Convergence of EU member states in the CESEE region:

A framework for convergence inside a close regional cooperation

Preliminary and partial draft for a paper

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1. Introduction

The enlargement of the EU from 15 to 25 Member States in 2004 – and eventually to 28 Members – was a manifestly political undertaking. But it also had major economic consequences for both old and new members, and many of these were anticipated and long-desired. Among these, the desire of New Member States (NMS) to catch up with Western economic and social standards was arguably the most natural one. We are perhaps only now, with the benefit of 15 years of hindsight, beginning to understand the overt and hidden mechanics of accession driving our European economies and societies.

So, how successful was the enlargement project? One way to answer this is to look at how much convergence was actually achieved. But convergence has too many facets and dimensions to allow for a simple answer; in what follows we will examine the strictly economic interpretation of convergence only. This is not because it is the most important or easiest to grasp, but because understanding economic convergence is necessary for recognising its limitations. If we want to develop a fuller understanding of convergence, we must know in which ways the narrow economic view must be supplemented.

The 15 year anniversary conference will hopefully help us grasp the different dimensions of convergence better. Indeed, some of the contributions from the Faces of Convergence section present both novel and important aspects of the accession process and the convergence challenge. This draft note should be read in conjunction with e.g. the contribution from Erik Berglof and his fellow authors from the EBRD, who reflect on the convergence prospects for NMS in light of a multitude of new environmental, social, demographic and technological challenges. While many of these challenges confront old and new Member States alike, they may interact in complex ways with economic catch-up processes.

A further vital contribution to the debate comes from László Andor, who contrasts economic convergence with (perhaps less successful) social convergence following the enlargement of the EU15. Starting with a lucid analysis of the factors encouraging EU citizens and workers to relocate to other Member States, he casts a much-needed light on topics such as differing social and welfare standards, inadequate education investment, and corruption. Perhaps

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1 The views expressed in this document are solely those of the author and do not necessarily represent the official views of the European Commission
one early lesson, going forward, is that while further convergence is well within reach, it may require additional dedicated policy efforts.

2. Economic interpretations of convergence

Understanding patterns of economic activity, prosperity and welfare is arguably the original motivation that drove the field of economics. As such, it is no surprise that attempts to identify and quantify drivers of economic growth have played such a prominent role in the history of the subject. Any attempt to analyse convergence – which is traditionally thought of as a narrowing of economic differences, including (but not limited to) the level of income per capita, over time between two regions or countries – can usefully begin with an understanding of what drives economic growth within a given area.

Proponents of the neoclassical growth theory argue along the lines of Solow (1956), citing rising capital investment per worker (capital deepening) and exogenous technological progress as supporting growth within an economy. Any differentials in investment rates and technical progress between two economies would also imply a certain pattern of convergence between the two. Moreover, neoclassical economic theory suggests a negative correlation between the rates of economic growth experienced within a group of countries and their initial levels of economic development ("unconditional beta convergence"). Such a concept implies that economic convergence vis-à-vis the EU-28 should have been faster in New Member States due to the lower initial level of income of the latter.

Contrary to the neoclassical growth models, which predict convergence, endogenous growth models developed since the late 1980s can produce multiple equilibria and divergent developments of otherwise similar economies. A wide range of such models have been proposed: some have stressed the role of diminishing marginal returns to capital (Romer 1986, Lucas 1998) and endogenous technological progress (Romer 1990, Aghion and Howitt 1992), which can lead to persistent national income differences or even greater divergence. Moreover, the ‘catching-up hypothesis’ presupposes that countries must possess a social capability — that includes e.g. human capital, infrastructure capacities and institutional settings — to adopt and use the new technologies successfully (Kejak et al., 2004). In this view, capital investment is a necessary, but not a sufficient condition for convergence. A related strand in the New Growth literature emphasises the role of public institutions and the quality of governance in shaping the conditions under which economic activity takes place (see e.g. North, 1990).

