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FINANCIAL CRISIS ¬- EURO ADOPTION AND POTENTIAL GROWTH

Old and new challenges for new member states

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FINANCIAL CRISIS AND POTENTIAL GROWTH IN THE NEW MEMBER STATES

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Abstract
In this paper we examine the convergence and potential growth prospects of the new member states with special attention on the financial crisis and credit crunch. Simulation results suggest that the changes in attitude towards risk (appearing in the form of persistently high risk premium) brought on by the turmoil may have a persistent negative impact on potential growth of the NMSs. The persistently higher risk premium accelerates the equalization of long term productivity growth rates, catching-up may stop and the basis of convergence disappears.

Keywords: nominal convergence, risk premium, financial crisis, potential growth

JEL: F36, F43

FINANCIAL CRISIS - EURO ADOPTION AND POTENTIAL GROWTH

Old and new challenges for new member states

Introduction

Fulfilment of the nominal convergence criteria of the monetary union is in itself a great challenge for the new member states. The countries concerned performed significant growth and convergence during the past years. This convergence process has resulted significant changes in the financial and (as a part of it) in the credit system (financial deepening). However - as it became apparent – the favourable developments strongly depend on the level of the risk premia.

When countries are in transition both the level of capital accumulation and the marginal product of the capital is high, but there is no boom in the economy as risk is high. EU accession reduced the risk premia. As the marginal product of the capital remained high, higher return could be yield in these countries. This process explained the credit (and economic) boom in the countries concerned, and this process is threatened by the crisis.

The financial and economic crisis, which started in 2008, caused an extraordinarily rapid decline in the economic performances. *New risks* have emerged, which will burden the economic activities in the future, too. The shock to the risk premium brought about by the crisis has significant macroeconomic and growth effects influencing the catching-up process of the new member states. Capital accumulation, total factor productivity (TFP) and NAIRU can all be affected by the changes.

In this paper we examine the convergence and potential growth prospects of the new member states with special attention on the financial crisis and credit crunch. In the first part of our paper we highlight certain phenomena (large capital inflow and credit expansion) which usually form an integral part of the convergence process, but - in case of changing risk attitudes - become dangerous and can contribute to the deepening of a financial (and economic) crisis. The second and third part focuses on the question: how the retreat from risk and the search for liquidity by investors influenced the convergence process and the growth performance of the NMSs. Changes generated by the financial crisis (and credit crunch) have several macroeconomic consequences but these can be assessed only in comparison to the longer term prospects. Therefore, we start with the longer term prospects of potential growth (simulated with production function method) in section four and continue with the modifying effects of the crisis in section five. With the help of the results of QUEST simulations, we try

to answer here the question: how the financial crisis may influence the potential growth prospects.

1 Crisis deepening special factors in the new member states

Here we would like to highlight certain phenomena (large capital inflow and credit expansion) which usually form an integral part of the convergence process, but - in case of changing risk attitudes - become dangerous and can contribute to the deepening of a financial (and economic) crisis.

1.1 Large and volatile capital flows

High investment return generated *significant capital inflows* to the new MSs during the catch-up process *posing a challenge to macroeconomic and financial stability.* The external financial vulnerability of the countries concerned increased significantly. (For details see e.g.: Begg et al., 2003; Lipschitz et.al., 2005).

The potential distorting effects of large capital inflows largely depend on the structure and use of the *incoming funds.* Two thirds of the capital inflow has been generated through FDI over the past years (2004-08) that is a relatively stable (not completely risk free, though) form of financing. In certain cases it has been accompanied by high external deficit. There is no problem with that as long as the incoming capital is used for improving the long term repayment capacity, through productivity growth in the tradables sector. At the same time, the high rate of investments *in sectors that don't enhance the production potential* (e.g. housing development) might trouble certain NMSs. (In Autumn 2008 it has been very dangerous in certain countries that the housing bubble burst and it has been exerting spillover effects on the financial system.)

Even higher risks are posed by those capital flows *that do not belong to the types of functioning capitals* (i.e. which are characteristically financial market capital flows). Those are very sensitive to the interest rate margins and the risk premia. The net financial market capital inflow has been typical on the one hand of countries with fixed exchange rate, while on the other hand, of cases with high return margin. (An example of the latter case is Hungary where the capital inflow was mainly portfolio investment into government securities.)

The *main risks* of the large capital flows are the following:

- through the increase in domestic demand it might result in an overheated economy with high current account deficit and high inflation;
- it might appreciate the currency of floating countries to an unjustified extent;

- in certain catching up countries the necessary economic policy changes might be delayed;
- it risks the sudden capital outflow should the vulnerability of a given country be evaluated differently.

