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Catching-up Member States and the Knowledge Economy of the European Union

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The report assesses the performance of the so-called "Catching-up Member States" of the EU with respect to their transformation towards the knowledge economy. "Catching-Up Member States", are ten "new" MS and four former cohesion Member States Greece, Portugal, Spain and Ireland. The catching-up process does not follow a simple new Member States (MS) versus old Member States divide. Some new MS, especially Slovenia and the Czech Republic, are catching-up on the knowledge performance dimension and perform better than some of the former cohesion countries, like Portugal and Greece. The report suggests strengthening the research infrastructure in the catching-up countries in order to allow the growth of the knowledge economy in support of economic convergence

The Report (i) provides empirical evidence on economic and knowledge economy convergence of the "Catching-up MS" inside the EU-27 (ii) analyses factors / drivers that are important in these processes, and (iii) discusses policy implications and proposes recommendations to support convergence of the "Catching-up MS" towards the knowledge economy.

I. Empirical evidence on economic and knowledge economy convergence of the "catching-up MS"

Since the early 1990's, catching-up Member States of the EU have made significant progress in reducing their economic development gap vis-à-vis the EU average when measured by per capita GDP. As shown in the matrix, all but one "catching-up MS" (Portugal), have reduced the development gap towards the EU average. Four of the "catching-up MS"- Greece, Ireland, Spain and Slovenia have closed or almost closed the gap. The three Baltic States and Slovakia, have a longer time to go to close their

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more sizeable gap, but they have recorded high growth rates in the past. The slower pace of growth in Romania, Bulgaria, Poland and Hungary predicts a long time to catch-up.

Matrix of economic and knowledge economy convergence performance of "catching-up MS"

Time to catch-up to EU-27 average

GDP per capita / Innovation	Indefinite	Long	Medium	Short	Reached
Indefinite		Romania, Bulgaria	Slovakia		
Long		Poland, Hungary	Latvia		
Medium	Portugal		Lithuania, Czech Republic	Greece	Spain
Short			Estonia	Slovenia	Ireland
Reached					

Notes:
- *GDP per capita catching-up* is measured as the change in the gap in GDP per capita (in PPP) relative to EU-27
- *Innovation catching-up is* measured as the change in the gap in Innovation relative to EU-27.
- *Reached* implies the country is at or above EU-27 average in 2007; *Short*: less than 10 years for catching-up (extrapolating average annual growth rates from the past 93-07); *Long*: more than 30 years for catching-up. *Indefinite*: with given growth rates, no catching-up possible.
- *Former cohesion MS* are listed in the first line of the cell, *transition MS* in the second line.

For more information on how the matrix was composed, see Report;

In contrast to this overall positive real economic convergence, the performance of the "catching-up MS" with respect to their knowledge economy convergence, measured with the Innovation Performance Index, has been much slower. None of the catching-up countries has managed to close the gap with the EU-27 average. Ireland, Slovenia and Estonia are the three best placed countries at the end of the period, but are still at a considerable gap. Also Portugal and Lithuania have seen important advances in their knowledge economy catching-up, but still need a longer time to catch-up. The least successful MS in terms in knowledge economy catching-up are Poland, who made only marginal advancements, and Slovakia, Bulgaria and Romania, falling even further behind.

Linking knowledge economy catching-up to economic convergence suggests a positive correlation, but with considerable country specifics. Among the countries with a stronger innovation-growth nexus, Ireland stands out among the former cohesion countries, and Slovenia and Estonia among transition countries. But the strong economic growth performance of Slovakia and Romania, and also the more modest growth performance of Bulgaria, Poland and also Greece are not related to KE growth, as these countries have witnessed no catching-up on KE dimensions. This lack of a KE basis to their growth questions the sustainability of their economic convergence, particularly when these countries will move further on their economic development path.

An interesting off-diagonal case is Portugal. Although Portugal has managed to improve its innovation gap, it nevertheless has failed to translate this into real economic convergence. The improvement in innovation is mostly a public sector component, with scoring on business innovation performance remaining low.

Overall, the analysis seems to suggest that for several catching-up countries their path to convergence is not built on knowledge-based convergence, and for those countries where economic growth is innovation based, there are still considerable vulnerabilities to the development of a robust knowledge-based economy. In particular there is a concentration of economic and creative capacity in just a few sectors. Also their dependence on foreign markets, foreign investors and foreign know-how sources, make their innovation-growth process more vulnerable, as the current crisis has made clear. The empirical evidence further suggests that the knowledge economy catching-up process does not follow a simple "old" – "new" MS divide. Some transition MS, especially Slovenia and Czech Republic, have made significant advancement in reducing the knowledge economy gap and have outperformed in this respect some of the former cohesion countries, like Greece.

II. Factors and drivers of knowledge economy convergence of the "catching-up MS"

Although there is a positive correlation between innovation and economic growth for all EU countries, the evidence shows there are important country to country heterogeneity in the innovation-growth link. To explain these differences, flanking conditions shaping the adaptive and innovative capacity of catching-up countries need to be factored in. The key flanking conditions for establishing a successful knowledge-for-growth nexus, particularly those relevant for catching-up countries, are identified as follows:
(i) Institutional quality, financial market sophistication and macro-economic stability,
(ii) Well functioning local product markets,
(iii) International openness through foreign trade and FDI,
(iv) Absorption of new technologies and ICT availability and use,
(v) Education and human resource development, such as secondary & tertiary enrolment, quality of education and training, and
(vi) Innovation capacity drivers, such as availability of scientists, quality of the public research institutes, university-industry links, venture capital availability, IPR protection.

