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NEW EU MEMBER STATES: ECONOMIC GROWTH, CONVERGENCE AND EFFECTS OF INTEGRATION PROCESSES

Josef Abrhám[*]

Abstract
The aim of the article is to explain current trends and determinants in the economic growth of the new member states of the European Union. Furthermore, the direction of, and prospects for, real convergence in relation to the EU average will be evaluated. The article will attempt to emphasise the external and internal challenges with which the current European economy is faced. It is focused primarily on the impact of globalisation, the current economic recession and the changing conditions for economic development in the environment of the expanded European Union (EU 27). Methodically the study (paper) proceeds mainly from the macroeconomic analysis of empirical statistic indices (indicators) and also from the quantitative analysis of scientific sources. Processes of real convergence will be observed based on the development of GDP per capita in PKS and results of the coefficient of variation. Factors of economic growth are observed as per the growth accounting.

Key words: Economic Growth, Convergence, New EU Member States, Economy

Introduction

The processes of globalisation have fairly uneven effects on the member states. The original member states of the EU 15 belong among the so called core territory of the world economy, for which high labour and other production costs are a characteristic, and which have a negative influence on their global economic standing. On the other hand, the new EU 12 member states have in the past decade represented a dynamically developing region, which is, in many respects, similar to the low cost economies to which business activities of developed states have been transferred. The boosted capital and investment flows have enabled the new member states to accelerate their economic growth, as well as to help their economies approach the level of the EU average. This article reacts to the above mentioned tendencies. Its aim is to

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[*] Doc. Ing. Josef Abrhám, Ph.D. is an assistant professor at the Faculty of International Relations, University of Economics in Prague, Czech Republic, e-mail: abraham@vse.cz.

explain current trends and determinants in the economic growth of the new member states of the European Union. Furthermore, the direction of, and prospects for, real convergence in relation to the EU average will be evaluated. The article will attempt to emphasise the external and internal challenges with which the current European economy is faced. It is focused primarily on the impact of globalisation, the current economic recession and the changing conditions for economic development in the environment of the expanded European Union (EU 27). Methodically the study (paper) proceeds mainly from the macroeconomic analysis of empirical statistic indices (indicators) and also from the quantitative analysis of scientific sources. Processes of real convergence will be observed based on the development of GDP per capita in PKS and results of the coefficient of variation. Factors of economic growth are observed as per the growth accounting.

1 Theoretical and methodological base

Economic growth can be monitored in a short or a long period. In a short period the economic growth is connected with a cyclical development of an economy (short –term fluctuations of a product) and it is measured through indicators of a nominal or a real GDP. In a long term the term economic growth denotes the increase in production possibilities of a given economy, more precisely the increase in a potential product (the output achieved at a full utilization of production factors and at a given technology).

In this chapter the dynamics of the economic growth of the EU member states on the basis of the indicator of real GDP per capita in the period of the last decade (2000-2010) will be evaluated. For the comparison the data of the Statistical Office of the European Communities (EUROSTAT) are used in order to secure the uniformity of the statistical data for all the economies compared. A statistical file of all 27 EU Member countries is examined here.

The analysis of the economic growth both in the short and long periods differs significantly also in respect of its determinants. In the short-term period the dynamism of growth is determined by factors which touch the aggregate demand (household consumption, governmental spending, investments or creation of gross fixed capital respectively and net exports), in the medium-long and long horizons those are the items affecting the aggregate supply. The long-term economic growth is thus determined in part by the number of inputs which stand at the disposal of a given economy and also in part by the efficiency of the

utilization of those inputs. Under the term inputs we refer to production factors (labour and capital). The efficiency of the utilization of inputs is characterized by the indicator of a total productivity of factors. The economic growth is thus influenced by three main factors: growth of labour input; capital deepening and increase in total productivity of factors (technological progress). In order to stipulate the contributions of the individual factors to the dynamism of economic growth it is used so called growth accounting which reports the contributions of individual factors to the economic growth within a given year or a period. On the basis of the size of these contributions it is possible to find out whether the growth was influenced namely due to the contribution of labour or capital accumulation or rather due to the increase in the productivity of the factors (Kadeřábková, 2003, p. 12-33).