1.2 Excessive credit expansion, overheated economy

One of the biggest challenges for the NMSs is considered the rapid credit growth, furthermore the risk of the related overheatedness and inflation. Both demand and supply factors have enhanced the credit outsourcing.

There has been a particularly intensive increase in the mortgage loan. (Often in foreign currency, that is creating an indirect exchange rate risk for the bank system.) *The pace of credit growth* was extraordinarily strong both in the household and the non-financial corporate sector in the NMSs. This trend was based mainly on the following factors:

- Structural change in the banking sector (privatization, foreign access, larger competition, growing range and complexity of financial products).
- Exceptionally low global interest rate environment.
- Large decrease in real interest rates. (Risk premia have decreased and the convergence of the interest rates towards the level of the Euro zone has started – also in line with the significant capital inflow. At the same time due to the Balassa-Samuelson effects and other causes *low domestic real interest rates* have evolved as a result of the inflation higher than that of the Euro zone.)
- Risk premium – in the case of significant capital inflow - does not necessarily grow even if the inflation rises. Paradoxically this might further decrease the real interest rates. In this case the interest rates have procyclical behaviour contributing to further credit expansion.
- Enhanced supervisory (regulatory) framework strengthened the confidence of the investors.
- Loans in foreign currency are widespread in most of the NMSs (exchange rate risk, interest rate disparity).
- Credit rates under the long run equilibrium rates. (See: Backé et al (2006)). According to Darvas and Szapáry (2008) it is of high importance from the point of view of the macroeconomic stability *how fast the credit reaches the equilibrium level.* The rapid expansion of the credit portfolio poses challenges for the risk

management and the surveillance. (The level of domestic credit and external debt is indicated in Table 1.)

Table 1: Level of domestic credit and external debt

	Credit/GDP 2007	Eternal debt/GDP 2006
Cyprus	176,5	81,5
Malta	143,2	n.a
Check Republic	54,0	40,8
Slovenia	76,3	82,9
Hungary	69,3	108,6
Slovakia	54,8	58,5
Poland	41,0	49,4
Estonia	95,1	101,2
Lithuania	55,4	63,7
Bulgaria	56,0	84,1
Romania	37,8	42,4
Latvia	110,1	118,2
EA-12	134,5	171,6

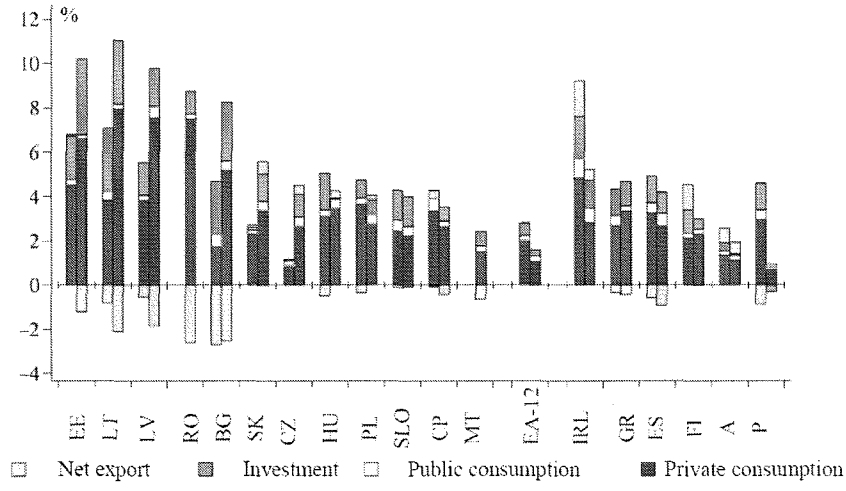
Source: Darvas- Szapáry, 2008 based on Eurostat, IMF, ECB data

The rapid credit expansion contributed to the fast consumption growth. Figure 10 indicates the growing contribution of the private consumption to the GDP growth in the new MSs.

The fast consumption growth keeps the savings low which lag behind the investments more and more. In the less developed NMSs with the fastest credit expansion the current account deficit has increased remarkably. In certain countries it went hand in hand with a significant increase in the external debt. If this increase is fundamentally based on consumption and housing credits the resources - as investments - don't flow into the tradables sector. It is unfavourable from the point of view of the competitiveness and the future growth.

