

Péter Halmai and Viktória Vásáry\*

## Growth Crisis in the EU – Challenges and Prospects

The following article uses a production function approach to analyse the long-term trends of the European growth potential. It describes the possibility of a further significant decline in the potential growth rate and the mechanisms of this decline. EU Member States are divided into five country groups, and the potential growth rates of each of these as well as the contribution of different growth factors are analysed. The great challenges facing the “catch-up” (Mediterranean and new) Member States with regard to convergence are outlined. Finally, the paper summarises the long-term trends, the impacts of potential shock scenarios on potential growth and the new risks originating from the crisis.

The potential growth rate of the EU15 has been increasingly lagging behind the rates of its global competitors, among them the USA, since the 1990s. Due to the severe structural productivity problems of the EU15 and the insufficient adjustment to globalisation, a permanent and significant decline in the potential growth rate is to be expected.<sup>1</sup> The unfavourable investment environment promotes capital outflow and a notable increase in the share of imported products and services.

### Methodology and Objectives of the Analysis

This analysis was focused on the exploration of the *potential growth* dynamics. Potential growth is the cumulative indicator of the sustainable capacity of the economy while generating growth without inflation. The *production function approach* was applied. Focus was principally given to the supply side of the economy (labour, capital accumulation and total factor productivity (TFP), the main driving forces of output). In the production function, potential growth can be calculated based on the labour and capital inputs and the development of the TFP.<sup>2</sup>

This article reveals both the long-term (several decades) and the mid-term tendencies (2009-2014), taking into account the current crisis in an especially detailed way. The data used originates essentially from the AMECO database, the Ageing Report and the databases and analyses of the EPC Output Gap Working Group.

The study also categorises the EU Member States in two ways. The traditional categorisation divides the EU15 (old Member States) from the EU12 (new Member States) within the EU27. Additionally, the study applied a new non-tradi-

tional categorisation of the countries in the medium-term analysis, categorising the countries into five groups based on their initial circumstances and the vulnerabilities originating from them. The characteristic trends of these five groups will be analysed below.

The exploration of the growth potential is required for determining and applying adequate policies (the policy mix). The analysis of the determinants of potential growth might contribute to the inevitable structural reforms and macroeconomic adjustments.

### Erosion of the European Growth Potential

Longer-term simulations using the production function approach indicate that the potential growth rate in both the EU15 and the EU27 will fall.<sup>3</sup> This reduction will be continuous: the potential growth rate will decline from 2.4% annually in 2004-2020 to an average annual rate of 1.7% in 2021-2030 and then down to 1.3% in 2031-2060.

1 See G. Carone, C. Denis, K. McMorrow, G. Mourre, W. Röger: Long-term labour productivity and GDP projections for the EU25 Member States: a production function framework, European Commission, Economic Papers No. 253, 2006, European Commission, Directorate General for Economic and Financial Affairs; European Commission: The impact of ageing on public expenditure: projections for the EU25 Member States on pensions, healthcare, long-term care, education and unemployment transfers (2004-50), European Economy, Special Report No. 1, DG ECFIN, Brussels 2006; P. Halmai, V. Vásáry: Catching up and the EMU, in: L. Lacina, P. Rozmahel, A. Rusek (eds.): 10 years of Euro: success? Ales Cenek Publisher, Plzen 2009, pp. 83-121.

2 G. Carone et al., op cit.; C. Denis, D. Grenouilleau, K. McMorrow, W. Röger: Calculating potential growth and output gaps – a revised production function approach, Economic Papers No. 247, 2006, European Commission, Directorate General for Economic and Financial Affairs.

\* Institute of International Economics, Szent István University, Hungary.

**Table 1**  
**Potential GDP Growth Rate**

(annual average as percentage)

	2007- 2020	2021- 2030	2031- 2040	2041- 2050	2051- 2060	2007- 2060
CZ	4.0	1.7	1.1	0.8	0.9	1.8
HU	2.9	2.1	1.5	0.9	0.9	1.7
PL	4.3	2.3	1.0	0.3	0.4	1.7
SI	3.7	1.4	0.8	0.7	1.0	1.6
SK	5.3	2.3	0.9	0.3	0.4	2.0
RO	4.9	2.1	1.6	0.6	0.4	2.0
EU27	2.4	1.7	1.4	1.3	1.3	1.7
EU15	2.2	1.7	1.5	1.5	1.5	1.7
EU10	4.2	2.1	1.1	0.6	0.6	1.8

Source: European Commission: The 2009 Ageing Report: Underlying Assumptions and Projections Methodologies for EU27 Member States (2007-2060), European Economy 7, DG ECFIN, Brussels 2008.

The forecasted decline in the potential rate of growth is far greater in the new EU12 countries than in the EU15 states. Output in the EU12 between 2007 and 2030 will expand far more rapidly than in the EU15 countries, i.e. the convergence process will continue. But over time, the pace of convergence will slow and then stop after 2030. Based on the simulations, annual GDP in the EU12 will grow by only 0.6% in 2041-2060, compared to a figure of 1.5% for the EU15 countries. That is, there will be a switch from convergence to divergence, as shown in Table 1.

In the EU12 countries, demographic developments are likely to be a particularly important factor in the decline of the potential growth rate. According to the simulations, labour input might grow until 2010.<sup>4</sup> Thereafter, the working age population is expected to decline significantly, in the long run by about a third. According to the simulation, the working age population in the EU12 will decrease by 37% between 2010 and 2060. This will be an important factor in the decrease in the potential growth rate.

3 In this section we used the quality analysis – based on the production functions – that was carried out for the European Commission. (See European Commission: The impact of ageing on public expenditure..., op cit.; European Commission: The 2009 Ageing Report: Underlying Assumptions and Projections Methodologies for EU27 Member States (2007-2060), European Economy 7, DG ECFIN, Brussels 2008; European Commission: The 2009 Ageing Report: Economic and budgetary projections for the EU27 Member States (2008-2060), European Economy 2, DG ECFIN, Brussels 2009; G. Carone et al., op cit.; C. Denis et al., op cit.)

4 European Commission: The 2009 Ageing Report: Economic and budgetary projections for the EU27 Member States..., op. cit.

The increases in productivity per worker between the EU15 and EU12 countries are converging. In the long run, we are likely to see an average productivity growth rate of 1.7%, which – in the case of the EU12 – constitutes a slowdown of more than 50% over approximately three decades.

Changes in total factor productivity are of crucial importance in terms of both long-term economic growth and convergence. According to the simulations, the growth of total factor productivity might converge between the EU15 and EU12 countries by reaching a growth rate of 1.1% per annum over the next several decades. But the TFP growth has fallen since 1990 in most of the EU15 countries, amounting to only 0.8% each year. If we base our forecast on this slower growth, then the long-term growth prospects are substantially worse than those presented in the baseline scenario.

The decrease in the per capita GDP growth rate is more moderate than the decline in the rate of total output in the period studied because the EU population is declining over the long term.

GDP per capita in the EU12 countries will significantly catch up on the EU15 in the coming two decades. Later this convergence may come to a halt, and by the end of the period under review, the GDP per capita in the EU12 countries may fall somewhat compared to the EU15. The estimated per capita GDP rates are based on the productivity growth of the country group concerned.

Besides these tendencies the growth rate might differ from country to country. This can be explained – especially in the first half of the period examined – via the different productivity dynamics of the countries, a major factor of which is the catch-up potential of the countries. In the second half of this period, the development of demographic factors and labour input will be of great importance.

In summary, according to the simulations, the annual potential growth rate of 2.4% in the EU27 in 2007-2020 is expected to decrease to 1.3% after 2040. In the new member states, the potential growth rate is expected to decline at a greater pace. Thus, real convergence will stop from 2030 onwards and a moderate divergence from the EU15 might even occur. This can be explained by the following factors: first, the productivity growth rate might be rebalanced by 2050, and second, the demographic simulations are significantly more unfavourable in the new member states than in the old ones. *Nota bene*: labour productivity and employment depend on several factors and the simulation utilised the most likely figures.

## Crisis and Potential Growth

### Growing Risks, Slowing Growth

The financial and economic crisis that started in 2008 caused an extraordinarily rapid decline in economic performance. The slowdown gradually became a global recession which hit especially hard in the USA and the EU. New risks have now emerged, including that of a prolonged period of weak potential growth performance and slow recovery.

Taking all these into account, more negative growth prospects can be observed as outlined by the production function based on a long-term supply-side approach.

This is also confirmed by the medium-term simulations, as will be shown below.

The financial crisis has led to lower contributions to growth from labour and capital formation, resulting in unfavourable TFP. The longer-term labour market trends (e.g. the unfavourable trends of the working age population) negatively affect the potential growth rate. The recession intensifies these negative impacts.

The 2009 Spring Forecast of the European Commission indicates an increase in structural unemployment.<sup>5</sup> According to the simulations, a 1% increase in the Non-Accelerating Inflation Rate of Unemployment (NAIRU) results in a decrease of 0.6% in the potential growth rate.

Due to the financial disturbances, investment trends have deteriorated severely. A decline of 2-3% expressed as a percentage of GDP decreases the potential growth rate by a further 0.2-0.3% in the countries concerned.

As a result of the unfavourable effects, the contribution of TFP to growth decreases by about 0.1% a year. These TFP assumptions are conservative: they do not take into account the one-off downward change to be expected in the TFP level and the development of the potential output related to the structural change in a sector.

Empirically it is to be proved that a financial crisis might coexist with drawn-out or steady-state output decline. According to empirical research, a significant decrease

<sup>5</sup> European Commission: Economic forecast Spring 2009, European Economy 3, DG ECFIN, Brussels 2009.

in the potential growth rate was to be observed together with an extended bank and financial crisis.<sup>6</sup> Based on experiences in certain countries (Japan, Finland, Sweden) in the early 1990s, a financial shock will cause a significant decline in the potential growth rate. This process is led by a permanent increase in unemployment and a fall in the investment rate.

### Deceleration of Potential Economic Growth (Medium-term Quantitative Analysis)<sup>7</sup>

In 2009-2010, the potential growth rate of the EU15 is expected to drop to half of that measured in 2008 (i.e. the annual growth rate of 1.3-1.6% is likely to decrease to 0.7-0.8%). The new Member States (EU12) show a similar pattern; their growth rate, however, is higher due to the fact that they are catch-up countries.

In the EU15, the decrease in potential output can be explained mainly by the significant decrease in the contribution of both labour and capital. Structural unemployment is expected to rise by 1-1.5% and investment as a share of GDP might decrease by 3%. TFP is on average low in the EU15, and it is decreasing by approximately 0.1% per year in the EU12. In the EU12, the different factors of potential growth basically react to the financial crisis similarly to in the EU15.

As regards the direction of the growth dynamics in 2009-2010, it is similar in both the old and new Member States. There is, however, a significant difference in the case of the medium-term trends for 2011-2014. The potential growth rate in the EU15 is expected to have recovered by and large in this period. (The dynamics will be similar to those prior to the crisis.) The prospects of the EU12 are much more unfavourable. The contribution of investments and TFP will not have recovered from the 2009-2010 level. The labour market trends might even deteriorate further with time.

### Potential Growth in the Main Country Groups

The financial crisis has affected different Member States to different extents. The symmetric shock has had asymmetric consequences. The intensity of the impact of the financial crisis on a country depended on the country's initial circumstances and the associated vulnerability. The overvaluation of its housing market, its economy's export dependency, its current account position, the size of its financial sector

<sup>6</sup> V. Cerra, S.C. Saxena: Growth dynamics: the myth of economic recovery; in: American Economic Review, Vol. 98, No. 1, 2008; D. Haugh, P. Ollivaud, D. Turner: The macroeconomic consequences of banking crisis in OECD countries, OECD Working Paper No. 683, 2009.

<sup>7</sup> Based on the EPC OGWG database.

**Table 2**  
**Potential Growth, Current Account and the Investment Ratio in the Country Groups**

Country group	Potential growth rate		Current account deficit (as a percentage of GDP)		Investment ratio (as a percentage of potential output)	
	2005	2008	2005	2008	2005	2008
Continental <sup>1</sup> (BE, DE, FR, LU)	0.8- 1.9 <sup>1</sup>	1.0- 1.7 <sup>1</sup>	2.2- 5.2 <sup>1,2</sup>	0.2- 6.6 <sup>1</sup>	18.7- 22.0 <sup>1</sup>	21.2- 23.5 <sup>1</sup>
Reform countries (AT, DK, FI, IE, NL, UK, SE)	1.4- 3.6	1.4- 2.6	3.9- 7.5 <sup>3</sup>	2.2- 8.3	17.7- 22.3	18.6- 22.0
Mediterranean (CY, EL, ES, IT, MT, PT)	0.6- 3.3	0.4- 2.6	from -1.2 to	from -3.0 to -11.0 <sup>4</sup>	20.3- 28.3	15.7- 28.2
Catch-up (CZ, PL, SK, SL)	3.5- 5.4	3.3- 5.0	from -1.2 to -8.6	from -3.3 to -5.1	18.7- 28.0	22.8- 31.2
Vulnerable (BG, EE, HU, LT, LV, RO)	3.1- 7.0	0.8- 5.1	from -7.1 to -12.5	from -6.6 to -22.9	24.8- 37.0	24.6- 40.0
EU27	1.8	1.5	-0.3	-1.1	20.5	21.8
USA	2.5	1.8	-5.9	-4.9	19.9	18

Note: <sup>1</sup> Without the data for LU; <sup>2</sup> except FR; <sup>3</sup> except IE, UK; <sup>4</sup> except CY.

Source: own calculations.

*Editor's note: Figures in the current account deficit column of Table 2 have been revised to reflect correct data and therefore differ from the printed version. Intereconomics regrets the error.*

and its exposure to risky assets might all have played significant roles. In the individual Member States – in relation to the factors mentioned above – the potential growth rate, the investment rate, the structural unemployment rate (NAIRU), etc. differ to a great extent. Below, the countries of the EU27 will be categorised into five groups based on their potential growth trends, their investment as a share of GDP, their main economic and economic policy peculiarities, their advancement in fulfilling the goals of the Lisbon Agenda and, to a lesser extent, their location.

The *continental countries* (BE, DE, FR, LU) are members of the eurozone. Their potential growth rates fell remarkably prior to the crisis. These are countries with current account surpluses (with the exception of FR). The Lisbon reforms have been carried out with restraint in these countries.

The *reform countries* (AT, DK, FI, IE, NL, UK, SE) have shown significant improvement as regards the structural reforms. The Anglo-Saxon and Scandinavian models have proved to be more competitive than the continental one during the

globalisation period. Their potential growth rates exceeded those of the continental countries. At the same time, their growth trends became more moderate preceding the crisis and converged towards the trends of the continental countries. While the smaller countries here belong to the eurozone, three Member States (DK, SE, UK) do not. For the most part, these countries have current account surpluses (with the exception of UK and IE).

The potential growth trends have been very low in some *Mediterranean countries* for years (IT, PT), but in others (EL, ES, CY, MT) they have fallen since the onset of the crisis. A current account deficit and significant structural deficiencies are typical of these Member States.

The *catch-up countries* consist of the Member States that joined the EU in 2004 and showed favourable growth and convergence prior to the crisis (CZ, PL, SK, SL). The two smaller countries are members of the eurozone, but the two bigger countries are not. All of these countries have relatively moderate current account deficits.

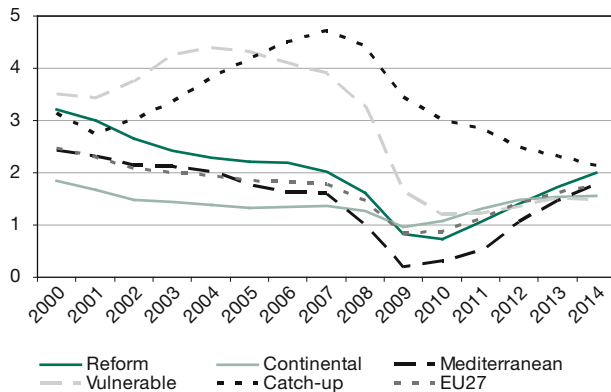
The *vulnerable country* group contains the Baltic states and Hungary, which joined the EU in 2004, and Bulgaria and Romania, which joined the EU in 2007. With the exception of the latter two, the potential growth rate in these countries decreased before the crisis. There is generally little advancement with regard to structural reforms. None of these countries are members of the eurozone. Their current account deficits are for the most part high (double-digit in many cases), and their dependency on external financing and therefore their vulnerability is very high. (The characteristics of the groups and the countries that compose them are displayed in Table 2.)

The potential growth for the period 2006-2014 is shown in Figure 1. Based on the dataset, there are several points that need to be stressed in terms of the country groups.

The potential growth rate in the continental countries (BE, DE, LU, FR) significantly decreased during the crisis, but then recovered, and it might even outperform the previous decade, which was very unfavourable in their case. Among the decisive potential growth factors was a slight intensification in the contribution of TFP (the annual rate of 0.5% in 2007-2010 will increase to 0.8%). According to the simulation, there is no increase in the structural unemployment in this country group. The investment ratio, however, will decrease by roughly 2% of the potential GDP.

The growth performance of the reform countries (AT, DK, FI, IE, NL, UK, SE) highly exceeded that of the previous country group during the first half of the decade. The decrease during the crisis, however, was larger in these countries than in

Figure 1  
Potential Growth in the Country Groups of the EU



Source: own calculations.

the continental countries. The financial turmoil is significant in certain reform countries: exposure to the international flow of capital, the impacts of risky financial assets, the risks associated with toxic assets, and the bursting of the housing bubble might have an impact, too. Due to all that – based on the simulations – the investments decreased to an extent that equalled 5% of GDP when the crisis hit its bottom. Structural unemployment increased by approximately 2%, but even so it is lower than in the continental countries. Among the individual growth factors, the decrease in the contribution of capital accumulation to potential growth is significant. (This factor, which equalled 1% of potential GDP in 2007, will decrease to 0.3% by 2010 and increase to 0.7% by 2014.) The decrease in TFP that started prior to the crisis is a significant trend. During the recovery period from 2011-2012 onwards, the dynamics of the TFP – together with the capital factor – will increase. At the same time, the dynamics of the TFP in the reform countries will constantly exceed the TFP in the continental countries.

In the Mediterranean country group (EL, ES, IT, PT, CY, MT), the potential growth rate was only 0.2% in 2009. During the critical years of the crisis, the contribution of labour to growth developed particularly unfavourably (i.e. negatively). The investment ratio expressed as a share of GDP decreased by more than 5% during the crisis. The NAIRU increased by over 3% and it will continue growing throughout the recovery period. The TFP shows very low dynamics, consistently lagging behind the other two country groups. (It will slightly increase from 2011 onwards.) As regards the potential growth rate, the Mediterranean countries have not been converging toward the more developed Member States of the previous two groups since 2008.

The catch-up countries (CZ, PL, SK, SL) have been consistently converging, but the potential growth rate is also

Table 3  
Potential Growth and Its Factors in the Country Groups

	Potential growth rate		Contribution to potential growth					
	2010	2014	Labour		Capital		TFP	
	2010	2014	2010	2014	2010	2014	2010	2014
Continental	1.1	1.6	0.1	0.2	0.5	0.5	0.5	0.8
Reform countries	0.6	1.9	-0.3	0.2	0.3	0.7	0.7	1.0
Mediterranean	0.3	1.8	-0.2	0.6	0.3	0.5	0.2	0.6
Catch-up	3.0	2.2	0.2	-0.5	1.5	1.3	1.3	1.3
Vulnerable	1.2	1.5	-0.5	-0.3	1.6	1.6	0.1	0.3
EU27	0.9	1.8	-0.1	0.2	0.4	0.6	0.5	1.0
USA	1.4	2.1	0.0	0.2	0.5	0.9	0.9	1.0

Source: own calculations.

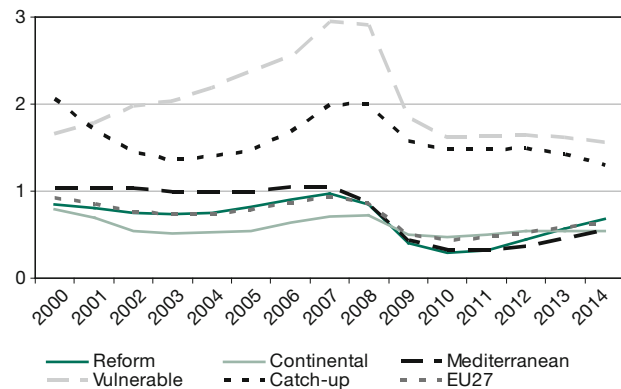
decreasing as the countries climb out of the recession. The catch-up effect is slowing, and labour input will be particularly unfavourable in 2013-2014. Structural unemployment (especially in Poland) will continue to decrease and will hit a level lower than that of the continental countries by 2014. When the crisis hit the bottom, the investment ratio decreased by about 3% and then began to increase again, but it will not reach the previous ratio. The contribution of capital to potential growth has been continuously decreasing since 2008. The TFP rate decreases until 2009 and later stabilises at an annual rate of 1.3%.

In the vulnerable countries (BG, EE, HU, LT, LV, RO), the structural unemployment rate will increase by more than 2%. The investment ratio will decrease by approximately 7% in two years. This is why the decrease in potential growth is dramatic, dropping from an annual rate of 3.3% in 2008 to 1.2% in 2010. The contribution of labour has been negative since 2008. The TFP rate has hit the level of the Mediterranean countries and from 2010 onwards it will drop even below that level. The potential growth rate will not reach the EU27's average from 2012 onwards. This group, in which there are great differences between countries, is highly characterised by the convergence crisis, namely that convergence will vanish, and consequently this group will lag behind the average development level of the EU27.

Based on the analysis of the medium-term growth processes in the country groups (the main factors of which are listed in Table 3), there are several conclusions that can be drawn:

- The financial crisis might generate a significant decrease in potential output and it might have a remarkably nega-

**Figure 2**  
Contribution of Capital Accumulation to Potential Growth

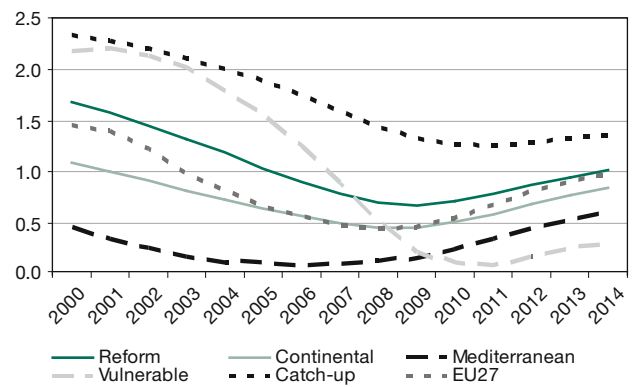


Source: own calculations.

tive impact on labour (particularly on the non-demographic driving forces, such as NAIRU), capital and TFP.

- As regards mid-term potential growth, the individual country groups show substantially different mid-term trends. While the more developed countries and those that are members of the eurozone will come close to achieving their previous growth rates, the potential growth rate will decrease in the less developed Member States. Because of this, the growth rates of the country groups will converge (though this cannot occur as regards the potential GDP level.) In other words, a surprising convergence in the growth rates of the different country groups might develop (see Figure 1).
- The contribution of individual factors to potential growth is very different. Structural unemployment (NAIRU) will decrease slightly in the catch-up countries, remain unchanged in the continental group, increase by about 2% in the reform countries and increase by about 3% in the Mediterranean and vulnerable country groups. The investment ratio in the continental and reform countries will recover by and large to the level preceding the crisis. It will decrease by 2% in the catch-up countries and by about 4% in the Mediterranean and vulnerable countries. The contribution of the labour input is modest on the whole, while its contribution is negative in the case of the catch-up and vulnerable countries. The contribution of the capital factor is most modest in the continental and Mediterranean countries (see Figure 2). The TFP as the decisive factor of potential growth in structural terms will grow after the crisis bottoms out, but it will remain at a low level on the whole (see Figure 3). The most unfavourable dynamics of this structural component are to be expected in the Mediterranean and vulnerable country groups.

**Figure 3**  
Contribution of TFP to Potential Growth



Source: own calculations.

- As regards potential growth and the contribution of the individual factors, the most unfavourable trends were also experienced in the Mediterranean and vulnerable countries (see Figures 4 and 5). In the period under analysis, the catch-up will practically stop in these country groups.
- The predicted decrease in the dynamics of the potential output for the coming years is dramatic in size (see Figure 5). In the Baltic states, the annual increase in the potential output will fall from 5-6% to 1-2%. In the case of Hungary, the rate of 3-4% might fall to below 1% annually. In certain new Member States, real convergence might stop in the short run and divergence with the more developed countries may even occur. This convergence crisis might cause severe tensions in the medium-term period, in both the countries affected and the EU as a whole.

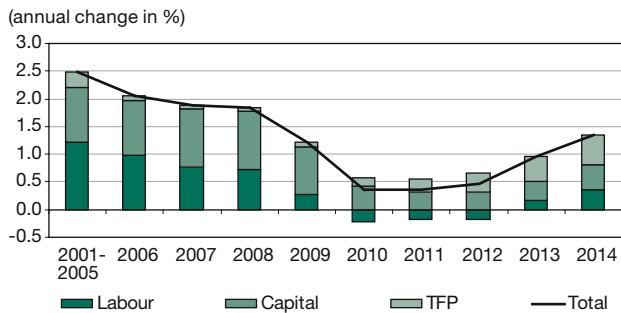
### Alternative Long-term Scenarios

The long-term scenarios discussed above indicating the erosion of the European growth potential might be considered rather optimistic when taking into account the analysis of the impact of the current crisis on potential growth.

In order to calculate the impact of the current crisis, alternative scenarios need to be set up. In view of the large uncertainty regarding the length of the slump in economic activity, the temporary and permanent shocks need to be defined and differentiated.

Two temporary shock scenarios can be described: a “lost decade” and a “rebound” scenario. These scenarios con-

Figure 4  
Potential Growth in the “Mediterranean” Countries



sider potential growth, i.e. they are based on the supply-side factors.<sup>8</sup> Those figures are much lower than the baseline projection for the period through 2013. The annual potential GDP growth in the EU27 in the latest analysis carried out by the European Commission is around -0.9% lower in both scenarios than in the baseline scenario.

The potential growth components will then converge to reach the growth rate projected in the baseline:

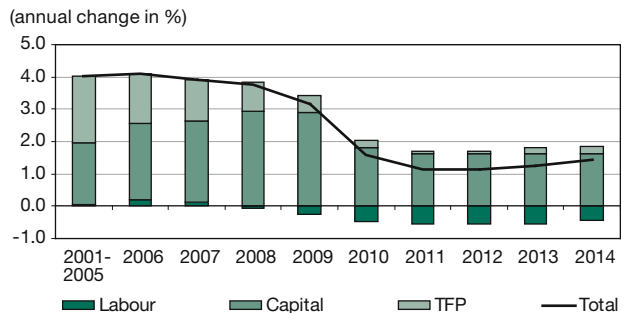
- In the lost decade scenario, labour productivity is assumed to reach the baseline growth rate in 2020. Labour input is also assumed to reach the baseline growth rate in 2020.
- In the total rebound scenario, labour productivity and labour input are expected to reach the baseline level in 2020.

Given the current economic crisis and a very considerable degree of uncertainty, the impact of a permanent worsening of the growth potential can also be analysed. This is the “lasting and increasing loss” (or “permanent shock”) scenario. According to this scenario, from 2014 to 2020 labour productivity growth and labour input growth will reach the baseline figures, but the unemployment rate will permanently remain 1% higher and the labour productivity growth rate will remain 0.25 % lower than the baseline from 2020 onwards.

The lost decade scenario causes a lower per capita GDP level by the end of the period examined compared with the baseline. It implies lower expected potential growth through 2020. This period is “lost” in terms of accumulated wealth creation. The loss in GDP per capita in the EU27 will be

8 The projections are based on European Commission: Economic forecast Spring 2009..., op. cit., and these are extended using the EPC OGWG method. European Commission: The 2009 Ageing Report: Economic and budgetary projections for the EU27 Member States ..., op. cit.

Figure 5  
Potential Growth in the “Vulnerable” Countries



Source: based on the database of the EPC Output Gap Working Group.

around 11% in 2020. This scenario carries over the loss into the rest of the projection period. The growth projection remains broadly unchanged between 2020 and 2060. In the total rebound scenario, the GDP per capita by 2060 is the same as in the baseline (the deterioration relative to the baseline up to 2014 would be offset by the improvement between 2015 and 2020).<sup>9</sup>

A more marked reduction in the GDP per capita level occurs in the lasting and increasing loss scenario. In that case, the GDP per capita is 12% lower in 2020 than in the baseline, 16% lower in 2040 and 20% lower in 2060. This indicates that this scenario reflects significantly lower growth throughout the projection period than was previously assumed. The growth path of the different scenarios is summarised in Figure 6.

The permanent shocks would result in the complete collapse of the growth and catch-up models in Europe. In the long term, GDP would drop by a fifth, and the chances of real convergence would deteriorate dramatically, though this will vary from country to country.

### Some Conclusions

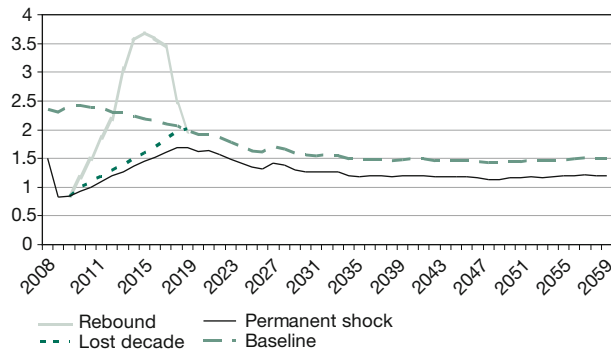
Three main conclusions can be drawn from this analysis. First, faced with the challenges of globalisation and the competitiveness problems of the European Union’s economy, the average annual rate of potential growth in the European Union of 2.4% could fall to half that level on average in the coming decades. This may in part indicate adverse demographic changes, but its decisive structural element is the downward trend of total factor productivity.

Since accession, the new member states have been following transition paths leading to substantial convergence. Yet the pace of this convergence will dwindle over time and may eventually stop. In three decades, the growth in these coun-

9 European Commission: Economic forecast Spring 2009..., op. cit.

**Figure 6**  
**Potential GDP Growth Under Different Shocks**

(annual growth rate)



Source: European Commission: The 2009 Ageing Report: Economic and budgetary projections for the EU27 Member States (2008-2060), European Economy 2, DG ECFIN, Brussels 2009.

tries might be more moderate than the average of the EU15 at that time. It is possible that the convergence of the new member states will reach around three-quarters of the per capita GDP level of the EU15, i.e. after the rapid initial convergence, the EU12 countries will increasingly constitute a stagnant “convergence club”.

Second, the present global crisis resulted in the deepest recession we have seen since WWII. New risks appeared. The new Member States have been experiencing a continuous fall in potential growth since 2008, and the size of the potential decrease in the medium-term potential growth rate in some of these states is dramatic. In these countries, real convergence might stop in the short run and may even reverse. We refer to this as a “convergence crisis”.

As regards the potential growth rate and the contribution of individual factors, the most unfavourable trends – based on the mid-term quantitative analysis – could be found in the Mediterranean Member States and vulnerable new countries. In the period under analysis, the catch-up will practically stop in the medium term in these country groups.

Third, the risk of shock repetition is high. These changes project further erosion of the growth potential in Europe. Due to the crisis and its potential long-term impacts, there might be scenarios which are more unfavourable than those of decreasing potential growth indicated above. The trajectory of the permanent shocks threatens the complete collapse of the European growth and convergence model.