3. Types of economic convergence

The simplest and strongest form of convergence is the unconditional beta convergence hypothesis, which states that poorer countries should grow faster than richer ones, thereby closing the per capita income gap between them. Empirical investigations have concluded that such a convergence process took place for EU and OECD countries, but not for the great majority of developing countries (Eichengreen 2007). But even within the EU, the degree to which less-developed economies converge varies significantly - in other words, ‘convergence clubs’ can be observed (Borsi and Metiu, 2013; Hagemann, 2004). It therefore seems fair to
say that there is no quasi-automatic convergence, and that even in country clusters that have generally enjoyed steady economic convergence – such as the EU – exceptions exist, notably Greece (Crafts, 2016; Campos et al., 2018). Some studies show that much of the catching up process in OECD countries was annulled by the Great Recession (e.g. Ball 2014).

By contrast, conditional convergence implies that only those countries that meet certain requirements, such as a certain level of human capital and infrastructure, institutional stability, and savings/investment determinants, will reach the same per capita income in long-run equilibrium. Conditional convergence has been empirically ascertained much more frequently, but is at the same time a more fluid concept as there is no universally accepted set of structural factors that are controlled for across different estimations.

Finally, sigma convergence means that a group of economies will tend to the same per capita income in the long run, which implies that the dispersion of their various growth rates tends to decrease over time. Whereas beta convergence is a necessary condition for the existence of sigma convergence, it is not a sufficient condition, as a permanent (positive) growth rate differential between a poorer and a richer country could be maintained until the initially richer economy will be surpassed in its per capita income (Hagemann, 2004).

4. Drivers of convergence

Catching-up of less-developed economies can occur through a number of different channels. As these effects occur simultaneously, they can cause feedback to other economic developments, meaning that many of the dynamics can be mutually reinforcing. Conceptually, however, the following five can be usefully distinguished.

First, in the European context the literature assigns a particularly large role to the intensification of trade within the EU, mainly thanks to the Single Market. For ‘insiders’ such as EU member states both trade creation and trade diversion act as positive forces on the level of trade. The available empirical literature uniformly suggests a significant positive impact on both trade and GDP via specialisation according to comparative advantage, scale economies, lower price-cost margins from competition, and competition-induced restructuring within industries. Early estimates ranged from a cautious 5-15% boost to intra-EU trade volumes between 1999 and 2003 (Baldwin 2006) to an increase of at least 50% (Rose and van Wincoop, 2001); Crafts (2016) suggest a boost to EU GDP from the Single Market of between 2.2% of GDP and 2.6%, noting that this estimate could double if national services sectors were also fully opened up to EU trade and competition.

Second, increases in investment in human and physical capital are likely to occur as productivity rises due to a combination of greater competition, allocative efficiency gains and technological progress. Subsequent sections of this paper will explore trends in both of these variables in more detail, but it should already be noted that EU structural and cohesion funds play an important role in having supported investment into infrastructure and knowledge during the first fifteen years of accession.

Furthermore, it is useful to regard capital investment as closely linked to a third, distinct, driver of convergence: financial integration. We can alternatively think of this in terms of FDI, banking sector integration, or a reduced dispersion of financial and monetary
conditions. Standard theoretical arguments tell us that countries with relatively little capital benefit from financial integration as foreign capital flows in and speeds up the process of convergence. It is beyond doubt that FDI into a number of CEE economies in the early 2000s was both large in scale and crucial in terms of facilitating technology transfer and integration into highly productive supply chains. However, in the empirical literature financial integration is assigned only granted a relatively minor role in driving convergence (Gourinchas and Jeanne, 2006). One interesting corollary of the unconditional beta convergence hypothesis is that capital should flow downhill, i.e. from relatively capital-rich economies to capital-scarce ones, according to standard rate-of-return arbitrage. The general failure to empirically confirm the downhill flow of capital prompted what has been termed the ‘Lucas Paradox’ which added force to the emerging focus on governance and institutions as relevant economic factors. Empirically, it seems, institutional quality does play a large part in accounting for foreign investment differences (see e.g. Alfaro et al. 2008). Perhaps one could even consider public institutions and institutional quality as economic *factors of production*?

