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Lessons from European Union Policies for Regional Development

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Abstract

Regional disparities present an ever present development challenge in most countries, especially those with large geographic areas under their jurisdiction. A neglect of these inequities may create the potential for disunity and, in extreme cases, for disintegration. In view of this, most countries actively pursue policies with a view to helping lagging regions catch up with faster growing regions. These policies have at best a mixed record of success. It is therefore useful to discern what type of policies work and why? In this context learning from the experience of the European Union (EU) may be particularly instructive as, over the years, it has provided significant support to assist poorer regions achieve convergence with the richer regions. This paper reviews the impact of EU policies for regional development to draw lessons of interest to other countries pursuing similar goals. The paper concludes that policies that serve to create an internal common market by creating a level playing field that enables poorer regions to integrate with the broader national and global economies have the best potential to advance regional income convergence. In this context, removal of barriers to trade and factor mobility and providing enhanced access to information and technology to the lagging regions should be main policy priorities for regional development.

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1 Introduction

Reduction in regional disparities is a major concern for governments in most countries. Large regional inequalities represent serious threats to the economic and political stability of a country, and in extreme cases can lead to demands for drastic redistribution policies by the poorest regions (e.g., Bolivia), or even to calls for separation by richer regions hoping to avoid significant redistribution of their wealth (e.g., Basque country in Spain) or poorer regions hoping to do better in an alternative dispensation (e.g., Quebec, Scotland). While the poor may consider such inequalities as a manifestation of regional injustice, the richest may view a union with the poorest as holding them back in their drive to prosperity. Often regional economic disparities exacerbate existing ethnic, cultural, linguistic or religious differences. As most large countries have these differences, it becomes imperative for the governments of these countries to manage, minimize and mitigate regional disparities. Therefore, it is not surprising that reduction in regional disparities has been a major policy objective of most governments, especially in developing countries, where these disparities are two to six times more than in the developed countries (Shankar and Shah, 2003, 2008).

Several countries have tried different regional development approaches with a mixed record of success. These regional development approaches have involved addressing two broad questions. First, should regional policy be interventionist in nature using the various economic tools at the hands of a developmental state or should it concentrate on creating a free common market removing internal barriers to trade and movement of people? Second, should regional development follow a paternalistic approach where a strong center decides and implements what is in the best interest for regions or should the center take a hands-off approach and let decentralized regional governments take the lead for their own economic development?

To address both these questions, we have to look at both theory and empirical evidence. There is a substantial theoretical literature that weighs in on the first question and slightly less abundant one addressing the latter. There is also a diverse literature that provides us with an empirical view on these questions directly or indirectly in several different countries of the world. One particular region of the world, where there has been a great deal of interest in studying regional

inequality and regional development policy has been the European Union (EU). As part of the economic and political integration process, the EU has put particular emphasis on regional inequality and devoted considerable resources to helping poorer regions catch up with richer ones, especially beginning in the late 1980s. The EU experience has been studied in detail by several different researchers over the past few decades. This has created a rich literature, and we do not intend to add to it an independent piece of analysis based on primary data. However, there is an opportunity for a holistic look at all the empirical evidence gathered and analyzed so far to draw out key insights that would address the two fundamental questions on regional inequality we have set out before. In this paper, we will attempt just that. We believe that this paper will not only add to the theoretical debate on regional inequality and regional development policy, but it will also help current and future policy makers as they grapple with regional development challenges both in the expanded EU and in many different countries of the world with large regional disparities.

We also only focus on studies that looked at the EU-15, as we believe that the literature on this group is more established. The enlargement from the EU-15 has been relatively recent and it will take some time for the effects to be seen and understood. In addition, there have been changes to EU regional development policies in the wake of the accession of the new countries, and this in itself could lead to different effects than past EU policies.

The rest of this paper is organized as follows. In section 2, we introduce the conceptual framework and hypotheses and present an overview of the theoretical debate around the two questions of market vs. interventionist policies and centralized vs. decentralized decision-making on regional development. Following this, we briefly introduce the history, objectives, structure and key elements of the EU regional policy in section 3. In section 4, we survey the literature and present a summary of the overall trends on regional convergence/divergence within the EU. In section 5, we discuss and synthesize the key findings from the literature that has assessed the effect of EU regional policy on such convergence/divergence through the lens of the conceptual framework we set up in section 2 and interpret the findings to see which hypotheses they support. In the final section, we conclude with a summary of our results and point to future research opportunities.