Our analysis of the factors of economic growth is based on growth accounting, i.e. on the determination of the contributions of individual factors of growth (capital, labour and total productivity of factors) to the economic growth. The quality of the analysis is influenced by a limited access to joint statistical data of all the EU member states and thus two main sources were used: the LIME assessment framework database (the latest data at a disposal are for the period 2001-2008) and the data of the European Commission (European Commission, 2009).

A number of theoretical studies focused on the research of economic growth deal with convergence. The individual conceptions are not homogeneous; more precisely, they reach different conclusions from the view of a proof or a disproof of the convergence processes. Concepts based on neoclassical theory of growth tend to conclude that in a long-term period there are unambiguous reasons for convergence namely in the conditions of an open economy. As for the reasons for such outcome, they name both mechanism of capital spill-over from rich countries to the poorest ones from the reason of a Loir level of capital yield in the countries with a higher capital share per a worker, and secondly a gradual drop in the differences in a country's endowment with modern technologies. Basic neoclassical models based on the condition of a closed economy do not forecast absolute convergence but only a conditional one which means convergence of economies with similar parameters (rate of savings, rate of population growth and the shape of a production curve). Theory of endogenous growth (new theory of growth) considers both convergent and divergent tendencies as admissible. Demand-oriented models of a policy of growth (various forms of "centre-periphery"

theories, theories of differentiated growth or polarised growth and so on) expect in a long-term period divergence of economies and regions and gaping between developed and developing countries (Holub, 2000, p. 122-131).

Statements coming out from theories of growth were a subject of many empirical tests. Testing of convergence was usually done on the basis of the relation of the average growth rate of per capita income compared to the level of the real per capita income in the initial period. Results of the analyses differ namely due to a different selection of a referential group. The disputes over convergence of countries were disproved only by the authors Barro and Sala-i-Martin who examined first the convergence within the framework of three selected samples of countries. A very heterogeneous sample composed of 118 countries in the period 1960-1985, where a slight relation between the growth rate and the initial level of income was found. More pleasant results from the point of view of convergence were found at the same time in case of a slimmer sample of 20 OECD countries. Even a higher level of convergence was stated by Barro and Sala-i-Martin in case of the respective states of the USA where a period from 1880 to 1990 was chosen as a referential period. The results of the above mentioned studies indicate that within the framework of the world economy an absolute convergence does not occur; to the contrary, it occurs to be happening between the developed and the least developed economies. Only a conditional convergence is obvious which is characteristic for the economies with a similar shape of a production function. This confirms to significant extent the statement of the neoclassical theory but on the other hand does not disprove the theory of endogenous growth whose chief predictions enable a divergent development. The given results from tests of national economies cannot be, however, applied in case of lower administrative subjects – regions of individual countries. In this case the tendency of convergence of economic level has not so far been confirmed, regardless of the fact whether it is during a long-term or a short-term period. However, penetration of convergent and divergent trends occurs (Siebert, 2002, p. 85- 91).

The examination of real convergence is ordinarily done within a framework of a given samples of countries (e.g. the EU countries, new EU Member countries, OECD countries and so on). Convergence can be measured by various statistical methods. As for the research method in our analysis, we use the calculation of variation coefficient. The coefficient of variation is defined as the sum of the absolute differences between national GDP per inhabitant (PPS). In case of the results coming from variation coefficient applies that the higher

values of the coefficient the higher differences occur within the framework of the examined data file. When examining the convergence we thus consider whether there is an increase or a drop in a value of variation coefficient in the course of time. If the variation coefficient decreases there is a convergence within the framework of the examined sample of countries.

2 Economic growth and real convergence

In the past decade, the rate of growth of the real GDP of the EU lagged behind that of most of the world centres, and especially in relation to the developing economies. This, of course, was not the case with the new EU member states. They achieved, in comparison with the rest of the EU, above average dynamics. The most successful countries (the Baltics and Slovakia) even saw, in the middle of the aforementioned decade, double digit growth in real GDP. From table 1 we can see that all the new member states of the EU 12 except Malta between 2000 and 2010 witnessed a convergence of per capita GDP to the EU average. The rate of convergence, however, varied between individual countries. If we compare the initial and current per capita GDP values in a relative expression to the EU average, we see that the fastest rates of approach were, apparently, in Slovakia and Poland (24 percentage points), and after them: Romania, Bulgaria, Estonia, Latvia and Lithuania (coming to about 15-19 percentage points). Slower dynamics of real convergence, on the other hand, were shown by those new member states which had achieved a higher economic level: Slovenia (growth from 6 percentage points); Cyprus; Hungary; (+9) and the Czech Republic (+12). In Malta there was even a deterioration of its comparative position within the framework of the member states of the basic EU (from 84% of the EU average of per capita GDP in 2000, to 83% in 2010).

Table 1: New EU Member states: GDP and GDP per capita (2000-2010)

State	GDP per capita in PPS (EU_27=100)					Real GDP growth rate (percentage change on previous year)				
	2000	2003	2007	2009	2010	2002 - 2006	2007	2008	2009	2010
Cyprus	89	89	93	99	98	3,3	5,1	3,6	-1,7	**1,1**
Slovenia	80	83	88	88	86	4,3	6,9	3,7	-8,1	**1,4**
Malta	84	78	77	81	83	2,2	3,7	2,6	-2,1	**2,7**
Czech Republic	68	73	80	82	80	4,6	6,1	2,5	-4,1	**2,7**
Slovakia	50	55	68	73	74	5,9	10,5	5,8	-4,8	**4,0**
Estonia	49	54	69	64	64	8,5	6,9	-5,1	-13,9	**2,3**
Hungary	55	63	62	65	64	3,9	0,8	0,8	-6,7	**1,3**
Poland	48	49	54	61	62	4,1	6,8	5,1	1,7	**3,9**
Lithuania	39	49	59	55	58	8,0	9,8	2,9	-14,7	**1,4**
Latvia	37	43	56	52	52	9,0	10,0	-4,2	-18,0	**-0,3**
Romania	26	31	42	46	45	6,2	6,3	7,3	-7,1	**-1,9**
Bulgaria	28	34	40	44	44	6,0	6,4	6,2	-4,9	**0,2**
EU_27	100	100	100	100	100	2,1	3,0	0,5	-4,2	**1,9**

Source: EUROSTAT Database

Despite their fairly rapid rate of convergence, the economic level of the new member states remains under the original EU 15 average; even under that of the whole EU. In 2010, the level of per capita GDP of Cyprus (the most developed new member state) came to 98% of the EU 27 average, while that of Bulgaria (the most backward new member state) came to 44%. Ranked amongst the other countries with a high standard of living (measured according to per capita GDP) are: Slovenia, Czech Republic and Malta. Bulgaria, Romania, Lithuania and Latvia have lower rates of per capita GDP.

The rate of growth of GDP of the new member states in the period 2000-2010 did not proceed at an equal pace. The first three quarters of the decade under examination was, in terms of growth, above average for most countries. In the period after the expansion of the EU, up to the beginning of the financial crisis (2004-2008), the average rate of GDP growth increased in constant prices in the new member states by more than three percentage points of the dynamic of the original EU 15. This was one percentage point of the average growth of the South East Asian region (European Commission, 2009, p. 31-35).

During the course of the economic crisis, however, the situation changed dramatically. In 2009 almost all the new EU member states were in the red numbers and differed only in the extent of the drop in GDP. 2010 saw a revival of economic growth already, but it was fairly gradual (see Table 1). Among the worst affected countries during the crisis of 2009 are the former growth leaders: Latvia, Estonia, Lithuania, Romania, and also Slovenia. The crisis caused a sharp decrease in GDP growth in the Baltic States (-13.9% in Estonia; -14.7% in Lithuania; and -18% in Latvia). It even caused a short term divergence from the economic level from the point of view of the EU average. Amongst the successful economies of the period 2009-2010, on the other hand, are Poland, Malta, Slovakia and the Czech Republic.
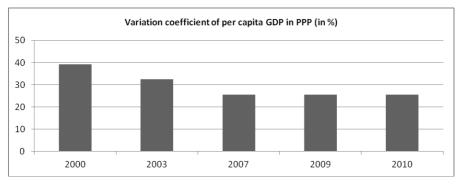
Despite the economic decline, in 2009 the convergence of most of the new member states to the EU average continued. This is accounted for by them having a less marked decline in comparison to the developed countries of the EU 15. The halt in real convergence of most of the new member states could be seen in 2010. In addition to the weakening of the growth dynamics in the countries under examination, the revival of growth of the stable economies of North West Europe (e.g., Germany, the Netherlands, Sweden, etc.) also contributed to this outcome.

Real convergence is the logical result of the difference between the growth of the new and original member states and is not, therefore, dependent only on the dynamics of the converging economies. The current European Union cannot be called an association of new and original member states which are characterised by different levels of economic development and gradual convergence, as it was in the past 15 years. As a consequence of the continuing debt crisis, the member states have rather split into the stable Northern and Western European economies, with good growth prospects, and the countries of South Eastern Europe, whose comparative positions will worsen as a result of structural problems.

At present, we pose the question whether it is only a short term deviation, or does it mean fundamental change in the previous tendencies to real convergence. This is something we will be able to answer completely on the basis of the comparison of longer time scales (e.g., 5-10 years). Current estimates for 2011 and 2012 only point to a deepening of the debt crisis in the Eurozone countries. It is highly probable that this will negatively influence not only the growth dynamics of the affected countries, but also the entire EU.

From the point of view of the new member states we can expect, first, a direct impact on the countries which are resolving the external and internal disequilibrium in their economies (e.g., Romania, Latvia, Hungary, Lithuania, etc.). We can also expect it in the other states, which are strongly export-oriented towards the EU's internal market. Current predictions, therefore, point to repeated slowing of the bigger European economies. In addition, we are leaving out of account the critical scenario arising from the fall of the common currency. In light of this fact, we can evaluate in the short to medium term the convergence outlook for the new member states as markedly uncertain.

Graph 1: The Convergence of economic levels within the framework of the group of new EU Member states

Source: EUROSTAT Database, own calculations.

The processes of real convergence of the new member states can be analysed in relation to the more developed countries of the EU 15, as well inside the groups of the new member states (EU 12). From comparing the convergence of these groups we can see that the approach to the EU average was linked even to the reduction of differences among the countries examined,

in the 2000-2010 period.

From graph 2 we can see that the variation coefficients calculated for the twelve new member states decreased in the 2000-2010 period from 39% to 25%. The cause for this was the faster growth rate of the least developed countries (Romania, Bulgaria and the Baltic states) compared to the more developed countries of the group under examination (Malta, Cyprus, and Slovenia). The current economic crisis has interrupted the above mentioned tendency, which documents the results of the variation coefficients (between 2007 and 2010 the values remain constant). We can confirm the suspension of the mutual convergence of the new member states on the basis of the three year time study. Even for the future it is fairly probable that the above average rapidity of the dynamics of the most backward countries will be renewed.

3 Determinants of economic growth

Factors of economic growth on the supply side

On the basis of the analysis of the growth accounting of the new member states we can identify the overall growth of production factors and the deepening of capital as the main factors of economic growth and convergence in the 2000–2009 period. If we look in more detail at individual states, we discover that the new member states are a fairly homogenous group from the point of view of accounting growth. Table 2 shows that the main factors of economic growth in the 2001–2009 period were, in most countries of the EU 12, the deepening of capital and the growth of the total factor productivity. These components stimulated a large part of the growth in productivity, and gave rise to a satisfactory dynamic in the economic growth. Most of the countries used a combination of the contribution of capital and technological progress.

If we examine the causes of the positive dynamics in the accumulation of capital, and the combined production factors, we find that in recent years there has been an improvement in the investment environment in the new member states. Since the 1990's interest rates have reflected a nominal convergence to the countries of the Eurozone, and what is more, competition has increased in the banking sector as a consequence of privatisation, which supported investment activities (Arratibel and Martin, 2007, p. 36-37). A key role was played in the accumulation of capital and an increase in the combined production factors by foreign direct investment (total volume of FDI in the EU 12

countries almost doubled in the past decade). Investments had significance, not only from the point of view of capital, but also that of transfer technology, knowledge and efficient management systems.

The contribution made by labour to the growth of production in the sample of countries examined (EU 12) is insignificant, even negative, with the exception of Cyprus, Malta and Bulgaria. Bulgaria profited in the following period from better utilised labour (growth in employment). Cyprus rather gained from the influx of foreign labour to its labour market; Malta benefitted from both aforementioned phenomena.