This represents a **fourth** channel for convergence, namely *improvements in institutional quality*. Poor governance implies a risk of government expropriation, waste, and a lack of access to finance. In a strictly economic reading, poor governance can alternatively be thought of as an unnecessary financial burden on businesses and consumers, or as a risk factor that can drive the expected return burden away from the realized rate return. Alternatively, poor institutions could pose an obstacle to the transfer of technology. Attempts to empirically account for quality of governance in economic growth analysis can be traced back to Knack and Keefer (1995), and were later extended to financial development and credit supply (La Porta et al., 1997). Even if, however, the correlation of growth with good institutions could be robustly shown, in an OLS setting this does not settle the issue of causality; perhaps, as Crafts and Kaiser (2004) note, economic growth causes good institutions, and not (only) vice versa?

**Fifth, Innovation and technological progress** are a critical determinant of long-run prosperity in even the most basic accounts of economic growth. But while other factors of production (capital and labour) are essentially private goods, knowledge and technology come close to meeting the definition of a public good, in that they are non-exclusive and non-rival. Rodrik (2011) notes that “…developing countries do not need to develop from scratch technologies that are already available; they simply need to adapt and adopt them.” Both in Europe and beyond, the vast majority of Research and Development (R&D) takes place in a handful of countries, but it seems that their developed trading partners profit as much in terms of economic growth (Flam, 2016). We can hypothesise that if a larger market and/or more competition in product markets ensues from economic integration this may raise the rate of innovation and total factor productivity (TFP) growth. The empirical literature also supports the view that more competition causes more innovation, at least for firms that are close to the technology-frontier (Griffith et al., 2006). The extent to which this faster rate of technological progress is maintained will help determine whether economic integration causes permanent or only transitory gains in the rate of economic growth (see section five below).
5. Patterns of Convergence

Crafts (2016) notes that as barriers to capital mobility are reduced, relocation of economic activity may be a consequence, possibly based on matching industrial and regional characteristics (as in Heckscher-Ohlin-type models) or possibly based on market access considerations (New Economic Geography). Writers in the latter tradition (e.g. Krugman and Venables 1990) envisage a strong possibility that the process of relocation can lead to divergence of income levels with some regions being disadvantaged, as in core-periphery models. New economic geography models feature the idea that reductions in trade costs cause industry to relocate closer to relevant markets so as to reap economies of scale in production or to cut down on logistical costs (either in supply or sales chains).

Empirical evidence suggests that market access has mattered for industrial location, becoming more important for industries with strong backward and forward linkages. Crafts (2016) reviews evidence pointing to on agglomeration effects in productivity and notes that market access has a strong core-periphery profile that impacts regional GDP per person. Using results from Breinlich (2006), Crafts estimates that “moving the Algarve to Cologne would raise its labour productivity by 20 per cent” (p.13). A notable counterexample to the core-periphery divergence is Ireland, which through a combination of its language regime, well-designed supply-side policies, but also a highly attractive corporate tax regime managed to emerge as the ‘Celtic Tiger’.

6. Distinguishing transition effects and EU membership impact

Any transition from a centrally planned economy to a market-based one is bound to produce a rise in productivity, economic growth and per capita incomes. The main channels through which this occurs is through greater allocative efficiency and, perhaps less clear-cut, higher capital investment rates and easier technology transfer. For example, many central and eastern European economies had excessively large industrial sectors and under-sized services sectors compared to free-market economies with similar income levels, as argued by Raiser et al. (2004). While this study predicted further industrial shrinkage and reallocation of labour towards the more productive services sector, this is not always borne out by the experience in a number of Central European economies, where industrial expansion and deep integration into international supply chains has been perhaps the large ‘growth pole’ since EU accession.

