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Regional growth and convergence via integration – the case of the large EU

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Abstract

The coming Eastern enlargement of the EU will be a fundamentally different step compared with the previous enlargements of the EU. It will create a new situation in which growth conditions and regional adjustment requirements of Europe are going to change, too. The theory of economic growth and regional structures has developed recently in an interesting way. Especially the endogenous growth theory and models of the new economic geography offer a relevant approach to these issues.

There is a strong tendency towards factor price equalisation and towards income convergence. But regional differences in other respects may become even deeper via this process. The enlargement of the EU is an interesting case from this point of view. There are very large income differences, which are assumed to diminish, but it seems impossible to happen without a fundamental regional restructuring.

The target of the paper is to make a survey on income convergence and regional restructuring literature in the case of European integration. The idea is to make an evaluation and prediction on the real convergence prospects of the large EU. Eastern enlargement is an opportunity to faster growth in Europe, but the regional specialization and restructuring is a crucial condition for materializing of this result.

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1. Introduction: the sixth enlargement of the EU is different

The current enlargement of the European Union is fundamentally different compared with the five earlier steps towards the larger union. The EU is going to undertake its greatest enlargement ever. The process will result into a large and heterogeneous integration block. That is why both institutional (or constitutional) and economic issues are more demanding than in the history of the EU. The institutional questions of the EU enlargement are very important, but now we take an economic and also a regional approach to challenges and opportunities of the larger EU.

The main question is here, what kind of growth effects will emerge from integrating very different kind of economies, and what kind of regional adjustment pressures it will produce. The main group of accession countries are transition economies and their income levels are quite low. For that simple reason budgetary problems have been in the focus of debate. That is why many citizens of the current member states have been concerned that the accession of low income/low wage counties will have

adverse effects (see e.g. Boeri et al. 2002). In the long run the budget shares cannot be crucial issue. The most important economic question now is, what is the impact of the Eastern enlargement on the long-term growth rate of the large EU and its members.

The new, so called endogenous, growth theory offers an adequate approach to these questions. It points out what is important for sustainable economic progress and it also points out, how economic growth may also benefit from the fact that the EU is coming to be a heterogeneous group of economies. There is a potential for poor countries to catch up the rich ones. A basic requirement for catching-up is to enhance the development of human capital and institutional framework. For the larger EU the hope lies in catching-up process: the average growth rate may be higher when large income differences do exist.

This paper is briefly describing the convergence debate in growth theory and applying it as a background for the analysis of EU-enlargement (see also Okko 2000 and 2003). Conclusions about the growth effect of integration are drawn from previous studies on European integration. In particular, the role of human capital and institutions are emphasised in this process. Some conclusions concerning economic growth and regional adjustment of the larger EU are also drawn in this paper.

2. Convergence or divergence via European integration

In order to evaluate and predict effects of enlargement we should first know what is the impact of integration on growth rate and on income differences. Does integration enhance growth and what is its impact on income differences between members and regions? As an answer to this question we offer some background information from the history of European integration. There is a quite large literature on growth effects of integration and certainly a very large discussion on convergence.

Empirical work on growth effects of European integration has resulted in quite considerable positive effect for EC and EFTA members (Henrekson et al. 1997). The effect of EC or EFTA membership was around 0,6 - 0,8, percentage points in annual

growth rate. The results also suggest that technology transfer was the main mechanism through which EC and EFTA membership effect growth. Surprisingly, there were no effects of membership on investment. Even if it is not possible to draw direct conclusions from earlier experiences it seems quite obvious that new members starting from quite low relative income level compared to incumbent members will have even stronger growth impetus from their membership.

Integration means also rearrangement of institutional setup of a country. That is one important background factor for the growth (see e.g. Easterly – Levine 2003). Actually, membership of the EU is sometimes considered from a very narrow viewpoint of membership related budget expenditures and revenues. The main consequence of joining to the EU is the change of institutional environment into which a country is committing itself in the future. For accession countries even the commitment to membership negotiations has meant a strong motivation factor.