The causes can be found in the negative development of worker participation. Labour markets in the new member states of the EU 10 were, in the past decade, characterised by low levels of employment and fairly high levels of structural unemployment (Potužáková, 2007). The reasons for the relatively high unemployment in the new member states can be linked, above all, to the structural and technological changes in production, which took place in the second half of the 1990's and at the beginning of the first decade of this century. There was a noticeable improvement in the situation on the labour markets in the new member states in the 2004–2008 period. The 2009 crisis, logically enough, showed the opposite. Almost all the new member states, with the exception of Malta, Poland and Romania, noted a drop in total employment between 2008 and 2009. This was extraordinarily significant in the case of the Baltic States.

Table 2: Growth accounting: the new EU Member countries (2001-2009)

State	GDP growth	Capital growth	Labour growth	TFP growth
Bulgaria	4,6	1,8	1,8	1,0
Czech Republic	3,3	1,9	-0,2	1,6
Cyprus	3,0	0,9	2,0	0,1
Estonia	4,2	3,6	-0,7	1,3
Hungary	2,0	2,3	-0,9	0,8
Latvia	4,6	3,6	-0,9	1,9
Lithuania	5,0	2,4	0,3	2,3
Malta	1,5	0,8	0,8	-0,1
Poland	3,9	1,4	0,9	1,6
Romania	4,8	2,7	-1,6	3,7
Slovenia	3,0	2,0	0,4	0,6
Slovakia	5,0	1,9	0,1	3,0

Source: The LIME assessment framework Database, own calculations

The contribution of technological progress to economic growth in the new member states was discernable, even though most qualitative factors of economic growth (e.g., scientific research and innovative potential, educational infrastructure and the level of education and innovative potential, etc. of employees) markedly lags behind that of the original member states of the EU 15. For instance, the share of GDP spent on science and research in all the new member states (with the exception of the Czech Republic, Slovenia and Estonia) does not even come to 1%.

From the characteristics given, however, we cannot infer doubts on claims of modern growth theories about the significance of knowledge factors, but rather that the new member states have different levels of technological advancement, and, at the same time, they profit from low production costs. In future the importance of the qualitative factors of economic growth in the new member states will probably grow as a consequence of the increased technological and costs levels of the economies. Furthermore, it must be stated that the supply of capital and value of the combined production factors in the new member states are still lower than in the original member states, which enables a faster rate of growth. Also, the qualitative factors of economic growth (e.g., expenditure on education or on science and research) as a rule manifest themselves with many years' distance.

Flows of trade and capital as growth incentive within the integration process

The process of EU expansion enabled the use of the main benefits of the integration process, even in the countries of Central and Eastern Europe. After the EU enlargement more dynamic mutual trade ensued, accompanied with strengthening of capital flow and an increase in the transfer of modern technology between the new and original member states.

Of course, deepening economic integration cannot be seen as a brand new post-expansion trend. Quite the opposite; it is a process which has been going on for more than ten years. Foreign trade was liberalised already at the beginning of the 1990's, when the European Agreements between the EU and the candidate states were signed. Already before enlargement a customs union between the new and old member states emerged, which at the beginning of the last decade covered almost 85% of the total volume of mutual trade

(European Commission, 2006, p. 58-59).

In the 2000–2008 period the trade flow between the original and the new member states almost doubled. The development of trade links illustrates exactly the development of the territorial structures of foreign trade of the original, and above all, new member states of the EU. The share of intra-EU trade made up, in the 2004 – 2008 period, in the original member states 65% of the total foreign trade in the new member states. It even came to 76% (European Commission, 2009, p. 31-32). We can discern the growth even in the case of capital flow. Interest on the part of foreign firms from the original member states of the EU in investing in the EU 12 has been increasing since the mid 1990's, but after the enlargement we can see a fairly sharp increase. If we compare the 1999–2003 period with the three year cycle of 2004–2006, we find that the share of FDI to GDP grew from not even 5% to almost 7%, because roughly 30% of foreign investment flowed in from the original member states (EU 15). The structure of the inflow of investment to the original EU member states is, naturally enough, fairly variable. Almost 80% of investors come from other EU 15 member states. The aforementioned situation fairly precisely illustrates the situation of both groups of countries within the framework of the globalised economy (European Commission, 2009, p. 32-33). If we compare the pure inflow of FDI after EU expansion (2004-2008) according to individual countries, we find that the greatest recipients, expressed in relation to GDP, were Bulgaria (20%), Malta (13%), Romania (7%) and Estonia (6%). The worst position, during the same period, was occupied by Hungary, Poland and Cyprus. Compared to the beginning of the current decade, therefore, we can see a shift in attractiveness for investors towards Central Europe and further to the East. As far as the structure of direct foreign investment is concerned, according to the target branch, the decisive part headed to the new member states was destined for the manufacturing and service sectors (mainly trade and financial services). Allocations and main investor countries differ according to individual countries. In Central European countries (the Czech Republic, Hungary, Poland and Slovakia) German investors are the most active, and most investment is concentrated mainly in modern branches of the manufacturing industries (automotive industry, plant and machinery industry, the electro technical industry), as well as in the traditional industrial branches, for instance, food processing or lumber industries (mostly characteristic of Poland). The Baltic States, however, receive investment from their geographically closer Northern neighbours, and a large part of the money goes

to the services sector. Of course, even in the Baltic States the greater amount of investment goes to the export oriented branches of the manufacturing sector. Geographical proximity is a significant determinant of the structure of the foreign investors, but in recent years we can see an increasing number of firms even from the farther regions of the EU (e.g., Dutch and French investment in the countries of Central Europe). The structure of FDI before and after EU enlargement did not change significantly.

Other perspectives of the capital flow to the EU 12 countries are difficult to quantify exactly. The economic crisis has confirmed that the inflow of FDI is strongly dependent on the development of the economic cycle. The economic recession in 2008 and 2009 meant a decrease in the pure investment position of the new member states from 5% in 2007, and to 1.5% in 2009. The effects of capital and trade can therefore be marked down as one of the main causes of the enormous growth dynamic and the convergence of the new EU member states. The impact on the original states was fairly mild. Significant effects could be noted maybe only in the case of the service sector in the Scandinavian countries, and the manufacturing industry in Germany and Austria. The Scandinavian firms profited from the rapid growth in the realty sector in the Baltic States. The growth dynamics in market services increased in the 2004–2008 period in Sweden and Finland to 5.3% compared to 3.3 % in the 1999–2003 period. In the same period we can also see an increase in the industrial growth rate (with the exception of the construction sector) in Germany and Austria from 0.2% to 1.03%, caused by the use of investment opportunities in the neighbouring states of Central Europe.

As for expectations, one of the post-expansion factors of economic development is support from the EU funds. All EU countries, upon accession to the EU, belong among the pure recipients from the EU budget. The poorest countries, naturally, profit the most (Latvia and Lithuania); their pure position in 2006 increased their GDP by 3%. The economically developed new member states, such as Slovenia, Cyprus and the Czech Republic (net income in 2006 was around 0.5% of GDP) had relatively worse position.

A much higher volume of money from the EU funds can be expected in the new programme period (2007-2013), when the new member states become the greatest pure recipients from the EU common budget. The average annual allocations from the EU funds for the new member states in the 2007–2013 period is increasing almost fivefold, compared to those from the 2004–2006 period.

The impact of the EU funds covering the 2007–2013 period is not possible to quantify with precision for the moment, but we can submit current EU Commission estimates, which were published in 2007 (European Commission, 2007, p. 95-98). The methodological approach was based on the HERMIN system (a special statistical model meant for evaluating the impact of cohesion policies on economic development). As the main approach were considered the allocations for individual countries, the level of economic structure of the member states and the extent of openness of individual economies to trade and technological progress. The EU Commission's estimates are illustrated in table 3, from which we can see that the contributions to GDP growth should be in all the countries examined more significant than in the previous programme period (2004-2006). At the same time, however, they are fairly varied for respective countries. The smallest effects were discovered in the case of Cyprus and Slovenia. Conversely, the greatest effects were found in the cases of Latvia, the Czech Republic and Lithuania.

Table 3: The impact of EU cohesion policies on GDP and employment (cumulatively to 2015)

Country	Growth of GDP (in % over the base)	Employment Growth (in % over the base)
Bulgaria	5,9	3,2
Czech Republic	9,1	7,1
Estonia	8,6	5,4
Cyprus	1,1	0,9
Latvia	9,3	6,0
Lithuania	8,3	4,8
Hungary	5,4	3,7
Malta	4,5	4,0
Poland	5,4	2,8
Romania	7,6	3,2
Slovenia	2,5	1,7
Slovakia	6,1	4,0

Source: European Commission, 2007, p. 96.

Transfers from the EU budget, however, do not have the same significance as capital flow and trade within the framework of the internal market, but still it is

necessary to pay greater attention to them. The extent of the effect, therefore, is dependent not only on total allocations from the funds, but above all on the ability of the given countries to effectively use the money in accordance with the instruments of economic policies and the strategies of economic growth.

Conclusion

All the new member states, except Malta, reported per capita GDP convergence towards the EU average between 2000 and 2010. The speed of convergence, however, varied from country to country. The fastest rate of approach to the EU average could be seen in the case of Slovakia, Poland, Romania, Bulgaria and the Baltic states. On the other hand, a slower rate of convergence was shown by those new member states which had achieved a higher economic level: Slovenia, Cyprus and also Hungary.

The rate of growth of GDP of the new member states in the 2000–2010 period did not proceed at an equal pace. The first three quarters of the decade under examination was, in terms of growth, above average for most countries.

During the course of the economic crisis, however, the situation changed dramatically. In 2009 almost all the new EU member states were in the red numbers and differed only in the extent of the drop in GDP. 2010 saw a revival of economic growth already, but it was fairly gradual. The process of real convergence carried on across from that point continuously until 2009, and it only halted a year later. The reasons can be seen in the economic dynamics of the original EU countries. These reported, first of all, an even greater decrease, and in the last year under examination they again underwent a marked revival in comparison with the new member states.

Despite their fairly rapid rate of convergence, the economic level of the new member states remains under the original EU 15 average; even under that of the whole EU. In 2010, the level of per capita GDP of Cyprus (the most developed new member state) came to 98% of the EU 27 average, while that of Bulgaria (the most backward new member state) came to 44%. Ranked amongst the other countries with a high standard of living (measured according to per capita GDP) are: Slovenia, Czech Republic and Malta. Bulgaria, Romania, Lithuania and Latvia have lower rates of per capita GDP.

The main factors of economic growth in the 2001–2009 period were, in most countries of the EU 12, the deepening of capital and the growth of the total factor productivity. These components stimulated a large part of the growth in

productivity, and gave rise to a satisfactory dynamic in the economic growth. If we examine the causes of the positive dynamics in the accumulation of capital, and the combined production factors, we find that in recent years there has been an improvement in the investment environment in the new member states. The process of EU expansion enabled the use of the main benefits of the integration process, even in the countries of Central and Eastern Europe. After the enlargement of the EU, more dynamic mutual trade ensued, complemented by strengthening of capital flow. Investments had significance, not only from the point of view of capital, but also that of transfer of technology, knowledge and efficient management systems. The contribution made by labour to the growth of production is insignificant, even negative, in the sample of countries examined (EU 12); with the exception of Cyprus, Malta and Bulgaria.

The contribution of technological progress to economic growth in the new member states was discernable, even though most qualitative factors of economic growth (e.g., scientific research and innovative potential, educational infrastructure and the level of education and innovative potential, etc. of employees) markedly lags behind that of the original member states of the EU 15. For instance, the share of GDP spent on science and research in all the new member states (with the exception of the Czech Republic, Slovenia and Estonia) does not even come to 1%.

From the characteristics given, however, we cannot infer doubts on claims of modern growth theories about the significance of knowledge factors, but rather that the new member states have different levels of technological advancement, and at the same time they profit from low production costs. In future the importance of the qualitative factors of economic growth in the new member states will probably grow as a consequence of the increased technological and costs levels of the economies. Furthermore, it must be stated that the supply of capital and value of the combined production factors in the new member states are still lower than in the original member states, which enables a faster rate of growth. Also, the qualitative factors of economic growth (e.g., expenditure on education or on science and research) as a rule manifest themselves with many years' distance).

From the long-term perspective namely the stimulation of inactive production capacities through raising the amount of participation on the labour market and encouraging a further increase in productivity as well as technological growth. We incline to the opinion that the most developed economies can hardly compete in the price of a production factor or higher

quality of the production. Therefore, they are forced to focus on the production of specific goods. That diversity can be obtained on the basis of their own high innovating know-how. Thus, they have to develop so called innovating factors – a sophisticated level of business environment and innovating potential. The importance of these factors will increase with raising the economic level and cost characteristics of the economies of the new EU member states. From this point of view there is a challenge ahead of the new EU member states to develop new economic and political instruments of higher quality. The growth enhancing policies should include especially facilitating technology and transfer of innovations, improvement of productivity in industry as well as improved quality of educational policy.

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