ECONOMIC GROWTH IN THE EUROPEAN UNION

- Sluggish economic growth in many EU countries has been a major concern in Europe in the past ten to fifteen years. In the post-war period up to the 1990s European countries appeared to be catching up with the United States as the gap between GDP per capita in the US and West European countries gradually narrowed. This tendency was dramatically reversed in the 1990s. The catching-up process appears to have come to an end and several EU countries, in particular France, Germany and Italy, have started to fall further behind the US.
• The European growth problems have led to major political discussions within the EU and achievement of fast economic growth has become a key policy objective. A notable expression of the concern for growth was the March 2000 meeting of 15 EU leaders that was held in Lisbon. The agenda set in Lisbon is very clear in its emphasis on economic growth: by 2010 the EU should become “the most dynamic and competitive knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion, and respect for the environment”.
The disappointing growth performance in several EU countries has, however, not been a universal phenomenon. Some EU countries – notably Ireland, Finland, Greece, UK, Spain and Sweden – have performed well in the last ten years. In addition, we are beginning to see “growth miracles” in several new EU member countries, though the short time-span since the start of the EU membership negotiations limits the possible conclusions about economic growth in the new member states. The striking differences in the growth experiences in the EU over the past decade are the motivation for focusing several chapters of this year’s report on the topics that are important for growth and competitiveness of the EU.
• How fast is the current speed of convergence in per capita incomes in the EU, particularly in Eastern European countries?

• How does Europe as a whole compare to the United States?

• What are the main factors behind the different growth performances of the most successful and the most unsuccessful EU countries?
Overview of growth in the EU

• We start our analysis of economic growth in the EU-25 countries by looking at the paths of per capita income. Because comparisons of absolute levels of GDP per capita among countries are difficult due to differences in price levels, we normalize the value of per capita income in 1995 to an index number 100 and show how GDP per capita has evolved in each country. Moreover, the data are not adjusted for purchasing power parity (PPP), because PPP-adjusted data are available only with a lag.
Figure 3.1a confirms that there are remarkable differences among the EU-15 countries in economic growth in the period 1995–2004. On the one hand, we have the Irish miracle, with Finland being a clear second. Economic growth in the UK, Greece, Spain and Sweden has also been fairly rapid. On the other hand, the large economies of Germany, France and Italy are the worst performers in terms of GDP growth among the EU-15 countries. However, country size per se cannot be an explanation for these differences, as the UK and Spain were among the best performers and, among the smaller countries, GDP in Belgium and in Denmark grew rather slowly in the ten-year period starting from 1995. Denmark has been hailed as an example of a country that solved its unemployment problem, but it does not stand out as a good model for economic growth.
• There are also major differences in the growth performances of the new member countries, though on average these countries do grow faster than the old EU countries. Figure 3.1b shows that the Baltic countries, Estonia, Latvia and Lithuania, have had the best performance, while Malta and Cyprus have had the slowest growth. It should be noted that the starting levels of the latter have been higher. If we exclude Malta and Cyprus, then the Czech Republic has had the slowest growth among the new EU members.

• Figure 3.2, showing the cumulative growth in GDP per capita in 1995–2004, puts all the EU-25 countries in a single diagram. The figure shows that the new EU members have mostly done well. They all start, of course, from low levels of living standards as compared to EU-15, a consideration that will be more closely investigated in the section on catching-up and convergence.
• We compare the development of gross national versus gross domestic product. GNP is arguably a better measure of living standards of a country, as it takes into account incomes earned by factors of production owned by the country. Figure 3.3 presents the annual average difference between growth in GDP and GNP for 1995–2004. This difference could be important especially for the countries that have invested abroad or whose residents work abroad. Figure 3.3 shows that GNP growth was indeed somewhat higher than GDP growth for the successful “high-tech” EU countries Finland, Sweden and the UK. In contrast, GDP and GNP growth was almost the same in France and Germany. Italy performed slightly better in terms of GNP than GDP growth. It is also seen that GDP growth for the Netherlands, Ireland, Spain and Belgium overstates the growth in living standards.
Persistent movements in the terms of trade are another factor that can affect comparisons of different concepts of domestic product versus income. In the last fifteen years the prices of IT goods have fallen rapidly, which has reduced the benefits from fast productivity growth in the IT sector. Thus, real income growth in countries that have relied on IT sector exports has been slower than it would have been without adverse price developments. This effect can be nontrivial: for example, in 1998–2004 Swedish GDP at constant prices rose at an average annual rate of 2.8 percent, whereas the rate of growth of its nominal GDP deflated by the price index for domestic absorption was only 2.2 percent.
Convergence in economic growth

- A central question is whether economic growth in poorer countries is on average faster than in richer countries. If this is the case, it is said that there is convergence among countries (in levels of GDP per capita), which in turn is an indication that living standards tend to be equalised in the long run. The main reason for the convergence hypothesis is that the technologically most advanced countries are dependent on the development of new technologies, which is both a time- and resource-consuming activity, whereas technological followers can rely on imitation and technology diffusion to achieve technological progress with lower resource costs.
We investigate the convergence properties of the EU-25 countries. The possibility of convergence can be examined by using different indicators. We look at some well-known concepts of convergence, such as the notions that countries with lower initial per capita incomes have higher growth rates on average (called absolute or beta convergence) and that there occurs a reduction in the dispersion of income levels across countries over time (called sigma convergence). Overall, we find that significant beta and sigma convergence is taking place in the EU, although the rate of convergence is somewhat slower than typically reported for the total OECD.
As a first step, we perform a standard statistical regression analysis that tests for absolute (beta) convergence by regressing the growth rates over the last ten years on the initial (logarithmic) levels of per capita income in 1995 and an intercept. Figure 3.4 demonstrates that there indeed exists absolute (beta) convergence within EU-25. However, the speeds of convergence differ among the EU-25 and the old EU-15 countries. While in the EU-25, the countries are converging at an annual rate of 1.9 percent a year, the convergence rate among the EU-15 countries is only 0.9 percent a year. This suggests that convergence in the EU is mostly driven by the catching-up process of the Eastern European countries to the per capita income levels of Western Europe.
An alternative, non-regression-based method to measure convergence is to examine the development of the dispersion of per capita incomes across countries over time (sigma convergence). This can be done by computing the standard deviation of the per-capita income distribution in the EU-25. Figure 3.5 shows the development of income dispersion over time and confirms the preceding evidence, as we see a clear tendency towards convergence within Europe. Dispersion has declined steadily, except between 1998 and 1999. The convergence rates that can be computed from this diagram are somewhat lower than the previous results from beta convergence. They indicate that the income dispersion is declining at a rate of 1.7 percent a year.
• Our findings suggest that convergence with the EU is taking place, though at somewhat lower rates than what has been found in other studies for a larger set of countries. Using both definitions of convergence, Barro and Sala-i-Martin (2003) computed that the convergence rates are between 2 and 3 percent among OECD countries as well as among US states.

• Our findings can be summarised by noting that the growth process within the EU exhibits clear catching-up of the poorer countries, which are largely the new members from East Central Europe, towards the Western “old” EU countries. This convergence is very gradual and somewhat slower than what appears to hold for the OECD area as a whole. The results show that the major growth policy concerns in the EU should not be the differences between the “old” and “new” EU countries, but rather the sluggish performance of some key Western EU countries. Our descriptive analysis has revealed large differences between the EU-15 countries.
Factors behind growth performance – a growth accounting perspective

- We look more deeply into the sources of economic growth by performing a growth accounting analysis for selected countries. Our aim is to uncover the differences between the EU countries that have been, respectively, successful and unsuccessful in their growth performance. However, before examining the successful as well as the unsuccessful growth cases in the EU, we look at the US, which is the natural benchmark for growth comparisons. Quite appropriately, the US growth performance has been used as the reference point in policy discussions in Europe.
• In general, growth accounting tries to uncover the sources of economic growth by considering the production side of the economy, so that growth of aggregate output is decomposed into contributions from growth in factor inputs (capital, labour and other factors) and from general technological change. This approach can be used in a flexible way depending on the availability of data on inputs of productive factors. It is not possible to measure technological change directly, so its effects are shown by the residual in the growth-accounting decomposition.
• Our analysis uses data provided by the *Groningen Growth and Development Centre* (see in particular Timmer, Ypma and van Ark 2003, who emphasise the role of information technology (IT) in economic growth). In our computation, overall GDP growth is decomposed into contributions from the growth of labour input, non-IT capital input, IT capital input and total factor productivity (TFP). TFP is a measure of general technological progress. The decompositions are based on the equation: 

\[ \Delta \ln Y = \nu L \Delta \ln L + \nu K_n \Delta \ln K_n + \nu K_{it} \Delta \ln K_{it} + \Delta \ln A, \]

where the \( \nu \)'s denote the shares in total factor income, \( Y \) denotes GDP, \( L \) denotes labour input (measured as total hours worked), \( K \) denotes capital, the subscript \( it \) denotes the information technology sector, the subscript \( n \) denotes the non-IT sector and \( A \) denotes Hicks-neutral technological progress that augments the aggregate input.
**Benchmark: sources of growth in the US**

- Applying the basic growth-accounting equation given above to US data, we obtain the results in Table 3.1. The results show that, for example in the five-year period 1995–2000, GDP grew by an average annual rate of 4.2 percent, of which growth of labour input contributed 1.3 percent, growth of IT capital 0.9 percent, growth of non-IT capital 0.6 percent, while general technological progress (TFP growth) on average contributed 1.5 percent per annum. In the latter period 2000–2004, growth was clearly lower than in the preceding five years and it came primarily from the growth of capital inputs (with IT capital again being somewhat more important than non-IT capital) and technological progress. The contribution of labour input was even slightly negative – probably as a result of the downturn in the US economy.
The US benchmark yields several important results. First, the growth rate of the US economy has been quite high, which runs counter to usual notions of convergence. Second, the role of IT capital is quite strong as its growth contribution has been higher than that of other capital. Such a key role of IT is a recent finding in studies of economic growth. A third striking feature of US growth is that growth in labour input played a strong positive role in the late 1990s even if it has had a minor negative contribution since 2000.
Germany, France and Italy

- The results suggest a number of important conclusions. The first striking observation is that labour growth contributed negatively in Germany throughout the ten-year period and in France after 2000. This negative contribution is likely to be due to increased unemployment as well as working time reductions.

- Second, conventional capital appears to have been more important than IT capital for growth in the laggard countries, with Germany being somewhat of an exception in 2000–2004. However, the contribution from growth in IT capital in Germany was very low anyhow. This is in marked contrast to the US, as shown in Table 3.1 above.
• Third, total factor productivity has not been a major source of growth in most cases, though France and Germany in 1995–2000 are exceptions. However, in the period 2000–2004, TFP growth was low in both France and Germany. We will discuss possible reasons for slow TFP growth below. The small role of technological progress is particularly marked for Italy, where non-IT capital growth has been the main source of growth, and TFP growth is even negative after 2000. The Italian experience (as well as that of other earlier high-interest-rate countries discussed below) may partly be explained by the introduction of the euro. The common capital market has induced capital flows from former low-interest-rate countries, like Germany, to former high-interest-rate countries, like Italy. With the introduction of the common currency, interest rates have been equalised across the eurozone. We observe today relatively low contributions of non-IT capital growth in the former low interest-rate (capital abundant) countries and high contributions in the former high-interest-rate (capital scarce) ones.
Fourth, the contribution of IT capital growth has been relatively small in the three laggard countries. Moreover, quite remarkably the share of TFP growth in total GDP growth has declined over time. This suggests that the laggard countries have not been successful in making use of the new opportunities provided by the IT revolution.
The successful cases: Ireland, Finland, Greece, Spain, Sweden and the UK

- Looking at the countries that are usually regarded as the European success stories, it is difficult to find clear patterns that are common to all of these countries. It appears that we can identify two different groups of successful cases. The first group, consisting of Finland, Ireland, Sweden and the UK, has relied on the IT revolution as these countries have had relatively rapid growth of IT capital. Growth of IT capital has been more important than growth of conventional capital for Finland, Sweden and the UK. However, in Ireland non-IT capital has been relatively more important than IT capital, but the growth rate of IT capital has also been high. Tables 3.3a–d show the results of growth-accounting computations for Finland, Ireland, Sweden and the UK.
• This first group of countries is also characterised by the significant role of general technological progress, as indicated by the growth rates of TFP. We can also observe that the increase of labour input has been an important underlying source of growth in Ireland and in the UK. However, this observation does not hold for the Scandinavian countries, as in these countries growth in labour input was negative in 2000–04. The positive contribution in the first period can be largely explained by increased labour utilisation when Finland and Sweden were emerging from the deep recessions in the first half of the 1990s.

• The second group of successful countries comprises Greece and Spain, which also grew clearly better than the average EU country. In these two countries, the sources of growth differ quite substantially from the growth patterns from the first group of countries discussed, where growth was largely driven by IT capital and TFP. Tables 3.4a–b give the results of the growth-accounting decompositions for Greece and Spain.
In Spain, labour input has been by far the most important source of growth. This observation indicates that Spain was very successful in recent years in addressing its unemployment problem. Furthermore non-IT capital growth played a major role, which is partly due to a euro-driven single capital market effect, as previously discussed in the case of Italy. In both Greece and Spain, the perceived “country risk premium” in interest rates explained by exchange rate risk has disappeared after the introduction of the euro. The fall in interest rates has stimulated investment and explains the large contribution of non-IT capital growth. In Greece, the contribution from the individual factors of production has been of relatively similar magnitude, though in Greece the contribution of TFP growth was also quite large in the second half of the 1990s (and surprisingly small in the period 2000–2004).
Why are there differences in growth performance?

- Investigating them may also provide answers to the crucial question: to what extent can economic policy influence growth and what might be appropriate growth policies?
Capital formation in the EU countries

- Table 3.5 shows that most EU countries invested rather heavily in IT capital, which led to impressive growth rates in IT capital services in the boom period 1995–1999. In the period 2000–2004 IT capital growth slowed down. Interestingly, Ireland, Finland, Sweden and the UK do not stand out according to IT capital growth, even though they had significant contributions to growth from this source. The explanation, shown in Table 3.6, is instead that these countries already had a relatively high share of IT capital as their technologies had adapted to the relatively high use of IT capital before the mid-1990s. The same applies to the US. Differences in the shares of IT capital are an important explanation of why the recent growth contribution of IT capital has varied among countries. Early users of IT capital benefited from the high-tech boom of the 1990s.
There is more variation among the EU countries in the growth rates for conventional capital. Ireland, Greece and Spain (as well as Luxembourg and Portugal) have had very high growth rates of non-IT capital. In contrast, the growth of conventional capital has been low for Germany and also Finland, though the latter country is among the success cases in the EU. Finland relied on increases in IT capital for its growth, but this was not the only reason for success. As can be seen from Table 3.3b, TFP growth was a major contributor to growth in Finland. This was in turn a result of structural changes in which low-productivity activities were replaced by new activities with higher productivity (see Honkapohja, Koskela, Leibfritz and Uusitalo 2005 for an analysis of the Finnish case).
Another important aspect concerns how widespread the use of IT is. We compare EU countries, using two broad indicators of IT diffusion. Figure 3.7 describes the share of expenditure (as percent of GDP) on IT in each country, while Figure 3.8 displays the number of personal computers per 1,000 persons. It is evident that Sweden is a clear leader in both these respects. The other high-tech based success cases, the UK, Finland and Ireland are not quite top performers according to these indicators, although on the whole they score well above the average. On the other hand, the other success cases, Greece and Spain, are below average in these indicators, which confirms the view that their success was not based on wide adoption of IT. Of the laggard countries, France and Germany score relatively high – somewhat above average – in terms of these indicators, while Italy is well below the average.
Structure of labour input

- Among the successful cases, labour contributed positively to growth in Spain, Greece, Ireland and the UK over the whole 1995–2004 period, but had partly negative contributions in Finland and Sweden. In the group of lagging countries, the contribution was positive in Italy and negative in Germany and France.

- We decompose changes in the total hours worked into changes in annual hours per worker (working time) and changes in the total number of employed workers (employment). While a reduction in working time might be the outcome of negotiations between unions and employers, and therefore could sometimes even be interpreted positively as a welfare gain, comparable to a wage increase, a reduction in employment would clearly reflect problems in the labour market.
• Table 3.7 shows that total annual hours worked have decreased in almost all EU countries over the 1995–2004 period, Belgium, Denmark and Greece being the only exceptions with minor increases. Remarkably, total annual hours also decreased in the United States during the period 2000–04.

• Employment, on the other hand, has increased in almost all countries. The only instances where employment has fallen are Denmark and Germany. This observation explains why Germany has experienced such a large negative contribution of labour growth to output growth as described in the earlier section. While Germany shared in the working time reductions that were common to most of the EU countries, it also experienced a reduction in the total number of employed workers, reflecting both increases in unemployment and reductions in labour force participation. The combination of a decline in working time and employment makes Germany unique in Europe. This development stands in sharp contrast to the US.
• As regards the successful countries, Table 3.7 is also interesting. Finland and Sweden, which also experienced negative contributions from total hours worked, both had substantial positive contributions from the total number of employed workers. In both countries, the negative contribution of labour to total growth after 2000 was in both countries due to substantial reductions in hours worked per employee.
Technological progress

- TFP growth can be thought of as a measure of general technological progress, which is not embodied in the explicit factors of production: labour and the various types of capital.

Education

- Education is often considered a key determinant of economic growth. It is regarded as one of the most important potential policy instruments for raising both TFP growth and economic growth in general. Education has also been subject to intensive policy discussion in the EU, as evidenced by, for example, the emphasis on education and the information society in the Kok report (EU 2004).
Figure 3.9 provides basic data on the educational expenditures in EU-25 countries. We see that some countries, particularly Sweden and Finland, which were found to have large contributions of IT capital and TFP growth, also have large shares of expenditure on education in GDP. However, the correlation between TFP growth and education spending is not that strong. For example, Ireland and the UK, which also ranked among the highest in terms of the contribution of IT capital and TFP to overall growth, are among the countries with the lowest expenditure on education. The possible links between education spending and growth may be indirect and work through other variables. An analysis of education systems is made in Chapter 4 of this report.
As technological change is to a significant degree associated with the emergence of new and more productive firms, the degree of competition is potentially an important element behind TFP growth. One way for public policy to influence competition is through regulatory policies – a less regulated economy makes it easier to establish new firms and thereby enhance competition in the economy. The findings of Alesina et al. (2005) suggest that regulatory reform leads to increased investment of firms, so that effects of competition can work through increased capital accumulation and not only through TFP growth.
As a general tendency, the EU countries have been moving towards less regulation in product markets, but this has been happening in varying degrees. The successful high-tech EU-15 countries, Finland, Ireland, Sweden and the UK, appear to be among the countries with lowest degrees of product market regulation. Their levels of regulation are nowadays close to that of the US. In contrast, France and Italy, and also Germany, have a higher degree of product market regulation. The same seems to be true for the smaller EU countries that have not done so well in terms of economic growth. We also note that, of the EU success cases, Greece and Spain also have levels of regulation that are comparable to those of the laggard countries. The overall picture is thus not clear cut. It appears that the connection between competition and growth can depend on the nature of the growth process. Conventional sources of growth might be less sensitive to regulatory intervention than growth relying on high-tech and new products, where competition should be particularly encouraged.
• In Greece for instance, a high degree of state control accounted for the high number in 1998 (see Conway et al. 2005). On average, the progress in lowering barriers to competition is due less to increased entrepreneurship and more to reducing state control (like price control, command-and-control measures or direct control of business enterprises) and barriers to trade and investment (like declining average most favoured-nation tariff rates or diminishing restrictions on FDI). According to Conway et al. (2005), the progress in France and Spain was especially driven by a reduced administrative burden for firm start-up, whereas Italy removed legal barriers for entry to some sectors, and Finland, Greece and Sweden improved the system of licence and permits, thus reducing barriers to entrepreneurship between 1998 and 2003.


**Innovation**

- Promotion of innovations and facilitating start-ups of new production activities are another possible policy tool for improving TFP growth. It is, however, difficult to find good measures of innovative activities and start-ups of new production that are relevant for long term growth. We consider investment in R&D.

- Finland and Sweden, do particularly well. Especially in the period 2000–2004, R&D spending as a share of GDP in these countries was even higher than in the US. Ireland and the UK, are not very big spenders on R&D and are below the EU-15 average. France and Germany are ahead of Ireland and the UK according to this indicator. Italy does poorly: its share of R&D in GDP is quite low and is not much higher than the figures for Greece and Spain, which are relying on traditional sources of growth and not on high-tech. Overall, R&D spending seems to have some relationship to fast growth, but the relationship is not very strong.
Eastern Europe

- The results in Table 3.12 show that, similar to Ireland and Finland (which were the EU-15 countries with the highest TFP growth) during this time period, the Eastern European countries experienced large increases in total factor productivity, which has been the largest contributor to overall growth in GDP per capita. The Czech Republic is an exception to this pattern. It is also seen from Table 3.12 that IT capital has played a smaller role in the CEE countries than in the EU-15 countries. Not surprisingly, economic growth in these countries is relying on traditional means of growth in conventional capital, labour and total factor productivity.
• Overall, for the new member countries it is difficult to draw strong conclusions with respect to these indicators. Not surprisingly, these countries tend to score lower than the old EU members, though according to some indicators, such as education, their performance is good. These countries are likely to continue to grow through traditional means – capital investment and TFP growth associated with structural change.
Policy challenges for the EU

• The most striking conclusion is that the Lisbon strategy should be modified. The Lisbon strategy argues for the creation of a uniform model of a high-tech information society for the EU. The problem with this line of thinking is the restrictive focus on a single model; the model is designed to imitate the success of the US economy in creating and making use of the IT revolution.

• There are different routes to success. Finland, Sweden and the UK – have focused on technological transformation and structural change involving increased use of advanced technologies. Finland, Sweden and the UK have indeed many similarities with the US model. But other successful countries have had a different strategy for growth. Ireland has had great success on many fronts and not only in the development and use of IT. Spain and Greece have relied on traditional sources of growth, capital accumulation and increasing labour input.
The different routes to success show that a growth strategy for the EU countries should not be based on a uniform model. Some of the countries are on the frontier of creation and adoption of new technologies. It is natural for these countries to continue with this strategy for growth. However, it must be recognized that the high-tech strategy involves major risks and it is unlikely to be successful for all EU states. Major failures may result if EU-driven technology policy is made the main part of the path forward. The public sector bureaucrats and politicians are probably not the right people for picking future winners in the high-technology businesses. It is better to rely on private profit motives and finance for the promotion of high-technology industries.
Instead the EU should allow for a flexible strategy for growth, in which there is scope for both high-tech-driven growth as well as growth based on more traditional means of capital accumulation, increased labour input and the imitative adoption of new technologies from the leaders. The examples of Spain and Greece demonstrate that the latter approach can also lead to success. Moreover, this is a natural strategy for the new EU member countries to follow, as they are currently well behind the high-technology frontier. Reaching the frontier is a gradual process, which will take many years.
The key elements of growth policy lie elsewhere. First, policies should focus on improving the education systems, and this should be done at both the national and EU levels. The traditional studies of human capital and economic growth show the significance of education and, in addition, there are important complementarities between education systems and the ease of adopting innovations and new technologies. Diffusion of new technologies such as IT involve learning costs that decrease over time with the increasing number of users, and this process is facilitated by a well-qualified labour force. The evidence of high educational attainment in Finland and Sweden supports this conclusion. Both countries are on the IT technology frontier. Clearly, EU countries should direct major efforts to improving their education systems. There are important differences in the performance of the secondary education systems among EU countries as is discussed in Chapter 4 of this report.
An important question in education policies concerns the level of education at which improvements should be focused. The answer appears to depend on whether the country is close or far from the technology frontier. Countries that are close to the frontier should specifically focus on improving the tertiary education systems, as high-technology innovations appear to require more advanced skills than lower-level innovations. The latter are often process improvements and rely on imitative adoption of known technologies. While the US does not stand out in the quality of secondary education, it is obviously well ahead of EU countries in universities, the part of the education system that matters the most for economic growth of the advanced countries.
A second policy conclusion concerns the potential to increase labour input to enhance economic growth. The growth accounting in Section 4 of this chapter showed that labour input has not grown much and in some countries labour input growth was even negative for some periods. Labour market reforms are an appropriate means of raising labour input. Such reforms should include lowering unemployment benefits, introducing employment tax credits and reducing marginal tax rates on labour. Decentralised collective agreements lengthening working hours in firms exposed to heavy international competition (as in Germany) and reversals of earlier legislated working time reductions (for example in France) are other appropriate measures. So are reforms making pension systems more actuarial and increases in the retirement age.
• The third policy conclusion concerns the easing of regulatory policies in the EU. Europe has relatively high levels of regulation that limit competition in various markets. The regulations concern limitations on entrepreneurial activities, entry restrictions and restrictions on labour market adaptability in hiring and firing, which tend to suppress innovation and technological advancements. As noted above, in terms of OECD structural indicators on product market regulation and employment protection regulation, the euro area scores much worse than the US or the UK. Interestingly, Finland and Sweden do well with respect to product market flexibility, but not so well with respect to labour market regulation. The results in the literature are somewhat tentative, but suggest that regulatory reforms tend to increase TFP growth and investment, which in turn should promote faster economic growth.
The preceding conclusions on education, regulation and competition policies are in particular directed at improving the current growth performance of the old EU member countries. However, they also apply, to some extent, to the new member countries as well, though the policy recipes vary somewhat. The main concern of the new EU members is how to catch up best with the Western EU countries. The growth enhancing policies for catching up include, in particular, facilitating technology transfer and improvement of productivity in industries that are mostly below the high technology frontier. Education policy and financing of new firms and innovations continue to be major items on the policy agenda for the new EU members.