2 Theoretical framework and hypotheses

In this section, we first present the theoretical underpinnings of the market vs. state intervention debate on reducing regional disparities. Followed by that, we discuss the theory addressing the second question on a centralized paternalistic vs. decentralized hands-off approach to regional development. Finally, we set up the framework and outline the hypotheses that we will test using the findings from the rich literature on EU experience.

2.1 Reducing regional inequalities - free market vs. state intervention

Boldrin and Canova (2001) present an excellent discussion on this issue. They frame the question a little differently and present the theories around convergence and divergence. Their convergence/divergence theories may be said to mirror the market/state intervention views on regional development. According to them, theoretically, strong convergence theory suggests that equality in factor productivity and income levels will be achieved regardless of initial conditions, provided diffusion and adoption of technological change is unrestrained. This theory would support an extreme view of the free market hypothesis, which is that the state needs to do nothing and that market forces will lead to convergence as long as there is no barrier to the diffusion and adoption of technology.

A weak convergence theory on the other hand requires competitive market structures to send the right signals for allocation of productive factors. Under the weak convergence hypothesis, differences in technology alone do not explain the differences in factor productivity. Lack of competitive price signals such as those observed with regional incentives and subsidies, barriers to trade, institutional capability differences, etc. may perpetuate regional differences in factor productivity and income. As Boldrin and Canova (2001) put it,

"The introduction of different capital goods or a different organization of production often accompanies adoption of new and more efficient production techniques. The presence of

artificial barriers to relative price equalization reduces the incentives to adopt the most efficient technique, thereby preserving enclaves of low total factor productivity."

The implication of this view is that the state does have a role to play, but it is one of creating and preserving free market conditions. If it removes existing market distortions such as trade barriers and creates a level playing field for the regions, convergence will follow. This particular version of the free market theory is particularly apposite to the EU as one of the major objectives, if not the primary objective of the EU is to remove internal barriers to trade and factor mobility. To the extent that the EU is successful in this, one would expect to see convergence between regions in the EU.

In both versions of the convergence or free market hypothesis which is based on the Solow (1956) neoclassical growth model, at the conceptual level regional convergence is assured under perfect competition, constant or diminishing returns with no external effects and free and cost-less mobility of factors across relatively homogeneous (with respect to resource endowment, topography, composition of population, human capital, political and legal environment, informal culture, etc.) regions within the nation state. This requires that political units are commensurate with reasonably large geographic areas with reasonably diverse endowments so that regional income differentials are attributable to policy and institutional considerations rather than simply to irreversible acts of nature. For example, one should not necessarily expect to have convergence among three completely heterogeneous regions comprising solely desert, mountainous and arable lands. Several authors have found evidence in support of the convergence view. Barro and Sala-i-Martin (1991, 1992) find evidence of convergence in US states and also in 73 regions of 7 European countries (excludes the cohesion countries of Ireland, Spain, Greece, Portugal). Mankiw et. al. (1992) finds evidence of convergence across countries. A considerable amount of work has been also done on regional and national convergence within the EU, but we will present the EU evidence in section 4.

Strong divergence theory places a greater emphasis on path dependency (initial conditions matter), increasing returns to scale, and externalities of investment as sources of differences in factor productivity and growth (Krugman 1991, Romer 1990). Realization of increasing returns

to scale and/or agglomeration economies under perfect mobility in one of the regions and not others would accentuate regional divergence. In fact, openness to trade may send the most productive factors to the advanced regions and a core-periphery divide is formed. Regions in the periphery then face divergence from regions in the core (Krugman and Venables 1995). Under strong divergence hypothesis, inequality in levels of income, technology and resource endowments will prevent convergence in regional growth rates. Under a weak divergence hypothesis, attainment of a minimum threshold of physical and knowledge capital in the regions is necessary for persistence and sustainability in economic growth. Thus some regions that attain the minimum thresholds in these factors may form "clubs" or "growth poles" and may grow faster than others and achieve "club convergence".

In both versions of the divergence hypothesis, regional convergence becomes more difficult to achieve under increasing returns to scale and with externalities of investment and growth. Reversing the resulting divergence calls for strong state intervention to promote economic development in poorer regions and to help them break out of the vicious cycle of underdevelopment.