Most NMS entered the 1990s from a Soviet-style system of central planning, and their subsequent economic development is the product of two overlapping but distinct effects, namely the transition to a market economy, and the effects of EU accession. Care must be taken in when trying to identify the impact of EU accession as selection biases and two-way causality exist: NMS were selected (and self-selected) to join the EU based on their adaptive capabilities and structural features, and these features would have presumably put them on a faster growth trajectory in any case. What seems beyond doubt, however, is that EU accession helped to consolidate these young democracies and market economies, and that they provided an essential anchoring effect for institutional quality and governance.
Early empirical research into the impact of EU accession of the southern periphery identified two basic channels through which membership could affect economies. First, the progressive opening of the economy in terms of trade and capital flows, and secondly, a large positive technology shock allowing productivity to catch up with the technological frontier set by advanced countries (Kejak et al., 2004). But these are only the standard macroeconomic channels, when in fact the positive impact that EU accession had on the quality of public institutions and governance also needs to be taken into account. Concerns about data on governance quality aside, an early and notable attempt is found in Crafts and Kaiser (2004), who simulate scenarios for accession countries’ per capita income growth. Assuming that these NMS move to EU standards of governance, the paper suggests medium term per capita real income growth in the average of the accession candidates could still be ≈4% per year.

Such studies are based on the implicit premise that the counterfactual to EU accession would be the status quo. But is it reasonable to presuppose that no integration would have occurred amongst potential accession countries in the event of them not having joined the EU? Boltho and Eichengreen (2008) prominently outlined alternative scenarios to EU integration, concluding that the establishment of the Common Market was as unique a historical development as it was an economically significant one — they put the positive impact at 3 to 4 per cent of EU GDP. We can conjecture that new EU entrants would likely share in these benefits that otherwise would not have accrued to them.

As already mentioned above, one important question in the economics of integration has been whether EU accession affected only the level of GDP via transitory growth impulses, or whether the long-term growth rate was permanently raised. Most studies find support for the former hypothesis only (Crafts, 2016). A recent, sophisticated paper from Campos et al. (2018) simulates the economic benefits from EU membership using a synthetic control method, i.e. the construction of ‘artificial countries’, to get around the problem of specifying a counterfactual scenario to EU membership. The study finds mixed results for CEE countries’ accession, with the impact on per capita incomes and productivity levels ranging from large gains (CZ and Baltics) to weak or even negative ones for others (Poland and Hungary). Three principal factors are found to determine the size of the net benefits from membership in the EU across countries and over time: trade openness, financial integration and the adoption of the Euro. However, various studies have noted the unique nature of their accession process, which featured a long preparation process during which substantial institutional and economic change occurred before their entry date. Accordingly, accession-related benefits probably began to accrue in anticipation of the ultimate accession (Bruszt and Campos, 2017).

Finally, what to make of the adoption of the euro? Accession is a precondition for euro area membership, which five of the eleven Central and Eastern European Member States have reached. It seems reasonably to claim that euro adoption is likely to have boosted trade and investment through stabilising exchange rates with key trading partners, improving international price transparency and eliminating currency conversion costs. For instance, Crafts (2016) estimates the positive effect of EMU on trade volumes at around 2%. Bolto and
Eichengreen (2008) suggest three further potential channels: higher investment rates because of greater confidence, lower real interest rates and a lower cost of capital; increased X-efficiency encouraged by a rapid growth in intra-Eurozone trade; and further efficiency gains brought about by institutional reforms spurred by the increased competitive pressures on countries within the single currency area. The evidence available at the time, the authors argue, does not yet suggest major effects in any of these areas.

It could be argued that the combination of the Single Market and a single currency act as complementary forces, by which the much deeper trade integration amongst EU members produce synergies for euro area members that go beyond the (modest) benefits of exchange rate stability. For instance, Wach and Wojciechowski (2016) find that Slovakia's euro area membership contributed to the acceleration of inward FDI. However, given that many NMS' euro adoption coincided with the onset of the global economic and financial crisis, quantitatively separating the growth-enhancing effects of euro adoption from the overlapping effects from wide-ranging changes in financial markets, public finances and global cyclical conditions is difficult. As such, a greater time horizon is arguably needed to fully assess the impact of euro adoption on new EU Member States.

Bibliography:


