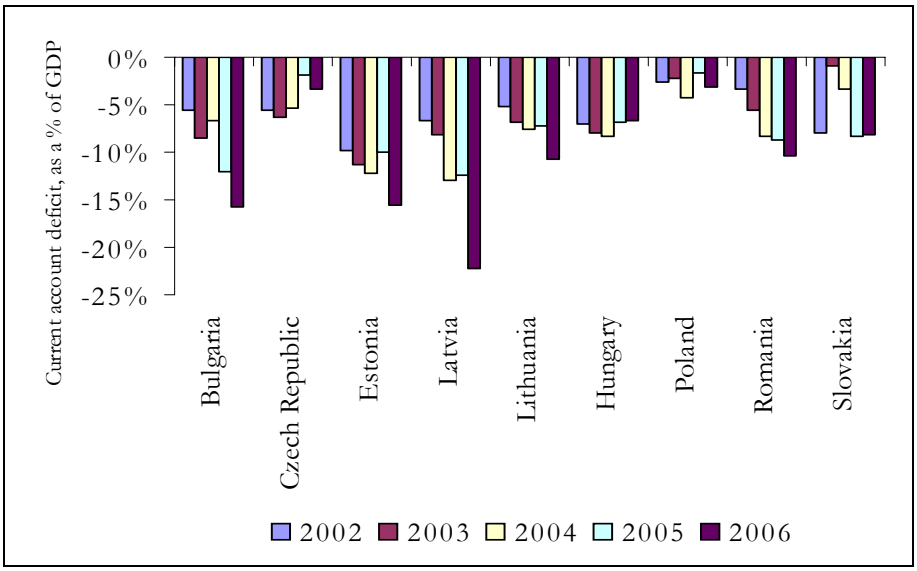


Source: BIS.

The current account balance provides an insight concerning the aggregate savings and investment positions of domestic sectors. As we have already mentioned in connection with risks, the international inflow of capital is a likely substitute – in the absence of insufficient domestic savings – in the loan market, which is reflected in the current account balance as well. The current account balance is also seen as one of the most important sustainability indicator, that is monitored by market participants on a regular basis. The risk of a sudden drop in the exchange rate and of massive withdrawals of capital becomes more likely when market participants label the external position of a country as unsustainable.

The current account deficit has grown continuously in a number of countries in the past five years, most commonly in the countries where credit boom was the greatest. In these countries the external financing requirement shut up to over 10 per cent by the end of the period. In Hungary, on the other hand, the current account deficit was lower, and it is equally important that it has shown signs of declining in the past two years, contrary to the rising trend commonly seen in the region.

Chart 2–5 Current account deficit as a percentage of GDP between 2002 and 2006



Source: Eurostat.

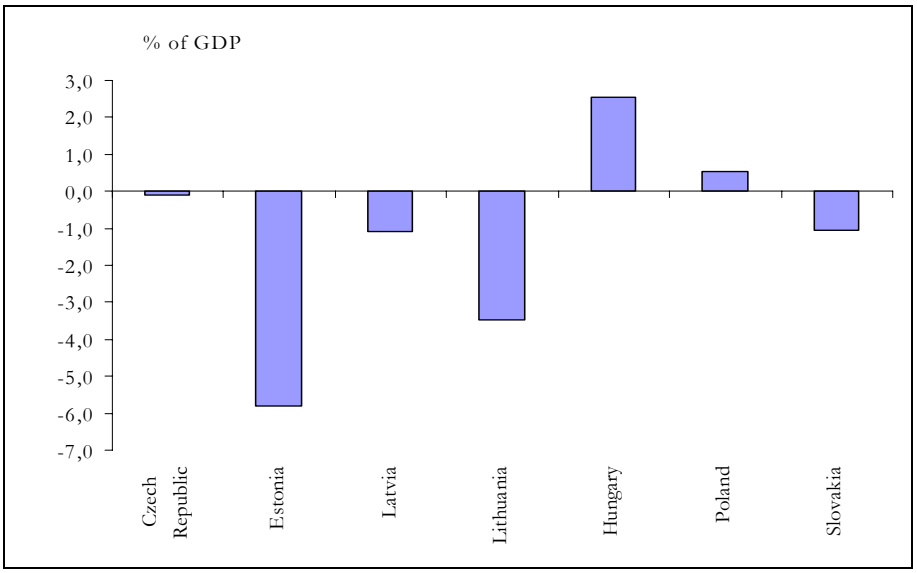
The overall picture turns a shade darker when looking at the sectors separately, rather than analysing the whole economy at once. Form the perspective of our analysis, household sectors have an all important role. The net savings position of the households provides a account, apart from the expansion of the loan portfolio within the household sector, on the magnitude of savings and financial assets as well. Rapid credit growth carries less macroeconomic and financial stability risks if it occurs parallel with growth in savings. Any growth in aggregate savings results in less growth in terms of consumption from the same level of credit, which in turn reduces risks from a hyperactive economy. On the other hand, credit risks are likely to diminish as far as the households are concerned, if the savings of the households, and their financial situation in general, improves parallel with their credits.

An assessment of net savings positions leads to the similar conclusion as before, however, based on this particular factor the difference between the new Member States is not quite as wide as it is in the case of credit dynamics and home prices. In the Baltic region, practically all households were in net borrowing positions in the past five years, meaning that financial liabilities grew faster than financial assets. Let us emphasise that the net savings of households is the highest in Hungary within the region. In 2003, when state subsidised home loans were on their peak, the net savings of Hungarian households were temporarily non-existent, however, it did recover since then. Regarding the Visegrád countries it is worth mentioning that the financing capacity of households in the Czech Republic, and also in Poland and Slovakia stood at zero during the past five years in spite of the fact that their credit dynamics was considered slow in the region.

However, the uncertainties stemming from the available conclusions are likely to emerge in this particular approach as well. Financial stability risks are affected most by the quality of credit portfolios, which could easily bring about a situation where the ratio of defaults grows relatively high in spite of the worry-free environment generated by the household sector's net savings position on the aggregate. In this situation, if the credit portfolio and the consolidated assets in the household sector is sufficiently heterogeneous, meaning that there is great number of households with net debts and just as many with net savings, the

net savings position will also fail to provide a true and fair view concerning credit portfolio risks.

Chart 2–6 Household sector net savings position
Average of 2002–2006; as a percentage of GDP



Sources: Eurostat, MNB.

In summary, it can be said – relying on the indicators examined – that in Hungary the risk of unmanageable credit growth in regional comparison is moderate at this time, and – compared to other new EU Member States –neither the equilibrium loan portfolio, real estate prices, nor the savings position of households shows no sign of any remarkable risk. The results of regional comparison are consistent with the conclusions seen in international circles. It is the opinion of many that the Baltic region and Bulgaria are the most prominent candidates for higher risks. In these countries there is a good chance that the fast growth of credit seen in recent years cannot be sustained for any extended period of time, and that today's boom will be followed by major adjustments.

In the end of this analysis we will discuss potential reactions in terms of economic policy, and recommendations voiced in international forums, addressing the role of an sovereign monetary policy and the timing of the introduction of the euro.

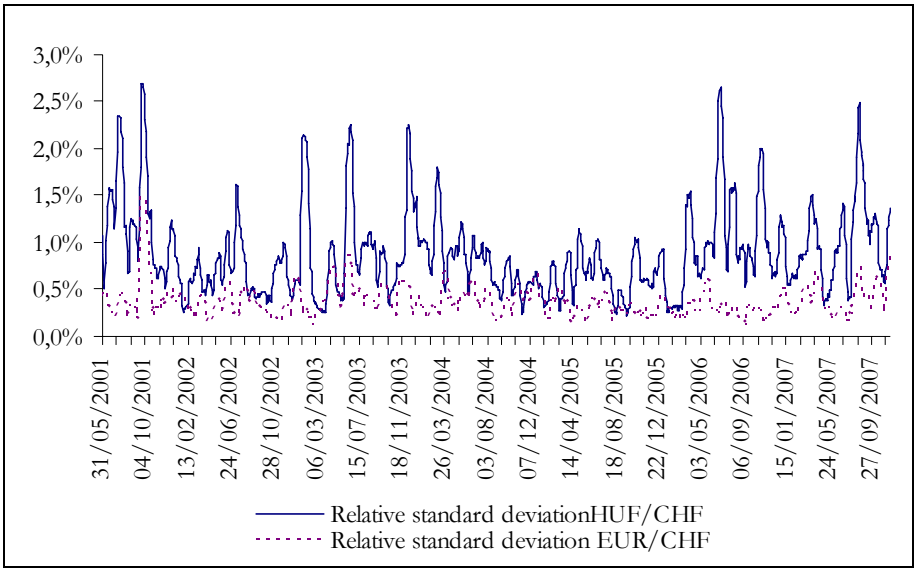
When determining the leeway for economic policy, the deregulated flow of capital seen in the EU, free of any national restraints, could serve as a good starting point. The results produced by administrative means used by Member States to block the inflow of capital – originating mostly from large financial institution with international background – is only temporary and ineffective. It also appreciates the role of financial supervisory authorities, and brings the requirement for cross-border cooperation between the supervisory authorities into the limelight.

The introduction of the euro reduces credit boom risks and narrows the leeway of economic policy, all at the same time. Following the joining of the euro area, an adjustment in the wake of a credit boom is unlikely to result in a currency crises. This is of particular importance for countries, the likes of Hungary, where FX loans comprise a high percentage among all loans. The IMF – see, for example, Schadler et al (2006) – strongly urges the

introduction of the euro as soon as possible with a view to mitigate risks, especially the ones from unhedged FX positions. In Hungary, within the entire domestic loan portfolio the share of FX loans grew incessantly during the past five years, with the largest share of growth seen in the FX loans provided to households. Among all household loans, in the middle of 2007 the share of FX loans reached over 50 per cent.

Nevertheless, we should point out that in Hungary – and particularly in the household sector – Swiss franc is the most popular currency as far as loans are concerned, therefore, the introduction of the euro is likely to mitigate exchange rate risks, but it will not be able to block it out altogether. The volatility of currency cross rates indicates that the euro/Swiss franc volatility is historically very low, close to one-third of the forint/Swiss franc volatility, however, it constitutes no guarantees for movements in exchange rates for future considerations.

Chart 2–7 Euro/Swiss franc and forint/Swiss franc exchange rate volatility
30-day moving average of relative deviation



Source: MNB.

According to other views, credit boom contributes to an overheated economy, that could draw even graver consequences without tightening on the monetary policy, and without an sovereign monetary policy it could induce higher costs in the future as far as adjusting is concerned in the countries affected (see Stark, 2007). Due to high exposures, in the Baltic nations – operating their own currency councils after giving up their own, independent monetary policy – the strategy to follow constitutes a particularly sensitive issue under this approach. Our analysis support that it is important to differentiate between the new Member State as far as credit boom is concerned. As oppose to the countries that have their own currency councils, in the countries using the inflation targeting system risk appear lower.

The most important conclusion made in this analysis relating to Hungary is that risk factors are considered moderate in connection with the expansion of loans. On the one hand, according to the econometric estimates relating to the equilibrium credit growth the dynamics of credit growth in Hungary functions more like an equilibrium convergence path, rather than a credit boom, and the loans-to-GDP index is situated more in the range

justified by fundamentals. On the other hand, the rise in home prices below the rate of inflation fail to indicate any possibility for an unsustainable combination of rapid credit growth and surge in home prices to develop. Finally, the net funding position of households in Hungary – being the only one in the region – managed to consistently stay positive in recent years, in spite of the intensity in household lending operations. In light of the above, we do not see any economic reason to postpone the introduction of the euro on account of lending, moreover, the risks stemming from the surge in FX household loans are all the more reason for the introduction of the single currency as soon as possible.

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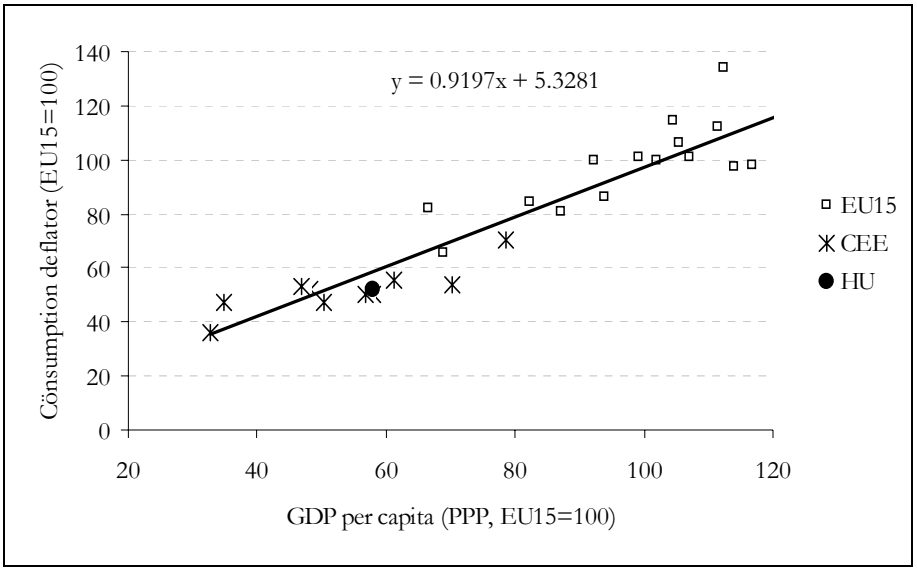
3 Inflation and price convergence

One empirical observation in connection with the emerging countries is that, in parallel with the process of growth in per capita income, prices will also approach the levels of the more advanced nations, even though they are typically considered low during the early stages. In 2006, the national income measured in purchasing power parity terms and the consumption deflator, both reached 60% of the average of the EU-15. According to the empirical correlation offering a representative comparison of the countries participating in the euro area, a 1% improvement in the income convergence process brings about a 0.9% increase in prices: in other words, during the convergence process we expect to see a progressive increase in prices expressed in euro as well.

Chart 3–1 Price levels and economic development in 2006



Sources: Eurostat, MNB forecast.

The equilibrium price level convergence (equilibrium real appreciation) – essentially meaning a steady rise in prices in the sectors where there is no external competition – could, therefore, be viewed as a characteristic of an emerging countries. On the other hand, the choice of monetary policy and the exchange rate mechanism plays a substantial role in determining the channels through which the convergence of prices, which occurs in tandem with convergence of the real economy, takes place. With fixed exchange rates, a long-term inflation differential is required for the convergence of prices, whereas in the case of independent monetary policy, prices may be able to converge, in part or entirely, through the appreciation of the nominal exchange rate.

The long-term indicators of the convergence process are fundamentally of a real economy nature: such as the deviation in the volume of available capital from the long-term equilibrium level, and the expansion of productivity which is driven by the process of convergence with the technological level of the more advanced regions. In essence, the convergence of prices is also driven by these equilibrium processes, while temporary and cyclical factors may also influence its speed (see Darvas and Szapáry 2008).

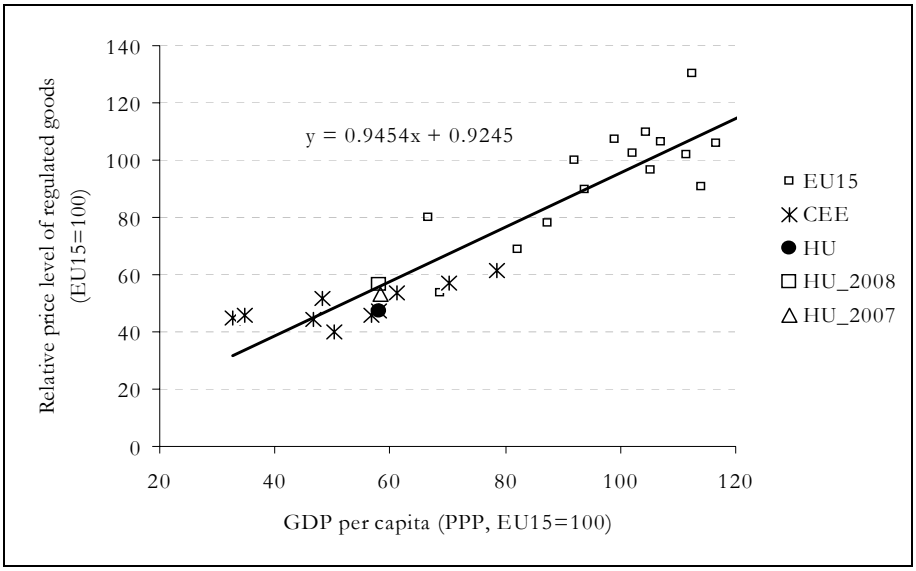
One of the most important, although non-exclusive, factors in determining the path of the price convergence process is the so called Balassa-Samuelson (BS-) effect, meaning the convergence of relative prices in sectors where there is no external competition as defined by the relevant equilibrium processes. The driving force behind equilibrium real appreciation is the difference in the expansion of productivity between the sectors competing with external competition and sectors where there is no external competition. The magnitude of the BS effect, however, cannot be the only reason behind the convergence of prices in the new EU Member State. According to Égert (2007), the value that was supported by the BS effect from the degree of real appreciation relative to the euro area between 1995 and 2005, is quite low, ranging between 0.2 and 1.4% in the new Member State (apart from Malta and Cyprus) annually. This is much lower than the actual annual average real appreciation between 3 to 6% seen in the region during the same period. What this indicates is that, apart from the BS effect, there are other structural factors with a role in the trend of real appreciation, such as, for example, a shift in the consumption structure toward higher quality and higher priced products, or the progressively rising path of regulated prices in the new Member State, starting from below the price level typically seen in the more advanced parts of Europe.

Box 3–1 Convergence of regulated prices

Apart from the Balassa-Samuelson effect, the convergence of regulated prices may be another component of equilibrium real appreciation (price convergence). The types of regulated prices varies in each country; they commonly include public utility services (water, sewage, electricity, gas, district heating), public transport, communications, education, healthcare, and the like. In terms of economics, the reason for controlling the prices of these goods and services centrally in most cases is the presence of some form of natural monopoly on the market of a particular service. The weight of regulated prices in the consumption basket is usually significant, representing 22% in Hungary. The average weight in the new Member States is somewhat higher (17%) than the average in the old Member States (12%), showing wide differences within the group however: while the weight of regulated prices is very low in the Baltic States (10%), it is high among the Visegrád countries (23%), similar to the level in Hungary.

On the whole, the level of regulated prices in the new Member States trails well behind the level of regulated prices seen in the more advanced European countries. Similar to the overall price level, a significantly positive relationship appears to emerge between regulated prices and the level of economic development. The mechanism behind the empirical correlation presumably originates from the fact that price regulation – in most cases – affects a particular service; in other words, such regulated items have a relatively high degree of non-tradable content. Hence, over the long run, these services are also affected to some degree by the Balassa-Samuelson effect. Price regulation may temporarily deviate from this long-term relationship (e.g. certain regulated prices may be kept low for political reasons), however, over the long term deviation of regulated prices may induce budgetary consequences (e.g. higher taxes). The empirical correlation which has been demonstrated indicates that the price regulation regime allows the relative convergence of prices resulting from economic convergence to be reflected in the prices over the longer term.
The empirical correlation between the level of economic development and regulated prices implies that regulated prices will continue to contribute to the trend real appreciation in the future as well.

Chart 3-2 Regulated prices and economic development in 2006[24]



Source: Eurostat, MNB forecast.

As far as Hungary's position is concerned, it is apparent that regulated prices on the whole remained below the level consistent with the nation's economic development, and then following substantial increases during 2007-08, they reached a level consistent with the nation's economic development.

It is, however, important to note that, on aggregate, there is a substantial degree of heterogeneity behind the level consistent with the level of development. For example, following the recent major increases in the price of gas and electricity in Hungary, these price levels approximated price levels seen in the more advanced EU Member State in the household sector, while in the industrial segment they presumably surpassed that level in 2008. Consequently, no further increase in the regulated prices of these services is necessary. Moreover, the price control regime in connection with these particular segments should be intensified with a view to avoiding the major increases we have seen in recent years, and to guide the convergence of prices – if necessary – along a path of continuity, in harmony with the convergence of the overall economy.

[24] The forecast of **r**egulated prices ignores changes in the same indicators from around Europe, therefore, the picture it predicts is approximate at best. This problem does not apply to the forecast of per capita GDP.

Chart 3–3 Household gas prices (1995 – 2007)

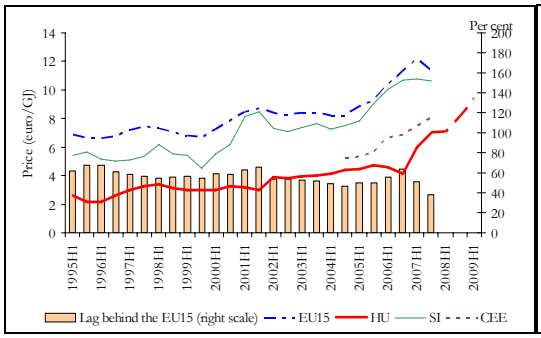


Chart 3-4: Gas prices for industrial consumers (1995 – 2007)

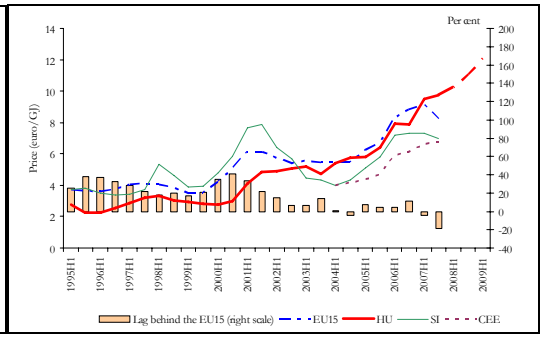


Chart 3-5 Household electricity prices (1995 – 2007)

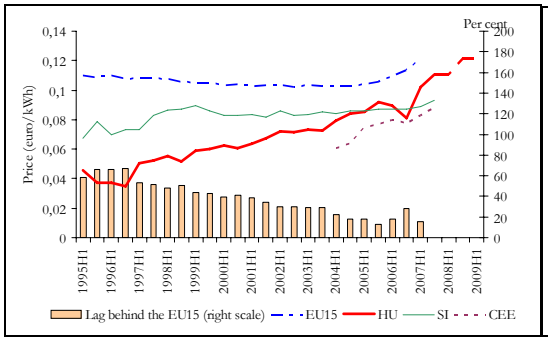
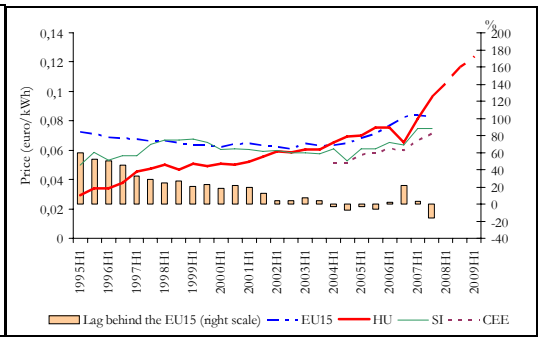


Chart 3-6 Electricity prices of industrial consumers (1995 - 2007)



Source: Eurostat, MNB. For Hungary, the dotted line shows the MNB forecast.

Upon joining the euro area, the excess inflation stemming from the convergence of prices, in addition to the common nominal interest rate, will force real interest rates down compared to the average of the countries using the single currency. Such real interest rates, however, are not significantly different from the overall interest rates postulated for the eventuality of not joining the euro area, as equilibrium real appreciation is integrated into market expectations – if we presume that the covered interest rate parity relationship holds – and *ceteris paribus* it is likely to reduce real interest rates in Hungary in the floating regime as well. Notably, in the event that the covered interest rate parity relationship holds, the difference between the real interest rates of two countries corresponds to the total of the expected changes in the real exchange rate and the amount of the risk premium required. The real interest rates forecasted for the eventuality of joining or staying outside the euro area are dominated by the difference in the amounts of the risk premium required in the two different monetary systems.

Thus, one of the most important one-off impacts of joining the euro area is the elimination of risk premium compared to the yield curve that applies to the euro area. In the emerging countries, disappearance of the risk premium tends to result in a prolonged reduction in real interest rates. This provides for a faster equilibrium convergence path, which in turn may lead to growing consumption, more intense investment activities, rising asset prices, and higher current account deficit, due to the loosening of the current account barrier (See Langedijk and Roeger 2007).

On the other hand, lower real interest rate could carry the risk of overheating. The difference in real interest rates mainly effects sectors where there is no external competition, because in a currency union we can presume that the pricing policy of a sector facing external competition will not deviate among the participating countries for any extended period of time. Accordingly, if the real interest rate remains below the average of the participating countries, it may enhance the upward period of the cycle primarily through the impact it is likely to exert on consumption, or on the intensity of investment activities in sectors where there is no external competition, which in turn could lead to higher inflation in prices and wages. The higher inflation, that generally occurs in tandem with overheating, suggests problems in terms of competitiveness through real appreciation in excess of the equilibrium rate, consequently setting off an adjustment process.

Anchoring inflation expectations at a low level may diminish the risk of cyclic developments stemming from lower real interest rates. Where inflation difference exceeds the equilibrium, the flexibility of the labour market plays a key role in offsetting the consequences of the resulting real appreciation (this issue is addressed in another chapter). As far as labour market adjustments are concerned, a higher growth rate of productivity could have a beneficial impact, as in this case re-establishing competitiveness requires a more moderate slowdown in wage dynamics, and hence the downward rigidity of nominal wages represents a less effective barrier. If there is sufficient leeway, the adjustment process may also be assisted by fiscal policy through automatic stabilisers or by way of discretionary anti-cyclical measures.

Stickiness of inflation in Hungary

After joining the euro area, the degree of anchoring inflation expectations has a fundamental role with a view to common monetary policy operating effectively. As the single monetary policy is unable to react to individual impacts, it is imperative to prevent the individual inflationary effects, to which the Hungarian economy is exposed, from leading to a steady increase in excessive inflation, and hence to the appreciation of the real exchange rate.

The European Central Bank launched a broad study to learn more about the impacts on inflation persistence under the name of Inflation Persistence Network (IPN). Inflation persistence means the reaction time of inflation, meaning the length of time required for inflation to converge to long-term trend figures. This depends on two factors. One is the degree of anchoring expectations, or on the economic agents' view in terms of inflation shocks, whether they are regarded as temporary factors or long-term changes.

One of the key conclusions of IPN is that inflation dropped significantly during the 1990s in the euro area countries, and inflation persistence in the euro area is moderate, similar to the degree seen in the USA (Gadzinski and Orlandi, 2004). According to Altissimo et al (2006) the reason behind the moderate degree of inflation persistence seen in the euro area is the anchoring of inflation expectations of economic agents, which is attributed to the higher credibility of monetary policy. Franta et al (2007) extended this type of analysis to four new EU Member States (Czech Republic, Poland, Hungary and Slovakia). According to their analysis, the degree of internal inflation persistence in the Czech Republic, Poland and Slovakia – relying on the projections made using a model that allows for structural changes – is not greater than in the euro area, however, the degree of expectation-based persistence in Poland is significantly lower, in other words, inflation expectations are less anchored. Unfortunately, in the case of Hungary they were unable to perform the estimates

sufficient to address structural inconsistencies, as in the case of the other countries. In the absence of such flexible estimation methods, the degree of inflation persistence is significantly higher,[25] which means that any comparison of the resulting Hungarian parameters with the euro area as it stands today is misleading at best.

For better international comparability, we have prepared our own estimate to measure the persistence of the inflation process, using the so-called Stock and Watson model (Table l. 3.1). The essence of the Stock and Watson method (Stock and Watson, 2007) is that it breaks inflation down to a trend component emerging after a period of aimless wandering and to a temporary shock. Consequently, the shocks on the trend component tend to permanently push inflation up, whereas temporary shocks only cause fluctuation around the trend value. The greater spread of shocks on the trend component ($\sigma\varepsilon$) means that inflation expectations are less anchored.[26] The relevance of temporary shocks is expressed by θ.

The results of our evaluation for the euro area countries confirm the observations of the IPN study, meaning that the degree of anchoring inflation expectations is the highest in France and Germany, and the lowest in Portugal and Greece. Similarly, inflation in France is dominated mostly by temporary shocks, while in Portugal the role of permanent shocks is greater, and that results in a higher degree of inflation persistence.

As for the new Member States, in the Czech Republic and Slovenia[27] the degree of anchoring of expectations is similar to that of the earlier euro area countries. According to estimated results, in Poland, Hungary[28] and Slovakia the level of permanent shocks is high, well in excess of any member of the euro area. In these three countries, the shocks which are considered to have any impact on inflation, according to the economic agents are permanent, rather than temporary, according to which the degree of inflation persistence is also higher.

[25] Concerning the relevance of models using parameters that changes over time see Gadzinski and Orlandi (2004) or Darvas and Varga (2007).

[26] For a detailed description of the model refer to the Appendix.

[27] Slovenia was not considered a part of the euro area for the better part of the model, therefore, for the purposes of this analysis it was included in the group proposed to join the euro area.

[28] In the case of Hungary, Lendvai (2005) reached the similar conclusions. According to its projections, in the new Keynesian Phillips curve the forward-looking parameter (γ_f) in Hungary is lower than in the euro area, meaning that the degree of anchoring of expectations is lower as well.

Table 3–1 Degree of anchoring inflation expectations

	Spread of permanent shock avg(σε)		Relevance of temporary shocks avg(θ)	
	1991 Q1-1998. Q4	1999 Q1-2007. Q3	1991 Q1-1998 Q4	1999 Q1-2007 Q3
Germany	0.385 (2)	0.310 (2)	0.655 (3)	0.773 (2)
Spain	0.542 (3)	0.500 (4)	0.639 (4)	0.656 (5)
France	0.349 (1)	0.308 (1)	0.735 (1)	0.804 (1)
Greece	1.127 (6)	0.662 (5)	0.668 (2)	0.649 (7)
Italy	0.561 (4)	0.352 (3)	0.539 (6)	0.636 (9)
Portugal	1.045 (5)	0.891 (8)	0.619 (5)	0.651 (6)
Czech Republic		0.750 (7)		0.732 (3)
Hungary		1.693 (11)		0.555 (10)
Poland		1.353 (9)		0.421 (11)
Slovenia		0.675 (6)		0.647 (8)
Slovakia		1.446 (10)		0.700 (4)

The currently high level of inflation persistence constitutes a potential risk factor concerning the efficiency of the common monetary policy. Accordingly, the greatest challenge facing the monetary policy of Hungary prior to adoption of the euro is to anchor inflation expectations as low as possible. Reducing inflation and meeting the Maastricht criteria relating to inflation is a precondition for adopting the euro, however, this is ineffective in itself to alter the inflation process to make it consistent with the countries of the euro area. Furthermore, it is necessary to alter the perception of the persistence of inflation fluctuations, and hence to allow inflation differences to recover more rapidly.

Changing inflation persistence may be assisted by the fact of joining the euro area as well, as joining an economic region where inflation is historically low has enough strength in itself to change the attitude of economic agents to pricing practises. Such effect was apparent in the case of countries that joined previously, as the role of permanent shocks did in fact drop upon joining the euro area, meaning that the degree of anchoring of inflation expectations grew. According to intuitive expectations, this improvement is greater in the countries where the inflationary environment was higher, and the credibility of the monetary policy regime was lower before introduction of the euro. At the same time, this impact merely reduced the differences between the countries, but failed to eliminate them.[29]

Main findings and conclusions

Following introduction of the euro, the price level convergence, which occurs in tandem with the convergence of the real economy, is likely to result in higher inflation, above the average of the euro area for some time.

After joining the euro area, real interest rates will drop somewhat. In order to avoid any major cyclical fluctuations, it is of the utmost importance that that inflation expectations are well anchored and that the labour market remains flexible.

The degree of anchoring expectations is very different among the new EU Member States. In the Czech Republic, temporary shocks have a decisive influence on inflation, meaning that inflation expectations are well anchored similar to the euro area. The shocks on inflation in Hungary are considered long term by the economic agents affected, and inflation expectations are not anchored. As far as the degree of inflation persistence is concerned, within the euro area the closest countries to Hungary are Greece and Portugal. According to our analysis, in connection with joining the euro area inflation expectations are projected to become more anchored, however, as far as Hungary is concerned, to reach the level of Greece or Portugal before the introduction of the euro it is necessary to anchor inflation expectations more effectively.

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[29] The change in the role of permanent and temporary shocks in inflation dynamics is supported by formal tests (see Appendix). In inflation dynamics and also in inflation shocks we have found a breaking point close to the time of introduction of the euro .

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4 The euro's effect on trade: first lessons from the euro area

In our 2002 analysis, included among the quantified advantages of the single currency is the additional growth that is likely to follow the anticipated foreign trade expansion. While there is no real reason for us to revisit the other advantages we identified at that time,[30] there is one, namely the foreign trade expansion, which deserves attention as in this context as we have new information from this type of observation in the euro area.

According to our 2002 forecast, Hungary's trade with euro area countries could expand over the long term by up to 75 per cent thanks to the single currency, that would increase the long-term growth rate of GDP by 0.55–0.76 per cent. Our forecast was based on the empirical model of Rose and van Wincoop (2001). As oppose to the previous ad-hoc gravitation model of Rose (2000), this one is a micro-base gravitation foreign trade model, supplemented with dummy variables designed for the single currency. This model provided a forecast for the expansion of trade within the euro area following the introduction of the euro at 58 per cent, well below the previous much debated projections of Rose, according to which the single currency was expected to triple the volume of foreign trade within the countries using the single currency.

In the spirited debate over the projections of Rose (2000) pertaining to the foreign trade implications of the single currency, there were no comments available from the euro area, as monetary union in Europe did not start before 1999. Since then several years have gone by, meaning that we are now able to assess the ex ante projections from an ex post perspective. Baldwin (2006) provides a comprehensive and excellent brief of the theoretical and methodology debates generated by the articles of Rose, as well as for the first empirical studies relating to the expansion of foreign trade in the euro area. In summary of the latter, this study arrives at the conclusion that the euro did in fact induce an expansion of trade between the euro area countries, however, to a lesser extent, according to Baldwin's own estimate between 5 and 10 per cent.

However, the model period for the empirical studies listed above ended in 2002 for the most part, and as Baldwin stated, this projection could well change in the upcoming years, it could double for that matter.

This latter suggestion is well illustrated by the variation of the forecasts of Flam and Nordström (2003, 2006) over time. The original study (Flam and Nordström, 2003) had been included in the group that Baldwin assessed, moreover, it was the one he considered the best in terms of methodology, and hence, presumably, that he applied the most. In this study the authors discussed the model period ending in 2002 (containing only the first four years of use of the single currency) in terms of the effect the introduction of the euro had for the expansion of foreign trade. For this model period they show 8 and 15 per cent expansions, depending on whether the comparison was based on the three EU Member States that opted not to join the monetary union (Denmark, UK and Sweden) or a group that included the other eight advanced OECD Member States as well. The model period used in their next study, conducted three years later (Flam and Nordström, 2006) lasted until 2005, meaning that it covered the first two years of the euro: in this one the authors'

[30] The major advantages are: reduction of transaction costs, the impact of lower real interest rates on growth, improvements in the welfare system stemming from less cyclical fluctuation and advantages from the reduction of exposures to the contagion effect in the financial system.

forecast for the 2003–2005 period was higher, showing 21 and 26 per cent average foreign trade expansion, depending on the control group.[31] Furthermore, they also demonstrated that the impact of the euro to expand the volume of foreign trade did in fact improve with time, and it was significantly higher during the 2003–2005 period than between 1999 and 2002.

Flam and Nordström (2006) currently offers the latest and most reliable estimate as far as the single currency is concerned in terms of expansion of foreign trade. The forecasted impact is far below the 58 per cent estimated by Rose and van Wincoop (2001). However, let us not overlook the fact that the latter projection did not contain a time horizon, for it was limited to the magnitude of the overall impact and did not provide a time span of 5, 10 or 20 years. If we are to presume – as we did in our 2002 MNB study – that the full impact will take 20 years of balanced expansion, than in the seventh year we were to expect only a 17 per cent foreign trade expansion, that is below the projection of Flam and Nordström (2006) for the same period. The time span required for the foreign trade expansion remains uncertain, but what we do know relying on the findings of Flam and Nordström (2006), is that the impact will not be felt immediately: they found considerable expansion during the first seven-year period of review. Consequently, relying on the experiences of the euro area thus far, it cannot be ruled out that the forecast provided by Rose and van Wincoop in 2001 of around 60 per cent for foreign trade expansion will ultimately materialise. Another possibility, however is that expansion will not go any further than where it stands today, meaning that only one-third of the estimated impact will materialise.

The reason why all this is important for Hungary is that we prepared our forecast in 2002 for the foreign trade expansion projected for Hungary and for the resulting additional growth based on the Rose and van Wincoop model. As explained above, the to-date experiences from the euro area does not necessarily disprove the upper limit estimated based on the model (it depends on the time horizon required for the full impact to emerge), however, they provide an opportunity for us to determine the lower limits of estimates for Hungary in a conservative fashion, consistent with the foreign trade expansion that took place in the euro area, which constitutes close to one-third of the estimated impact on the whole. In terms of bilateral foreign trade expansion with the euro area it means 25 per cent for the lower and 75 per cent for the upper limit.

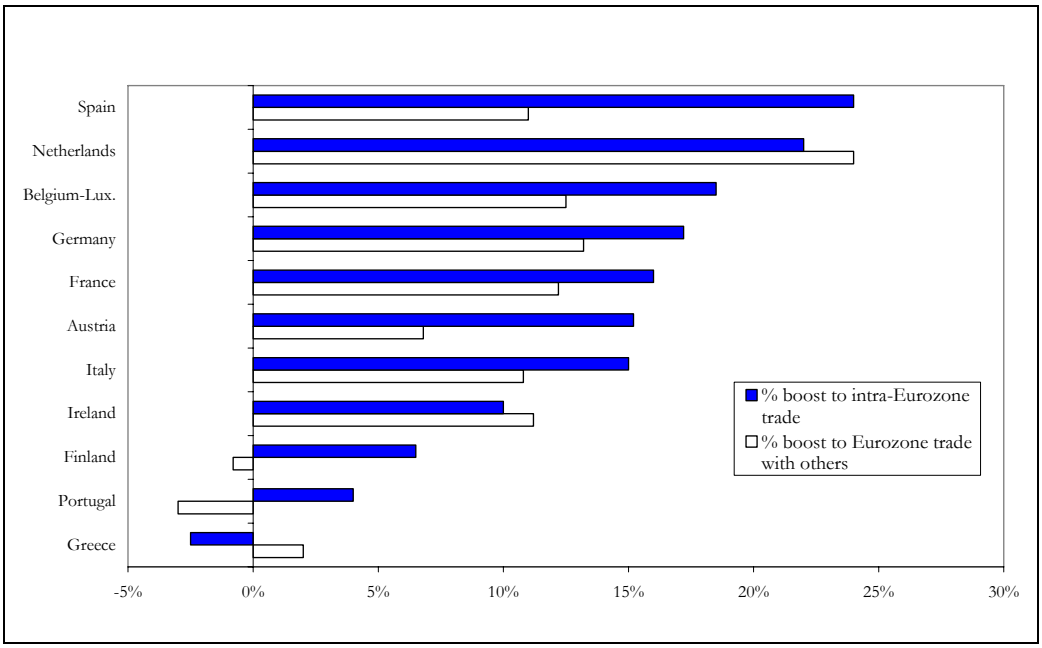
Apparently, the estimated foreign trade expansion is considered significant even in a more conservative scenario.

According to the experience from the euro area, apart from the average foreign trade expansion impact, there are several noticeable stylised facts, primarily about how the expansion took place from a geographical perspective among the various industries. Notably because these factors offer some possible qualitative conclusions regarding the foreseeable impact in Hungary, which could cast a shadow over the quantitative estimates made previously.

The first stylised fact of interest is that the foreign trade expansion following the introduction of the euro was far from being equally spread among the various euro area countries, at least on the basis of the first four years.

[31] The two control groups differ slightly from those used in the Flam and Nordtsröm (2003) study: the larger group, in addition to the 3 EU Member States that did not join the monetary union contains only 7 advanced OECD Member States.

Chart 4–1 Euro effect on trade



Source: Baldwin and Taglioni (2004), based on Micco, Stein and Ordenez (2003), Table 8.

The largest expansion was registered in the former 'Deutsch Mark bloc', meaning Germany and the Benelux states (see Micco, Stein and Ordnez, (2003). This region was already tightly integrated commercially and also in terms of fixing exchange rates before the introduction of the euro, therefore, it was somewhat surprising that the advantages of the single currency were felt the strongest in this very region. According to Baldwin (2006), one possible explanation is that due to the existing close commercial ties, the companies of the region were able to best adapt, and take advantage of the reductions in fixed costs in foreign trade due to the introduction of the euro. At the same time, however, this could also mean that in time the same impact will emerge in the other euro area countries as well. Another remarkable aspect is that the impact of the single currency for the expansion of foreign trade (with the exception of Spain) is the lowest in the 'peripheral' euro area countries (Portugal, Greece, Ireland, Finland). This also means that geographical distance and the (resulting) initial degree of integration could have a great role in the magnitude of impact the euro is likely to have in the expansion of foreign trade, or how fast this impact emerges.

What does all this mean in terms of the expected impact on foreign trade in Hungary? Firstly, Hungary – strictly from a geographical standpoint – will be a peripheral euro area member (although the geographic distance from the 'core' of the euro area is not quite as great as it is in the case of the peripheral countries mentioned above). Secondly, however, Hungary already has close ties with the 'Deutsch Mark bloc', primarily with Germany, and also with Austria and Italy, situated in the 'outer ring' of this block, where the impact of the euro in terms of foreign trade expansion was average.[32] In light of the above, it is possible that the volume of foreign trade expansion prompted by the euro will not be far behind the average.

[32] In 2006, Hungary's trade (exports+imports as a proportion of GDP) with Germany was higher (38 per cent) than that of the Netherlands (28 per cent) or Belgium (34 per cent).

Baldwin, Skudelny and Taglioni (2005), and Flam and Nordström (2006) see considerable differences in the impact of the euro in terms of foreign trade expansion among the various industries. On general principle, the impact of the single currency in terms of foreign trade expansion is greater for processed goods depending on the degree of processing. Flam and Nordström (2006) did not see such implications in the case of agricultural products, low-tech and material intensive industries, such as the food, textile, shoes, paper and oil industries. They see the greatest impact in industries where raw materials constitute a lesser segment of the retail price of the product, for example, pharmaceuticals, rubber and plastic products, machinery and vehicles. As shown in Chapter 1, (Chart 1–4) in Hungary high-tech products have a larger share in exports, whereas the share of products of specifically low technological input is lower compared to the average within the euro area. In other words, the Hungarian export structure constitutes a factor that carries a significant potential regarding the introduction of the single currency, and this could have greater implications in terms of foreign trade expansion in Hungary relative to the average of the euro area.

Another stylised fact worth mentioning is that the introduction of the euro boosted trade not only within the euro area, but – surprisingly enough – also between euro area countries and others, in both directions. The estimated impact of this phenomena, however, remains below the impact it had within the euro area, amounting to approximately one-half according to Flam and Nordström (2006). However, this incidence is surprising nonetheless, since – according to previous projections – following the introduction of the single currency importers within the euro area were expected to switch to suppliers from outside the euro area, for they were presumed to become more competitive with exchange and hedging costs eliminated. However, this type of transition in trade circles did not materialise on the aggregate, moreover, what actually happened was just the opposite. Any attempt of an explanation for this phenomena is speculative at best; generally speaking, it appears that the introduction of the euro brought with it a kind of market liberalisation that was preferential on the one hand (limited only to other euro area countries), and one-sided on the other. The elimination of the different currencies meant that the fixed costs of exports disappeared not only in relation of the euro area countries, but also with respect to third-country exporters, which enabled them to establish distribution blocks inside the euro area. The costs of imports for producers within the euro area dropped considerably from other members, on account of which they became more competitive, and that could explain the higher volumes of exports from the euro area to third countries.

Furthermore, an observation may be of the essence, notably that the growth of foreign trade induced by the introduction of the common currency was far greater in the extensive than in the intensive dimension. What this means is that in intra-Community trade the share of products previously excluded from the trading circle completely, or infrequently, has grown significantly. According to Flam and Nordström (2006), in the extensive dimension the impact of the euro has exceeded that of the intensive dimension by a factor of three, meaning that approximately one-fourth of the total impact is attributable to the emergence of new products in foreign trade circles. Presumably, this is due to the fact that export – thanks to the lower transaction costs – has become more profitable for a number of (typically small and medium-sized) companies that previously served the domestic market only. As for Hungary, it is difficult to ascertain the type of export potential that may be found in the small and medium-sized company sector. The relatively insignificant weight of this sector, compared to Western Europe, nevertheless leads us to believe that – in terms of value added – the growth of exports is expected to be lower in the extensive

dimension than what is seen at this time among the euro area countries. At the same time, however, extensive *import* could expand similarly. All things considered, the knowledge of the euro area countries in connection with extensive/intensive expansion warrant a degree of caution, contrary to previous factors, as regards the estimates pertaining to Hungary.

The empirical literature concerned with the effect of the introduction of the euro on the expansion of foreign trade has focused mainly on detecting the impact and estimating its magnitude up to this point. The prospective mechanisms for the single currency to exercise this impact on the expansion of foreign trade are yet to be seen. According to Baldwin (2006), the studies on this subject should look beyond the issue of *size* in the future, and should pay much more attention on the *how*. The latter is thought to emerge mostly at the *micro level*. Obtaining a better understanding of these mechanisms would help Hungary and the other prospective members to assess the advantages of the single currency which are likely to arrive through this channel.

In our study from 2002, we discussed in detail the relationship between the expansion of foreign trade and growth. According to this study, in theory (primarily meaning an endogenous growth theory) the connection between openness and long-term growth is typically positive, however, it is far from being consistent as far as the mechanism is concerned, because in the background there may be, for example, a transfer of technology, know-how transfer or increasing competition. The analysis of connection is dominated by empirical works, of which we have mentioned the model of Frankel and Rose (2000) in our previous study, according to which every single rise by one percentage point results in an increase of 1/3 percentage point in the per capita GDP over a 20-year horizon. In 2002 we used the Rose and van Wincoop model to estimate the foreseeable growth impact, and according to those results, introduction of the euro is expected to generate a foreign trade expansion of approximately 75%, showing a long-term GDP surplus of around 16%, plus an additional growth of 0.75 percentage point over a 20-year horizon. The question is whether we should follow the European model and adjust our previous estimates accordingly. The fact is that growth in the euro area did not gain pace after the introduction of the common currency, however, it would be premature to draw far reaching conclusions relating to the potential impact on foreign trade growth. Before making new estimates relating to Hungary, the first empirical analyses compiled directly in connection with the impact of foreign trade growth in the euro area should be consulted. In the meantime, while putting our previous estimate on hold, our opinion regarding the effect on growth that is likely to appear through foreign trade channels is limited to what we have to say on foreign trade expansion itself: it will be considerable, although it may be less than what we previously expected.

In summary, since the introduction of the euro in 1999, according to the latest estimates, the single currency did generate a 20–25 per cent expansion of foreign trade within the euro area. This impact is expected to grow over time, and it is not yet clear whether or not the process is nearing the end. The impact of the euro in terms of foreign trade expansion did not emerge evenly: up to now it was felt the most in Germany and in the countries closely integrated with Germany, and also among processed goods with more added value. As Hungary maintains very close commercial ties with Germany, and because the share of high-tech products in exports is greater compared to the average in the euro area, the impact of the euro in terms of foreign trade expansion will be strongly felt in the Hungarian economy.

The model we employed in 2002 in an attempt to estimate the volume of foreign trade expansion in Hungary still stands, but a more conservative approach should be employed. Since there are no *ex post* analyses are available in the euro area concerning the effect on growth, as regards the additional growth expected for Hungary all we can say for the time being is that it will be considerable, although it may be less than what we previously expected.

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5 Experiences of some euro area countries in the monetary union

The evaluation of the previous experiences of the EMU is an important tool for Hungary in connection with making preparations for and the timing of joining. Naturally, the best way is to analyse the performance of the nations which are similar to Hungary in terms of development and macroeconomic aspects. We assume that the challenges they had to face during the years following the convergence period and the time of joining could be beneficial for our purposes.

For the purposes of comparison we selected 4 countries: Portugal, Spain, Italy and Greece (popularly known as Club Med countries). Italy, based on per capita revenue and size, is a large and developed country compared to Hungary and the other three countries, however, due to its macroeconomic and structural problems could still be of interest for us. The other three countries are closer to Hungary in terms of revenues (although in a higher bracket) and also in terms of macroeconomic aspects. All four countries gave up their sovereignty in terms of monetary policy (Greece in 2001, the others at the time the EMU was launched in 1999) for a monetary policy of higher credibility, even though it is governed centrally.

As a common aspect for all these countries, they had to reduce their previously high rate of inflation close to the level of price stability, as well as their budget deficit in order to be able to join the monetary union. This also meant that the market participants and the country's economic policy, both, had to adjust to the economic environment inside the EMU. In the process of adjustment, as we have seen, market flexibility has a major role, just as the stability oriented behaviour of market participants and the at least satisfactory expansion of productivity.

5. 1 Macroeconomic performance of the Club Med countries

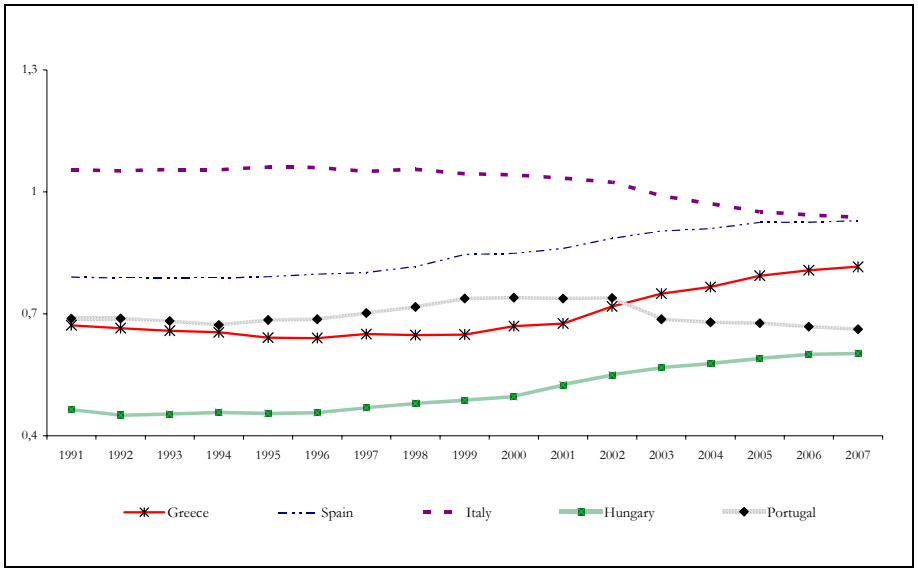
Convergence

The income level of the countries under review – apart from Italy – is below the EMU average. Therefore, we can safely assume that they are facing faster growth and, consequently, an inflation rate that is somewhat higher than the EMU average (with the exception of Italy whose rate of development stood around the EMU average at the time of joining). Upon joining the EMU, Portugal lived through a period of 'overheating and overcooling', in other words, the initially fast-paced convergence path hit a roadblock and was turned back. Italy did not grow too fast to begin with, and even that slowed down some. Spain embarked on the convergence path from above Portugal and Greece, however, slowing down means a major risk factor: the current account deficit[33] is high, and

[33] The significance of the current account balance is different for the countries of the EMU. In consequence of economic integration, current account deficit usually occurs mostly vis-à-vis the other member countries within the euro area, and only a smaller part occurs vis-à-vis non-EMU countries. Since they are using a common currency, the current account balance of these countries have no effect in terms of exchange rates, as the exchange rate relative to other currencies is affected by the current account balance of the EMU on the whole. For example, if a country accumulated a large deficit, it will not result in depreciation, and it will not induce any change in the behaviour of market participants either, and, naturally, it will not result in currency crisis. If a country has any deficit relative to the others, it will be felt in the way of indebtedness of the

growth relied more heavily on a boom in the real estate market. Greece delayed joining the euro area, yet it managed to produce a series of surprises nonetheless: their fast growth did not stop, plus they managed to control their growing budget deficit and to reduce it some. In conclusion, for the time being there are two countries whose performance leaves something to be desired, while two is considered risky, one of which is a pleasant surprise.

Chart 5–1 Per capita GDP (at PPS, EMU13=1)



Source: AMECO.

Sectoral composition of economy

The sectoral structure of the economies of the countries under review differs from the EMU average in that the ratio of high-tech industries is smaller while the service sectors occupy a larger segment, which, however covers traditional industries, such as tourism, rather than high-tech sectors. In other words, it is not the best scenario for the purposes of rapid growth in terms of international competition and productivity (see Chapter 1.1). In Portugal, even the sectoral structure within a specific industry is different than the EMU average (see Chapter 1, Chart 1). The same applies to the share of industries relying on advanced information and communication technology (ICT). Therefore, in the future, similar to past occurrences, their convergence path is exposed to shocks related to competition and productivity. As far as the first dimension is concerned, Hungary is ahead of the Club Med countries and of the OECD/EU average, not so in the second dimension.

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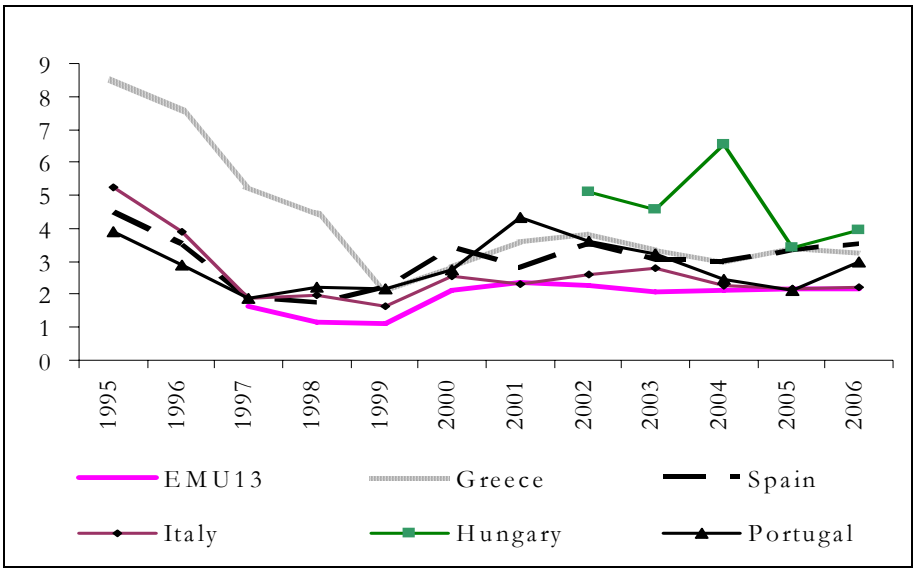
corporate and the household sectors, and perhaps the public sector as well. These participants will endure higher credit risk, while exchange rate risk is non-existent. In this context, a budget deficit, or within the monetary union the indebtedness of the household and corporate sectors could function as an indicator of the relative development of competitiveness. This, however, in itself is imperfect, for there are other factors involved, for example, participants could run up great debts even though the income outlook is optimistic, that could be supported by improved competitiveness, for that matter. This is a likely occurrence mostly in rapidly converging countries. This is the reason why the composition of deficit is considered important in addition to its size (for example, whether it runs parallel with consumption or investments).

Inflation

In practically all of the countries under review inflation remained higher than the EMU average following their accession. At the same time, it is apparent that it did not sway too far off, meaning that it did not return to the relatively high inflation rate seen in the years before joining monetary union. In this respect, therefore, convergence appears to have materialised.

Convergence imminent in terms of income could justify the higher inflation (Balassa-Samuelson effect), however, to a lesser extent according to estimates, than the actual difference.[34] Yet another reason may lie in the difference between the cyclical situation of the economies relative to the EMU. Nevertheless, it is apparent that inflation remained higher than expected in the countries where it is not justified by the cyclical situation nor by the convergence path, due to their slowing economy (Portugal, Italy); on the other hand, where the growth rate was higher, it is coupled with a massive increase of credit and consumption growth, while investment expenditures are below the EMU average (Greece, Portugal up to 2001, and Spain; in the latter the high intensity of investments is attributed to the real state market boom.

Chart 5–2 HICP consumer price index (%)



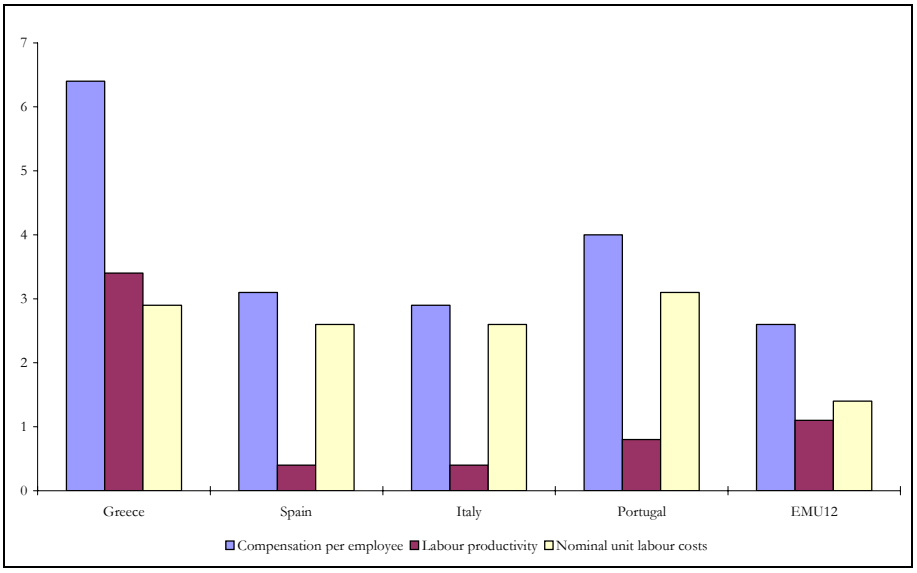
Source: AMECO.

Productivity and current account balance

The growth rate of productivity is below the EMU average in three countries, while nominal wages and other sources of income (compensation) are increasing faster. Consequently, inflation pressure remains high as far as wages are concerned relative to the EMU average. In Greece, in recent years productivity grew at a rate far above the EMU average, yet nominal wages grew at a pace even faster, which also means that wage inflation pressure exists in Greece as well.

[34] Lommatzsch et al (2004).

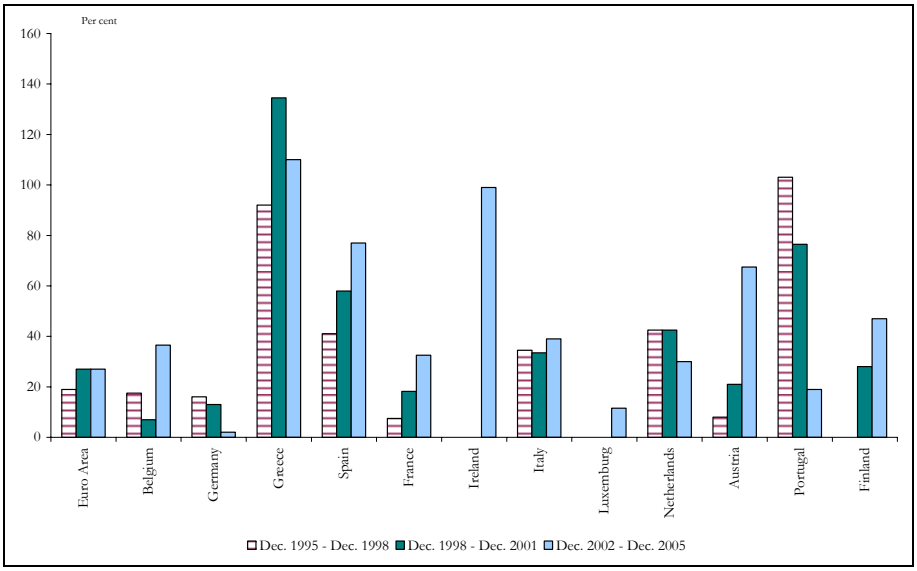
Chart 5–3 Wage inflation and labour productivity between 1999 and 2006
Annual average growth rates in per cent



Source: European Commission (2006b).

The increase in the volume of loans exceed the EMU average by far in the Club Med countries. This, except for Italy, enhanced the vulnerability of the economy on the whole, for it contributed to the deterioration of external balance; and in Spain to the rapid rise of real estate prices.

Chart 5–4 Credit growth in the EMU



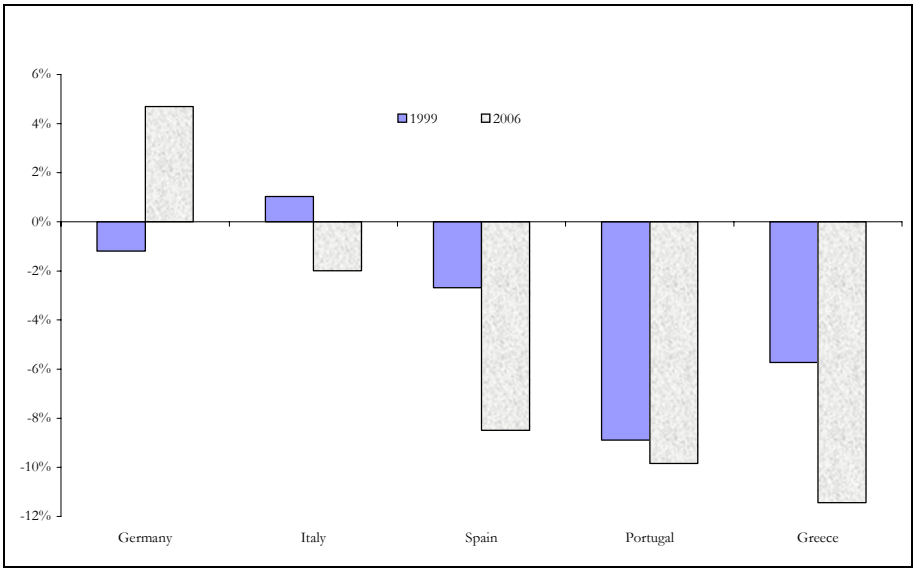
Source: European Commission (2007).

Current account balance

In the four countries the current account deficit is large and it is likely to continue on that path due mostly to their falling foreign trade balance, as it is well illustrated by the impaired

cost competitiveness. Italy is on the path of losing its competitive edge, however, due to the slow growth rate, their foreign trade balance did not decline as much as in the case of the others.

Chart 5–5 Current account deficit as a percentage of GDP

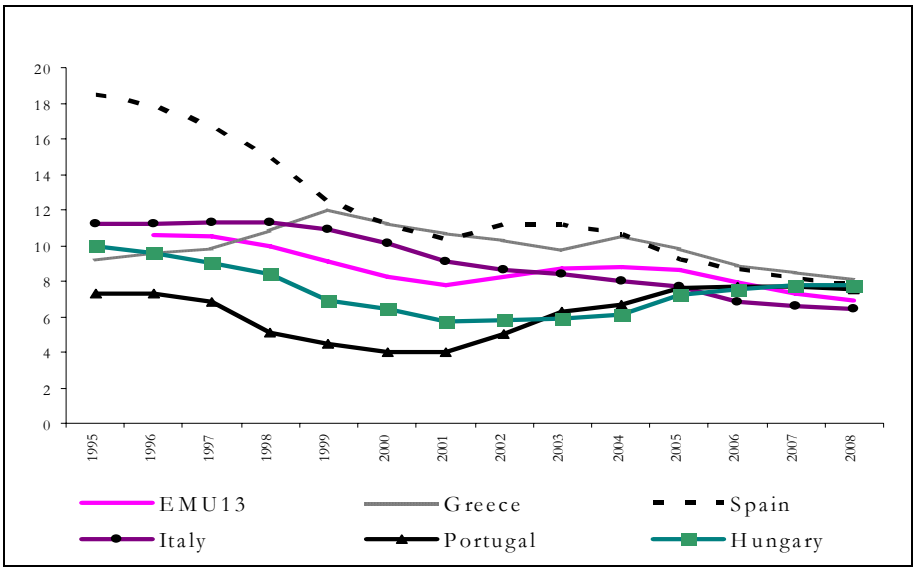


Source: AMECO.

Unemployment and employment

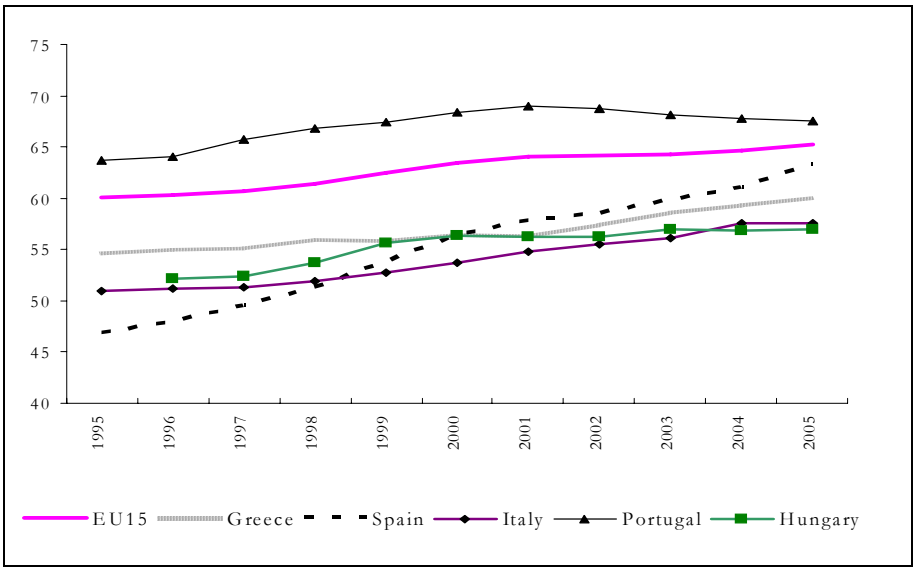
Three of the countries under review performs below the EMU average in terms of employment. In the past few years the rate of unemployment approached the EMU average; in Portugal it was below the EMU average and it managed to surpass it during the years of stagnation. Apart from Portugal, however, the activity rate remained below the EMU average. The better employment rate is attributed mostly to the new inflow of part-time jobs. Furthermore, the EMU average – that functions as the basis for comparison – is showing relatively high unemployment rate and low employment rate in spite of improvements in recent years.

Chart 5–6 Unemployment rates (%)



Source: Employment in Europe (2006).

Chart 5–7 Employment rates



Source: Employment in Europe (2006).

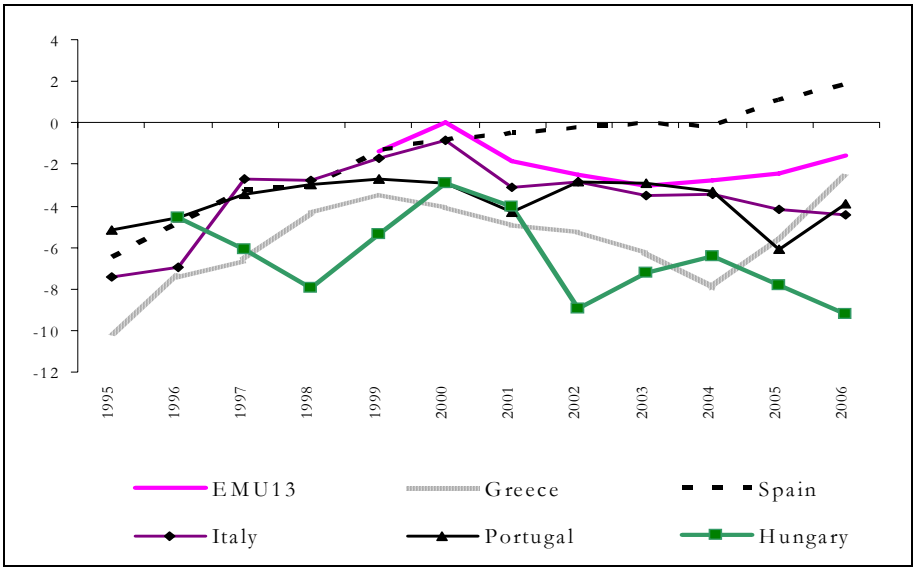
In addition to the social consequences of the relatively low employment rate, the inability of the economy to properly utilise its inherent potential could be viewed as an economics-related problem. In other words, for some reason – business environment or the level of education of potential employees etc. – there are no new jobs available for the persons looking for one. Consequently, in the spirit of an OECD study done in 1994, it could be interpreted as an indicator of just how competitive the economy is.[35]

[35] Since the publication of OECD's 'The Job Study' in 1994, competitiveness is measured by means other than and in addition to the conventional price and cost competitiveness indices. Notably because these are

Budgetary situation

The fiscal leeway was already too small in three countries before their joining of the EMU. Except for Spain, where the fast growth helped the exemplary and disciplined policy of the government. Still this growth is overshadowed some by the current account deficit, that is relatively high in this country as well, and the fact that it leaned excessively on the real estate market boom, on account of which it is that much more exposed to credit and real estate market shocks.

Chart 5–8 Budget balance
Per cent



Source: AMECO.

As a matter of fact, Greece failed to satisfy the fiscal criteria at the time of joining, for it was revealed subsequently that the Greek authorities manipulated some data, and up until 2004 – mainly in relation to the Athens Olympic Games – the budget deficit expanded even further. In consequence, the country was called to an excessive deficit procedure in 2004 (based on the 2003 deficit), that was terminated in 2007 (based on the 2006 deficit). As the growth rate remains surprisingly high, since 2005 the situation has improved considerably as far as the fiscal budget is concerned, yet it is still far from the medium-term fiscal target that is designed to provide sufficient leeway for certain built-in fiscal stabilisers and/or for discretionary measures for the eventuality of a negative shock. Portugal, similar to Greece, also manipulated its fiscal data in order to join the EMU in 1999. Therefore, when the boom that was based on the excessive indebtedness of the general public parallel with excessive households consumption and on fiscal expansion came to an end, households and the public sector cut back on demand at the same time, while economic growth slowed down dramatically. It resulted in a dragged out slump and a slow adjustment period, that they were unable to support by fiscal means. Italy, too went through some

able to provide an incomplete picture only, as it may occur that the price and cost competitiveness index of a country, whose efficiency rating is declining, is on the rise because the least efficient companies and/or sectors abandon their activities. This way the average of the remaining corporate entities is improving, however, it is hardly right to label this as an improvement in competitiveness. See OECD (1994).

great difficulties in satisfying the fiscal criteria prescribed for joining, and the slow growth seen in the following years made the budgetary situation even worse. Italy was also called to an excessive deficit procedure in 2005 on account of the excess deficit from 2003 and 2004, however small it may have been. If this year's budget program succeeds, the proceedings against Italy may be dismissed, however, further efforts are required to achieve the safety of a balance that is slightly positive.

Summary of the macroeconomic performance of the Club Med countries

Below is a summary of stereotype macroeconomic problems (in practically instances there is a country that constitutes an exception, which are indicated as appropriate). Among the problems we will find some which are of a behaviour or structural nature, and some related to economic policy, which also means that their correction requires different means and timing.

- In determining nominal wages year-after-year they figured a growth rate for productivity that later turned out to be unrealistic. Past productivity figures had been projected optimistically for future considerations. Even though they remained within the price stability spectrum – meaning that they did not revert to the previous high inflation rates and the rate of salary growth beyond price stability – their inflation and wage inflation routinely exceeded the EMU average for years, hence accumulating a competitive disadvantage. This cannot be blamed directly on wage negotiations and other labour market institutions (see below), which are otherwise typical for these countries. Rather, it appears a more feasible explanation that their income expectations proved to be overly optimistic. Another possible explanation is that competition from outside of Europe was never before present to the extent manifested after their accession to the monetary union. Furthermore, it was utterly unexpected that some countries – like Germany and Austria – would engage in persistent and significant wage moderation. This mistake was made by all four countries, and it was made even worse by their failure to implement adjustments fast enough in their expectations.
- Macroeconomic imbalance: higher inflation and current account deficit was in some cases accompanied by rapid expansion in the volume of household loans and by a major boost in consumer prices and home prices (with the exception of Italy, while Portugal turned just the opposite direction as of 2001, into stagnation). These factors enhanced their departure from the EMU average and helped to further deteriorate competitiveness.
- On account of the problems in the functioning of the commodity and labour markets, the rate of growth in productivity – that was somewhat behind the pace desired for convergence – represented a problem in the efforts for making the necessary adjustments required for the shocks, and also in the correction of the mistakes listed previously, as the rate of growth in productivity failed to compensate for the salary growth to the extent necessary. As real wages are downwardly rigid, there is no other way to improve competitiveness in a monetary union, then to increase real wages below the rate of growth in productivity: this, on the other hand, is prevented – and protracted – by the moderate growth rate of productivity. Greece constitutes an exemption in that the growth rate of productivity is high, however, competitiveness is also in the downside as wage improvements take place in excess of that.

- Stemming from the meagre level of productivity and the country-specific specialisation paths, they are asymmetrically exposed to competition coming from outside of Europe, that is to negative competitiveness shocks from less advanced countries whose specialisation paths is similar, but operating with lower production costs. The product structure of Hungarian exports differs from that of the Club Med countries in that the share of goods with low added value is lower. Therefore, the asymmetrical negative shocks to which the Club Med countries are exposed are less felt in Hungary. At the same time, negative shocks may well occur in the case of products with more added value, and that would be an asymmetrical effect for Hungary. It is less likely nonetheless, for the markets of these type of goods are more difficult to enter for new participants. In a monetary union the only way to adjust to such shocks is by cutting back on wages. Theoretically, this type of adjustment may be supported temporarily by fiscal policy measures, however, it requires some leeway (see below). Over the long run, however, higher productivity and better competitiveness appears the only feasible solution. Any other way makes membership in the EMU questionable.
- At the time of joining, the Club Med countries just about managed to meet the 3 per cent deficit limit, in two cases it required some manipulation (Greece and Portugal). This is the reason why there was no fiscal leeway left for the instances where certain built-in fiscal stabilisers and/or discretionary measures could have came in handy to help a staggering economy to recover and return to a growing trend. This was a problem in Portugal, and in Italy to a lesser extent, while Greece – for the time being – is not forced to face this task due to its rapid growth rate. Spain is the only exception from this particular problem, for it succeeded in carrying out fiscal adjustments while showing rapid growth immediately following its accession.

5. 2 Possible structural reasons for failure to reach the level of expectations

In this chapter we take account of the product and labour market indicators of certain countries, that could have anything to do with the problems related to their performance within the EMU. In the next chapter, we will address the question as to whether the incentives relating to reforms have changed within the euro area.

When analysing macroeconomic performance, we arrived to the conclusion that there are two major reasons behind the macroeconomic problems:

- Nominal wages grew faster than the growth rate of productivity and the sum of an *inflation rate*, that could have stabilised the inflation of the countries under review at around the EMU average. Therefore, it is worth to look at the structural factors that influence the functioning of the labour markets. The low rate of employment could also denote labour market related problems.
- The other problem lies in the slow growth rate productivity, that is sometimes even lower than what it was before the time of accession. In Greece the growth rate of productivity was fairly high in recent years, however, it started off from a very low level and some of it is probably cyclical. Therefore, as a possible obstacle in the way of growth of productivity, we will look into the potential structural problems in the functioning of commodity markets.

In connection with the problems established for the Club Med countries we also address the performance of Hungary in a certain specific dimension. On this basis we will attempt to figure out whether we will have to prepare for any obstacles within the EMU in the way of adapting and growth, and we will also obtain some clues for the best timing of the reforms.

We will conduct the examination with the help of commodity and labour market structural indicators compiled by the OECD.[36] These indicators are designed to transform the regulatory environment of certain countries pertaining to markets into indices for the purpose of quantitative comparison and analysis.[37] However, indicators are available only for certain periods, plus they show limited variability relative to other economic indicators, which makes their quantitative analysis difficult. Finally, the empirical analysis is rendered difficult by the fact that structural dimensions cannot be handled on an individual basis. As it is elaborated in Chapter 6 in connection with the 'second best' principle, there are some correlation between the institutional arrangements. It is not clear, that if a market derogates from the 'ideal' in several dimensions, then any step made toward the ideal' in a dimension selected randomly constitutes an improvement in terms of social welfare? That is because the facilities in question could either enhance or eliminate one another: it is possible that the negative impact of one distortion (e.g. a natural monopoly) is offset by another distortion (government regulation).

Consequently, for the purposes of any analysis of structural dimensions or their modification in a reform process it is essential that these effects are taken duly into consideration. Unfortunately, any one dimension carries the potential of numerous combinations, where it is no longer possible to conduct an empirical analysis of their implications, therefore, we will rather compare the arrangements of the countries under review to certain successful regimes, and we will use that basis to decide whether they or are viable or not.[38] That being said, we will examine the dimensions pertaining to performances on the basis of product market indicators and then on the basis of labour market structural indicators, and then we will assess them as regimes.

Regulatory indicators of product markets

Relying on the structural indicators of product markets, the relative situation of the countries under review is best illustrated by a summary chart.[39] The indicators compiled by the OECD (PMR: Product Market Regulation) are meant to illustrate, primarily, the intensity of competition. This consideration originates from a concept that, in consequence of the less competitive markets, the growth rate of productivity drops below that of the countries where competition is more intense. A comprehensive PMR indicator comprises

[36] The indicators and the in-depth analyses made on the basis of these indicators are available in OECD publications on the official OECD website.

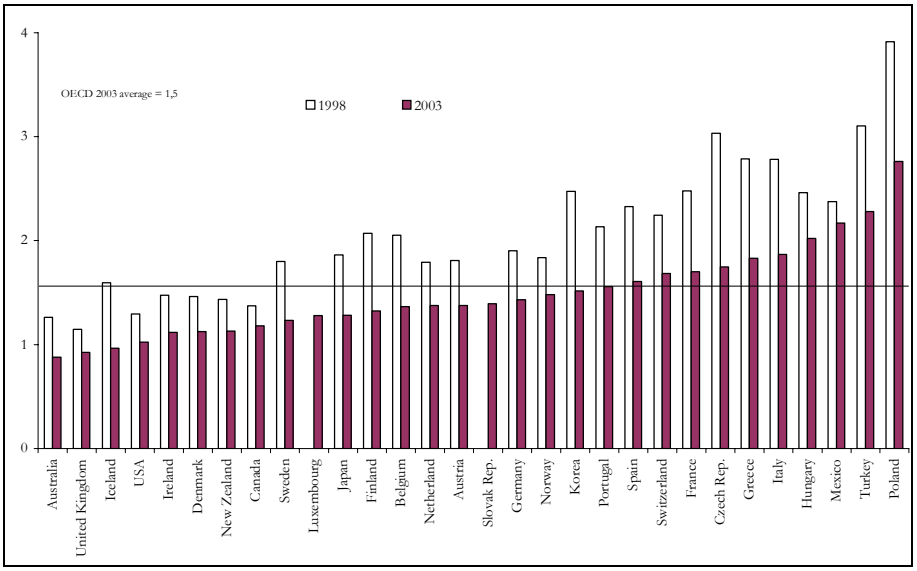
[37] The authors of these indices faced numerous methodology related obstacles. The laws of the countries in question cannot be truly compared, and subjectivity cannot be excluded altogether. Furthermore, the indices contain information concerning the written rules, however, they convey hardly any knowledge about their implementation.

[38] For more information, see Horváth H. and Szalai Z. (forthcoming).

[39] The name is simplified, on account of which it is somewhat misleading, as the indicators apply to the regulation of services inasmuch as they apply to products. For a detailed study of structural indicators of product markets, see Conway et al (2005).

the weighted average of sixteen 'basic indicators'.[40] These indicators are chiefly built on regulations which are comprehensive, affecting all markets, plus they contain the impact of the regulation of certain sectors of import.

Chart 5–9 Product market regulation (PMR) comprehensive indicator



Source: OECD PMR database.

The indicators include regulations covering foreign trade and foreign investments (outward), or internal competition (such as the method and frequency of government intervention, the weight of state ownership, administrative charges on the corporate sector in terms of operations and founding companies, transparency of regulations etc.) and restrictive regulations directly applicable to competition (e.g. exemptions relating to banning monopolies).

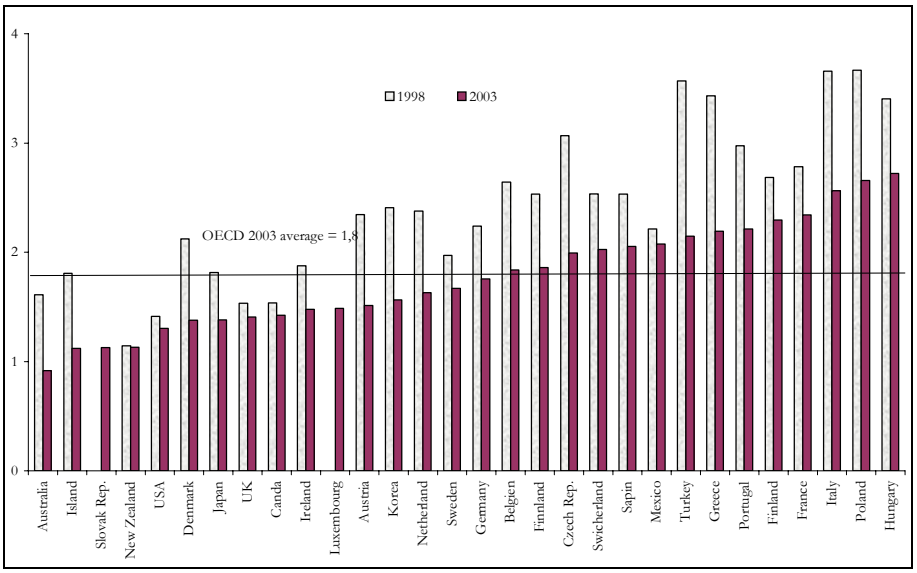
The countries under review had in force in 1998, and in 2003 still, more regulations on the restraint of trade than the OECD average. As illustrated above, in 2003 Hungary was outdone by all Club Med countries with regard to comprehensive product market indicators. Furthermore, in 1998, at the time of accession of the Club Med countries to the EMU, Hungary was in a better position in this aspect, however, they subsequently adopted a more aggressive reform policy to improve their product markets. We must look at this as a warning sign, for Hungary could also face similar productivity-related problems than the Club Med countries after joining the EMU.

Using the indices of PMR indicators for a closer look at the trade restrictive factors reveals the following.

- All of the countries under review have restrictive trade regulations on the product markets above the OECD average, that is felt in the operation of companies and also by new market entrants. In 2003 Hungary had the most restrictive regulations in force among the OECD in this dimension.

[40] The weights are determined by principal component analysis. See Appendix 3 for the hierarchic structure of the indicators as well as for the detailed weights.

Chart 5–10 Restrictive economic regulations on the product markets



Source: OECD PMR database.

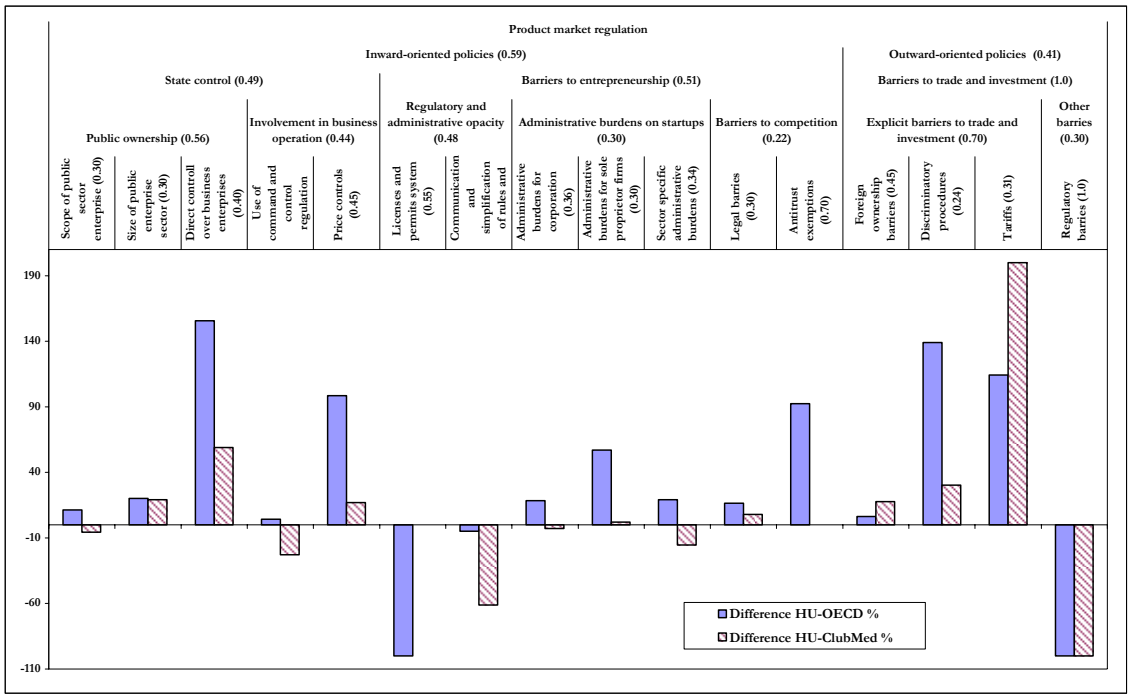
- The share of public ownership (including central and local governments) in Portugal matched the OECD average, while in the other Club Med countries it was higher. This is a potential problem in Hungary as well, for it shows the second highest figure in 2003 following Poland.
- In all countries under review the weight of restrictive measures (government intervention, price control, government instructions etc.) exceeded the OECD average. Hungary is in par with these countries in this respect as well: in 2003 Hungary took fifth place inside the OECD in terms of restrictive regulations in force.
- As for the procedures for the foundation of companies, Portugal was below the OECD average in terms of regulation. Hungary was above the average.
- As for new market entrants, Greece and Italy presented most obstacles than the OECD average, with Hungary positioned close by. Portugal was at the average, while the formation of a new company was the easiest in Spain.
- In connection with horizontal cartels, the fines imposed were fairly moderate, with the exception of Italy, as a percentage of GDP of the countries under review, and in Hungary as well. This also means that it is not a deterrent factor where price fixing and acting in concert is concerned.
- Entering the market of professional services was decidedly difficult in all of the Club Med countries, and in Hungary as well. The most popular excuse in this respect is consumer protection, however, the real objective is to protect the monopoly of local professional organisations.
- One of the most unique features of the Club Med countries is that they have numerous indirectly restrictive regulations in force in the retail sector, citing environmental and townscape considerations in principal, but in reality for socio-political reasons. This, however, do not apply to Hungary, due mostly to the

agreeable authorisation of large departments stores and to the lenient rules in place for the business hours of commercial establishments.

- The volume of state aid provided to economic agents was the highest in Greece. This constitutes a problem in Hungary as well that, apart from the distortion of competition, consumes a lot of the taxpayers money.

Chart 5–11 Product market indicators in Hungary

In comparison to OECD and Club Med countries (2003)



Source: OECD.

Note: the values shown in the chart demonstrate the difference in the corresponding indices of Hungary from the average of the OECD and Club Med countries, in percentage points. Positive values indicate restrictive, while negative value indicate deviations to promote competition.

In the comparison of Hungary to the average regulatory environment of the Club Med and OECD countries we arrive to the following summary conclusions. As indicated by the detailed chart on the product market regulation, the regulatory environment in Hungary differs from the aforementioned two groups by ways other than the administrative burden (meaning the ambiguity of the regulatory environment and the administrative burdens imposed upon starting companies) , which is considered significant, however, the simplicity of the authorisation regime offers some consolation. On the other hand, as far as economic restraints are concerned, practically all categories show trade restrictive factors, such as direct control over the corporate sector (e.g. golden share of the state), price control, exemptions from non-monopoly regulations and discriminating procedures and customs duties employed against foreign entities. However, one must add that the analysis here is based on OECD's last published product market survey, dating back to 2003. The OECD is currently compiling a new survey, which is expected to be published in the autumn of 2008. Naturally, Hungary's position in the new survey may change.[41]

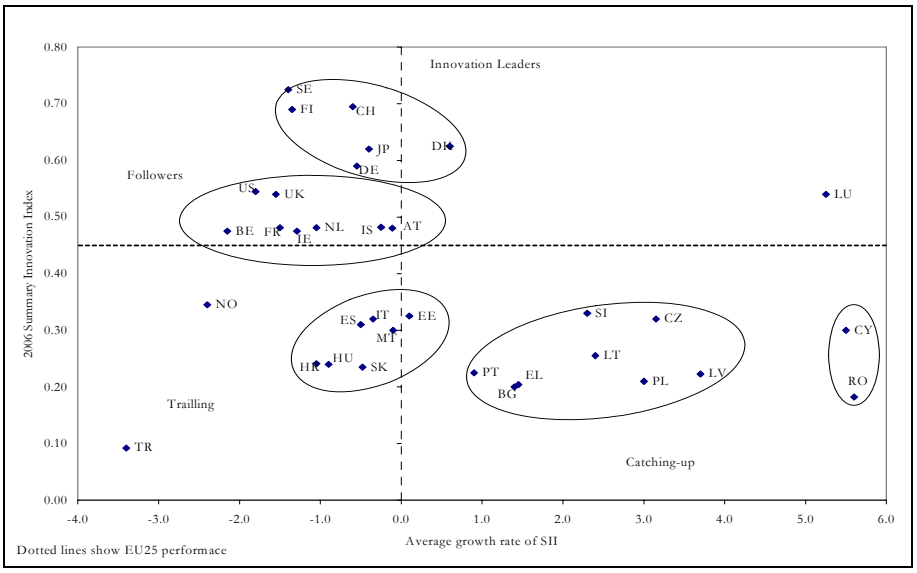
[41] In 2003, our relatively unfavourable position was explained by restrictions existing in the 5 areas noted above (customs tariffs, discriminations against non-residents, direct control over enterprises, exemptions from competition law, and restrictions relating to price setting). In the first three areas, there has been much

Nevertheless, based on the most recent (2003) survey available, we are of the opinion that in most dimensions the regulatory environment in the Club Med countries is not overly supportive in terms of competition. In Hungary the situation is similar. Although there are some dimensions where the Club Med countries are typically restrictive, unlike Hungary, such as the retail trade sector (not shown on the above chart).

At the time of accession neither of the Club Med countries have completed the privatisation process. In many cases, privatisation did not necessarily bring any improvement in the conditions of effective competition: upon the creation of a powerful and sovereign competition supervisory regime and the liberalisation of the sector – telecommunications, local services – affected. Similarly, labour market reforms failed in supporting the reforms of the product market in the Club Med countries (see the end note on the labour markets). The latter, however, is atypical for Hungary due to the less restrictive nature of labour market regulations.

Consequently, the stimulating role of competition proved less effective in the Club Med countries and in Hungary as well, and that is likely to have an impact on innovation. In this context, Hungary is far beyond the leaders in spite of the fact that, thanks to the foreign companies that settled in Hungary, the export sectors are far more innovative, and much more high-tech oriented than in the Club Med countries.

Chart 5–12 Summary Innovation Index (SII) and its dynamics



Source: European Commission European Innovation Scoreboard.

improvement in our competitive positions relative to earlier regulations: customs tariffs, discriminations against non-residents have been harmonised with EU regulations; and 'golden shares' (i.e. direct control over enterprises) have been ceased. However, our situation relative to other countries has also been determined by the degree to which they have implemented reforms in these areas. There has hardly been any change in the two other areas: in the case of exemptions from competition law relative to 2003, and our price regulations are likely to remain fairly restrictive in comparison with other countries. As the OECD member states generally have enhanced competition in the past period, our relative position is likely to have deteriorated in these areas in 2007.

Another repercussion of the problems typical to product markets is that they may inadvertently enhance the low rate of employment. In the leaders in respect of employment (Denmark, Sweden, Finland), the high rate of employment and the low rate of unemployment is not analogous with higher wages and/or low output to an extent where competitiveness is negatively effected because competition on their product markets is traditionally strong. In fact, this is a frequently ignored aspect of the 'Scandinavian model'.[42]

The Scandinavian model combines a highly competitive product market with high rate of employment, that results in macroeconomic stability; it provides high quality social benefits funded through high taxes, however, people are willing to pay them for they are reckoned as the consideration or the price they have to pay for public services, including labour market services. This model counters one institutional 'distortion' with another facility. Another viable model that is labelled 'liberal', where competition in the product market is just as strong, however, it features lower taxes, less state-sponsored welfare benefits and more self-reliance; lower wage costs and more lenient employment regulations make redundancies easier, as well as creating new jobs. Therefore, this model could indicate similarly low rate of unemployment and rapid growth on the aggregate.

Labour market

The OECD structural labour market indicators are the best way to illustrate the competitiveness of labour markets and the potential flexibility of adapting ability to shocks.[43] The composite index of OECD, the EPL (Employment Protection Legislation) contains the legal requirements and restrictions that make redundancies of employees easier or harder. This index is a summary of regulations pertaining to several categories: regulations relating to individual or collective employment, full-time employment, fixed period employment and jobs of indeterminate duration. It applies several dimensions and upon weighing them provides a composite index using an analysis of factors similar to the product market indicators. These dimension include regulations, such as the duration of notice period before dismissal, remedy for cases of contract rescission, the related costs in terms of time and money, and regulations relating to severance pay.

Relying on the comprehensive labour market regulation indicator it is apparent that in the Club Med countries these regulations are decidedly restrictive compared to the OECD countries. In this respect Hungary is closer to the countries where the labour market contains less restrictions while featuring more flexibility.

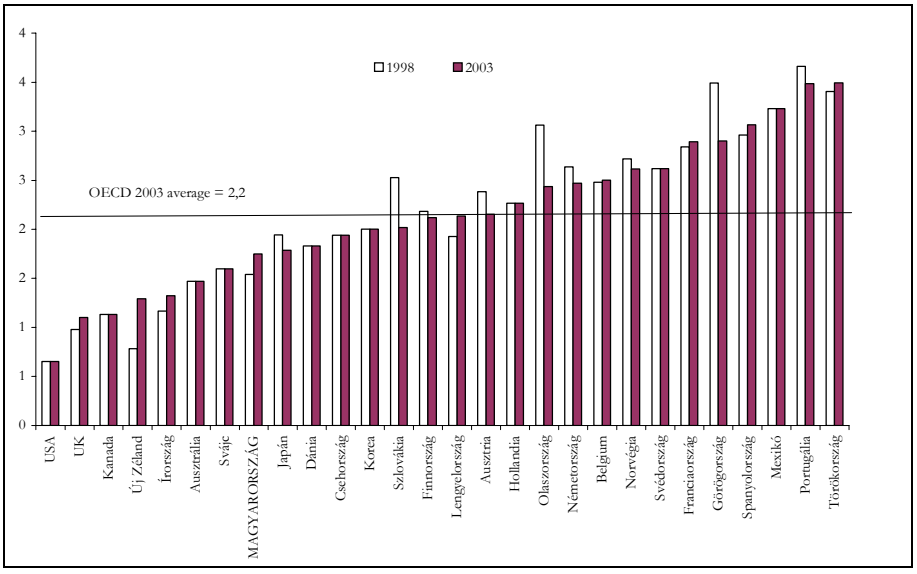
- Nevertheless, it is apparent that Sweden, the Netherlands and Austria has similarly harsh EPL, where the rate of employment is higher and the rate of unemployment is lower, and the economy is more dynamic. In these countries the EPL is less restrictive in terms of the functions of the labour markets, as the potentially negative impact of EPL is effectively compensated by other institutions. However, in the Club Med countries there are no such institution in evidence to support the strict EPL, for example, their policy toward employment activity is weak. In Hungary, according to the comparison, EPL is not the reason for the low rate of activity.

[42] See Cesifo-Group (2004).

[43] For a more detailed description, see OECD (2004).

- In the countries under review part-time and/or fixed-term jobs comprise a high percentage of the whole, and the EPL applicable to these jobs is significantly more lenient. In recent years the rate of employment grew in these particular jobs the most. In a pessimistic outlook, these forms of employment are traps, reasoning that they do not carry any potential to subsequently transfer to more secure jobs, jobs that offer better social benefits, or jobs that require more training. In an optimistic perspective, if the number of people employed in this fashion reaches a certain critical mass, it could force the labour market segmentation to be abolished and help to implement a uniform and more lenient EPL. In Hungary, the number of these types of jobs is relatively low by comparison.

Chart 5–13 Employment Protection Legislation (EPL) index



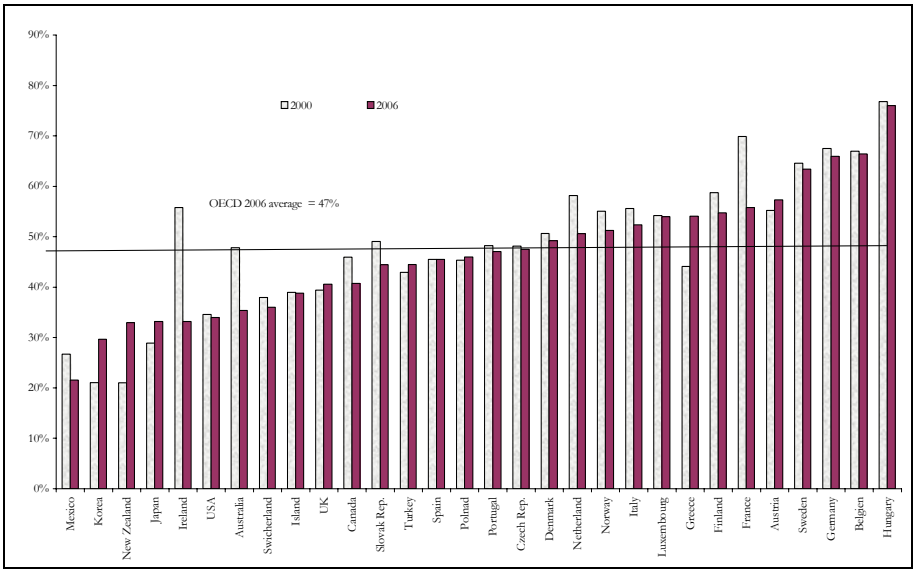
Source: OECD EPL database.

- The institutional framework of wage negotiations – they are no longer comprised in the EPL – contained formal and less formal extension clauses in a number of Club Med countries, stretching the scope of the agreement over a broad geographical base and industrial/corporate sectors. Consequently, the wage agreements concluded at a macroeconomic level did not help the process of adaptation to local, industrial and corporate characteristics, and hence they did not have a positive impact on the rate of employment or the rate of unemployment. On the aggregate, they were unable to adjust to the relative deterioration of competitiveness quickly enough, nor to the slowdown in the growth rate of productivity. Hence, they preserved the rate of inflation that was considered high relative to the EMU average. This happened in spite of the fact that their wage negotiation facilities is similar to that of the countries with a highly coordinated system of institutions, and where wages are controlled empirically at the macro level and where the rate of employment is relatively high (for example, the Nordic countries). The institution framework of wage negotiations did help in the Club Med countries to join the euro area, however, once inside the common currency zone – facing the unexpected slowdown in productivity – they did not prove sufficient to maintain and preserve their competitiveness .

- The institutional facilities encouraging early retirement are typical in all of the countries under review, and in Hungary as well. These measures, once introduced, effectively reduced the rate of employment and they failed to achieve the goal of helping young persons to find employment. Therefore, in most countries they are working on to reverse this process, and to adjust the age limits consistent with the projected increase of life span. This problem applies to Hungary as well (see Chapter 7).
- The tax wedge is not comprised in the labour market regulations, however, it has a significant influence on labour supply and demand. Apart from Portugal, the high tax wedge constitutes a problem in the Club Med countries, along with the ensuing tax evasion. In some countries they were successful in compensating for this type of distortion with active labour market measures on the tax appropriation side, which enables them to reach a high rate of employment (Nordic countries). The Club Med countries and Hungary, on the other hand, are unable to provide this type of compensation in the process of activation, hence, the tax wedge remains a key reason for the low rate of employment.

Chart 5–14 Tax wedge

(marginal tax rate and social security contribution
compared to 100 % of average wage)



Source: OECD Taxing Wages.

- Raising the level of education is important not only for enabling potential job-seekers to find jobs, but also for improving productivity and competitiveness. The Club Med countries and Hungary as well are behind the OECD average in this respect. In Hungary the number of students participating in secondary education is close to the OECD average. In this field, however, poor quality is where the problem lies (as revealed by PISA surveys) (see Chapter 1.2). On the other hand, in higher education the number of persons participating is also insufficient.

Chart 5–15 Percentage of population with at least secondary education (2004)

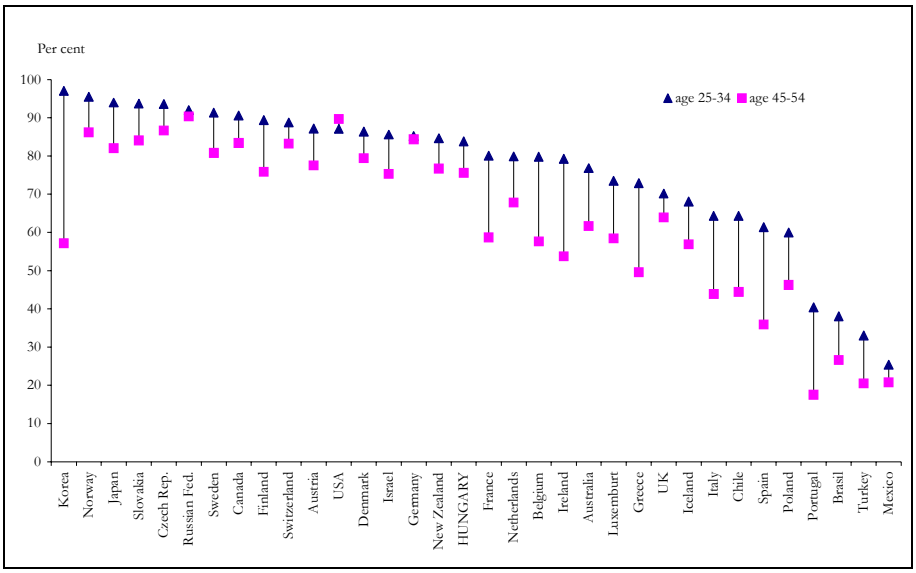
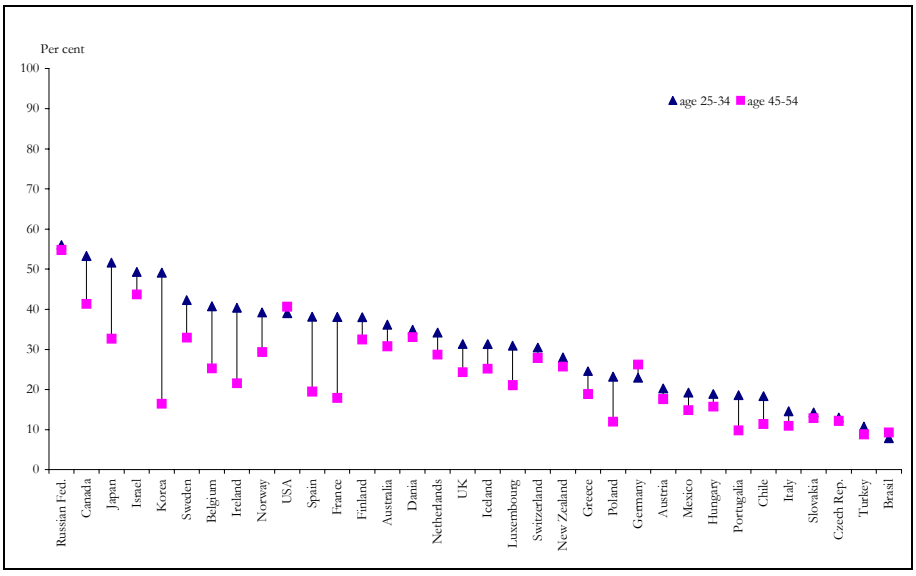


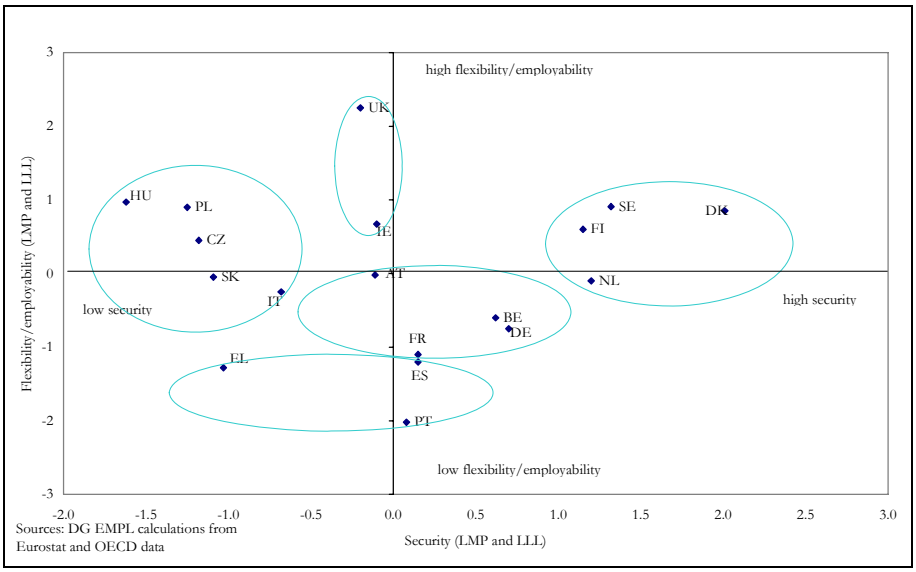
Chart 5–16 Percentage of population with higher education (2004)



Source: OECD Education at a Glance database.

In conclusion of what was said about the labour markets, it is apparent that in the Club Med countries the EPL is decisive and, with the exception of Portugal, the tax wedge is high, while their activation policies are weak. In result, the rate of employment is low (once again, with the exception of Portugal). The EPL in Hungary is less restrictive in terms of flexibility of adapting ability to work force and wages. In Hungary, on the other hand, the tax burden is higher than in the Club Med countries, that has a negative effect on any attempt to increase the rate of employment, while the labour market means for the training of inactive workers and to help find employment is ineffective. For these reasons – similar to the Club Med countries – the high taxes lack any social support, which increases the willingness to avoid paying taxes.

Chart 1–17 Labour market regimes according to job security and flexibility of employability



Source: European Commission Employment in Europe (2006a), Chapter 2, p. 106.

The chart above well illustrates that the level of security in Hungary, compared to the leaders, is significantly lower when it comes to providing flexibility and employability. At the same time, the Club Med countries are able to provide medium security coupled with a great deal of rigidity and low employability.

Correlation between product and labour market reforms

The Club Med countries and Hungary maintain, although in different ways, a set of institutional facilities on their labour and product markets, that fail to compose a coherent and effective regime from the perspective of creating new jobs and for improving productivity and competitiveness, when compared to the leaders.[44]

There are several different regimes available, by and large presenting the following simple pattern: there are some regimes with little in the way of regulation, featuring government-imposed restrictions, and liberal governance in the product and labour market, both. Correspondingly, tax and benefits are kept low. The rate of employment is relatively high, and the labour markets operate in a way close to a pure market ideal. Decentralised wage negotiations are adjusted to industrial and territorial characteristics, and they support macroeconomic stability and rapid growth. The Nordic countries represent the other extreme, where labour market regulations are directed chiefly at the rate of employment, rather than on the saving of one particular job. Taxes are high, yet active and passive assistance to job-seekers compensate for their impact on employment. Competition on the product market and the coordinated wage negotiations result in rapid growth and macroeconomic stability.

Form this perspective the institutional arrangements of the Club Med countries and Hungary leaves something to be desired. As far as product market regulations are concerned, they are severely restrictive in the Club Med countries, and in Hungary alike,

[44] For more information on the labour market regimes, see Horváth, H. and Szalai, Z. (forthcoming).

that is alien to any successful regime, meaning the Nordic or the liberal regimes. For this reason, the adjustments required for the shocks and any improvement in competitiveness and productivity takes longer than it normally should. As for the labour markets, the Club Med countries have in place strict EPL combined with high taxes, and with a feeble policy toward employment. Consequently, the problems relating to adaptability and convergence, which are already present on account of inflexibilities of the product market, are getting bigger. As we have seen, the labour market facilities failed to constitute a viable regime in themselves, for there were no other labour market arrangements available to compensate the negative impact of the strict EPL, while the taxes on labour are almost as high as in the Nordic regime, which, however, provides effective help in finding employment.

Running in tandem with the inflexibilities of the product market, the two different inflexibilities are complementary to one another, and they represent obstacles to the reforms: employees remain interested in maintaining the inflexibilities of the product market, for they get a share of the resulting contributions with the companies affected. In the meantime, they also remain interested in maintaining the EPL, for it is the guarantee for the realisation of such contributions. Commitment to the EPL is further supported by the fact that in the Club Med countries unemployment benefits are low, while finding a job is difficult.

The EPL in Hungary is less restrictive as far as the labour market is concerned, hence the employees are less interested – compared to the Club Med countries – in maintaining the contributions resulting from the inflexibilities of the product market. However, due to other reasons, such as the high taxes and a weak activation policy toward employment it is difficult to find employment, and because of this they, too are interested in preserving their jobs. Nonetheless, attempts to reform the product markets are unlikely to receive any support to speak of on the part of workers. In light of the fact, however, that any reform of the EPL is decidedly difficult in the countries where this particular indicator is high, Hungary is in a better position already. Reforms of the product market, which in Hungary are deemed more important than reforming the EPL, is usually easier to implement on a political spectrum.

5. 3 Did joining the EMU result in any changes in the reform plans of governments?

There are very few empirical literature about any assessment of the role of joining the EMU had in the reform programs of the countries affected, and how intense these reforms efforts had been before and after their accession.[45] There are additional problems in the way of coming up with an answers for this question relative to the ones we have already outlined for structural indices.

On the one hand, form the factors with any potential implications regarding the reforms, joining the EMU is only one, and perhaps not most important one at that. On an empirical basis, it is apparent that the countries that did not even plan to join the EMU implemented similar, or in some cases, more profound measures to reform their labour markets.[46] Another potential factor, apart from joining the EMU, is globalisation, for example, through the pressure of competition from new producers. Yet another aspect is that not all

[45] In this section we used the works of Brandt et al (2005) and Duval et al (2006).

[46] Brandt et al (2005), and Duval et al (2006).

countries are in need of reforms, therefore, any mechanical comparison of the number of reforms carried out will not provide a true and fair picture. Finally, reforms are part of the political scene all over, and their dynamics may derogate considerably form what is considered optimal from an economic and social perspective.

Systematic data for each country is available only in connection with the labour markets.[47] As far as the labour markets are concerned, up until 2003 Greece[48] carried out 8 reforms before joining the EMU and 11 afterwards, Italy implemented 19 and 11 reforms, Portugal 14 and 8, and Spain carried out 9 and 5. In other words, form a purely quantitative perspective, it can be concluded that the pace of carrying out the reforms slowed down some within EMU, at least as far as the labour markets are concerned. This, however, should not be attributed directly to the single currency in light of the above-specified reasons.

Concerning the product markets there is no analysis available that is similarly systematic. However, the chart that contains the comprehensive PMR indicator (Chart 5–1) clearly illustrates that the reforms continued in this field following the accession to the EMU, as the appropriate index declined with respect to all countries. Relying on individual descriptive studies, we are aware that each country under review was more active as regards the reforms of the product markets and more cautious in connection with labour market reforms where the popularity rating was at stake. According to empirical analyses, reforms of the product markets are usually followed by labour market reforms with several years in between.[49] Finally, the reform appetite was probably set back in the countries under review due to the public growing weary of the reforms required for compliance with the convergence criterion, and it needed some time to recover and support a new set of reforms.

Summary

Since the onset of the euro area, the economic performance of some members (the likes of Portugal and Italy) has been disappointing. We have analysed the experiences of a somewhat broader group, known as the Club Med countries, that includes the above two plus Spain and Greece. Our goal was to compare the macroeconomic and structural characteristics of Hungary with these countries, to get an idea of the risks we may be exposed to in the event of meagre performance inside the euro area. We are of the opinion that Hungary, in terms of structure of the economy and labour market flexibility, is in a better position than the countries with feeble performance, which reduces the risk of having to embark on a similar path upon joining the euro area. At the same time, we have came to the conclusion that the low macroeconomic performance could be attributed structural factors, or to the backlog in reforms of the product and labour markets, that may be aggravated at times by behavioural problems, primarily the undisciplined nature of fiscal policies and wage development to the detriment of competitiveness.

Product market regulations are considerably restrictive in the Club Med countries and in Hungary alike, on account of which any improvement in competitiveness and productivity

[47] Brandt et al (2005).

[48] Greece has been participating in the EMU since 2001, consequently, it is possible that they have carried out more reforms before their accession.

[49] See Duval et al (2006), pp. 27–28.

takes longer than it normally should. As far as the labour markets are concerned, the Club Med countries have in place strict EPL (Employment Protection Legislation) combined with high taxes, and with a feeble policy toward employment. Consequently, the problems relating to adaptability and convergence, which are already present on account of inflexibilities of the product market, are getting bigger. As far as labour market institution facilities are concerned, Hungary is in a much better situation, the tax wedge, however, is high for Hungary as well, and active labour market measures are ineffective and weightless. Following structural comparison with the Club Med countries, another reform requirement emerges for Hungary, notably the liberalisation of the product market for the purpose of reducing the risk potential of a weak economic performance in the euro area. Comparison with the Club Med countries confirms the necessity of reform of the fiscal structure, since – as seen in the past – when the fiscal leeway is insufficient, it makes the problems stemming from structural weakness even worse.

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6 Hungarian budgetary challenges: restoring balance and economic growth

On the basis of preliminary data[50], the accruals-based budget deficit became considerably lower than the deficit path laid down in the Convergence Programme. According to our current calculations, the target deficit according to the Convergence Programme seems to be feasible in 2008 and 2009 but the slowdown of the economic growth parallel with the reduction in deficit means a great challenge for the fiscal policy. On the one hand, the engagement towards the European Union makes necessary that the budget deficit in structural terms fall by 0.5 per cent annually, on the other hand, more drastic measures seem to be necessary in order to provide an impetus to the economy. Primarily on the basis of the current and future structure of the budget, this analysis attempts to examine fiscal policy in the respect how it serves the simultaneous implementation of both objectives as well as how it related to European practice.

The first part will introduce the European fiscal policy framework. The second part will examine the optimal size of the state budget and pose the question whether there is an optimal size at all. The third part will compare the experiences of the successful and unsuccessful European adjustments with the Hungarian developments, and the fourth part discusses the relation between the state budget and the economic growth. The fifth chapter briefly evaluates the known Hungarian plans relating to fiscal regulations. The analysis will end with a summary, a conclusion and the description of possible avenues of action.[51]

6. 1 The European fiscal policy framework

Hungary has a long way to go in the area of fiscal convergence when compared to euro area member countries. Meeting the Maastricht fiscal criteria is only a first step the purpose of which is to be released from under the excessive deficit procedure (EDP) and to satisfy the formal criteria of joining the euro area. However, both the currently effective fiscal policy framework and the minimisation of the risks of optimal currency area membership require far more than this.

Looking at the history of the budget after the political transition we see that the government deficit has never permanently fallen below the 3 per cent criterion, and the criterion was temporarily met only once (in 2000) (Chart 6-1). The past performance of the Hungarian budget indicates that the deficit criterion can not be satisfied for the long run without significant measures and structural reforms.

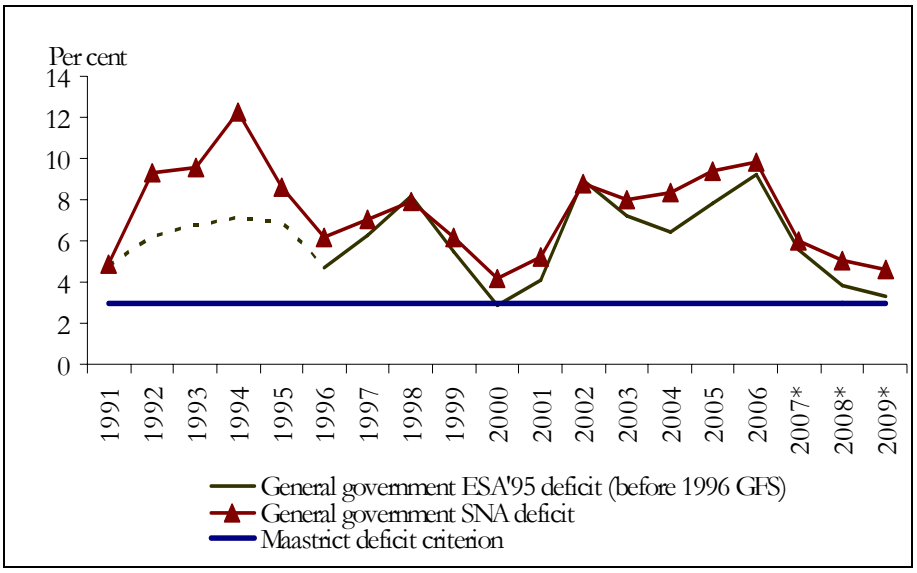
According to the Stability and Growth Pact, the final objective must be the performance of the Medium-Term Objective (MTO) and a close to balance position which may ensure that fiscal policy can react flexibly to asymmetric economic shocks. According to the European fiscal policy framework, member countries that are no longer subject to the excessive deficit procedure but have not yet reached their medium-term fiscal objectives must

[50] The first official result-oriented data will be published in the report made for excessive deficit procedure at the end of March.

[51] The data used in the analysis comes from Eurostat, the Central Statistical Office and the Ministry of Finance. When looking forward, we relied on the convergence programme, the budget act of 2008 together with its annexes and our own calculations up to 2009.

improve the structural balance of their government budgets by 0.5 percentage points each year. Accordingly, it follows from the commitments assumed by Hungary that it is necessary to reduce the deficit below 3 per cent but the importance of this action is also supported by economic considerations.

Chart 6–1 Budget deficits in Hungary as percentage of GDP



An SNA type state budget indicator is a more reliable indicator of the actual budget position which is why we included it in this figure. Accordingly, the actual position of the state budget was continuously more unfavourable than the official figures showed due to accumulating expenses that were hidden – e.g. MÁV, BKV, NA, ÁAK, MFB except in the election years.
**MNB forecast*[52]
Source: KSH, MNB calculation..

In the absence of independent monetary policy, the member states of the euro area largely rely on a balanced fiscal policy and budgetary position to cope with asymmetric shocks. In this respect, attaining the MTO may help with satisfying the criteria of the optimal currency area. Flexible adjustment may be attained via two basic channels: on the one hand, through the operation of automatic stabilisers, and on the other hand, through discretional fiscal policy measures. Fiscal policy moderates fluctuations in the economic cycle via automatic stabilisers;[53] however, a cyclical safety band must be demarcated in this case to ensure that the budget deficit does not exceed the 3 per cent set forth in the Maastricht criteria even if the cycle position is unfavourable. This safety band depends primarily on the volatility of economic growth and/or the flexibility of the budget. On the basis of empirical estimates,

[52] The forecast in the November 2007 report is not corrected due to introduction of the capital adequacy pension pillar.

[53] The automatic stabilisation function is connected to specific items in the budget that move in a direction that is opposite to the economic cycle and therefore contribute to stabilisation without the need for a discretional decision. One such item is the progressive personal income system which deducts more in times of an economic boom and therefore slows down the economy while it leaves more money in people's pockets during a recession. A similar item is the unemployment benefit that costs less for the state during an economic boom when employment is supposedly up, while increased unemployment benefits during a recession have a stabilising effect.

Hungary's so-called minimum benchmark, which is derived from the difference between the deficit criterion and the cyclical safety band, is estimated at 1.4–2.0 per cent of GDP (Orbán and Szapáry (2004); European Commission (2007)). In other words, this is the maximum allowable amount of the deficit for safely meeting the Maastricht criteria.[54] The flexibility of Hungarian fiscal policy slightly exceeds the average of the new members but is less flexible than that of the euro area countries. Setting a medium-term objective goes beyond the minimum benchmark and allows greater freedom for fiscal policy intervention which can also be discretional. If the MTO is attained, fiscal policy will be capable of carrying on anti-cyclical economic policy in a fairly broad framework.[55] Hungary's medium-term goal is to have a government deficit of no more than 0.5 per cent which is similar to the objectives undertaken by the new members.

On the basis of empirical evidence, if the budgetary positions of individual countries are similar, their economic cycles are also synchronised, which is definitely favourable for the purposes of the optimal currency area. A study by Darvas, Rose and Szapáry (2005) demonstrates that a significant difference between the budget balance of two countries decreases the correlation coefficient of their economic cycles. This means that coordinating the fiscal policies of individual countries (fiscal convergence) may synchronise their economic cycles and indirectly contribute to satisfying the optimal currency area criteria. In addition, it is important to remember that cycles may be synchronised not only if budget deficits are comparable, but also if they are *comparably small*.[56] In addition to complying with the Maastricht criteria, Hungary needs to overhaul the structure of its budget in order to have a balanced budget and attain a sustainable fiscal policy in the long run.

The experience of euro area countries indicates that the lower a country's reserves were when it met the Maastricht criteria and the less it attempted to reduce the deficit after it became a member, the more likely it was to breach the limit later on. Those countries that were subjected to the excessive deficit procedure at the beginning of the 2000s followed a markedly different path from those economies that had a balanced fiscal policy all along. One difference is that member states that were later subjected to EDP entered the euro area with a 3 per cent deficit on average while the other member states entered with a 0.6 per cent deficit on average.[57] Another important lesson is that in order to avoid the EDP, the member states had to improve their balances even after they became members.

[54] It is important to note that the methodology of cyclical adjustment is not internationally uniform. As a result, it is not clear to what extent the estimates in the studies are reliable. For example, P. Kiss and Vadas (2005) calls attention to the difficulties of the methodology.

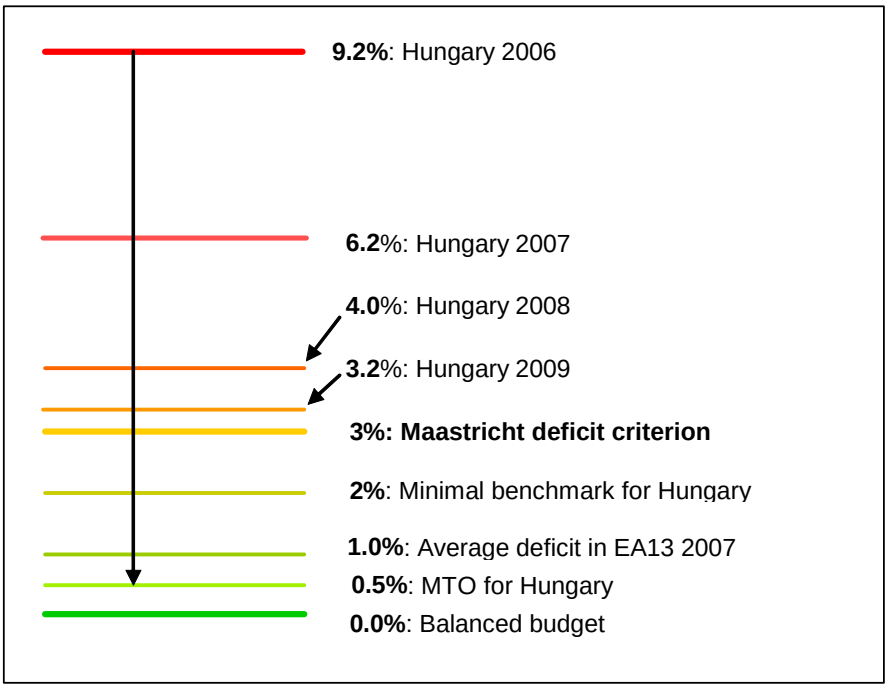
[55] However, we need to note that in the course of Hungary's efforts to attain the MTO it may encounter the danger of procyclicality. It is because continuous fiscal restriction in the descending cycle, when fiscal policy is supposed to stimulate the economy, puts a restraint on the economy in order to reduce the deficit, therefore budgetary policy may become procyclical. This occurred in the case of the European adjustments of the second half of the nineties when the majority of the countries introduced procyclical fiscal restrictions (see e.g. Annett (2006) or European Commission (2007)).

[56] At the same time we need to note that in an econometric sense, the primary balance is more closely related to synchronised cycles. The average budgetary position of individual countries is not synchronised as much with boom cycles as the similarities or differences in budgetary positions. In other words: fiscal convergence, rather than the size of the deficit, is related closely to whether cycles are synchronised. However, we must take into account that in Hungary's case 'similar' also means 'low' because the member states of the euro area typically enjoy a much more favourable budgetary position.

[57] Naturally, we must also take into account subsequent statistical corrections, because among those countries that did not perform later on, both Greece and Portugal had an actual budget deficit of over 3 per cent at the time when they joined the euro area.

Practically each of those countries that proved to be successful later on – except for Luxembourg that had a very high surplus of 3–4 per cent – considerably improved its budgetary position after joining the euro area, while countries that were less successful, except for Germany, did not take additional steps to reduce the deficit. These experiences confirm that Hungary, in addition to complying with the Maastricht criteria, must reduce the deficit as much as possible in order to avoid a new EDP.[58]

Chart 6–2 Hungary's path to a balanced budget
Based on the 2007 Convergence Programme[59]



6. 2 The optimal size of government

The literature disagrees as to whether the budget has an optimal size and if it does, how big it is. The size of the budget, which is generally measured by the amount of expenditures and, less frequently, by the amount of revenues, depends to a large extent from the social system and the roles and tasks of the government that each country considers optimal. The question of an optimal size is evidently not independent of place and time and the economic approaches also change in this respect in the course of time. Therefore, we do not want to make recommendations in this analysis. There is no consensus as to the scope of the government's tasks have to cover. According to the classic Musgrave approach (Musgrave (1959)), the basic tasks of the government are (1) allocation, (2) redistribution and (3) the provision of economic stability; however, the exact content of these functions

[58] The Magyar Nemzeti Bank (2006) provides a detailed account of the typical features of successful European budgetary adjustments.

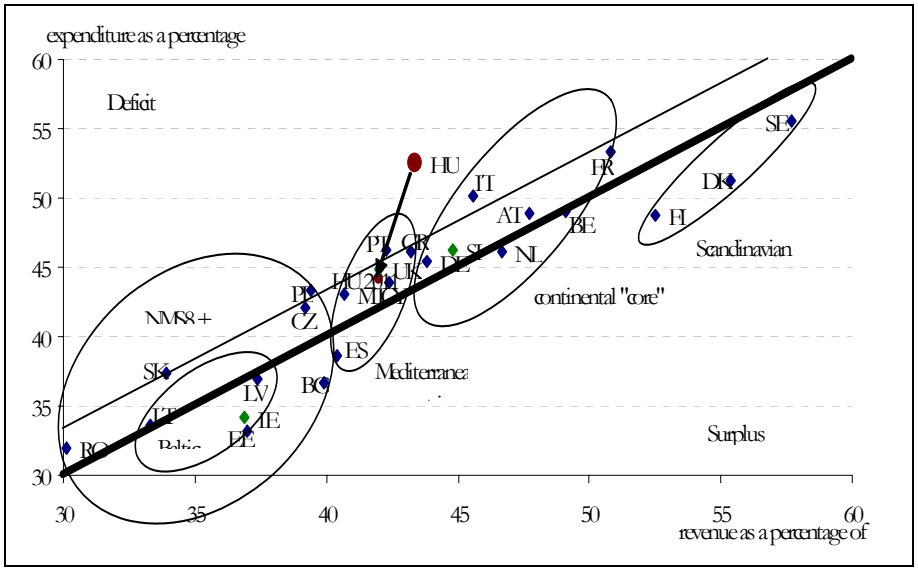
[59] The budget deficit in 2007 was lower than the deficit target laid down in the Convergence Programme. The official figure has not been published yet, the MNB estimates the deficit between 5,5-5,7% of GDP.

and the government expenditures and revenues that are necessary to fulfil these functions are determined on the basis of individual, country-specific factors.

However, several international organisations that are engaged in economy policy control make recommendations as to the optimal size of the state budget, but their practical applicability is strongly debatable. In a lecture, a member of the Board of Directors of the European Central Bank designated 30–35 per cent of GDP as the optimal size of the budget (see Stark (2007)). This value, which is considered optimal, presupposes that the government fulfils its key roles efficiently and it applies to developed countries where the government fulfils its role more efficiently. An assessment by the IMF, which is issued in relation to its regular economic policy consultations, considers 40–45 per cent to be the ideal size of the budget for Hungary (see IMF (2007)).

The extent of centralisation and redistribution by the governmental is fundamentally a matter of selection of social values. There are different models in respect of the size of the state budget. EU member countries basically follow three different patterns which are closely related to the level of economic development as well. Scandinavian countries are characterised by high centralisation of more than 50 per cent of GDP and redistribution, the old continental members are in a wide 40–50 per cent range, while the new member countries are in the 30–40 per cent range (Chart 6–3).

Chart 6–3 Total revenues and expenditures of EU member countries as a percentage of GDP, 2006[60]



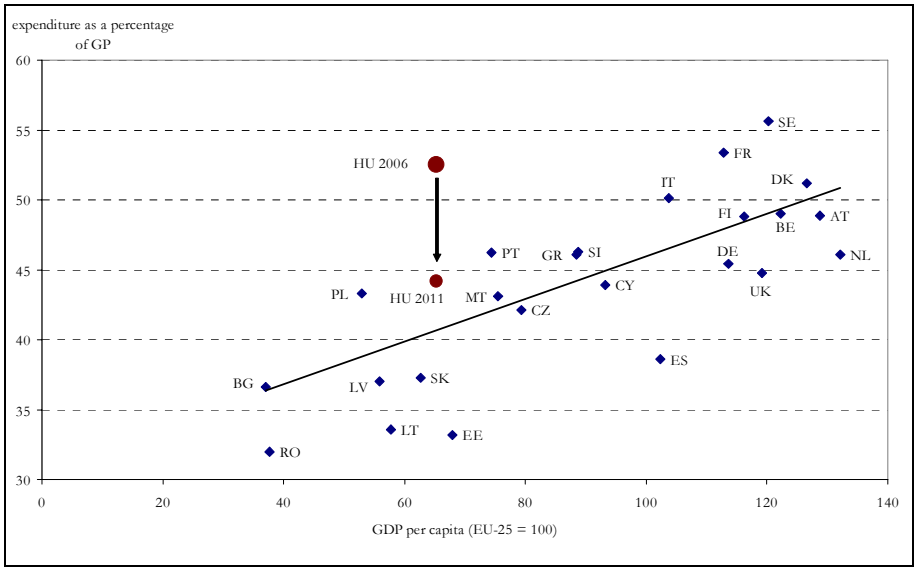
Source: Eurostat.

On the basis of approximate international comparisons, we can make two statements about Hungary: on the one hand, the fiscal imbalance is significant, and on the other hand the level of expenditure is very high compared to our level of development. Hungary may, of course, decide that it would reach a balanced budget with the current high redistribution level; however, it would be risky, with most of regional competitors following a different model. On the basis of the convergence programme and the medium-term objectives of

[60] The range above the diagonal means a deficit while that below the diagonal an excess.

the budget act of 2008 we are on the opinion that Hungary wants to achieve a roughly balanced budget with a lower state redistribution – broadly similar to the Mediterranean countries, with regard to the fact that considerable cuts are expected on the expenditure side and more moderate cuts in revenues. However, the medium-term reduction in revenues is not a result of a conscious cut in taxes but an increase in the key tax bases at a rate that lags behind the nominal GDP growth (for example, as a result of stopping the growth of government wages).

Chart 6-4 Per capita GDP at PPS and government expenditures in EU countries, 2006



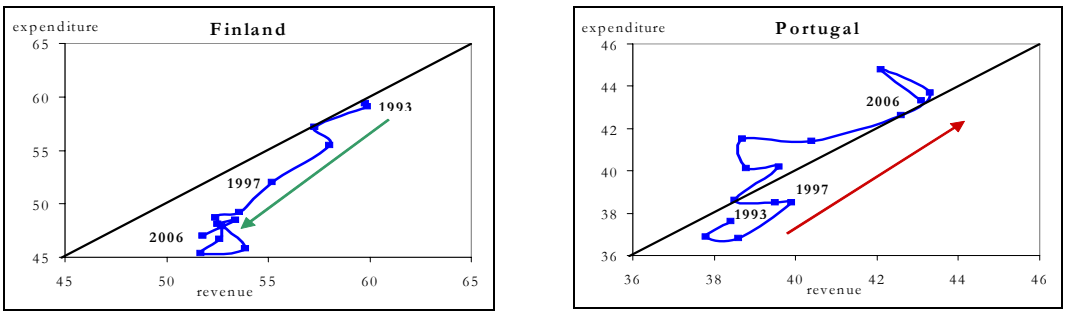
Hypothetic shift of the Hungarian budget expenditure (on the basis of the Convergence Programme of 3007, with unchanged relative economic advancement levels). Excluding data of Luxemburg and Ireland (these two countries are very different from the other countries in terms of per capita GDP)
Source: Eurostat.

6. 3 Fiscal adjustment, reduction of expenditure and restructuring in the EU countries

A turn in trends occurred in the advanced countries of the world in respect of the extent of state redistribution in the eighties and nineties. The redistribution that had broadly continuously increased until that time, started to decrease in several waves. The first wave occurred in the eighties in countries, such as Belgium, Ireland, the Netherlands, the United States and in the United Kingdom. The second wave took place in the nineties, partly associated with the efforts made to meet the Maastricht deficit criteria. Of the 12 countries that initially joined the euro area, five were subjected to the excessive deficit procedure in the 2000s (Greece, Portugal, Italy, Germany, France). These countries were different from countries that successfully avoided the EDP in several respects, for example, in respect of the scope of the government's role. Namely, practically all of the countries that avoided being subjected to the EDP considerably reduced their cyclically adjusted primary expenditures and revenues prior to the adoption of the euro.

In the Netherlands both expenditures and revenues fell by 7 percentage points, but the cyclically adjusted primary surplus of the budget stayed over 3 per cent practically all along. In Finland, where in 1993 the cyclically adjusted primary expenses were close to 60 per cent of GDP, expenditures were cut by close to 7 per cent by 1997 and by 2006 the cyclically adjusted primary expenditures fell to 47 per cent. Among the successful countries Spain's adjustment system stood out. Firstly, Spain considerably cut its primary expenditures, and after the introduction of the euro it raised its cyclically adjusted revenues by 3 per cent while expenditures stayed at the same level. Among countries with a highest national debt Belgium was the only one that was capable of sustaining its considerable primary budget surplus (between 1993 and 2006 over 5 per cent on average) even after its interest expenditures fell.

Chart 6-5 Examples of successful and unsuccessful adjustments (tarjectory of expenditures and revenues as percentage of GDP)

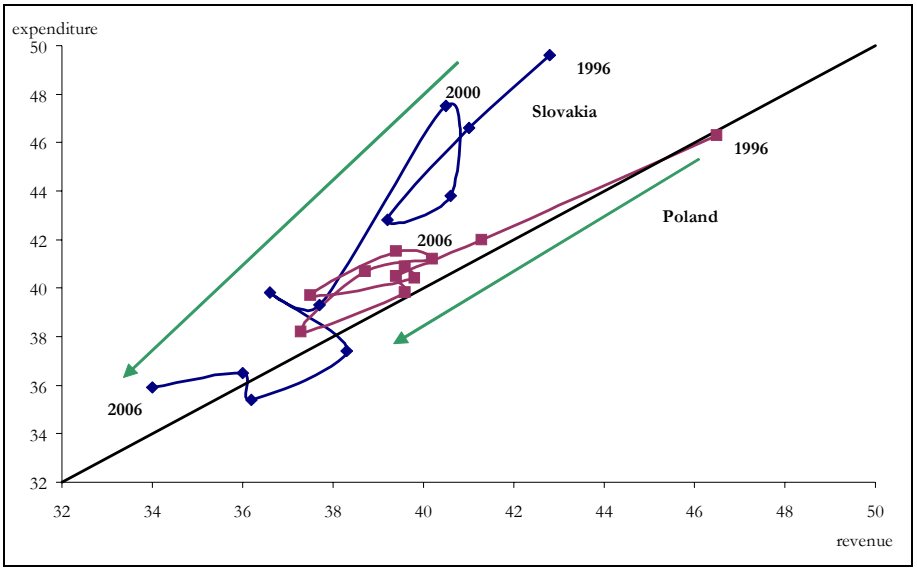


Note: The trajectories (budget paths) show the changes in cyclically adjusted revenues and primary expenditures. The range above the diagonal means a deficit, while that below the diagonal means an excess. Source of data is the Ameco database of the European Commission.

The countries that were unable to cut their expenditures in the long run faced an increasing deficit again and afterwards shortly, they became subjected to EDP after joining the euro area. Among the countries with a high national debt, Italy and Greece, unlike Belgium, were unable to sustain their high primary balance after a cut in their interest expenditures. Since 1993, state redistribution increased in Portugal and Greece among the countries that were subjected to EDP.

From among the Visegrád countries, Slovakia managed to cut its primary expenditures to the greatest extent. Between 2000 and 2006 cyclically adjusted primary expenditures fell by approximately 11.5 per cent while revenues moderated by 6 percentage points. In Poland, in the second half of the 1990s, expenditures were cut considerably, but similarly to the Czech Republic, the cyclically adjusted primary balance of the budget and the level of redistribution have hardly changed in the past years. From among the other EU member states, government redistribution fell considerably in Estonia, Lithuania and Romania, too. In the latter, both cyclically adjusted primary expenditures and revenues decreased by 10 percentage points to below 30 per cent between 1998 and 2006, thus, government redistribution is the lowest in Romania among the EU countries at present.

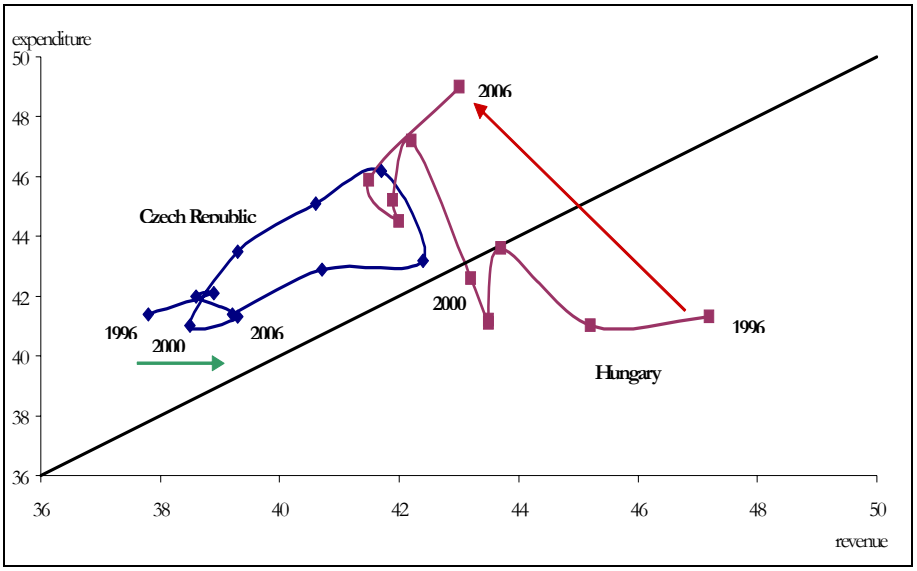
Chart 6–4 The budgetary path of the Poland and Slovakia (trajectory of expenditures and revenues as percentage of GDP)



Note: The trajectories (budget paths) show the changes in cyclically adjusted revenues and primary expenditures. The range above the diagonal means a deficit, while that below the diagonal means an excess. Source of data is the Ameco database of the European Commission.

Compared to the new Eastern European members, Hungary has a relatively high redistribution level. At the same time it is worth noting that the scope of the government's role used to be high in several countries in the region but it decreased over time. This has not yet happened in Hungary. Between 2000 and 2006, primary expenditures increased by nearly 8 per cent with an unchanged revenue level; however, according to the Convergence Programme, revenues are expected to fall by 5 percentage points with a slight increase in expenditures by 2009.

Chart 6-7 Budget path of the Czech Republic and Hungary (trajectory of expenditures and revenues as percentage of GDP)



Note: The trajectories (budget paths) show the changes in cyclically adjusted revenues and primary expenditures. The range above the diagonal means a deficit, while that below the diagonal means an excess. Source of data is the Ameco database of the European Commission.

6. 4 Fiscal structure and economic growth

Theoretical considerations

Recent trends in the literature – in contrast to neoclassical growth theories – indicate a connection between the structure of the budget and economic growth. In addition to considerations relating the size of state budget, the question of the structure of budget is a similarly important matter. Earlier we saw that a balanced fiscal policy can be pursued even in countries with different sizes of general government, that is, several fiscal positions may exist in respect of size. However, there are no clear recipes for a fiscal policy that promotes growth, and all that can be known for sure is that certain directions show promise while others should be avoided. Moreover, it should not be disregarded either that developments in the structure of expenditures is, partly, a consequence of a political decision and efficiency and quality factors also play an important role in the impact on growth, in addition to the structure.

For example, in the case of government investment in physical capital the institutional structure plays an important role, and it also matters if government investment lays the foundation of a future private project. In the case of investment in human capital (education, health care) the positive impact on growth can be much more clearly demonstrated.

Straub and Tchakarov (2007) have found that changes in the structure of expenditures due to a decrease in government investment accompanied by a simultaneous and equal increase in government consumption expenditure are not favourable for long-term economic growth. But according to Haan and Romp (2005), the growth effect of Community infrastructure investment depends on several factors, such as the institutional structure as well as the purpose and quality of investment. Literature is more monolithic in respect of

whether investment in human capital drives growth to a higher extent than investment in the physical infrastructure. In the coming years in Hungary overall expenditure will decrease from 2007 while the ratio of current expenditures and subsidies will not fall compared to capital expenditures, and therefore, there will be no favourable structural change in respect of growth.

Kneller, Bleaney and Gemmell (1998) also examine the same issues. The authors analysed revenue and expenditure side effects simultaneously and found that on the expenditure side productive expenditures that directly affect production (education, health care, transportation, etc.) and on the revenue side non-distortionary taxes (consumption taxes, lump sum taxes) promote economic growth the most.[61] On the other hand, non-productive expenditures that do not promote production directly (e.g. social expenses, pensions) and distortionary taxes (income taxes, profit taxes, social security contributions) have a neutral effect on growth or even reduce growth. An increase in productive expenditures that is financed from raising non-distortionary taxes promotes growth while an increase in expenditures that is financed from distortionary taxes has a clearly negative effect on growth. The authors calculate that a 1 percentage point decrease in non-distortionary taxes may increase the rate of growth by approximately 0.1–0.2 percentage points.[62]

In their study, Afonsó, Ebert, Schuknecht and Thöne (2005) go beyond the analyses that contain the above-mentioned specific normative statements and focus on institutional structure as well. They highlight the role of an institutional environment that promotes growth (e.g. well qualified and honest public servants, cost-benefit analyses), and the positive impact on growth of the efficient use of public funds, an effective and stable tax system and sustainable budget management. On the expenditure side, it is impossible to realise considerable savings in the case of certain items because these functions belong under the scope of the government's basic tasks and therefore increasing efficiency should be the objective in these areas. Such areas are investment (especially investment in human capital – education, health care), while redistributive costs (e.g. social expenditures and subsidies) may weaken growth. At the same time the authors acknowledge that it is not possible to give advice that would be valid in all situations in respect of a fiscal policy that promotes growth.

The extent of economic growth may be related to the success of adjustment. In an earlier study (MNB (2006)), the MNB examined successful deficit reduction programs of the latest about 20 years in the EU countries. A major statement of the study is that successful adjustment occurred almost in all cases with a simultaneous upswing in growth, on the other hand, the trend of the relation between deficit reduction and acceleration of growth is not unambiguous. Though in 2007 the deficit fell to a higher extent than expected while the economy slowed down in Hungary, according to international experiences, it may be a significant factor of fulfilment of the deficit path laid down in the Convergence Program if economic growth supports the fiscal adjustment.

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[61] The distinction between productive and non-productive expenditures is somewhat simplistic and misleading; therefore it needs to be more nuanced. For example, one must by all means take into account that health care services, which were listed under productive expenditures, are used by inactive persons as well to a large extent; therefore the recipients of services do not contribute to future economic growth to the same extent.

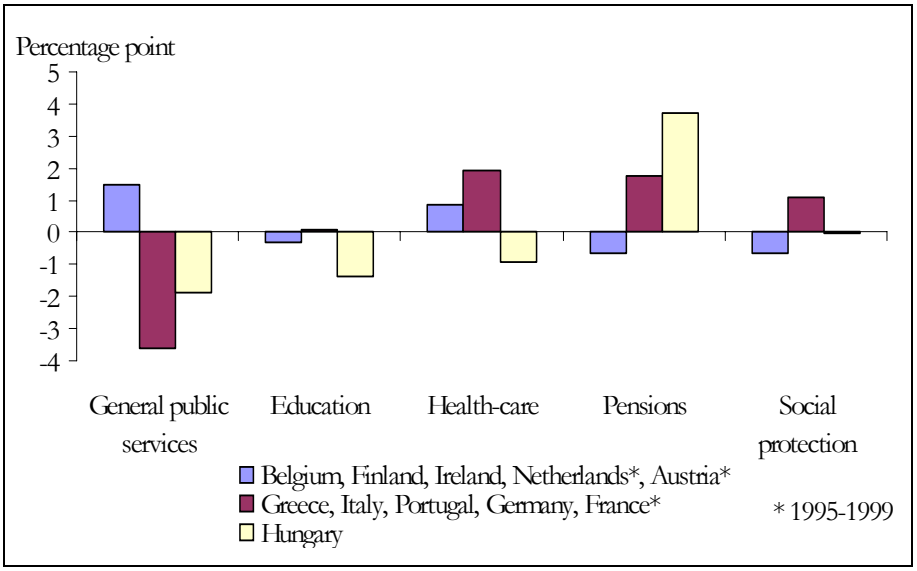
[62] The authors – perhaps a little too simplistically – consider taxes that directly impact investment decisions distorting. Naturally, indirectly and to a certain extent all taxes can be considered distorting, but the authors consider consumption taxes less distorting compared to taxes on income and profit.

While the above-mentioned studies focus on the effect of the budget structure on long-term growth, Horváth et al (2006) perform simulations in respect of the effect on various fiscal shocks on short-term output. They found that regardless of whether monetary policy is unchanged or whether an estimated Taylor rule is applied to monetary policy, on a horizon of 4 years raising social security taxes and raising regulated prices contribute the most to reducing growth. On the basis of their findings, the current adjustment in Hungary cannot be considered favourable in respect of its impact on short-term growth.

Structure of the adjustment in the EMU member states and in Hungary

As we could see above, according to experiences in the EMU member states, fiscal adjustment implemented via a reduction in budget expenditures means the most sustainable way of cutting deficit, but also the structure of expenditure reduction is an important factor. If dividing the euro area countries into two groups in the respect whether they were subjected to EDP procedure or not, we find a rather marked difference in the fact which budget expenditures and how the countries of both groups changed in the course of adjustment period.

Chart 6-8 Changes in the distribution of primary expenses in selected EMU countries (between 1993 and 1999) and in Hungary (between 2005 and 2010)
(Based on the Budget Act of 2008)



Source: Eurostat, Ministry of Finance.

Countries that were not able to attain a lower deficit permanently, radically cut their public operating costs but increased their expenditures in all major groups of welfare expenses. On the contrary, in countries not subjected to the EDP social and pension expenditures (i.e. non-productive expenses) decreased within welfare expenditures and public operating costs increased slightly. It is remarkable that investment in human capital has not decreased markedly with general reduction of expenses either in any of the groups (the slight moderation may be attributed to development of number of children). Education expenses remained broadly unchanged and health care expenditures increased.

Table 6-1 Distribution of the functional expenditure structure of the Hungarian budget

	Percentage of GDP			
	1996	2000	2007	2010
General public services	6.1	8.0	6.3	5.9
Welfare expenditures	30.6	28.0	30.8	29.3
Education	5.8	5.5	5.6	5.1
Health-care	4.7	4.5	4.7	4.1
Pensions	8.2	7.8	9.3	9.5
Social protection and housing	9.4	8.2	9.1	8.5
Environment protection, culture	2.4	2.1	2.2	2.3
Economic affairs	5.6	5.4	7.0	5.1
Interest payable	9.2	5.9	4.3	3.5
Other, non-classified expenditure	0.6	0.3	1.9	2.1
Total	52.1	47.6	50.3	46.0

Source: Ministry of Finance.

In respect of Hungary, we performed an analysis of the expenditure side in a functional breakdown on the basis of the annexes of the 2008 budget bill. Accordingly, we found that contrary to the evident statements and economic policy recommendations of the literature, the current budget structure in Hungary deviates from the average budget structure of both the euro area member countries and the countries of the region and, based on the Convergence Programme, it will not be changing in a positive direction. On the one hand, the ratio of current expenditures is not diminishing within total expenditures and on the other hand, in connection with this, the ratio of non-productive expenditures has increased to the detriment of productive expenditures. In the case of education and health care,[63] expenditures fell not only as a percentage of GDP but also in comparison to total expenditures but also while social and pension expenditures, which are considered to be non-productive in the literature, increased their ratio. On the revenue side, an increase in level of labour taxes and contributions may create problems in respect of the long-term economic growth.

[63] Within health care expenditures, medicament subsidies as a percentage of GDP, which can be considered a social transfer from the point of view of economics, will fall by 0.2 percentage points in 2007–2008, which, in and of itself, can be considered favourable. What we consider unfavourable is the 0.8 percentage point reduction of health care expenditures without medicament subsidies. In Hungary, the ratio of expenditure on medicaments within total health care expenditures is relatively high.

Table 6-2 Functional distribution of primary expenditures[64]

	EMU 2005	Visegrad Group (3) 2005	Baltic states 2005	Hungary 2005	Hungary 2007	Hungary 2010
General public services	15.5	19.0	20.8	16.6	14.3	14.6
Welfare expenditures	75.9	68.7	67.2	70.1	69.8	72.5
Education	11.3	12.6	17.3	13.9	12.7	12.5
Health-care	14.6	13.2	12.1	10.9	10.5	10.0
Pensions	28.6	24.7	19.7	19.7	21.0	23.4
Social protection and housing	17.6	13.4	11.9	20.9	20.5	20.9
Environment protection, culture	3.8	4.7	6.2	4.6	5.1	5.7
Economic affairs	8.6	12.3	12.0	13.3	15.7	12.6
Total	100.0	100.0	100.0	100.0	100.0	100.0
Total primary expenditure as a percentage of GDP	44.4	39.6	33.6	47.0	46.1	42.5

Source: Eurostat, Ministry of Finance.

Potential sources of growth problems on the expenditure side

Public expenditures have an impact on the long-term growth directly and indirectly through several channels. One of the most important channels is the labour market where the government is able to fundamentally influence the quantity and quality of labour supply. All the steps can raise the labour supply already in the short run that encourage the affected groups for taking employment through the reform of pension expenditures. On the contrary, restructuring of education and health care have their influence rather in the long run and have an impact primarily on the quality of human capital.

Pension expenditures

Pension expenditures will rise on the time horizon of the Convergence Programme as a per cent of GDP only slightly while in ratio to total expenditure considerably, but the main problem with the pension system is not primarily the high volume of pension expenditures but the low number of those who pay contributions (especially the high number of those who pay minimal contributions), as well as, related to it, low revenues from contributions and the large number of disability pensions. In other words, the problem of the pension system can also be considered a labour market problem to a very large extent. Despite an increase in recent years, the activity and employment of older generations is below the European average.

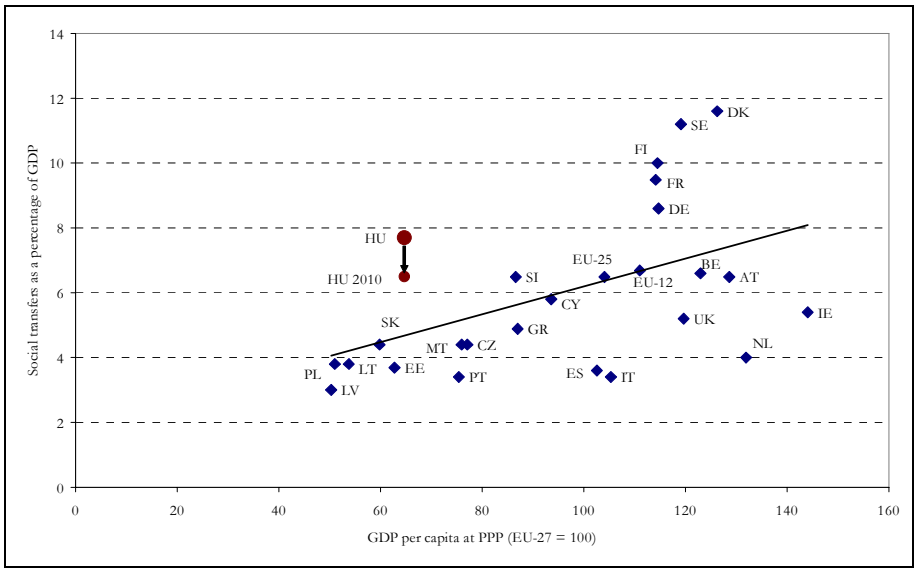
[64] For the purpose of a better comparison, when calculating the distribution, we disregarded the interest expenses and expenses classified under other items . We show the 2005 data partly because it is the most recent data in international comparison and because in Hungary it is the year preceding the budget adjustment. The findings are not sensitive to selection of the year, similar differences can be discovered when the average of years 2003-2005 are compared.

One of the objectives of the necessary reforms, a part of which is currently under way, is to increase the number of those who pay contributions by raising the activity rate, extending the (effective) date of retirement and raising minimum contributions. Raising the activity rate may be implemented primarily by rehabilitating the disabled and limiting disability pensions. The effective retirement age can be increased if the already approved pension regulations, which will enter into effect in the coming years, will apply more stringent sanctions (smaller initial pensions) to early retirement and to insufficient years of employment and transfer early retirement contributions to the employer to a greater extent. At the same time, due to the increasing age of the population, additional measures would be necessary, and following the example of Western European countries that have similar demographic problems the retirement age could be further increased in a gradual manner. In addition, the reforms intend to change how the starting amount of pensions is determined by modifying the substitution rate the indexation rules. These rules reduce starting pensions by an amount equalling the 13th month's pension over the medium term.

Social expenditures and transfers

Expenditures spent for social purposes in Hungary, both in their ratio and as a percentage of GDP, are high compared to the average of EU countries and of Hungary's direct neighbours, and no significant decrease is expected in this regard. A moderation in such expenditures to GDP is expected in the near future; however, we can not reach the level of competitors on the time horizon of the Convergence Programme.[65]

Chart 6-9 Size of social expenditures and economic development, 2005



Source: Eurostat, Shown shift of social expenditures in Hungary on the basis of the Convergence Programme at the end of 2007, supposing unchanged relative economic development levels.

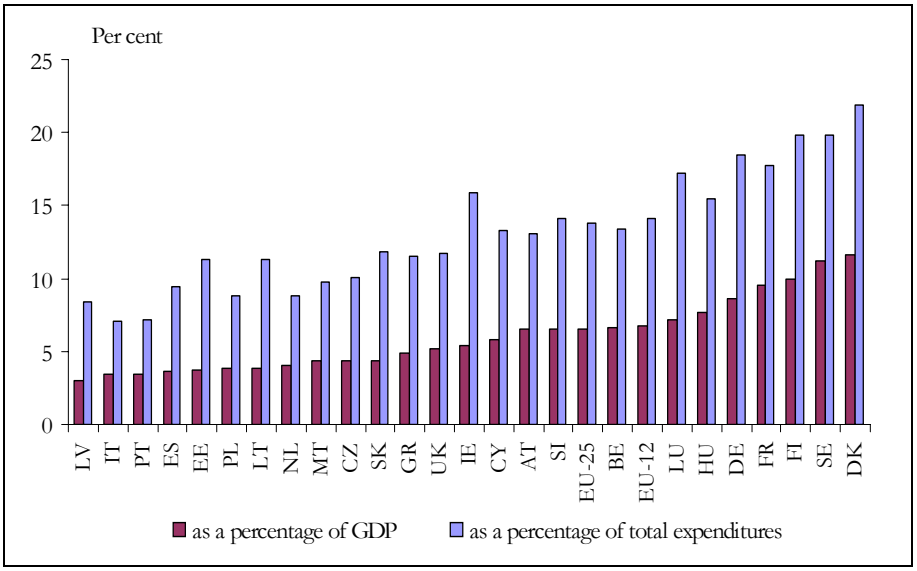
Statistics may, however, be distorted by the tax allowances that, in economic terms, could be classified under state budget expenditures for social purposes. Benedek et al (2006) estimated the value of tax allowances for social purposes at 2 per cent of GDP in 2004.

[65] In economic terms, pharmaceutical subsidies, now classified into health expenditures, could be regarded functionally as social benefits, which would increase social expenditures even further. Other subsidies, for example, gas price subsidies and travel subsidies, are counted towards social transfers.

European comparisons are not available, but social expenditures adjusted with tax allowances for social welfare purposes are probably higher than the regional and EU average.

The performance of the Hungarian welfare system in respect of reducing poverty is relatively good. In 2005, the income of 26 per cent of people between 18 and 64 was below the poverty line (60 per cent of average income), but social transfers reduced this ratio to 13 per cent. The effect of transfers in reducing poverty is better than the EU average and, as a result, the ratio of people living below the poverty line is lower than in the EU or in the new member countries. Among people below 18 the ratio of those who are in danger of poverty, adjusted with transfers, is 20 per cent which is higher than the EU average but lower than the regional value.

Chart 6-10 Social expenditures (excluding pensions), 2005



Source: Eurostat.

However, the efficiency of the welfare system is not quite so favourable because Hungary reduces poverty with a volume of expenditure that is higher than in other countries – a sign that it is not sufficiently targeted. In Hungary, means-tested benefits amount to only 8 per cent of all social expenditures (without pensions) compared to an average of 14 per cent in the EU. The low rate of means-tested transfers is partly a matter of priorities; however, inverse redistribution of income prevailed in Hungarian social expenditures in certain fields earlier, and partly prevail even today (Benedek et al (2006)).

If social benefits may be changed, also labour market and growth aspects should be taken into account in addition to fiscal aspects as well as it should be accompanied by revision of social tax allowances. In the changes, it would be important in any case to restructure and not only to reducing expenditures by indexation techniques, in a less differentiated manner and to review the subsidised circle.

Health care

Greatest attention was paid to the steps made in the health care within the reform measures. A new component of the changing financial structure is co-financing[66], but in addition, changes in contributions will also increase revenues and private capital is meant to be given a larger role. The reform of the pharmaceutical subsidy system resulted in considerable savings. Verifying eligibility and having the price of services reimbursed in the absence thereof is another financing and efficiency measure. The structural changes include the restructuring of hospitals, reducing the number of active beds, increasing the number of passive beds that serve the purpose of rehabilitation and improving outpatient services. In the case of health care reform, the most important question is whether we can manage to measurably improve service quality because it may exercise a significant impact on the life quality at the level of individuals and on the quality of human capital and thereby, on the long-term growth outlook at the level of society. Cutting expenditures in health care could result in the lowest ever volume of expenditure in Hungary compared to other EU member countries while our position in terms of health care indicators (life expectancy, infant mortality) is unfavourable.

Education

Hungary's government expenditures on education are average compared to the OECD member countries while in international performance assessments the results of Hungarian students are below average (see for example the results of the PISA[67] surveys (Table 1–6). For the time being, only results of measures aimed at financing education[68] and improving financial efficiency can be seen; however, we do not yet have exact information of the resulting savings (school mergers, integration, shutting down institutions, layoffs, etc.) and extra revenues (educational contribution). With regard to the fact that the volume of budget expenditures on education, which have been stable in the past years, will decrease significantly from 2007, the resource of quality improvement may be exactly the structural change in the infrastructure. On the other hand, it is debatable, how it can counterbalance the decreasing resource endowment. Harmonisation of the education, vocational training system with the labour market demands would be of special importance.

Potential sources of growth problems on the revenues side

Similarly to developed countries around the world, 90 per cent of the budget in Hungary is funded from taxes and contributions. It is a primary aspect that the tax system less hinders growth, i.e. minimises the losses resulting from the distortions (counter-incentives for labour and investment) to a smaller extent. Due to the lower distorting effect compared to other types of taxes, the value added type taxes (e.g. VAT) are more favourable in terms of efficiency than income tax type taxes (e.g. personal income tax, corporate profit tax). Taxes on income better influence labour demand and supply as well as the investment decisions

[66] The medical visit fee and the daily hospital treatment fee both were terminated by a national referendum held on 9 March 2008; however, the deadline and the exact size of funding withdrawn from health care were not known at the time of closing the manuscript.

[67] Programme for International Student Assessment – an international programme to measure student knowledge.

[68] The tuition fee was terminated by a national referendum held on 9 March 2008; however, the deadline and the exact size of funding withdrawn from higher education was not known at the time of closing the manuscript.

than the excise taxes. In addition, there are several additional requirements vis-à-vis the tax system:

- Simplicity, efficiency and stability
- Wide tax base and low marginal rates
- The redistributive effects of the tax system must be examined in conjunction with social expenditures.

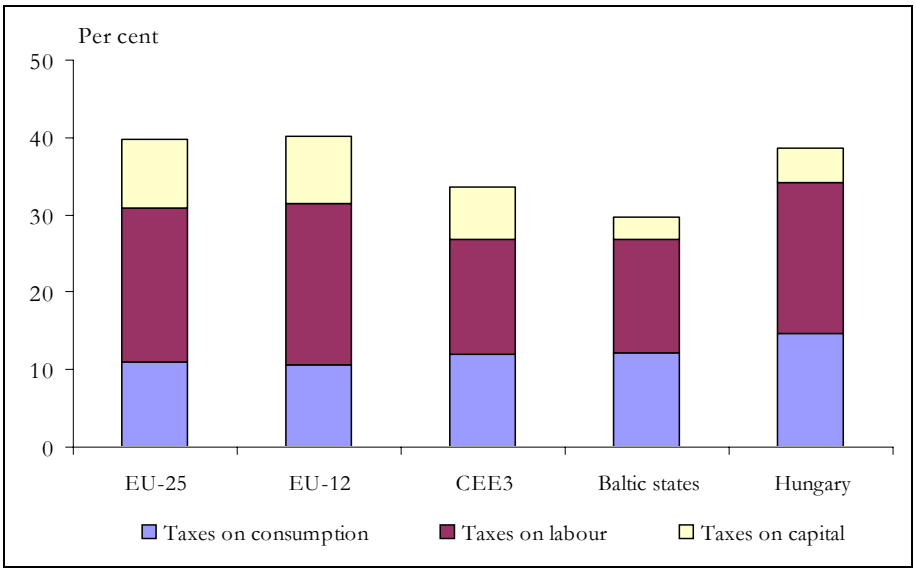
On the basis of the above, the Hungarian tax system could be significantly improved in each of the above categories. The key problem of the Hungarian system is that while tax revenues as a percentage of GDP are not high, the tax burden exceeds both the EU and the regional average.

The tax systems of EU member countries rest on the three usual pillars: direct taxes related to income, indirect taxes related to consumption, and social security contributions. In Hungary, their ratio within total tax revenues is practically the same as in the new EU member countries. The main difference between the average of this group and the average of the EU-15 is the higher ratio of indirect taxes and the lower ratio of direct taxes of the former. Because indirect taxes are less distorting, this aspect of the tax system structure is favourable. In the EU the ratio of indirect taxes increased between 1996 and 2001 but this tendency stopped at the turn of the millennium. In Hungary we can only estimate the effect of changes in the tax system that took place in the past one and a half years. Widening the tax base had an effect primarily on direct taxes and contributions, and tax rates also increased in these areas. Changing the VAT had an almost negligible impact on the effective VAT rate. Consequently, indirect taxes are expected to fall while direct taxes and contributions are expected to increase within total tax revenues. As a result, Hungary will be closer to the EU average but will be further removed from an undistorted tax system.

In Hungary direct income tax revenues pose a larger burden for households than in the euro area or in the region. In Hungary 72 per cent of direct tax revenues come from households compared to only 67 per cent in the EU-12 and 62 per cent in the new member countries. Consequently, corporate profit tax represents a lower ratio of collected taxes within the Hungarian tax system than the international average.

Economic classification indicates that in Hungary the ratio of capital taxes is considerably lower that the EU average. Only the Baltic countries have similarly low taxes on capital. However, in Hungary the ratio of taxes on labour and consumption is high in the overall amount of tax revenue. Therefore, to a large extent, the Hungarian budget is financed by households, and especially by employees. As a result of the changes that were introduced in 2006, the ratio of taxes on capital may increase as a percentage of GDP (by raising corporate taxes) but the increase in social security contributions as well the change in the EVA (simplified business tax) and VAT rates would rise taxes on consumption either. Therefore, overall, there will be no significant change in the economic structure of the tax system.

Chart 6-11 Tax revenues as percentage of GDP, 2005

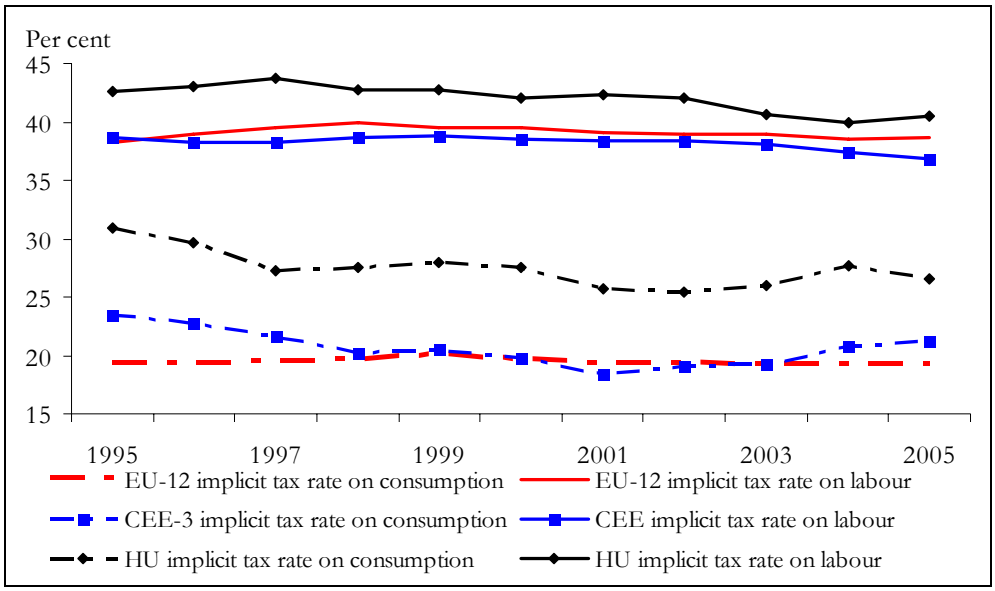


Source: Eurostat.

By international standards, implicit tax rates also indicate that in Hungary taxes on labour and consumption are high.[69] The implicit rate of consumption tax is especially high compared to the EU and the regional average. As an aggregate result of reducing the upper VAT rate and increasing the 15 per cent rate in 2005, the implicit tax rate on consumption may have fallen somewhat, but it still remains higher than the tax rate of comparable countries. However, on the basis of the convergence programme of December 2007, both implicit tax rates, but especially the implicit tax rate on labour, will increase in 2007 and will remain high for the term of the programme.

[69] The implicit tax rate is a ratio of actually collected taxes and the tax base and is usually calculated in respect of three types of taxes based on economic classifications. It indicates the distortions in the distribution of tax revenues that arise from the fact that the tax base, as a percentage of GDP, is different from country to country. In Hungary, data regarding the tax base of capital are not available because they are difficult to calculate; therefore we only examine the implicit tax rate of labour and consumption.

Chart 6-12 Implicit tax rates (per cent)

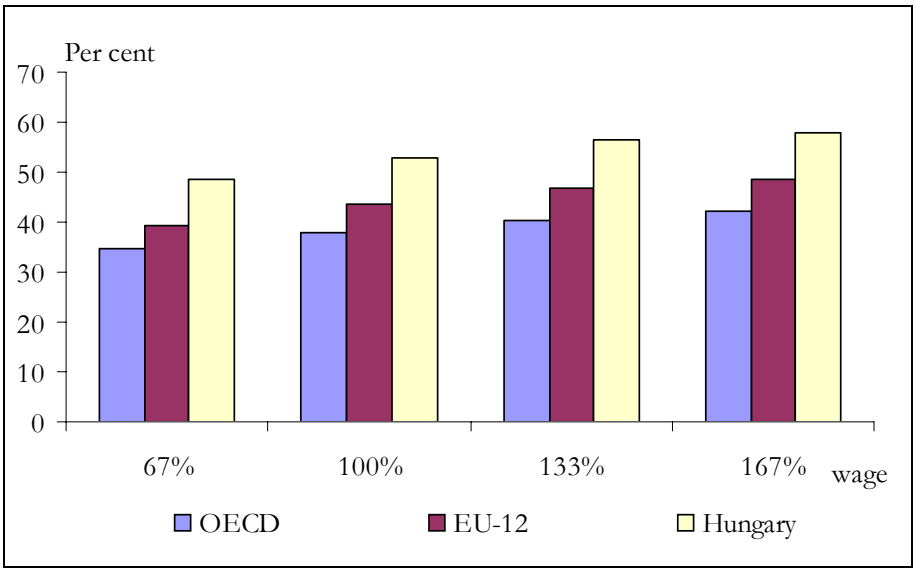


Source: Eurostat.

A characteristic feature of the Hungarian tax system is the high tax on labour. The tax wedge that represents the ratio of taxes and contributions within the overall cost of labour is significantly higher that both the OECD and the euro area average[70]. As discussed in chapter on the labour market flexibility, the high tax wedge is a major obstacle for the expansion of employment and therefore, it has an unfavourable impact on the long-term growth either. Studies pertaining to the OECD countries (see World Bank (2005), OECD (2001)) indicate that the high tax burden may mostly have a negative impact on the employment of low income people because in their case income elasticity of demand and supply is the highest. The OECD (2006) points to a recent tendency in developed countries to reduce the taxes of low income people.

[70] The comparison with other countries is not perfect because the OECD (2005) study, which was used as a source, did not take into account tax benefits. In Hungary the amount of tax benefits is considerable, therefore the value of the tax wedge, adjusted with the benefits, would probably be reduced to a greater extent than in the reference countries, and therefore the difference in the tax wedge would diminish between Hungary and the OECD and EU-12 average.

Chart 6-13 Tax wedges at various income levels (100%=average wage)



Source: OECD (2006): Taxing wages: 2005–2006.

In Hungary, one of the largest problems of the tax system is tax evasion. Tax evasion violates the principle of horizontal equality, distorts the social distribution of resources and makes financing the budget difficult. The impact of distortions that are caused by tax evasion may be stronger than the distortion caused by taxes alone. It is because tax evasion renders even inefficient activities profitable which takes away resources from lawful and efficient activities. In addition, the distorting effect of the tax system on those who actually carry the tax burden is higher because, in respect of the budget's given need for funds, they are subject to more tax burden as tax evasion increases. P. Kiss and Krekó (2007) estimate the taxes that are lost due to tax evasion at 7.5 per cent of GDP contrary to the 3.5–4 per cent that is typical in the EU. Approximately one-third of all tax evasion in Hungary is related to labour income taxes. The main forms of tax evasion are the following: concealing income by the self-employed, registering employees at wages that are lower than the actual wages, reporting labour income as capital income, and using fictitious contracts. The rest of lost taxes are due to VAT fraud (and to a smaller extent concealing capital income). Therefore, realistically, in the current tax system revenues may increase by 3.5–4 per cent as a percentage of GDP if the willingness to pay taxes in Hungary approximates the average level of the EU. Since second half of 2006, tax evasion has significantly decreased due to the stricter control and the new rules. Whitening was especially considerable in the field of social security contributions but it had a certain role in increase of revenues deriving from excise taxes and value added taxes as well. The exact extent of whitening is not known for the time being.

6. 5 Institutional background of fiscal discipline

International experience shows that social and political consensus is very important in the case of economic policy and budget transformation that result in significant social

impacts.[71] If agreement is reached in respect of the necessity of reforms and their methods in wide circles of the society, it may largely contribute to its success.

In addition to social consensus, the introduction of fiscal regulations as well as the establishment of an independent fiscal institution may also help preserve the results of fiscal consolidation and the continuation of a strict budgetary policy. In practical terms, these solutions require political self-limitation. Among others, Kopits (2007), P. Kiss (2007) and Romhányi (2007) provide a good overview of international practices and their application in Hungary. Among European countries mentioned earlier that have been successful at consolidation, in several cases (such as in Finland, Ireland, Spain and Sweden) also formal fiscal regulations helped the lasting adjustment.

Having recognised the gravity of imbalance of the Hungarian budget, the government has also decided to draft an act on public finances; however, for the time being it exists only in the form of a bill. In the centre of the planned regulation is the so-called real debt rule in the sense of which the real value of public debt would not be allowed to increase compared to the initial year. Though the planned real debt regulation is relatively an innovation in the international practice (in its logic it is mostly similar to the debt regulation applied in Brazil), if it worked properly, it would reduce the ratio of public debt to GDP from year to year pro rata as real GDP increases. At the same time, the bill represents a medium-term budget draft, namely, the debt regulation is made on a three year horizon and approaching the year under review, the individual items of the budget will be defined more and more exactly. Furthermore, introduction of the principle of compulsory compensation is an absolutely positive element of the bill that can guarantee the compulsory extra spending or establishment of coverage the lost revenues in case of amendments adversely affecting the balance of the budget. The regulation system to be introduced is sufficiently flexible in order to give room for operation of automatic fiscal stabilisers even; in this respect it can contribute to the stability of the economy.

Similarly to the international practice, an independent institution, which is but subordinated the legislation, will be set up also in Hungary, the purpose of which is the control of budgetary planning processes as well as the cogency of the budget and improving transparency. The new organisation would differ from the State Audit Office, since it would make ex ante studies, assessments and effect analyses, giving partly assistance in the planning and partly, being available to the public as information deriving from independent sources. Thereby, it would help the budget planning, on the one hand, and would provide information from independent sources (e.g. own macro-path and budget forecast) for the public, on the other hand.

In addition to the fact that the new system would mean a significant progress compared to the practice of previous years, it raises a few problems either. On the one hand, certain elements of the new regulations (e.g. the real debt regulation and the resulting multi-annual budget planning) are expected to enter into force in 2011 only. This effect would be abated by the fact that for an transitional period the annual budgetary estimates of the Convergence Programme would be applicable. The regulation system is hard to assess in respect of observability because the appraisals by the budget office to be established would

[71] This is shown, for example, by Ireland's 'social contract', known as the Programme for National Recovery of 1987, concluded between the government, unions and various other social associations. Later, this was followed by several other programmes, for example, on social issues, competitiveness and the labour market. Under a similar agreement between the Belgian central government and the regional authorities, the parties agreed to meeting the fiscal policy objectives set by the High Council of Finance.

not have automatic 'priority' against the government's position, i.e. in case of a different situation assessment, the government could have it adopted by the Parliament. This problem is somewhat counterbalanced by the fact that based on the appraisal by the office, the bill could be put to the Constitutional Court.

Considering all the challenges mentioned, the bill would mean a considerable progress in keeping fiscal policy discipline, since in the previous years there was hardly any regulation system that could guarantee a real budget planning. Naturally, being the system properly planned and elaborated, the existence of political will and wide social consensus is indispensably important for the successful work of any regulation system.

6. 6 Summary

After years of producing unsustainable, very high budget deficit, since mid-2006 Hungarian fiscal policy started its way on the path of a gradual deficit reduction. The initial imbalance was so high that the Convergence Programme set the deficit target of 3.2% defined as precondition for avoiding the excessive deficit procedure only for 2009, the fourth year of adjustment. In 2007 the budget deficit became considerably lower than the value laid down in the Convergence Programme, and attainment of a lower deficit than imposed is highly probable in 2008 as well. According to our assessment, the deficit target is also feasible in 2009 with a strict fiscal policy.

Complying with the Maastricht deficit criteria is only the first step in fulfilment of the rules of fiscal framework system of the European Union. It ensures only that Hungary is no longer subjected to the excessive deficit procedure. In addition, both our obligations under the Stability and Growth Pact and compliance with the ***optimal currency area criteria*** and, in connection with this, the need for a flexible fiscal policy make the progress towards a balanced budget necessary. The experience of the current euro area member states also indicates that countries that joined the euro area with a deficit of less than 3 per cent and continued fiscal consolidation after joining the euro area had a better chance of avoiding the EDP. On the other hand, practically all countries that failed to continue the adjustment after they became members violated the criteria later on.

The past performance of **Hungarian fiscal policy**, i.e. the fact that in the past 17 years the deficit was only once below 3 per cent indicates that more significant steps than experienced in the past are necessary in order to permanently achieve this target. Such an adjustment inevitably affects the structure of the budget and necessarily involves replacement of the key fields of fiscal policy. Of course, such changes influence not only the budget in narrow sense but, to a great extent, other areas of the economy, primarily the labour market, certain product markets and, in connection with it, competitiveness and economic growth. In the above, we attempted to analyse how much the structural, central changes of the Hungarian budget comply with the experiences of EU member states implementing a successful adjustment as well as the recommendations of the literature describing a fiscal policy efficiently supporting economic growth. In addition, some major expenditure and revenue items of the budget were analysed in the respect, how they influence the economic grown in the long term.

On the other hand, the level of government redistribution is a matter of value selection. A permanent fiscal balance can be reached both with low (Baltic republics) and high redistribution (Scandinavian countries), that is, 'there is no royal way'. Nevertheless, we can make general statements, for example, that from among the peripheral countries of the EU

only those were able to permanently maintain a close to balance position where, after a redistribution level that reached historical peaks in the eighties and nineties, a considerable reduction in expenses was implemented and as a final result, a lower level emerged than currently is the case in Hungary. Consequently, also Hungary could attain a close to balance position by consolidation through reduction of expenses with the lowest risks possible. On the other hand, according to European experiences, successful fiscal adjustments were nearly always accompanied by an acceleration of economic growth, and therefore, stimulating the economy and establishing the foundations of long-term growth seem to be a key question also in Hungary.

The expenditure side of the budget is definitely high compared to our level of development, and the internal structure of the budget is also different from the EU and regional average. This latter difference is not expected to be eliminated during the term of the Convergence Programme and it will provide an unfavourable environment for the key factors of growth. According to recommendations of the literature, productive expenditures, and primarily investment in human capital in particular, may mainly support growth on the expenditure side.

On the other hand, in Hungary budget expenditures in health care being dominant in respect of the quality of human capital will continue to fall according to estimates from a level that is currently low by international standards. The weight of expenditures spent on education will also decrease as a ratio of GDP, which is associated with the expected development of number of children, but considering the medium level performance indicators of education significant reduction of such expenditures is not necessarily justified.

Social expenditures are high both as a percentage of GDP and compared to total expenditures, and according to the Convergence Programme they are not expected to change significantly in the next few years. By international standards, social subsidies in Hungary are relatively effective in mitigating poverty; however, spending is not efficient in the case of all forms of support, incentives for work are weak, and need (means-tested benefits) should be taken into account to a greater degree.

In the case of the **pension system** the problems arise not only on the expenditure but on the revenue side and in respect relations to the labour market as well. Pension expenditures are not high by international standards; however, revenues from contributions – especially because of low employment figures – do not cover expenditures. In addition, the number of early retirees is high (especially in the case of disability retirement). Unfavourable demographic processes also have a long-term impact on the balance of the pension fund. In this respect, no reassuring solutions exist yet; however, the system may have to cut back on its generosity vis-à-vis new pensioners (steps have already been taken in this direction), indexing may have to be modified and both the effective and the official age limit may have to be raised further.

The volume of the **revenue side of the budget** compared to GDP is practically comparable to that of other European countries that are at the same level of development; nevertheless, the internal structure of the tax system is not optimal and tax bases are very limited which means that few taxpayers share the tax burden. The very high tax wedge contributes to labour market problems (high unemployment, low employment, high degree of tax evasion). Consequently, the problems of the tax system affect economic competitiveness and growth.

- Currently the **tax burden** (tax wedge) imposed on persons actually paying tax in Hungary is very high even by international standards and has an unfavourable impact on competitiveness and consequently on growth. This anomaly would be remedied by a reduction in taxes on labour (especially high contributions) and the lost revenue could be covered from increasing the efficiency of tax collection, widening the tax bases, or increasing indirect or property-based taxes while the volume of total taxes would remain the same in the short term.
- **Increasing the efficiency of tax collection** and improving the collection of taxes on concealed revenues is a necessity. In Hungary additional revenue equalling approximately 3–4 per cent of GDP could be realised realistically if tax evasion fell to the level of EU member countries. The 'whitening' experienced in 2007 means already certain progress in this field.
- We should also emphasise that **simplifying the tax system** and **reviewing tax allowances** could also contribute to a more effective tax system and to increasing revenues.

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7 Structural reforms in Hungary: inside or outside the euro area?

The purpose of this chapter is to give an overview, on the basis of what has already been described elsewhere in the *Analysis and with the help of a theoretical framework*, of the key structural problems of Hungary and to examine the extent to which they can impact Hungary's ability to comply with the optimal currency area criteria. This approach seeks to determine whether there are structural reforms that would be advisable to introduce prior to joining the euro area in order to realise the potential advantages of adopting the euro and to avoid the potential disadvantages that may arise from surrendering an independent monetary policy. Because the adoption of the euro and the implementation of structural reforms are not merely economic issues, it is also important to examine, on the basis of the relevant literature, to what extent political economy type incentives towards implementing structural reforms change.

Overview – theoretical considerations, international experience

All long-term factors (institutions, incentives, regulatory environment) that prohibit the most efficient use of available resources that is feasible given the level of technological development, can be considered as structural problems. Obviously, a completely undistorted resource allocation is merely a theoretical concept; however, it provides a natural benchmark for comparison in economics that may help determine the direction of desirable structural changes. Undistorted conditions are characterised by perfect competition and a lack of monopolistic structures representing market power, production factors are used optimally and obtain their marginal product and, in the event of external shock, the adjustment is immediate. Distorted conditions are characterised by the lack of perfect competition as a result of which economic agents with market power obtain rents, output and the use of the factors of production are below the social optimum, and adjustment to shocks is more protracted.

Rents that result in market distortions may arise due to market processes or governmental intervention. For example, in the case of a company, rents and market power may originate form entry barriers to its market which may be due to high fixed costs or a regulatory environment that gives preference to the given industry/company. Similarly, if employees have market power (due to e.g. strong unions, employment protection legislation, high and easily obtainable unemployment benefits) then the labour market will realise a rent resulting in a socially less than optimal level of employment. It is important to note that, in addition or partly as a result of the above factors, various types of rigidities may emerge in the economy, which reduce the its ability to adjust to shocks. In the case of companies, market forces may result in price stickiness, while in the labour market the market power of employees may result in nominal and/or real wage rigidities. The more sticky these variables are, the more welfare loss the adjustment to external shocks imply, because economic agents will adjust more in terms of quantities (output or employment) than prices or wages.

In addition to rents that result from market power, the efficient allocation of resources may be distorted by other factors as well. Typically, these are taxes on the revenues that are realised by the factors of production – especially taxes on labour – and governmental expenditures or transfers that represent a negative incentive in respect of entering the

labour market. In addition to a distorted resource allocation, the productivity of the factors of production may be directly impacted by technological development which, to a large extent, depends on the quality of education, the rate at which existing technologies are adopted and – if the economy in question is at the technological frontier – the intensity of innovation.

Structural reforms are economic policy efforts to reduce the distortion of resource allocation, to eliminate factors that hinder efficient adjustment to shocks, and to increase productivity directly. These three efforts are not independent of each other; for example, a reform in labour market regulations may increase employment, improve adaptability to shocks by reducing wage inflexibilities, and may increase work productivity by strengthening competition between employees. It is important to note that a typical developed economy has several factors that may cause distortions, and it is not a trivial what impact the elimination of one of these has on the remaining ones (this also follows form the so-called 'second best' theory, see Lipsey, 2007). Therefore a structural reform aimed at eliminating a given distortion must take into account all other distortions in the economy that may potentially have an impact on the outcome of the reform[72] and/or the length of its effect (see Blanchard and Landier, 2002). In addition, it is important to note that a complete elimination of rents may not be a desirable economic policy objective because for example in the case of innovation and research and development, which are of key importance in respect of economic development, one of the key incentives is obtaining a rent in the future. Similarly, a complete elimination of rents may not be the optimal solution in the labour market because if other distortions exist, it may be desirable that wages exceed the amount that would exist under undistorted conditions, due to efficiency considerations.

Structural reforms that do not interact unfavourably with other distortions in the economy immediately raise the level of potential output; however, actual output, if other market imperfections exist, may follow at a slower pace as a result of which the output gap opens. This warrants the use of aggregate demand policies (fiscal and monetary) for the purpose of smoothing the temporary output gap over time. Therefore, in the short term, structural reforms – the costs of adjustment and the results of interactions with other factors that cause distortions – may result in welfare loss; however, in the long term, they are expected to raise both actual and potential output.

The time profile of the effects of reforms of different types and affecting different markets may vary considerably. As a result of this difference in time profile – at least on a theoretical level – reforms of different types may be combined to minimise short-term costs. In relation to this, launching a particular reform may have an impact on incentives in other areas that may enhance or counteract the reform. An example of this, on the basis of Blanchard and Giavazzi (2003), is the product market reform which may enhance incentives to launch a labour market reform because the rent that can be obtained in the labour market depend on the size of the product market rent and on how it is distributed between employers and employees.

There are very few empirical studies that examine the impact of structural reforms which is primarily due to the fact that reform processes cannot be easily measured. One such study was prepared by the IMF (2004) which reviews the experience with reforms of developed

[72] A good example is the privatisation of state-owned companies in monopolistic positions while at the same time the statutory or regulatory environment that provides the market force stays in place.

countries in the past two decades. Based on various structural indicators it can be said that in developed countries the strongest reform efforts took place in the financial intermediary system, in the product market and in foreign trade while, overall, changes in the labour market and the tax system were considerably smaller. This is in concordance with the empirical conclusion that reforms to eliminate labour market benefits have the highest short-term cost in respect of both output and employment. Experience shows that reforms that reduce distorting taxes – and especially the tax wedge, the difference between net wages and the gross labour costs of companies – have a favourable impact already in the short term on both output and employment; however, according to the above-mentioned study, a condition of the positive impact is a cut in expenditures by the government in order to counterbalance the budgetary revenue that is lost due to the tax reform. This may explain why there was no significant change in this area despite the favourable short-term impact.

Table 7–1 Costs and uses of key structural reforms

	Measures	**Potential short-term costs**	**Expected long-term advantages**
Labour market	Weakening employment protection legislation reducing the costs of hiring / firing employees	Increase in frictional unemployment	Increase in employment, better job matches, increase in productivity
Product market	Weakening entry restrictions, regulations that help create competitive market structures	Decrease in employment in the case of labour market rigidities	Stronger product market competition and innovation, increase in productivity
Tax reform	Decreasing distorting taxes	Increase in budgetary deficit, or a decrease in demand due to expenditure reduction	Increase in employment and productivity

Source: IMF (2004).

Both theoretical considerations and empirical results indicate that long-term benefits exceed the possible short-term costs of structural reforms. In this light it may be surprising that political decision makers are often averse to launching structural reforms. It would be impossible to explain this phenomenon in the framework of an exclusively economic analysis, therefore below we will review political economy type incentives that may be relevant for decision makers.

An obvious reason why structural reforms are difficult to implement is that the relevant time horizon for political decision makers may be significantly shorter than the interval during which the results of the reforms become apparent. This, however, does not necessarily mean that the decision maker assigns zero weight to impacts that appear after the end of the political cycle, because if voters are sufficiently forward looking, a credible commitment to long-term goals that voters perceive as favourable may result in political gain for the decision maker even in the short run. At the same time, credible commitment may be difficult if the decision maker lacks 'political capital', or if the long-term effect of structural reforms appears uncertain which may lead to considerable differences in opinion among voters in respect of expected outcomes.

In addition, structural reforms that are aimed at reducing rents and/or changing the tax system may result in income redistribution even in the long run which also increases the political costs of the measures. Furthermore, structural reforms – especially those that are aimed at reducing rents – may have an unfavourable and concentrated impact on the so-called incumbents that enjoy these rents. If the incumbents are capable of representing their political interests more efficiently than the political actors that enjoy the beneficial impacts of the reforms that arise in the longer run and in a more dispersed fashion, the political decision maker will prefer to preserve the status quo rather than introduce reforms (see Olson, 1965).

Therefore the political decision maker who wishes to maximise his/her chances of re-election will face counter-incentives; however, they may be mitigated if the short-term economic and political costs of the structural reforms can be adequately counterbalanced. Fiscal and monetary policy may be suitable for counterbalancing short-term costs ('two-handed approach', see Blanchard et al 1986). However, there could be significant differences between the efficiency of the two 'painkillers' referred to above, because in developed countries monetary policy is typically independent of the political processes, it is a non-discretional tool with an aggregate effect, and it is less suitable for compensating costs that affect various social groups differently. At the same time fiscal policy may be a more suitable tool because it is under the direct control of the political decision maker and can be used in a more targeted way. However, an important condition of using fiscal policy for the purpose of compensation is the availability of room for manoeuvre. This is also confirmed by IMF (2004): the likelihood of launching structural reforms is favourably affected by a positive primary fiscal balance; while high a deficit or a simultaneous fiscal adjustment may present a counter-incentive. As we have mentioned above, short-term costs may also be reduced by taking advantage of the potential complementarities of the reforms, that is, by simultaneously launching reforms that counterbalance each other's short-term effects to a certain extent. A typical example is the complementarities of product and labour market reforms.

Table 7–2 Incentives impacting the launch of key structural reforms*

	Labour market	**Product market**	**Tax reform**
Positive primary balance (cyclically adjusted)	+	+	0
Fiscal adjustment (increasing cyclically adjusted primary balance)	-	0	-
Ratio of governmental majority	+	0	0
GDP increase below 1 per cent in the given year	-	+	+
Protracted negative economic performance	+	+	0
EU membership	+	+	-
Reforms in other areas	+	0	+

** Based on the empirical results of IMF (2004).*

Incentives against structural reforms may also be reduced if uncertainty regarding the long-term benefits is diminished or if the costs of not introducing the reforms (opportunity cost) becomes widely acknowledged. Based on the analysis of IMF (2004) uncertainty may be reduced by means of continuously monitoring, comparing and analysing international experience in respect of successful structural reforms which, in the case of EU member countries, is represented by the Lisbon process. The alternative costs of the reforms will come to the forefront if the country facing the reforms is undergoing a protracted era of weak economic performance.

Finally, the execution of structural reforms may be facilitated if the government launching the reforms has significant political capital. The country case studies of the IMF (2004) indicate that structural reforms will be most likely launched if the incumbent government has the support of the solid majority of the legislature and has a clear mandate to implement the reforms.

Structural reforms in Hungary and the adoption of the euro

The above discussed structural reforms are aimed at far more comprehensive problems than what is relevant for the purposes of the currency union; however, some areas may be relevant to compliance with the optimal currency area criteria. In this chapter we wish to answer two questions: we look at whether the structural problems of the Hungarian economy have an impact on the desired timing of euro adoption and whether surrendering independent monetary policy changes the incentives related to structural reforms. If the country's readiness for participation in the currency union depends on implementing certain structural reforms or if membership in the euro area would represent a considerable counter-incentive in respect of launching structural reforms that are important in terms of long-term economic growth, it is advisable to implement them prior to membership. Otherwise the adoption of the euro and structural reforms can be regarded as independent of each other.

Current structural problems in Hungary

On the road to EU membership, Hungary took considerable steps in the area of product market deregulation (including the reduction of customs duties and administrative tasks that restrict foreign trade) and the liberalisation of the financial system. Despite these efforts, the progress in product market reforms is still lagging behind that the euro area (or OECD) average, as it was shown in Chapter 5. If the still existing structural problems are remedied – by increasing the efficiency of public services, deregulating network industries and certain services, reducing government subsidies granted to the private sector, improving the business environment (see Chapter 5) – this may have a positive impact on potential output and may increase the capacity of the economy to adjust to external shocks by means of increasing productivity; however, it is not indispensable for meeting the optimal currency area criteria. In addition, it is important to note that because there is some evidence that the domestic labour market is capable of a relatively flexible wage adjustments, the short-term costs of product market reforms may be also more moderate.

As far as the labour market is concerned (see Chapter 1), however, employment and activity is very low in comparison to both old EU members and the countries of the region which indicates structural problems. However, while in the old EU member countries the structural problems of the labour market are typically embodied in the institutions that guarantee the market power of employees (e.g. strong unions) and in regulations

(protection of full-time employees, high costs of hiring and firing, etc.), the role of these factors in Hungary is limited. The low domestic activity rate may be explained by, among other factors, the tax wedge, which appears to be high even in international comparisons, resulting in high employment costs and net wages that are low compared to the marginal product of labour and therefore it has a negative impact on both labour demand and supply. In addition, the magnitude of the tax wedge constitutes a strong incentive to evade taxes (see Krekó and P. Kiss, 2007) which results in higher taxes and therefore a competitive disadvantage for companies that do not wish to or cannot take this road. As a result of the aforementioned factors, the marginal tax rate is very high even in the case of average wages, and the major portion of the income tax is paid by a relatively small number of employees. Another explanation for low activity is employee qualifications that do not match market demand, the easy availability of retirement on the basis of disability or early retirement which has a negative impact on labour supply, the relatively high replacement ratio of pensions, generous childcare allowances for women that provide an incentive to stay at home, and the low level of part-time employment. All the above point to the conclusion that a significant growth in employment may be achieved, by reducing the tax wedge and possibly tax evasion on the one hand and by cutting social benefits that represent negative incentives in terms of labour. It is important to emphasise that, in order to reduce the tax wedge considerably in a way that is sustainable in the long run, lost tax revenues should not be financed from deficit but by cutting the expenditure side, expanding the tax base and/or raising less distorting taxes (e.g. indirect taxes, property tax).

It is apparent from the above that solving the structural problems of the Hungarian labour market is closely related to the expenditure and revenue structure of the fiscal budget. Due to the chronically high fiscal deficit, a precondition of launching structural reforms, which will have a considerable impact on the budget, is reaching a sustainable budgetary position as soon as possible. At the same time, it is important to note that this goal should not be attained at the cost of deepening structural problems (e.g. by raising distorting taxes) because in that case, fiscal stability would be achieved at the cost of narrowing down future opportunities for growth (see Beetsma and Debrun, 2004) which would question the sustainability of the position. In summary, in addition to implementing reforms in the product and labour markets, Hungary probably needs some changes in its fiscal structure so that the low budget deficits the current consolidation is aiming at can be maintained in the future.

Does the adoption of the euro require structural reforms?

In Hungary's case it is important to ask whether the structural reforms that would considerably increase the country's readiness for currency area membership would have to be implemented prior to the adoption of the euro. By surrendering independent monetary policy, the country will lose a potentially important means of adjusting to asymmetrical shocks sustained by the country. If the economy has efficient alternative channels of adjustment, giving up the independent monetary policy does not result in significant welfare loss; however, if these channels are limited, it is advisable to solve the structural problems that may hinder adjustment prior to joining the currency union.

As we have pointed out in Chapter 5, the experience of those euro area countries whose level of development is close to that of Hungary (Club Med countries) may provide an important insight in this respect. The examples of Portugal and Italy indicate that within the euro area a combination of low productivity growth and a labour market characterised by downward wage stickiness and structural rigidities may lead to a significant sacrifice in

growth in the event of an asymmetrical shock that requires the adjustment of the real exchange rate. In the above-mentioned countries, the likelihood of an asymmetrical shock increased due to a sectoral structure that was different from the euro area average and especially to the large weight of low value added industries which had to face stiff competition from developing Asian countries. As a result of the combination of low productivity growth and downward wage rigidities companies were unable to adjust to the shock by means of reducing their unit labour cost. As an additional problem, room for manoeuvre of fiscal policy was restricted due to the high deficit and therefore it was unable help the process of adjustment.

In Hungary's case the likelihood of asymmetrical shocks is lower because the country's sectoral structure is similar to what is typical in the euro area (see Chapter 1 of this study). However, if a shock like this occurred after Hungary joins the currency union, it can be assumed, that the more flexible Hungarian labour market would be able to adjust more smoothly. Based on currently available information, the Hungarian labour market has significant structural problems; however, none of these can be regarded as causing more wage rigidity that the average of the euro area. In addition, available microeconomic data also indicate that the Hungarian labour market is capable of partial downward adjustment in nominal and real wages.

In addition to the relative flexibility of wages, the structural flexibility of the labour market and a high growth in productivity may also facilitate adjustment within the currency union. In respect of the former, it is important to ensure that the educational system can assist employees in acquiring skills and qualifications that can adjust to labour market demand. In order to sustain productivity growth in the long run, competition in the market of products and services may have to be increased, structural reforms aimed at reducing rents may have to be launched, incentives may have to be given to research and development and the quality of the educational system may have to be improved. It is important to note that if Hungary follows the objectives that were laid down in the Lisbon Programme of the EU, it can achieve significant advances in the above-mentioned areas even before it joins and currency area.

In light of the fiscal structural problems which are discussed in Chapter 6, it is important to note that meeting the Maastricht criteria, which is necessary for adopting the euro, in other words, the lifting of the excessive deficit procedure, does not mean that the country has sufficient room for manoeuvre to be able to adjust optimally to asymmetrical shocks. Within the euro area, a precondition of being able to use the channel of adjustment, which is provided by budgetary policy, is reaching the medium-term objective (MTO) in the state budget balance.

A change in incentives after the adoption of the euro

Another issue we examine here is how incentives and counter-incentives in respect of structural reforms will change after Hungary joins the euro area.

An incentive for structural reforms is that the prices of goods and services will become more easily comparable after the single currency is introduced which will highlight those sectors or partial markets where benefits are significantly greater than in other euro area member countries (Duval and Elmeskov, 2006).

On the basis of the previous chapter, surrendering independent monetary policy as a mitigating factor may provide a negative incentive. However, it should be noted that

monetary policy is not directly controlled by political decision-makers and cannot be applied in a differentiated manner to economic agents that incur the short-term costs of structural reforms to varying degrees. Furthermore, model calculations (e.g. Everaert and Schule, 2006) indicate that in the case of structural reforms that increase potential output, small and open members of a currency union are capable of less persistent short-term adjustment because improvements in competitiveness increases the market share of exports which have a favourable impact on aggregate demand. Furthermore, research on the Hungarian transmission mechanism indicates (see Vonnák 2006) that giving up independent monetary policy results in the loss of a less effective demand management tool. Since the Hungarian economy is small and open, the effect of monetary policy on aggregate demand is limited, as its force primarily lies in exercising influence on inflation through the nominal exchange rate, functioning as the main transmission channel. Additionally, another obstacle in controlling demand was that in recent years the share of foreign exchange loans in the household and corporate sectors alike have increased significantly. Furthermore, the increased popularity of foreign exchange loans led to higher levels of risk exposure, as shown in the balance sheets of economic agents, providing additional reasons against keeping the independent monetary policy[73].

Membership in the euro area does not represent significant change in respect of fiscal policy which is a tool of mitigation or compensation that can be used in a differentiated manner. The Stability and Growth Pact (SGP), which demarcates the budgetary room for manoeuvre, has been in effect since our accession to the EU, and joining the euro area will make a difference only to the extent that, sanctions can be taken in the framework of the excessive deficit procedure. At the same time it is important to note that the SGP in effect allows member states to account for budgetary expenses that are related to structural reforms aimed at increasing potential output (European Commission, 2005) but only as long as the deficit temporarily and only slightly exceeds the reference value. Furthermore, as a result of compliance with the fiscal convergence criterion, which was a precondition of membership, the country may be closer to its medium term objective at the time of acquiring membership in the currency union than previously. At the same time, in order to create significant budgetary room for manoeuvre to ensure compensation within the euro area, the deficit must be lower than the 3 per cent reference value. In this respect it is worth noting that the process of budgetary adjustment, which leads to compliance with the convergence criterion, may diminish the political capital of decision-makers which may have an unfavourable effect on launching structural reforms at the commencement of membership in the euro area.

Summary

The Hungarian economy has significant structural problems; however, they are primarily related to the level of potential growth and employment and do not have a significant impact on the ability to adjust to asymmetrical shocks. In respect of the sectoral structure and labour market rigidities, Hungary's position is better than that of Club Med countries, therefore – unless the situation changes before Hungary joins the euro area – the likelihood of Hungary, as a currency union member, sustaining asymmetrical shocks may be lower and labour market adjustment may be more efficient that in the case of these countries.

[73] Although Swiss franc loans comprise a major part of the growth in the overall volume of foreign exchange loans , upon joining the euro area we expect to see the level of exposure to drop one notch compared to the exchange rate risk seen in connection with independent monetary policy

The latter may be further reinforced by structural reforms that promote the growth of total factor productivity. At the same time, the ability to adjust may be significantly limited if fiscal policy only aims at complying with the fiscal criterion that is necessary for membership in the currency union. In order to create adequate fiscal room for manoeuvre within the euro area, the attainment of the medium term objective set out in the Stability and Growth Pact is necessary.

In respect of political economy incentives and by taking into account the structural features of the Hungarian economy, giving up independent monetary policy does not constitute a strong counter-incentive in respect of structural reforms. Within the currency union, fiscal policy will remain the only effective mitigating economic policy tool; therefore the availability of room for manoeuvre is also indispensable for creating a favourable environment for launching structural reforms.

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Appendix 1: How would a non-expansive fiscal policy have affected growth in Hungary? A historical simulation

This simulation seeks to determine the impact of several years' of expansive fiscal policy on the cyclicality of the Hungarian economy. Because the time series are rather short, the consequences of the close to six years of expansion have a distorting effect on the understanding of the economic cycle. We will demonstrate that had fiscal policy been more balanced, the path of Hungarian economic growth would have been different and would have been more synchronised with the European economic cycle. Obviously, we need to take into account that in a situation like that monetary policy would also have been different and because there would have been no growth in demand due to the fiscal expansion, more lax monetary conditions would have been sufficient.

The historical simulation was prepared with the help of the NEM model, MNB's simultaneous macro econometric model.[74] Our starting point was a fiscal path that would roughly correspond to a fiscal policy with a neutral demand effect. In the course of the simulation we proposed assumptions separately for each fiscal variable, and overall we made sure that the aggregate demand effect was generally neutral, close to zero for a longer period. The following Table shows the details of the neutral fiscal path.

Key assumptions of a 'neutral fiscal path'

Variable	Principle of creating a neutral fiscal path
Product market	
Government purchase	Real growth fixed at the average rate between 1996 and 2000
Government investment	Real growth fixed at the average rate of GDP between a 1996 and 2000
In-kind transfers	Real growth fixed at the average rate between 1996 and 2000
Income	
Income tax	Fixed at the rate of year end 2000
Household investment	Reaches 2005 year-end level in a straight line
Supply	
Corporate tax	Fixed at the 2000 year-end rate
Employer's contributions	Fixed at the 2000 year-end rate
Government employees	Decrease consistently to 750 thousand persons from the 2000 year-end rate
Government wages	Reaches 2006 year-end rate steadily, in proportion to private sector wages
Labour supply	less by half of the original increase of government employee headcount
Price-related	
Indirect taxes (mostly VAT)	Fixed at the 2000 year-end rate
Forint risk premium	Reduced in a straight line from the 2000 year-end level to 3.8 per cent

[74] See a more detailed description of the model by Benk et al (2006).

In respect of a government demand effect on the product market (government consumption, in-kind transfers, government investments), the alternative simulation was based on growth rates arising from a more consolidated budget period. We assumed that tax and contribution rates would remain at the 2000 year-end rate. In the case of the labour market effect of the government, a 'neutral path' is guaranteed by the fact that wages in the private sector and in the government sector reach the same rate at the end of 2006, changing steadily over time. In the period under review the number of government employees increased significantly, while in the alternative simulation we calculated with a path gradually decreasing and reaching the current actual number at the end of the period. We also assumed that if the number of government employees had been lower, inactivity (e.g. retirement) would have increased. We also attempted to quantify the impact of the housing subsidy system. The increase in subsidised housing loans can also be looked at as fiscal expansion which resulted in additional consumption demand. On the basis of the estimates of Kiss and Vadas (2005) we assumed that between 2001 and 2003 disbursed housing loans generated approximately 15 per cent consumption demand and, accordingly, we shocked the consumption demand in the alternative path. We assume that had there been no housing loan subsidy system, the bank system would have adapted earlier and household investments would have gradually reached the 2005 level.

The simulation is complicated by the fact that in an alternative fiscal path both monetary policy and foreign investors would have reacted differently. A key consideration of monetary reaction is the expected risk premium of the forint because it would have hade a significant impact on nominal exchange rate changes and, indirectly, on inflation. We assumed that the risk premium of the forint would have gradually fallen from the 2000 year-end level to the level following the budget stabilisation . We described monetary policy reactions with the reaction function included in a study by Hidi (2006). However, we had to take into consideration that had fiscal policy been neutral, the actual GDP would have been different as well and, as a result, the *estimated* potential GDP and the output gap could have been different as well. We solved this problem by running the simulation several times and recalculating potential GDP, the output gap etc. in each step.[75]

Key macro variables along the alternative fiscal path

Annual growth rates, net exports are the difference between growth rates

	GDP	Háztartások fogyasztása	Beruházás	Nettó export	Fogyasztóiár-index	GDP	Háztartások fogyasztása	Beruházás	Nettó export	Fogyasztóiár-index
	tényadat					szimulációs eredmény				
2001	4.1	6.3	5.2	2.8	9.1	4.0	5.7	2.9	3.4	9.3
2002	4.4	10.6	10.2	-2.9	5.3	3.1	8.6	5.4	-1.6	5.5
2003	4.2	8.3	2.2	-3.1	4.7	2.9	5.7	5.9	-3.3	4.4
2004	4.8	2.9	7.6	1.7	6.7	5.2	5.1	5.8	1.4	4.6
2005	4.1	3.7	5.3	4.6	3.6	4.2	4.3	7.1	4.1	2.2
2006	3.9	1.4	-2.1	5.5	4.0	3.6	0.3	0.4	5.1	3.7

Based on our results in the period under review the growth of GDP would have been 0.5 percentage points less on average and between 2002 and 2003 it would have been more

[75] Naturally, we can assume that in the case of the alternative fiscal path all macro variables would have been different and consequently the parameters of the model would have to be re-estimated as well. However, this would have gone beyond the scope of our study.

than roughly 1.5 percentage points lower. Consumption expenditures, due to slower increase in household income, would have increased by 2–3 percentage points less between 2002 and 2003. However, starting from 2004 tendencies would have reversed: consumption would have increased at a faster rate along a neutral fiscal path because the VAT would not have been raised at the beginning of 2004 . An additional impact would have been that between 2004 and 2005 investments would not have been much more different from what actually happened because actual household investments at the time were already held back due to a more stringent housing subsidy system and even government investments only grew at a rate near the 'neutral path.' Net export, due to a lower demand in imports because of a considerably lower rate of growth in consumption and investments at the beginning of the period, would have been favourable overall, however, in the second half of the period we would have measured already only a net export in a volume similar to the actual one, also as a result of slower expansion of export due to the more valorised rate of exchange. And finally consumer inflation, due to a lower forint risk premium and the cancellation of the VAT hike in 2004, would have been lower despite a more lax monetary policy.

If the simulated macro path had been realised, the cycles of the economy would have presented a different picture. Due to the shortness of the data line, measuring the trend and cycle of GDP was greatly influenced by the long fiscal expansion. Chart 1-8 in Chapter 1 shows that in the absence of fiscal expansion, the economy would have had greater fluctuations. Between 2002 and 2003 the Hungarian GDP would have been significantly lower than the trend, and the cyclical upswing around 2000 would have been considered to have been bigger in retrospect. Overall, this cyclical path would have been more synchronised with the economic cycle of the euro area.

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Appendix 2: Methodological questions of analysis of inflation expectations

For the definition of inflation expectations we used the Stock and Watson (2007) stochastic trend – stochastic volatility model (ST-SV), where we will separate inflation shocks to permanent and temporary components:

$$\pi_t = \tau_t + \eta_t, \qquad \eta_t = \sigma_{\eta,t}\zeta_{\eta,t}$$
$$\tau_t = \tau_{t-1} + \varepsilon_t, \quad \varepsilon_t = \sigma_{\varepsilon,t}\zeta_{\varepsilon,t}$$
$$\ln\sigma^2_{\eta,t} = \ln\sigma^2_{\eta,t-1} + \nu_{\eta,t}$$
$$\ln\sigma^2_{\varepsilon,t} = \ln\sigma^2_{\varepsilon,t-1} + \nu_{\varepsilon,t}$$

where $\xi_t = (\xi_{\eta,t}, \xi_{\varepsilon,t}) \sim iid\ N(0, I_2)$, $\nu_t = (\nu_{\eta,t}, \nu_{\varepsilon,t}) \sim iid\ N(0, I_2)$ and ξ_t and ν_t are independent.

A unique aspect of ST-SV is that it can be adapted for the IMA(1,1) inflation model, namely $\Delta\pi_t = (1-\theta L)a_t$, where the random variable delayed value parameter is the combination of the permanent and temporary innovation of the ST-SV model: $\theta = \sigma_\eta/(\sigma_\eta+\sigma_\varepsilon)$. If the θ parameter is high, inflation is dominated by temporary shocks, while in the case of lower θ permanent shocks have a greater role in inflation.

Based on the above, expectations are anchored if the variance of permanent shocks is moderate (low σ_ε), for in this case the economic agents tend to look at inflation shocks as temporary, whereby inflation quickly returns to the level before the shocks have occurred. This particular analysis framework shows price stability as a realistic factor if trend inflation (τ) is low and expectations are anchored. The monetary policy is considered to have 'imported credibility' if the magnitude permanent shocks diminishes upon joining the euro area (declining σ_ε) parallel with the increasing role of temporary shocks in inflation (increasing θ).

Changes in anchoring of inflation expectations are also analysed by formal econometric tests. Gadzinski and Orlandi (2004) did not find any breaking points apart from the beginning of the nineties, however, it is blamed to some extent on the testing method applied, for it allows only for one structural break, plus their model period ends in the third quarter of 2003, which makes the identification of breaking points at the end of the model period a little more uncertain. The Bai and Perron (1996, 2003) testing methods that we use allow for more than one breaking points to be tested at any given time, furthermore, we have access to information up to the third quarter of 2007, which allows for better testing the implications of the introduction of the euro. As the first breaking points indicated by the Gadzinski and Orlandi (2004) and Bai-Perron tests are practically the same, the second breaking points of the Bai-Perron test indicate another break when compared to the results of the Gadzinski and Orlandi tests. The second breaking points shown by Bai-Perron are situated close to the time of joining the euro area, these breaking points support the above-mentioned conclusion, notably that joining the euro area had significant implications on inflation.

Table 0–1 Break-point test results

	Gadzinski and Orlandi (2004)	Bai-Perron breaking points		
		HICP inflation	σ_ε	θ
Germany	-	1990:q3, 1997:q3	1993:q2, 2000:q2	1990:q4, 1997:q4
Spain	1993:q3*	1993:q3, 2000:q3	1993:q3, 2000:q3	-
France	1992:q1	1992:q1, 1999:q3	1992:q4, 1999:q4	1993:q3, 2000:q3
Greece	1992:q4	1993:q2, 2000:q3	1992:q3, 1999:q3	1993:q3, 2000:q3
Italy	1995:q3	1991:q1, 1998:q1	1993:q2, 2000:q2	1987:q4, 1997:q3
Portugal	1991:q3	1992:q2, 1999:q2	1993:q3, 2000:q3	1992:q4, 2000:q3

** In Spain, core inflation showed significant structural breaks.*

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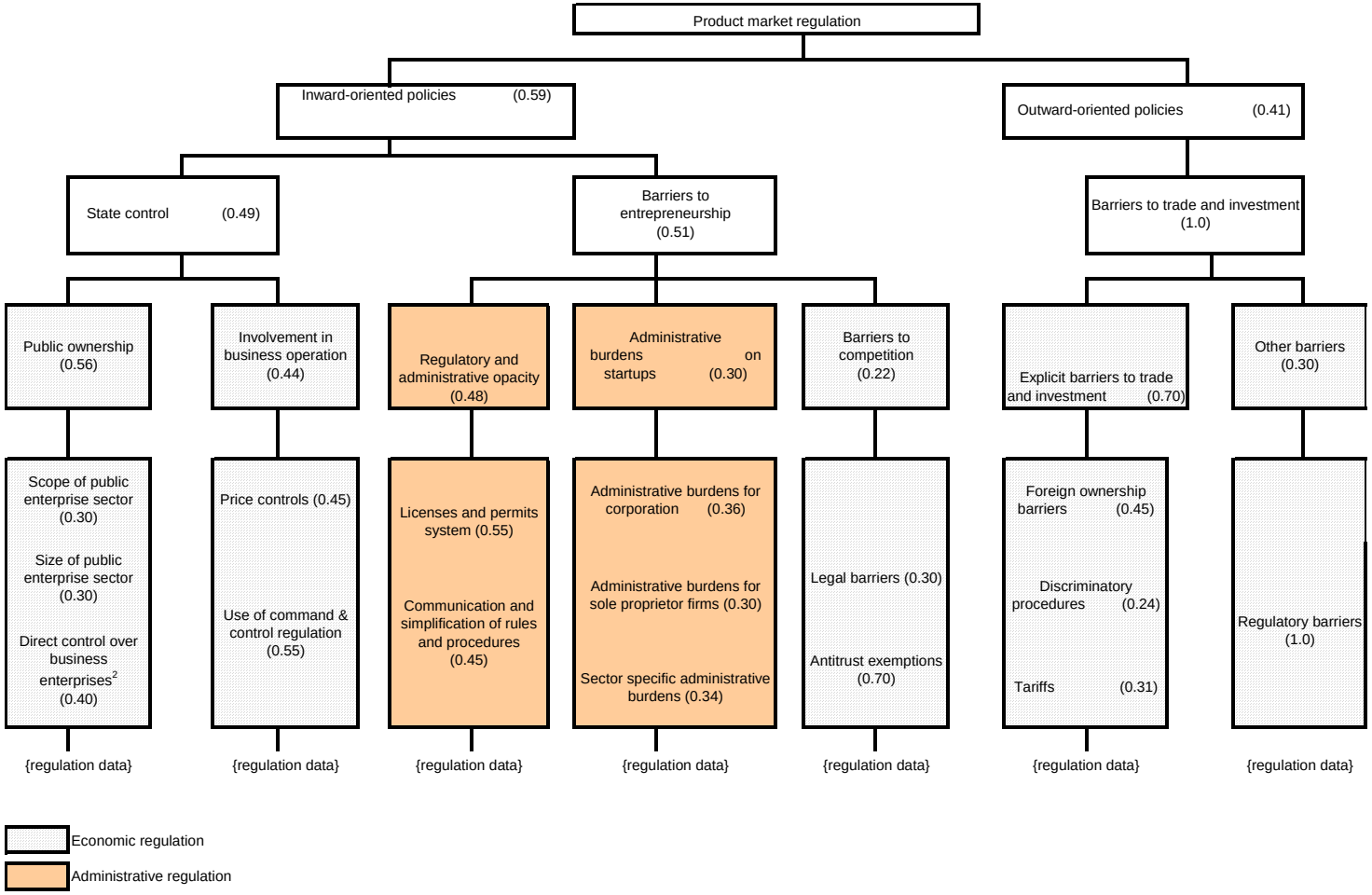
Appendix 3: Indicator system of the product market regulation



1.The numbers in brackets indicate the weight given to each lower level indicator in the calculation of the higher level indicator immediately above it. The weights were derived by applying principal components analysis to the set of indicators in each of the main regulatory domains (state control, barriers to entrepreneurship, barriers to trade and investment, economic regulation and administrative regulation). The same approach was used to derive the weights used to calculate the indicators of inward and outward-oriented policies and the overall PMR indicator. The principal components analysis was based on the original 1998 data.

2. Two indicators from the 1998 version of the PMR indicators ('Special voting rights' and 'Control of public enterprise by legislative bodies') have been combined into this indicator.

Sources: Source: Conway, P., V. Janod, and G. Nicoletti (2005), "Product Market Regulation in OECD Countries, 1998 to 2003", OECD Economics Department Working Paper, No 419, http://www.olis.oecd.org/olis/2005doc.nsf/linkto/ECO-WKP(2005)6