2.2 Reducing regional inequalities – centralized vs. decentralized approach

The second fundamental question on regional development is deciding the right balance between the role of the central and regional governments. On one end is the view that a strong center is essential to break the regional concentration of income. There are two strands to this view on the need for a strong center. First, poorer regions have access to fewer resources and thus to lower investment capacity. Therefore, there is a need for redistributive transfers from the richer to the poorer regions. As the richer regions would not do this of their own accord, and as the poorer regions cannot force the richer regions to do so, a strong central government is needed for such redistribution through central government transfers. These transfers are based on the same Harrod-Domar model that international aid to poorer countries has been based upon – poorer regions can grow faster by raising investment levels. Central transfers seek to bridge the gap between regional savings and the investment required for faster growth. Easterly (2001b) calls this the "financing-gap approach." A similar but more limited concept in the public finance

literature is that of fiscal balance, where transfers are used to reduce both vertical imbalances between the center and the regions and horizontal imbalances between the regions. These imbalances arise from a mismatch of spending needs and revenues that accrue to the regional governments. Poorer regions tend to have larger gaps between the revenues it can raise and the expenditures needed to provide public services. Therefore, it is argued that a strong center is needed to provide needed resources to the poorer regions.

The second strand of argument in support of a strong center is that less developed regions have lower technological, institutional and administrative capacities. These regions just cannot cope with the challenges of development, and left to themselves, they will never catch up with the richer regions. This is parallel to the externalities and increasing returns theory of divergence in the absence of significant intervention. The difference is that the argument for a centralized government depends on the less developed institutional and administrative capacity of the government rather than that of the technological backwardness of the entire economy. In effect, the top down theory of regional development builds on the interventionist argument and says that as significant state intervention is needed for poorer regions to catch up, it becomes all the more important that this state intervention comes from a more capable center, equipped with better institutional and administrative resources.

The opposite bottom-up view argues that decentralized regional governments accountable to their constituents best lead regional development. It makes this argument for four reasons. First, regional governments are accountable to the constituents of their regions (at least the democratic ones), and thus will follow policies that best serve their regions. On the other hand, a central government will follow policies in the overall national interest, and this may involve concentrating resources in a few regions with a view to more rapid economic development. In other words, in deciding between national growth and regional equity, they will choose national growth.

The second reason in favor of the bottom-up view is that regional governments have access to better information about local needs, preferences and capabilities than a faraway center. This enables them to design better policies more suited to their regional context.

Third, having a strong center redistributing resources to the poorer regions may create moral hazard. Regions may not want to develop and catch up as this would then take away the central transfers from other regions. The related argument here is also of dependency, especially if most of the transfers are in the form of income transfers. The dependency exhibits itself in multiple ways. One, it reduces the incentive to increase local productivity by creating and growing local enterprises. The incentive is lower for local individuals and businesses as central transfers provide them with income support. Two, central transfers lower the incentive of local governments to raise local resources by enhancing local economic development. Three, it reduces the opportunities from wage arbitrage and makes it more expensive for external businesses to invest in the poorer regions.
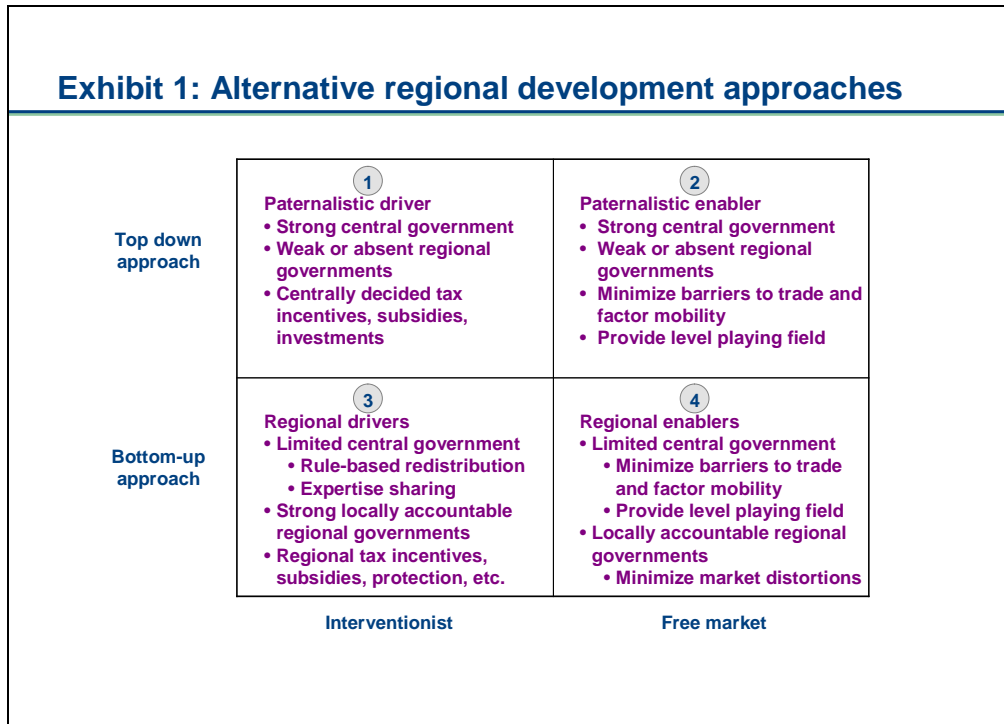
The fourth reason in favor of the decentralized governance approach is that centralized policies create reverse accountability especially if central transfers come with strings attached. Regional governments then adjust policy to win the grants, and this could be to the detriment of the regions. Further, this reverse accountability can lead to less oversight from the constituents on central transfers and hence, more opportunities for corruption and wastage.

There is some empirical evidence from different countries that supports the bottom-up view. Easterly (2001b) shows that aid to poor countries has not resulted in higher growth. Shankar and Shah (2003) find that more decentralized countries at similar development levels tend to have lower inequalities. Chen and Fleisher (1996) point out that reduced central government control over existing enterprises in China has given local government incentives to create better social and economic environment for local economies, led to better resource allocation, and thus contributed to regional equality. Kanbur and Zhang (2001) find that greater decentralization in China increases rural-urban polarization but reduces inland-coastal polarization. They say that the negative effect of decentralization on inland-coastal inequality goes against the argument that giving provinces greater power has necessarily had detrimental effects on all components of inequality.

Shankar and Shah (2007) also show that central aid to poor regions in India has not contributed to higher per capita regional GDP growth. In fact, in India, while central income transfers have gone to poorer regions, productive investments have gone to richer regions and increased the gap between regions. While the former creates a moral hazard problem leading to inefficient state government policies and dependency of poorer states on central transfers, the latter helps the states already ahead economically to increase their lead. This disproportionate flow of investments in productive capacity to richer regions has also been observed in other countries. Markusen (1994) states that regional policy in Japan, Brazil and Korea was only moderately successful in directing investment to smaller cities and underdeveloped regions. Even when they were successful, the smaller cities tended to be near the existing dominant ones. Although public investment has been more decentralized, private investment has continued to be concentrated. Even the building of communications and transport infrastructure has tended to reinforce the agglomeration economies of relatively developed regions. Further, with world market integration, there is a greater tension between regional and industrial policy, and in the countries that Markusen studied, she found that the effect of industrial policy dominates.

2.3 Framework and hypotheses

Based on the above discussion, we can see four potential alternative approaches to regional development. Exhibit 1 shows these potential approaches, which mirror the four alternative hypotheses we will test based on the EU experience. We lay these out below:

Exhibit 1: Alternative regional development approaches

	Interventionist	Free market
Top down approach	**1 Paternalistic driver** • Strong central government • Weak or absent regional governments • Centrally decided tax incentives, subsidies, investments	**2 Paternalistic enabler** • Strong central government • Weak or absent regional governments • Minimize barriers to trade and factor mobility • Provide level playing field

Bottom-up approach	**3 Regional drivers**
	• Limited central government
	  • Rule-based redistribution
	  • Expertise sharing
	• Strong locally accountable regional governments
	• Regional tax incentives, subsidies, protection, etc.
		4 Regional enablers
		• Limited central government
		  • Minimize barriers to trade and factor mobility
		  • Provide level playing field
		• Locally accountable regional governments
		  • Minimize market distortions

o Hypothesis 1 - the "paternalistic driver" approach: According to this hypothesis, equitable regional development is best led by a strong central government following interventionist policies to assist poor regions to catch up with the rich regions. In this case, the regional governments are weak or absent. The central government actively redistributes resources from the richer to the poorer regions using different policy tools such as tax incentives, subsidies, transfers, investments, etc.

o Hypothesis 2 – the "paternalistic enabler" approach: In this case, the central government still plays the key role as in the first approach. However, its role is limited to creating and maintaining free market conditions. It removes barriers to trade and movement of people, and creates a level playing field between the different regions. Once this is in place, it is hypothesized that the natural process of convergence will lead to poorer regions catching up with the richer ones.

o Hypothesis 3 – the "regional drivers" approach: In this third alternative, it is the regional governments rather than the national governments that take the lead in regional development. The regional governments follow interventionist policies to encourage economic development in their regions. These could include tax breaks, subsidies, protection of local businesses, etc. The central government's role is limited either to no

redistribution or to rule based redistribution of resources. There is minimal central discretion involved in any interregional transfers. The central government can also provide institutional, administrative or policy expertise or facilitate the sharing of such expertise between regions.

o Hypothesis 4 – the "regional enablers" approach: This fourth alternative is similar to the third in that the regional governments still take the lead and the role of the center is limited. However, the role of the regional government is no longer interventionist, but limited to fostering a free market in the region, establishing the rule of law, protecting property rights and ensuring a level playing field.