A good example about the importance of institutional factors in economic growth is offered by Finland and Estonia. At the end of 1930's those two countries were approximately at the same income level and their institutional structure was quite similar. After that they had different institutional environments for a long time. Per capita income in an accession country Estonia is now about 35 % of the level of Finland. This is also an example about the challenge of transition economies.

The regional convergence hypothesis has been in the focus of debate between the neoclassical and the endogenous growth theory approach. If the neoclassical assumption of diminishing returns holds we should have narrowing of regional income differences (convergence) via growth. Romer (1986) argued that the absence of convergence across economies throughout the world represents strong evidence against the neoclassical model and works in favour of his theory of endogenous growth. This question has been in the focus of large theoretical and empirical debate since the 1980's.

The new theory of economic growth differs from the neoclassical theory especially in respect to the endogenous treatment of technological change. According to Romer, technological change - improvement in the instructions for mixing together raw

materials - lies at the heart of economic growth and that change arises in large part because of intentional actions taken by people who respond to market incentives (Romer 1990a, 72). The growth of human capital is the result of purposeful actions for increasing it, but the technological progress as an input factor is a public good. The production function may even contain increasing returns in respect to the inputs. Human capital is a special input because via it not only current production is effected but also the long-term development in technological advance is gaining more speed. Human capital has both direct and indirect or external effects (see e.g. Lucas 1988). Technological advance is an endogenous phenomenon and it may create increasing returns. Integration is adding to this a new option. It means an increase in ideas that can be used in each country in production of goods.

Romer (1986) argued that inequalities across the world show no sign of narrowing over the years. Barro (1991) produced an impressive battery of regressions showing that a negative correlation between the initial income level and the growth rate could be observed when this correlation was taken conditionally upon a set of variables (so-called conditional β -convergence), the most significant of which was the level of school enrolment.

One large empirical convergence exercise was Sala-i-Martin (1994). He produced an extensive empirical convergence analysis from the United States (48 states; 1880-1990), Canada (10 provinces; 1961-1991), Japan (47 prefectures; 1955-1990), and Europe (73 NUTS 2-regions/7 countries; mainly 1950-1990). The basic result was that there is evidence of strong forces leading to regional convergence. The estimated speeds of convergence are surprisingly similar across data sets: economies tend to converge at a speed of about 2 % per year. However, the catching up -process is quite slow: half of the original income difference is remaining after 34 years! If the speed of convergence is 3 % per year it takes 23 years to abolish a half of the original gap. The slow speed of convergence suggests that technology does not instantaneously flow across countries, and some countries are more capable to create new technologies. Anyway, integration is supposed to speed up this process.

According an unconditional beta-convergence measurement about EU14 (Luxemburg excluded) the speed of convergence has not been constant but income levels have been converging in the history of current EU members (Wagner – Hlouskova 2002, p. 21-22). The speed of catching up in 1961-98 was on average 2,05 % per year. It was slowest in the 1980's (0,83 %) and fastest in the 1990's (3,59 %). The result shows that even if some studies have been indicating decreasing rate of convergence in Europe, it still seems to work. All current members of the EU have not been members over the whole period of the study. It reminds that the convergence is basically a part of the growth process in general and also an aspect of the integration process because it enhances diffusion of institutions and technologies – and also growth via that way.

In addition to above-mentioned β -convergence research (conditional or unconditional) there is large empirical literature on measuring income differences by different kinds of inequality measures. So-called σ -convergence concept is based on the standard deviation of incomes. Even if poor countries are growing faster in relative terms, the income distribution may be changing adversely if original differences are large enough. Those calculations show that income inequality between the member states of the EU has been decreasing with variable speed over time (see e.g. Puga 2001 and Wagner – Hlouskova 2002).

The evolution of regional disparities within the EU seem to contain convergence among countries but not necessarily convergence among regions. There is at least some empirical evidence on that (Puga 2001 and Giannetti 2002). If international knowledge spillovers affect certain sectors only, integration and greater exchange of knowledge among countries whose regions have heterogeneous specialization spur growth and bring convergence among regions specialized in high-tech sectors, but create greater disparities within individual countries. As a result, differences in income levels among countries are decreasing, just like in the EU, because the value added of the technologically advanced regions is a rising share of GDP.

Putting it in brief, the economic integration is in favour of economic growth and growth is in favour of narrowing income differences among countries. But this all requires adjustment, which will change the relative position of sectors and regions

within countries. That is why the conclusion is dependent on the level of regional disaggregation.

3. Integration and regional adjustment

The main hypothesis about effects of integration on regional structure has normally been concentration. The idea that larger markets mean larger concentrations has been the way of thinking. Even if the basic tendency has been working into that direction, the issue is not so simple. There are both centripetal forces and centrifugal forces functioning in integration process causing regional adjustment. The new economic geography models have offered new interpretations to these questions (see e.g. Brülhart 2001).

Economies of scale and positive external effects of concentration (agglomeration economies) are main reasons for centripetal forces. There is a home market effect meaning that the larger the home market the more attractive it is. But because of integration also peripheral areas may benefit from demand coming from foreign markets. There are immobile resources and there are transportation cost and trade barriers, too. Cost competition is willing to use also cost advantages of peripheral areas and this all creates centrifugal forces via foreign market effect.

Empirical work on the European integration (Brülhart 2001, 235-238) has resulted in some interesting results. The strongest concentration appears in traditional, low-technology industries. The technology-intensive industries are least geographically concentrated, but concentration in those industries has been increasing. Surprisingly, the scale-intensive industries are not strongly concentrated. Employment concentration has been strongest in sectors protected by high non-tariff barriers.

General conclusions drawn by Brülhart (2001, 240-1) are interesting also from point of view of accession countries and expected effects of the EU enlargement. The three main conclusions were following. First, industrial specialization has been increasing slowly but steadily. Second, the Single Market project boosted this process.

Specialization accelerated after 1986 in those industries, which were strongly affected by the abolition of intra-EU non-tariff barriers. Yet, the Single Market did not affect sectoral concentration in general. Third, on the whole, specialization process reflects neither concentration in core countries nor movement towards peripheral countries; for most industries the importance of the centre-periphery dimension seems to have diminished in recent years.

This all may be interpreted that comparative advantage considerations continue to be relevant for the evolution of specialization patterns even in a relatively homogeneous area like the current EU. For the accession countries the traditional argumentation may be even more relevant. The finding that the spatial concentration of technology-intensive sectors has started to increase since the mid-1980's, however, may mean that agglomeration economies are coming to be more important in the EU.

One important new factor in future will be the impact of monetary union on the convergence. In the monetary union member states are becoming to be more like regions than nation states. Actually, it means that the principle of comparative advantage is substituted for the principle of absolute advantage and regional differences come up in the sense that member states have not any more traditional macro-policy measures to tackle their competitiveness problems. Regional adjustment requirements come up with their full power. E.g., migration flows may have bigger role in these circumstances.

There are also some doubts on the adequacy of the current regional policy instruments in the large EU. Actually, Boldrin and Canova (2003, 41) propose that the current policy should be terminated as soon as possible. They believe that labour and capital mobility are good for growth and economic convergence. Evidence from Europe and USA shows that. Labour migration is an important channel through which productive skills are acquired in advanced regions and brought into poorer regions to be applied. Regional policies should not go against this factor of convergence.

4. Income differences as fuel for growth

The enlargement of the EU means a change in the basic setup of growth conditions. In this sense it is surprising that the debate on the enlargement has been concentrating to large extent on the short-term budget issues. The budget of the EU is a bid over one percent of the total GDP. A small reallocation in the budget cannot be a crucial matter in a process in which the annual growth rate of the GDP may increase about to the same extent. It is not now a question of a one-shot change but a change of the growth rate. For these issues the new growth theory is capable to offer adequate insight.

The new growth theory means contributions both in the problems of economic integration and labour mobility. E.g., these models suggest that what is important for growth is integration not into an economy with a large amount of people but rather into one with a large amount of human capital. According to Romer (1990a, 98) growth seems to be correlated with the degree of integration into worldwide markets but not closely related to population size or density. Integration means interaction of 'idea sector' and 'goods sectors'. If there is a difference in the initial endowment of countries in the level of technology the flow of goods means an extra gain in: increase in ideas that can be used in each country in production of goods. An increase in the size of the market or in the trading area in which a country operates increases the incentive for research and thereby increases the share of investment and the rate of growth of output, with no fall in the rate of return on capital (see also Romer 1990b, 366).

These models permit a distinction between a one-shot gain (a level effect) and a permanent change in the growth rate (a growth rate effect) that is important in making of estimates of the benefits of economic integration (see Rivera-Batiz - Romer 1991, 532). The results by the neoclassical model and by the new one may differ strongly. E.g., it is not obvious - like in the old theory - that a permanent increase in the investment rate could result only in a temporary change in the growth rate. Actually the opposite might be true: a temporary increase in the investment rate linked with the increase in the human capital may have a growth rate effect, at least for a considerable time. There is also criticism against the simple versions of endogenous growth models

indicating that there is a possibility to raise the growth rate forever (Griffith et al 2003).

In the case of mobility, it is very crucial whether the effects of human capital are entirely internal or whether they have external benefits that spill over from one person to another. In the latter case the wage rate of labour at any given skill level will increase with the wealth of the country in which he is employed (Lucas 1988, 40). Not at all surprising conclusion is that labour will move from poor regions to wealthy ones. But the result is interesting enough in the sense that it offers an explanation within the rigorous theory to the question why labour mobility is not equalizing wage levels. It has been a difficult question to the static neoclassical theory.

The traditional and the new growth theory give different answers also in respect of growth effect of integration. The traditional theory predicts no permanent effect of integration on the rate of growth. The new approach makes understandable the possibility of permanent change in the growth rate because of the change in dynamics of the economies. The evaluation of the creation of European single market was an interesting example about the issue. Richard Baldwin (e.g. 1989) was the first one showing medium term effects of integration in addition to static efficiency gains reported by the Cecchini Report on Single Market.

From the point view of transition economies the main message is that economic progress requires investments both into physical and human capital and that institutional framework is a crucial factor (see also Okko 2003). Institutional environment will be established via the membership in the EU. Investments into human capital need both public and private activities because market incentives are not effective in a case in which external effects are important but not compensated via markets. Transition economies have typically large investment needs. That is good for growth if investments are realised. Foreign direct investments are one way of organising that. Actually, FDIs have important role in the growth process of the accession countries integrating into the EU. Trade flows and FDIs have been in EU integration more complements than substitutes (Widgren 2001). But until now FDIs have not had any major role in the growth of the accession countries (Boldrin – Canova 2003, 12).

Eastern Enlargement of the EU will create a union with large income differences. Countries have access to the same technology, but many of them are lagging behind. This means that the steady state income levels are near to each other but actual levels are far from each other. The crucial thing is how soon these differences will be narrowing. That will also determine the growth rate of the larger EU. There is a potential to catch-up and the R&D-input has crucial role to create an absorptive capacity of an economy (Griffith et al. 2003). The economy must be capable to create innovations but it must have also capacity to learn from others – using the main strategy to learn new things.

5. Expected income convergence in the large EU with the single currency

If these predictions hold also for the new members of the EU, it would mean that the income gap will be narrowing but it will be an issue for long time in the future. E.g., the current gap in the per capita GDP between Poland and the EU15 average is about 60%. If the convergence rate would be only 2 % per year, the difference would be still about 15 % after 70 years! It is reasonable to think that members of a single market are capable for faster convergence. Actually, the latest observations (1995-99) show that the accession countries have a higher growth rate (3,4 %) than the EU-15 (2,4 %) (see, e.g. Prime Minister's Office 2001). So it is supposed to be also in the future.

According Armstrong (1994) the convergence rate in Europe is lower if more peripheral regions are included into the analysis. This is in accordance with the original results by Romer that in the global sample including countries of very different income levels no clear over all convergence is not found. Catching-up - hypothesis works only in certain circumstances. Cumulative causation may work into the both directions; there are both convergence and divergence going on. In this respect it is important to notice that according to Barro (1991, p. 437) those poor countries tend to catch-up the rich countries, which have high human capital per person (in relation to their level of per capita GDP), but not otherwise. The debate

continues but it reveals that the accumulation of human capital has a crucial role in the process of growth and convergence.

It is possible to demonstrate how fast or slow the catching up process will be in the large EU by assuming certain growth rates and convergence speed. Calculations made by Wagner and Hlouskova (2002) are interesting, but their content depends heavily on assumptions made. In an optimistic case it will take 26 years from the ten Central and Eastern European accession countries to catch up to the level of 70 % of the EU25 (p. 42). The variation is large: Slovenia is already about at that level and for Latvia it will take 51 years. Comparison to the current EU shows that, it will take 30 year to come to the level of 70 % of the EU15. Even if the tendency of convergence is in existence, income differences will remain forever in practice.

The prediction is that those low-income countries having the access to the same technology and investing strongly into human capital are capable to catch up high income countries. The new members of the EU are supposed to be that kind of economies. This will mean that the Eastern enlargement is going to be growth-enhancing from the point of view of the EU. The low-income entrants are often considered to be a burden to the EU budget, but the main impact is on the real side of the economy. The fact that the EU is coming to be a heterogeneous group opens up new opportunities for growth. If new members are capable to catch up, the average growth rate will increase. Transition economies entering into the EU market have urgent needs for investments and they offer new possibilities to combine new ideas and new production.

Integration is a long-term process, which tends to abolish income differences, but they will never disappear entirely. According Charles Kindleberger (1968, p. 194) factor price equalisation is the ultimate measure of integration, but it is like the absolute zero point in low-temperature physics: it will be never reached! Income differences are fuel of economic growth, and an integration process has not yet come to the end as long as differences still exist. This all means that regional integration – as well as global integration – is actually an ingredient of economic growth.

There are also nominal convergence criteria of the EMU process. Those requirements deal with monetary and nominal conditions on economies entering into the EMU. The real convergence considered earlier means different growth rates, and different growth rates tend to mean different inflation rates. Inflation rates in traded goods sector and nontraded goods sector will differ, too. It will create the so-called Balassa-Samuelson effect. Faster growth is bound to affect the exchange rate (see e.g. Halpern – Wyplosz 2001). There will be a tendency towards real appreciation of the currency. Balassa-Samuelson effect is potentially problematic both in the convergence process before the third stage of the EMU and during in the single currency. In the first case it is difficult to keep the required exchange rate band and in the second one inflation difference is causing adjustment problems to a sub region of a currency area. The EMU may mean problems to fast growing low-income countries showing real convergence but having problems with nominal convergence. That means a challenge to the EMU, which was established actually for a final stage of a very deep integration. Now transitions economies are entering into it perhaps too early.

6. Conclusions

The coming Eastern enlargement will be a fundamentally different step in the history of the European integration. It will create a new situation in which growth conditions of Europe are going to change, too. The theory of economic growth and regional structures has developed recently in an interesting way. Especially the endogenous growth theory and models of the new economic geography offer relevant approach for interpretations.

The market-driven integration is benefiting from large income differences. There is a strong tendency towards factor price equalisation and towards income convergence. The large EU and especially new entrants are in front of a challenge. They must be capable to create an endogenous growth process by investing into physical and into human capital and maintain high growth rate even if there are strong pressures of new competition and adjustment. The endogenous growth theory points out that it requires effective transformation towards innovation-driven economy. Accession countries

have also high marginal returns of physical investment. That requires capital flows within the large EU, too. It will normally mean also migration of labour. By this way the investment rate both into physical and human capital can remain high. That is the ultimate guarantee of a high growth rate. This will also contribute positively to the competitiveness of the large EU.

The speed of convergence will be quite slow even if growth rates will differ clearly. This ends up to adjustment process requiring both sectoral and regional restructuring. It is quite natural that in these circumstances regional policies of the union is required to take care of observed regional disparities. Even if the average income differences between member countries are narrowing regional inequalities will remain, but the regional policy strategy is better to be in line with adjustment requirements than against them.

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