Analysing the empirical evidence on catching-up MS's scoring on these flanking conditions suggests that despite large variations between "catching-up MS", countries situated at the bottom ranking of a knowledge-based economic catching-up, (such as Bulgaria and Romania among the transition countries and Greece among former cohesion countries) score on average low on most flanking conditions. Similarly, the better performing countries, like Ireland, Estonia, Czech Republic and Slovenia typically have a good scoring on all or most of the indicators reviewed. The evidence from Portugal and Hungary suggests that doing well on some flanking indicators, but not on others, is not likely to lead to an overall good performance. All this indicates that systemic performance on all flanking conditions is needed for successful knowledge based catching-up.

For the "catching-up MS" covered in the Report, there are a number of specific issues that have influenced the process of reducing the knowledge economy gap. First, a number of these MS have gone through a process of transition. Secondly, all the "catching-up MS" have undergone at different times the process of accession to the EU. The EU integration process has influenced and continues to influence the knowledge economy catching-up process of new comers into the EU by
(i) a continued commitment of new members to the reform process through transposition of the "acquis" and implementation of Lisbon strategy objectives;
(ii) support from the EU budget, through pre-accession funds in the period prior to accession and through structural actions funds and other funding sources in the period of full membership of these countries and
(iii) integration of new MS into the single European market.

Experiences show that the transition and EU accession process with clear commitments and precisely determined time-tables have contributed significantly towards speeding up reforms improving flanking conditions for an innovation-growth nexus, although progress achieved has varied not only across individual MS but also across different areas.

III. Policies aimed at strengthening knowledge economy convergence of the "catching-up MS"

Experience from the countries whose catching-up process has been the most innovation-based and successful indicates that systemic performance on all flanking conditions for an innovation-growth nexus is needed. Consequently, improving the knowledge-based content of catching-up for lagging countries requires a *systemic policy approach* addressing gaps on all flanking conditions, but especially so for those reforms needed to incite the private sector to adopt and create new technologies. Which mix of flanking conditions is to be encouraged by an individual country depends on the level of its development? Countries with large gaps will need to focus on those drivers that are particularly important for improving technology absorption while more advanced catching up MS will have to start putting more efforts on how to sustain productivity growth through own innovations. Addressing the catching-up countries' vulnerability requires having the critical flanking conditions to develop a broader *domestic* capacity, promoting *local* spillovers and *local* absorptive and creative capacity. To this end, reforms aimed at improving (product & financial) market functioning are crucial, particularly as these are pivotal for structural change towards new areas of domestic strongholds. This is even more the case in the current crisis. With weaker financial markets and downturns in the economic cycle new local innovators, who are pivotal "change" actors, are especially at risk, due to the low availability of credit.

Most of the competences and responsibilities for the design and implementation of appropriate policies needed to support the knowledge-based catching-up process are found at Member State level. But at the EU level there are some important policy levers which can complement Member State policies.

The major EU policy instrument for stimulating knowledge-based growth is the Lisbon Strategy, later relabelled as Growth & Jobs Strategy. When dealing with the idiosyncrasies of catching-up countries and improving convergence and cohesion inside the EU, a number of amendments should be made to the Lisbon strategy. As far as the governance of the Strategy is concerned, it should include improvements in the Commission's process of National Reform Programs' evaluations through an improved methodology for assessing these programs, taking into account catching-up specifics, and through more systematic benchmarking among catching-up countries and peer pressure.

Although implementation of the Lisbon strategy agenda is primarily the responsibility of MSs and is consequently financed largely from national funds, the EU budget can also represent an important source of funding for knowledge-for-growth investments in the catching-up MS, particularly in the current crisis. The EU budget review currently under way and the forthcoming EU budget negotiations for the post-2013 period will be crucial for the success of the post-2010 Lisbon-type strategy of structural reforms in catching-up MS. The EU budget review should make a clear recommendation for a substantial increase of EU funding for knowledge economy measures. The review of the EU budget is also an opportunity to re-assess how EU budget funds should be allocated among the MS to support a knowledge-based growth in countries, taking into account their idiosyncracies. The trend of a growing share of Lisbon-type expenditures in overall cohesion policy expenditures is a positive development and should be maintained.

The Report shows that there remains a long way to go for a knowledge-based catching-up process in the EU. Will the current crisis, which has hit all of the catching-up countries particularly hard, be a threat or an opportunity for these countries to re-adjust themselves during the crisis and to put themselves on track for a post-crisis recovery path that will be more knowledge-based? As a knowledge-based development path provides a better capacity to adapt to global, changing, volatile environments, the more a country's development path is knowledge-based, the more sustainable this path will be in future.

Whilst the longer term benefits of this strategy are clear, the question in the short-term is whether the investments needed now (both public and private) can be found in the current crisis. The Report hopes to contribute to a better case being made for such investments.