Figure 1: Contribution to the GDP

(based on the average of 1997-2001 and 2002-2006)



Source: Darvas-Szapáry, 2008

International economic experience shows that financial crisis is often preceded by fast credit expansion, strong real effective exchange rate appreciation and high current account deficit. That's why as regards the maintenance of the stability it is of high importance *to keep under control the credit expansion and to keep down the current account deficit.*

1.3 Other context

Prior to the EMU-accession an exchange rate flexibility of certain degree might help manage the capital flows, assess adequately the country risks and it might reduce the foreign currency credit. In the case of worsening financial conditions there might be a risk of significant adjustment.

According to the simulations of the DG ECFIN the long term adjustment enhanced by the *credit boom (demand shock) might be more painful and potentially longer lasting than in the case of the supply (productivity) shock* (European Commission, 2008; 214 p.). The less flexible the factor markets are and the more frictions prevent the relative prices from a quick adjustment the more this will happen. At the same time deviations from the perfect vision (exaggerated optimism, underestimation of the risks) might aggravate the shocks in the new member states.

2 New challenges of convergence during the crisis

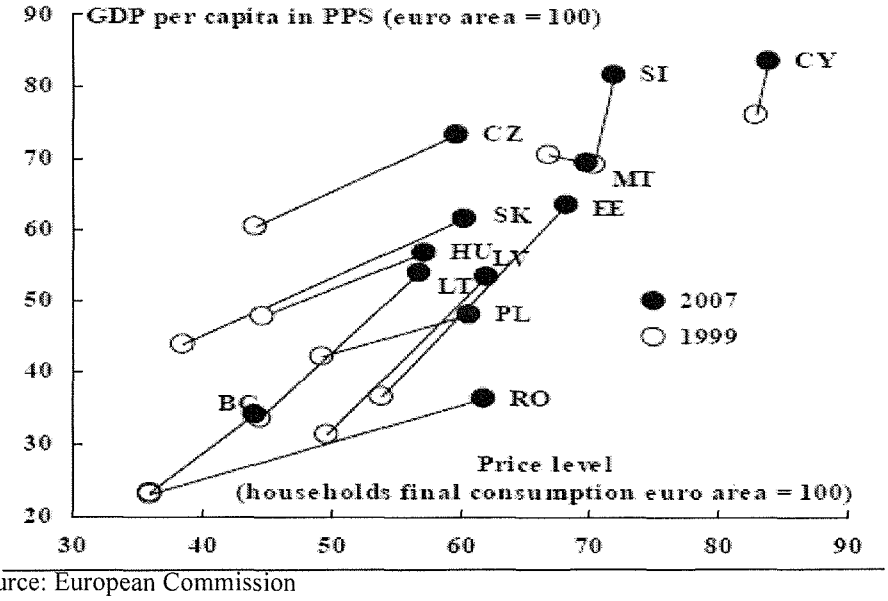
There was significant growth and real convergence during the past years in the NMSs. This process was accompanied with progressing price level convergence and real equilibrium appreciation. On the other hand the catching up process of the NMSs is affected by the globalization and the financial integration. The NMSs are highly sensitive against shock impacts due to their relatively small size, high openness and greater need for external financing. Countries accumulating huge internal and external deficit are very vulnerable under the conditions of the present crisis. These risks have become apparent during the crisis. *The retreat from risk and the search for liquidity by investors might contribute to heavy pressures on the financial markets of the NMSs.*

2.1 Price level and real convergence

The majority of the NMSs achieved remarkable convergence (taking into account the advancement of the macroeconomic stability and the supply side reforms related also to the EU-accession). (But there is still a broad difference among certain member states. See Figure

2.) The new MSs have to face with a shortfall caused by the crisis and sharp decline in growth (and perhaps with GDP decrease.) Certain countries, which had a significant catch-up growth during the past years (e.g. Baltic states) entered into a recession. The growth in the region has slowed down permanently. Therefore the real convergence – within and outside the Eurozone – remains a determinant factor shaping the economic policy strategy for most NMSs in the medium term.

Figure 2: Catching-up and price level convergence in the NMSs



Source: European Commission

The equilibrium real exchange rate appreciation (price level convergence) is considered a natural consequence of the economic catch-up (De Grauwe and Mongelli, 2005). The real exchange rate appreciation depending on the monetary policy and the exchange rate levels might occur following two paths (or as a combination of them): through the nominal exchange rate appreciation and/or higher level internal (domestic) inflation. The pace and the channels of the equilibrium real appreciation are of great importance as regards the trajectory of nominal convergence. The fixed exchange rate system (which was introduced by the Baltic States) excludes the nominal exchange rate channel of the real appreciation. Therefore, higher trend inflation is evolving for converging economies than for the anchor area.

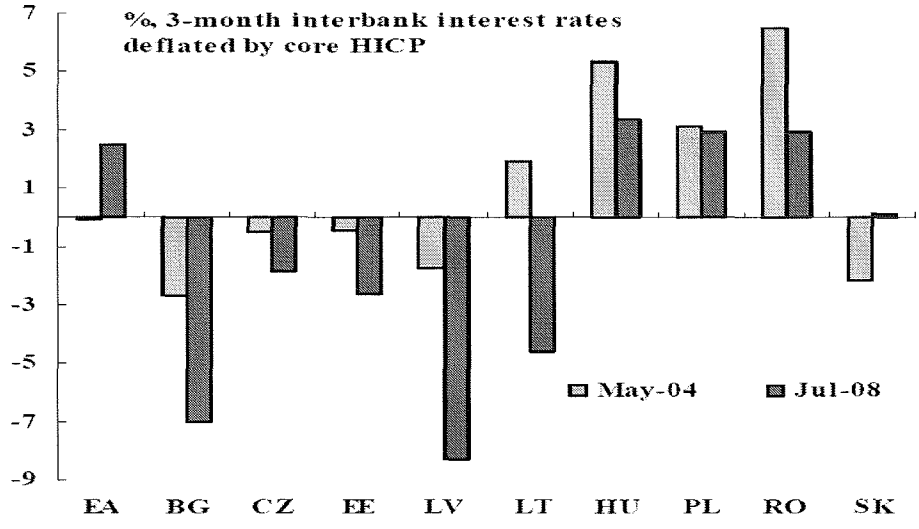
Beyond the Balassa-Samuelson effect further factors affect significantly the dynamism of the real appreciation. The pace of the income convergence, the domestic demand growth exceeding the GDP growth and the exchange rate regime are significant determinants of the price level convergence dynamics (Darvas and Szapáry, 2008). In the short term certain factors (e.g. the nominal exchange rate movements, the effect of the changes in the world

market commodity and food prices) might temporarily deflect the inflation rates from the trends supporting the price level convergence. (Certain structural factors – e.g. trade liberalization boosting competition on the product markets etc. – might have similar effects.) At the same time *not all inflationary differences might be consistent with the need for ensuring competitiveness and external stability of the economy in the medium term.* In certain NMSs the unsustainable domestic demand growth caused the high inflation. This process was fuelled through too optimistic future expectations of the economic agents and/or insufficient economic policies.

2.2 Financial integration and real convergence

The growth dynamism in the NMSs was generally accompanied – sometimes controlled – *through rapid financial deepening and credit expansion.* The financial integration of the NMSs has advanced. The NMSs were able to mobilize the external savings to a great extent due to their ongoing convergence and the high returns on investment. The short-term and the long term interest rates have been converging to the Eurozone level (see Figure 3).

Figure 5: Real short-term interest rates in the new Member States



Source: European Commission

This *interest rate convergence* reflected also the preceding favourable global environment. On the other hand it showed that the EU-accession resulted in increasing confidence. The EU-accession and the prospects for the single currency mitigated significantly the risk premia. It provided strategy focus and at the same time, a protective screen for the trustworthy economic policies. (There were no such factors in the other developing market economies.) In the new MSs the sovereign risk ratings kept improving before and after accession. Following the financial turmoil the *risk perception increased.*

In the case of the "fixers" (MSs with tight pegs and currency boards) the interest rate convergence was stronger. They started the real convergence process at a lower output level. Therefore the capital return was potentially higher what forced higher capital inflow during earlier periods of catching up (European Commission, 2008a). At the same time the fixed exchange rate regime resulted in higher current account deficit. This process often led to negative real interest rate, especially in the case of strong inflation and rapid credit expansion.

The rapid financial deepening and the high capital inflow are considered a significant challenge to be faced during adaptation (Darvas and Szapáry, 2008). The rapid credit expansion, the capital inflow in the non tradable sectors (especially housing) might change the composition of the final demand. As a result it might come to a significant movement of the real exchange rate. *The real appreciation and the external deficit might become excessive* due to unjustified optimistic expectations of the economic agents and the insufficient economic policies (Boz, 2007).

An "overshooting" of the real exchange rate may hinder the achievement of fast and sustainable nominal convergence. It might cause further difficulties on the road towards the Euro. In the coming years painful macroeconomic corrections could be required due to increasing deficit. The credit growth has slowed down under the circumstances of the global crisis. Liquidity conditions have become tighter. The risk perception of credit providers and credit takers has intensified. The financing conditions have become worse in those countries where high external and internal deficit has developed and the foreign currency lending was significant (e.g. Baltic States, Bulgaria, Hungary, Romania).

3 Downturn instead of dynamism

Among the NMSs the Baltic States had the highest economic growth in the half decade preceding the enlargement. In the years after enlargement (5 years) also Slovakia became one of the countries with the most dynamic growth performance. The contribution of the domestic demand to the growth exceeded the annual average 6% in three countries (Bulgaria, Estonia, Latvia). In four other countries (Poland, Lithuania, Romania, Slovakia) the contribution of the domestic demand growth reached the indicated share after the accession. Before accession the net export contributed to the growth only in Cyprus, Poland and Slovenia, after accession the Czech Republic and Hungary could be added to the abovementioned group.

The faster growth in the NMSs after the EU-accession was based mainly on the *faster domestic demand growth* (Table 2)

Table 2: GDP growth and its main demand factors

annual average change as percentage (fixed prices)	new Member States		old Member States	
	1999-2003	2004-2008	1999-2003	2004-2008
GDP	3,4	5,6	2,2	2,2
private consumption	4,0	5,5	2,5	1,7
public consumption	3,1	2,3	2,2	1,8
gross fixed capital formation	2,0	10,2	2,3	3,4
export	8,7	11,8	4,8	5,7
import	7,9	12,4	5,0	5,6
contribution to the GDP growth	3,4	6,4	2,2	2,1
– domestic demand	0,0	-0,8	0,0	0,1
– net export				

After the enlargement the dominant factors of the domestic demand growth were the *private consumption* and the *gross fixed capital formation.* The government consumption growth was, however, somewhat more moderate. At the same time the import usually grew to a greater extent than the export in the NMSs.

The *output gap* in the EU in the period examined reached 0,5% of the GDP. In the old MSs the positive output gap narrowed while the negative output gap in the new MSs switched to a great positive difference.

The catching-up process was partly based on exuberant demand financed through cheap credit. At the same time notable current account deficit arose in the countries concerned. The growth as a basis of catching up outpaced the supply potential of the economy. *This dynamics was not considered sustainable.* In 2008 a strong growth correction was launched. The *real convergence prospects* have *deteriorated drastically* due to the global crisis and the accumulated macroeconomic equilibrium problems.

There has been deep recession in the NMSs mostly suffering from the crisis. The national economic performances have declined significantly. In order to stimulate real convergence and the catch-up process macroeconomic equilibrium, investments increasing the productivity and growth based on highly educated workforce are required. Precondition of the sustainable dynamism and the *sustainable convergence* is the simultaneous fulfilment of these criteria.

4 Longer term prospects of potential growth

Due to the severe structural productivity problems of the EU-15 and the insufficient adjustment to the globalization, a permanent and significant decline in the potential growth rate is to be expected. (See European Commission, 2006; Carone et al., 2006; Halmai, 2007;

Halmai-Vásáry, 2008 etc.) The unfavourable investment environment promotes a higher level of capital outflow and a notable increase in the share of imported products and services.

Applying the *production function* approach the longer-term simulations indicate that the potential growth rate both in the EU-15 and the EU-27 falls (European Commission, 2006, 2008b, 2009b). This reduction will be continuous, moving from an annual 2.4% in 2004-2020 to an average 1.7% in 2021-2030 and then down to 1.3% in 2031-2060. The forecast decline in the potential rate of growth is far greater in the NMSs (EU-12) than in the EU-15 states. Output in the NMSs between 2007 and 2030 will expand far more rapidly than in the EU-15 countries, i.e. the convergence process will continue. But as time passes the pace of convergence will slow down, and then stop after 2030. (Based on the simulations, annual GDP in the EU-10 will grow by only 0.6% in 2041-2060, compared to a figure of 1.5% for the EU-15 countries. That is there is a switch from convergence to divergence (see Table 3).

Table 3: 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
SL	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
EU- 27	2,4	1,7	1,4	1,3	1,3	1,7
EU- 15	2,2	1,7	1,5	1,5	1,5	1,7
EU- 10	4,2	2,1	1,1	0,6	0,6	1,8

Source: European Commission, 2008b

In the EU-12 countries, demographic developments are likely to be a particularly important factor in the decline of the potential growth rate. According to the forecasts the labour input might grow until 2010. Afterwards the working age population is expected to decline significantly, in the long run by about one third. In the EU-12 the working age population will decrease by 37% according to the forecast. It will be an important factor of the decrease in the potential growth rate.

The increases in productivity per worker are converging between the EU-15 and EU-10 countries. In the long run we are likely to see an average productivity growth rate of 1.7%, which - in the case of the NMSs - constitutes a substantial slowdown of more than 50% over approximately three decades (Table 4)

Table 4: Labour productivity (annual average growth rate as percentage)

	2007-2020	**2021-2030**	**2031-2040**	**2041-2050**	**2051-2060**	**2007-2060**
CZ	3,6	2,2	1,7	1,7	1,7	2,2

HU	2,8	2,6	2,3	1,9	1,7	2,3
PL	3,4	2,8	1,9	1,7	1,7	2,4
SL	3,4	2,3	1,7	1,7	1,7	2,2
SK	4,5	2,9	1,9	1,7	1,7	2,6
RO	4,6	3,0	2,7	2,0	1,7	2,9
EU27	1,9	2,0	1,8	1,7	1,7	1,8
EU15	1,6	1,8	1,7	1,7	1,7	1,7
EU10	3,4	2,7	1,9	1,7	1,7	2,4

Source: European Commission, 2008b
Note: labour productivity per hour

The majority of productivity growth per worker is attributable to total factor productivity (TFP). In the long run, the increase in TFP will be followed by capital deepening. According to an analysis of long-term development, total factor productivity growth may converge between the EU-15 and NMSs at an annual rate of 1.1%. This enables a 1.7% increase in labour productivity per year, which in the long run will also converge between Member States (European Commission, 2008b: 101, Table 5).

Table 5: Total factor productivity

	2007-2020	**2021-2030**	**2031-2040**	**2041-2050**	**2051-2060**	**2007-2060**
CZ	2,4	1,3	1,1	1,1	1,1	1,4
HU	1,4	1,6	1,5	1,2	1,1	1,4
PL	1,6	1,7	1,2	1,1	1,1	1,4
SL	1,6	1,3	1,1	1,1	1,1	1,6
SK	2,8	1,8	1,2	1,1	1,1	1,6
RO	2,1	1,8	1,8	1,3	1,1	1,6
EU27	1,1	1,2	1,1	1,1	1,1	1,1
EU15	1,0	1,2	1,1	1,1	1,1	1,1
EU10	1,9	1,6	1,3	1,1	1,1	1,4

Source: European Commission, 2008b

In the case of the NMSs this contribution between 2004 and 2020 will be roughly 1.6% each year. This high rate is one of the indicators of convergence. Later on such contribution will gradually fall to 0.6%, the level of long-term growth in the EU-15. Based on these developments, productivity per worker in the countries of the EU-10 will rise to 83% of the level recorded in the EU-15 states by 2050.

Changes in total factor productivity are of crucial importance both in terms of long-term economic growth and convergence. In comparison to the annual average over several decades indicated above (1.1%) the growth of total factor productivity in most countries of the EU-15 has fallen since 1990 and grown by 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 dynamics of total output in the period studied, as the EU population is diminishing in the long term (Table 6).

Table 6 GDP per capita growth rate (period averages)

	2007-2020	2021-2030	2031-2040	2041-2050	2051-2060	2007-2060
CZ	3,8	1,8	1,4	1,1	1,3	1,9
HU	3,0	2,3	1,8	1,3	1,3	2,0
PL	4,4	2,6	1,5	0,9	1,0	2,1
SL	3,4	1,6	1,1	1,2	1,5	1,8
SK	5,2	2,5	1,3	0,8	1,0	2,3
RO	5,3	2,5	2,1	1,1	1,2	2,5
EU27	2,0	1,7	1,5	1,5	1,6	1,7
EU15	1,7	1,5	1,4	1,5	1,6	1,6
EU10	4,2	2,4	1,5	1,0	1,2	2,1

Source: European Commission, 2008b

GDP per capita in the EU-10 and EU-12 countries compared to the EU-15 shall catch up significantly in the coming two decades. Later the convergence may come to a halt, and by the end of the period under review the GDP per capita in the EU-10 and EU-12 countries may fall somewhat compared to the EU-15. The estimated dynamics of per capita GDP are based on the productivity growth of the country-group concerned.

Besides these tendencies the *growth rate might differ country by country*. It can be explain – especially in the first half of the period examined – through the different productivity dynamics of the countries. (A major factor of that is considered 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.

Besides the declining potential GDP growth rate the *sources of growth* are changing dynamically as well. The labour factor contributes to the potential growth in a positive way until 2020. The productivity growth has been a dominant factor of the potential growth from the outset, later on it becomes the exclusive one.

By means of the growth accounting methodology the impacts of the sources of growth can be examined. In the EU-27 the impacts of the low population growth rate and the increasing employment rate will be surmounted by the decreasing working age population. Therefore the labour input contributes negatively to the potential growth in the decades examined (Table 7).

Summarizing: according to the simulations the annual potential growth rate of 2,4% in the EU-27 in 2007-2020 is expected to decrease to 1,3% after 2040. In the new MSs the potential growth rate will decline at a greater pace, thus the real convergence will stop from

2030 onwards and even a moderate divergence from the EU-15 might occur. It can be explained by the following factors: on the one hand the productivity growth rate might be rebalanced by 2050, on the other hand the demographic forecast are significantly more unfavourable in the NMSs than in the old ones. Nota bene: the labour productivity and the employment depend on several factors and the simulation took the one as a basis that is the most likely.

Table 7: Decomposition of GDP growth, 2007-2060 (Due to growth in...)

	Potential growth rate 2007-2060	Productivity (GDP per hour worked)	TFP	Capital deepening	Labour input	Total population	Employment rate	Share of working age population	Change in average hours worked	GDP per capita growth in 2007-2060
CZ	1,8	2,2	1,4	0,8	-0,4	-0,1	0,0	-03	-0,02	1,9
HU	1,7	2,3	1,4	0,9	-0,5	-0,3	0,0	-0,3	-0,01	2,0
PL	1,7	2,4	1,4	1,0	-0,7	-0,4	0,1	-0,4	-0,01	2,1
SL	1,6	2,2	1,3	1,0	-0,6	-0,2	0,0	-0,4	-0,01	1,8
SK	2,0	2,6	1,6	1,0	-0,6	-0,3	0,0	-0,4	0,01	2,3
RO	2,0	2,9	1,6	1,2	-0,8	-0,5	-0,1	-0,3	0,04	2,5
EU27	1,7	1,8	1,1	0,7	-0,1	0,1	0,1	-0,3	-0,03	1,6
EU15	1,7	1,7	1,1	0,6	0,0	0,2	0,1	-0,2	-0,02	1,8
EU10	1,8	2,4	1,4	1,0	-0,6	-0,3	0,1	-0,3	-0,01	2,1

Source: European Commission, 2008

5 Financial crisis and potential growth

The financial crisis causes lower contribution of the labour and capital formation to the growth and results in unfavourable TFP. *The longer-term* labour market trends (e.g. the unfavourable dynamics of the working age population) affect negatively the potential growth rate. The recession intensifies these negative impacts.

The 2009 Spring Forecast of the European Commission indicates the increase in the structural unemployment (European Commission, 2009a). *According to the simulations 1% increase in the Non-Accelerating Inflation Rate of Unemployment (NAIRU) results a decrease of 0,6% in the potential growth rate.*

Due to the financial disturbances the investment trends deteriorate severely. *A decline of 2-3% expressed as a percentage of the GDP decreases the potential growth rate by further 0,2-0,3% in the countries concerned.*

As a result of the unfavourable effects the contribution of the *TFP* to the growth declines by about 0,1% a year. The TPF-assumptions are conservative: these assumptions don't take into account the one-off downward change to be expected in the TPF level and the

development of the potential output related to the structural change in a sector. The performance of certain sectors e.g. financial services, car production etc. is likely to decline due to the crisis.

Simulations carried out using the Quest model (see Ratto et al., 2008) confirm the negative effects of the adjustment disturbances on the labour and product markets, the *nominal stiffness and the higher structural unemployment* on the potential growth. The simulations show the function failure of the labour market, they show that there is no nominal wage adjustment after the crisis. This nominal stiffness might result in the decrease in employment and the increase in the structural unemployment.

The Quest results suggest that: *the financial crisis is generating a substantial drop in the level of potential output, with significant negative effects on the labour* (i.e. non-demographic drivers such as the NAIRU), *capital and TFP components* (EC, 2009d).

Growth dynamics of the old and the new MSs in 2009-2010 is similar in the simulations. *Significant differences prevail however with respect to the medium term trends for the period 2011-2013.* Euro area and EU3 potential growth rates are expected to fully recover over this period (with rates of growth comparable to those experienced prior to the crisis). Prospects of the NMSs are more unfavourable. Contributions of investment and TFP fail to recover from their subdued 2009-2010 levels. Labour market trends can deteriorate even further. (Driven to a significant degree by a marked slowdown in the growth rate of the working age population.)

Quest results point to *long run negative level effects for potential output.* Change of the potential output ranges from -0,5% (optimistic variant) to -4,5% (pessimistic variant). Divergences are driven by variations in the speed and strength of the recovery in investment, which in turn reflect the very different risk premia paths for the period in question. Both scenarios also point to permanent potential growth rate effects due to the negative impact of the higher borrowing costs on intangible investments and consequently on TFP growth.

The shock to the risk premium brought about by the crisis will primarily affect investment (see Table 8). A negative contribution from capital formation to potential GDP results from increases in risk premia on loans to firms and households, from the more cautious lending behaviour of banks and from a correction to the over-investment experienced in the boom period.

Table 8: EU27 Economic downturn generated by an adverse financial shock

	2010 (Short run)	**2018 (Medium run)**	**2028 (Long run)**
Impact of Risk Premium Shock on Potential Output			

and its Labour, Capital and TFP components			
Potential Output	-2.19	-5.50	-4.60
- Capital	-0.43	-2.73	-3.31
- Labour	-1.71	-2.38	-0.69
- TFP	-0.07	-0.39	-0.60
Impact of Risk Premium Shock on other Economic Variables			
Capital stock	-1.23	-7.81	-9.47
Intangible capital	-0.83	-4.51	-6.85
Employment	-4.90	-3.20	-0.81
Structural employment	-2.63	-3.66	-1.07
Investment	-21.4	-17.39	-8.97
Real wages	0.26	-1.55	-2.31
Nominal wages	-1.80	-8.28	-8.97
Price level GDP	-2.06	-6.73	-6.66

Source: EC, 2009

Taking into account the above mentioned simulation results, it is a real risk that *weak potential growth performance and slow recovery can be expected in the years to come.* The main reasons are the following:

- *Fundamental lack of confidence,* which leads to the postponement of household consumption and effective entrepreneurial investments.
- Real economy effects of balance sheet adjustment in the financial sector; downsizing of banks' assets including writing off "impaired" or "toxic" assets, *increases the cost of capital* also despite large recapitalisation packages;
- *Pervasive credit constraints* and *higher borrowing costs* in the non-financial sector simultaneously with the restructuring of banks;
- A persistent impact on the EU's growth potential might occur if *an attitude to risk and higher cost of capital dominates*;
- *Slower growth in TFP* in the short and medium terms, induced by the reduction in ICT and knowledge-based investment such as R&D. The postponement of key innovation-prone investments may have a lasting effect on productivity and growth;
- *Permanent destruction in human capital* due to an increase in structural unemployment rate (NAIRU) induced by a prolonged recession. (This permanent negative effect in terms of "knowhow" or professional knowledge is often called "hysteresis" effect (See Blanchard and Summers, 1989);
- The collapse of world trade and the drastic fall in import demand pose risks for a *higher degree of protectionism* (European Commission, 2009b).

Taking all these risks and threatens into account *more negative growth prospects* can be expected as it was outlined by the method (production function based on supply-side approach) used so far.

Concluding remarks

The NMSs are highly sensitive against shock impacts due to their relatively small size, high openness and greater need for external financing. Countries accumulating huge internal and external deficit are very vulnerable under the conditions of the present crisis. These risks have become apparent during the crisis. The retreat from risk and the search for liquidity by investors contribute to heavy pressures on the NMSs.

Simulations suggest that on the long term potential growth rate will decline at a greater pace in the new MSs than in the old ones. The real convergence will stop from 2030 onwards and even a moderate divergence from the EU-15 might occur, mainly because of the more balanced productivity growth rates (between the old and new MSs). The financial crisis intensifies these negative trends.

Simulation results suggest that the changes in attitude towards risk (appearing in the form of persistently high risk premium) brought on by the turmoil may have a persistent negative impact on potential growth. The pessimistic forecasts reflect the more cautious approach of investors and corporations to risk. This may have a very lasting impact on capital accumulation and therefore potential growth. It will also have long run negative effects on the NAIRU as firms increase their mark-ups to offset the higher cost of capital. The higher borrowing cost will also negatively affect TFP growth via its impact on R&D spending.

Simulations also suggest that frictions in both goods and labour markets and a quasi permanent change in risk premium may affect not only long run potential output levels but also the potential growth rate. As the potential growth rate of the euro area has already been lower than that of the US even in the pre-crisis period, financial crisis affects Europe, and especially the new member states severely.

Management of the distress in financial markets is not a sufficient condition to ensure a return to pre-crisis growth rates. Supply-side actions (e.g. integrated structural reforms) with long term growth effects need to be taken, in addition to urgent demand-enhancing measures.

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