The EU experience provides the ideal testing ground for these hypotheses because regional policy in the EU displays in part all four approaches that we want to assess. It has pursued both market-oriented and interventionist regional development policies and regions across the EU have different degrees of regional autonomy to pursue regional policies. In terms of the former, the EU has created a vast common market and has consistently moved towards reducing internal barriers to trade and movement of people. On the other hand, it also spends a big share of its budget on redistributive regional policies designed to help poorer regions to catch up. As for the centralized versus decentralized question, the EU has a diverse set of regional structures from relatively autonomous regions in Germany and Spain to centralized institutional structures in England, Italy and Greece. There has been substantial research, as we shall show in this paper, on evaluating the impact of market/interventionist policies on convergence/divergence, and also on the drawing out the differences in economic performance in regions in different countries with different regional institutional structures. We analyze, re-interpret and synthesize the findings of the various studies and show that the preponderance of the evidence favors hypothesis X with some caveats. But first, we shall provide a brief description of EU regional policy in the next section.

3 Brief history and structure of EU regional policy

As described in a European Commission report (EC 2004a), the EU has been concerned with the reduction of regional disparities ever since its inception. The preamble of the 1957 Treaty of

Rome mentions the need "to strengthen the unity of their economies and to ensure their harmonious development by reducing the differences existing among the various regions and the backwardness of the less-favoured regions." In 1958, the EU created two sector-based funds: the European Social Fund (ESF) and the European Agricultural Guidance and Guarantee Fund (EAGGF). The first explicit funds set up for regional redistribution was the 1975 European Regional Development Fund (ERDF) aimed at redistributing part of the Member States' budget contributions to the poorest regions. However, significant changes leading to substantial allocations for regional development began in the late 1980s. In 1986, The Single European Act laid the basis for a genuine cohesion policy designed to offset the burden of the single market for the southern countries and other less-favored regions. For the 1989–1993 period, the European Council overhauled the operation of the Solidarity Funds (now referred to as the Structural Funds) and allocated ECU 68 billion (at 1997 prices) to these funds. In 1992, the Treaty of the European Union, which came into force in 1993, designated cohesion as one of the main objectives of the Union, alongside economic and monetary union and the single market. It also created the Cohesion Fund to support projects in the fields of the environment and transport in the poorer member countries. In 1993, the European Council allocated almost 200 billion ECU (at 1997 prices), one-third of the EU budget, to cohesion policy for the 1994-1999 period. In addition to the Structural Funds, a new Financial Instrument for Fisheries Guidance (FIFG) was also created. The next major change to the Structural Funds happened in 1999, when the European Council allocated over EUR 30 billion per year between 2000 and 2006, i.e. EUR 213 billion over seven years. This is about 40% of the EU budget and 0.35% of EU GDP in annual terms (Ederven 2003). In 2000, the European Council adopted a strategy focused on employment and designed to make the Union "the most competitive and dynamic knowledge-based economy in the world by the year 2010."[1]

According to the regional policy design adopted in 1999, the European Council agreed upon 'Agenda 2000', reforming a number of EU policies and re-establishing four "Structural Funds."

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[1] This short history is largely based on the account in EC (2004a).

1. The European Regional Development Fund (ERDF), which finances primarily investment in infrastructure and employment, but also initiatives of small-scale businesses.
2. The European Social Fund (ESF), which supports programs that aid the integration of the unemployed or otherwise disadvantaged groups in the labor market.
3. The Guidance Section of the European Agricultural Guidance and Guarantee Fund (EAGGF), which supports farmers and finances programs for the development of rural areas.
4. The Financial Instruments for Fisheries Guidance (FIFG), which aims to restructure and modernize the fishing fleet.

The bulk the four Structural Funds is allocated according to three 'Objectives' as described below (EC 2004a, Ederveen et. al. 2003, Boldrin and Canova 2001):

-   Objective 1 is to help lagging regions catch up with the rest of Europe by providing basic infrastructure and encouraging business activity. Regions with a GDP per capita of less than 75% of the Community average qualify for this type of funding. The following are considered the principal obstacles to development in objective 1 regions:
    -   A low level of general investment
    -   Unemployment rates often higher than average
    -   Lack of services for businesses and communities
    -   Lack of the basic infrastructure necessary for economic activities.

-   Objective 2 is to help regions facing the following difficulties (excluding regions eligible for objective 1 support):
    -   Changes in the key sectors and decline of employment in the areas of industrial activity and services
    -   A situation of economic and social crisis and the deterioration of neighborhoods in urban areas
    -   A decline of traditional activities and depopulation of rural areas

       ○   A crisis due to the decline of employment in the fisheries sector in areas that depend economically on fishing.

- Objective 3 is to modernize education and increase employment. Any region may qualify, provided that it does not receive objective 1 funding.

Most of the remainder of the Structural Funds goes to the Community Initiatives, programs initiated by the EC to promote interregional cooperation in solving common problems. For details on these and the small remainder of the Structural Funds, see Ederveen (2003) and EC (2004a).

In addition to the Structural Funds, there is a separate 'Cohesion Fund', which finances environmental and transport projects in the (then) poorer Member States of Greece, Ireland, Portugal and Spain (henceforth referred to as cohesion countries). The Cohesion Fund goes to Member States with a gross national product (GNP) per capita of less than 90% of the Community average.

Most of the Structural Funds go to Objective 1 regions. Given that Cohesion funds go to the poorer member states, most of the EU regional funds have a redistributive nature. Ederveen (2003) shows that this is the case in reality and that on average a 1% increase in GDP per capita implies a 3% reduction in EU cohesion (regional) support per capita across the EU-15 countries. However, some objective 2 and objective 3 support distribute funds to relatively rich regions, and in this sense goes against the overall redistributive nature of regional policy. For detailed numbers on distribution of funds by type and member state see EC (2004a, 2004b).

As EC (2004a) and Ederveen (2003) show, the process of deciding on the allocation of regional funds involves a complex interaction between the regional authorities, national governments, and the EC. First, the EC proposes the budget and the set of rules for cohesion or regional policy for the next 'planning period' of six years. Following this, the Council of Ministers and the European Parliament review and approve the policy. Once approved, the budget is divided by Member States, where the EC, in close consultation with Member States, determines which

regions may use which funds and for which objectives. Each Member State or region then prepares regional support plans taking into account the EC's thematic guidelines. These plans are presented to the EC where there is a discussion between the EC and the Member States. Once the two parties agree, the EC advances part of the granted funds to the Member States. Only then the details of the projects themselves are fleshed out by the regions and the Member States. The approach is clearly top down from the EC to the Member State to the region. In many cases, especially in regions with weak or non-existent governments, the key decisions are made by the EC and the member state.

According to Ederveen (2003), the administration and evaluation of the projects are largely in the hands of the regional or national authorities. Earlier the evaluation was rather ad hoc, but nowadays, the Member State or region is subject to rather strict guidelines from the EC. The responsible regional or national authorities keep the EC informed of progress and provide reports to show that the funds are being used in accordance with established guidelines. The EC examines the control systems and distributes the remainder of the contribution from the Structural Fund. According to EC (2004a), the EC analyzes the development of the monitoring indicators and the assessment studies and organizes exchanges on particular themes. It also informs the authorities responsible for the programs of any new Community priorities that have an impact on regional development.

4 Summary of convergence/divergence and economic performance of regions

In this section, we survey the rich literature on the EU regional catch-up process and analyze the evidence to see which of the hypotheses we laid out above is best supported by the evidence. First, we look at studies on cross-national European convergence. While admittedly our main focus is on regional performance, some elements of the cross-national process of convergence are similar to that of regional convergence and would help shed some light on our hypotheses, especially the market vs. interventionist policies question. Second, we look at the evidence on the cross-regional question. Third, we look at some individual country studies to examine what implications they hold for our hypotheses. The one caveat is that we do not assess the different methodologies followed in the papers we look at. We assume that the peer review process has

ensured the robustness of the methodologies used. Rather, we focus on the findings in these papers on the hypotheses we explore, and derive lessons on which approaches to regional development work and which do not.

4.1 What do cross-national studies say?

The clear evidence from cross-national studies shows that that EU has witnessed cross-national convergence. Poorer countries have been catching up with the richer ones, and Ireland has even surpassed several richer EU countries (see Exhibits 2a and 2b). However, there is limited evidence to show that this catch-up is due to EU structural funds or EU cohesion policy. Beugelsdijk and Eijffinger (2005) show that the EU-15 countries converged in the period 1995-2001. They find that structural funds have a positive effect on growth. According to them, "…if the change in the rate between the structural funds and the GDP changes by 1 percentage point, the GDP growth will increase by a 0.32 percentage point…" They also find that there is no evidence that "corrupt" countries gain less growth from Structural Funds and interpret this as evidence against moral hazard.

On the other hand, most of the other evidence shows little or no impact of EU regional policy on convergence. Barry (2003) looks at the economic performance of the four cohesion countries – Greece, Ireland, Portugal and Spain – relative to the EU and finds they converged to the EU average during 1960-1973, diverged 1974-1986 and then resumed convergence from 1987 to 2000. According to his analysis, most of the factors that affected convergence or divergence were market factors such as labor market conditions, FDI inflows, monetary and fiscal policies, etc. For example, he says the reasons for convergence during the last period were (1) tighter fiscal and monetary policy for euro entry; (2) labor market reforms in Spain; (3) increased FDI flows in Ireland; (4) administrative reforms in Greece; and (5) liberalization after EU accession in Spain and Portugal. On the issue of EU aid, he says that increased EU aid in the last period has contributed to convergence. However, he does not show any specific analysis in support of this conclusion but points to other studies that looked at the relationship between EU regional aid and convergence. Given this, the preponderance of evidence locates convergence in market opening rather that in EU aid.

Exhibit 2a: Evidence from cross-national studies (I/II)

Study	Brief description	Time period	Key finding	Implications for market vs. intervention question	Implications for centre vs. region question
Barry (2003)	• Economic performance of cohesion countries - Greece, Ireland, Portugal, Spain - relative to rest of EU	1960-1973	• Convergence, except in Ireland • Ireland similar in outward orientation, protectionism, education to others • Labour market disequilibrium main difference	• Market distortions impede convergence	• NA
		1973-1986	• General divergence • Lax fiscal and monetary policies; labour market disequilibrium	• Negative impact if markets not allowed to decide wage rates • Big government policies causing macroeconomic problems	• NA
		1986-2000	• Resumption of convergence, especially Ireland • Tighter fiscal and monetary policy for euro entry; EU regional aid; labour market reforms in Spain; increased FDI flows in Ireland; administrative reforms in Greece; liberalization after EU accession in Spain and Portugal	• Mixed implications as both liberalization and better market discipline due to EU and euro entry, and EU aid identified as factors for catch-up • However, preponderance of factors lie towards the market end of the spectrum	• NA

Evidence for market   **Evidence for interventionist policy**   **Evidence for decentralized approach**   **Evidence for centralized approach**

Exhibit 2b: Evidence from cross-national studies (II/II)

Study	Brief description	Time period	Key finding	Implications for market vs. intervention question	Implications for centre vs. region question
Beugelsdijk and Eijffinger (2005)	• Investigation of convergence across EU-15 • Assesses impact of Structural Funds, presence of moral hazard	1995-2001	• Convergence across EU-15 • Positive impact of structural funds on convergence rates • Corrupt countries do not gain "less" economic growth from structural funds	• Evidence in favor of interventionist policy at country level. But may mask regional differences within countries - as the richer regions in poor countries may be responsible for most of their growth. • Corruption finding can be loosely interpreted as absence of evidence for moral hazard	• NA
Ederveen et. al (2006)	• Impact of EU funds on 13 EU countries (EU-15 minus Luxembourg and Germany)	Seven five-year periods from 1960-1995	• European support as such does not improve countries' growth performance • However, enhances growth in countries with the right institutions, such as openness and institutional quality (different measures such as corruption, government effectiveness etc.)	• Aid works if directed to regions with the right institutions, and who are open to competition	• NA

Evidence for market   **Evidence for interventionist policy**   **Evidence for decentralized approach**   **Evidence for centralized approach**

Ederveen et al. (2006) look at the impact of EU funds on 13 EU countries (EU-15 minus Luxembourg and Germany) and find that European support as such does not improve countries' growth performance. Rather, this support is more effective when it goes to countries with the right institutions – openness to competition, quality governance and low corruption.

In this sub-section, we showed that the literature provides evidence of cross-national convergence in the EU. However, as we shall show in the next sub-section, this masks lack of regional convergence within countries, as most of a country's growth could be accounted for by its richer or "core" regions.

4.2 What do cross-regional studies say?

As Exhibits 3a through 3e show, the evidence on regional convergence is more mixed. Five key strands emerge from this evidence that shed light on the hypotheses we are testing. First, there is stronger evidence of regional convergence in the 1950s, 1960s and 1970s, and slower or absence of convergence after that. This is important as most EU regional policies took effect in the 1980s and the 1990s. Barro and Sala-I-Martin (1991) find evidence of conditional β-convergence rates similar to the US of about 2% per year from 1950-1985 in 73 regions across Germany, UK, Italy, France, Netherlands, Belgium, and Denmark. This is perhaps to be expected, as these were all more developed countries in the EU, and perhaps did not have the problems associated with underdevelopment as in other less advanced countries such as Ireland and Greece. The authors also claim that convergence to steady state independent of government polices, while steady state output per worker may differ due to policy differences.

Boldrin and Canova (2001) find some evidence for national convergence (supports findings in previous sub-section) but not for regional convergence during 1980-1996. According to Boldrin them "Most of the observed inequality in regional income levels can be accounted for by a combination of three factors: differences in total factor productivity, differences in employment level, and differences in the share of agriculture in regional income… except for a few 'miracles' (Ireland, the Italian north-east, the East German Lander, Lisbon's metropolitan area and, Inner London) most of Europe seems to have achieved a form of long-run convergence in growth rates.

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Controlling for cyclical factors, most regions appear to grow at a pretty common rate, with poorer ones growing faster during expansions and slower during recessions. Factors specific to individual countries play a major role. Southern Italian regions grew more slowly than the Italian average, whereas Spain's poorest regions grew slightly faster than the national average. This is, indeed, less than we bargained for. Our analysis of income per capita denies that fast convergence in levels is taking place. It suggests that, on average, uniform long-run growth rates are to be expected and relative differences will not disappear."

Cappelen et al. (2003) also find more convergence at the national level than the regional level for 1980-1997. Cuadrado-Roura (2001) finds evidence for σ convergence from the 1960 to the mid 1970s, and no convergence thereafter. Similarly, Fagerberg and Verspagen (1996) find substantial convergence across 70 regions in six member states from 195-1970, slowing of convergence from 1970-1990, with absence of convergence from 1980-1990. Gardiner et al. (2004) find slow σ and β convergence in productivity as measured by LFS hours-worked of barely 1% per annum during 1980-2001.

The second key strand is that while there has been convergence, it has often been conditional and to respective steady states. However, different steady states themselves have continued to persist, showing, at the minimum, that EU regional policy has not been effective in helping poorer regions leap to higher levels of growth. Canova and Marcet (1995) question Barro and Sala-i-Martin (1991) and using a Bayesian model find that their average estimates of convergence rates are higher than that found in the literature, about 23 % for the regions, with each unit converging to its own steady state. However, they reject the hypothesis that the steady state is the same across regions and find that poor regions stay poor and over time the differences are reduced only by a small amount. They also claim EU cohesion policy to be without much impact and that structural changes in economic environment are needed for catch-up.

Canova (2004) presents evidence for club convergence among EU regions. He finds that there is a natural clustering of units in four groups of regional income per capita. Further he finds that within groups, poor units converge faster to their steady state than rich ones and that they tend to cluster around a pole of attraction that is substantially below the average. He shows that there is

substantial immobility in the ranking of units within groups, in line with findings on persistence in inequality in Canova and Marcet (1995). To quote him, "As a consequence of the persistence of the initial income characteristics and of the immobility in ranking, the steady-state distribution of income per capita will become polarized. Since poor units are also those featuring low initial average human capital, distributions of income and education are more polarized and are geographically located … in the periphery…, the results provide a bleak picture over the possibility of equalizing income per capita both in EU… countries in the near future."

Carrington (2006) finds evidence of convergence that is neither fast nor continuous, and that regions are persistent in belonging to certain income groups, while sub-periods of convergence and divergence are discernible during 1984-1993. Dall'erba and Le Gallo (2007) find two tiers of convergence, one in core richer regions and one in peripheral poorer regions, with the peripheral regions converging faster during 1989-1999.

At the absolute level, Cuadrado-Roura et al. (2000) find β-convergence of 2.8-3.5% during the 1981-1990 in a study of 97 European regions. However, when they look at conditional convergence, they observe three regional groups for conditional β convergence. The first group has regions exhibiting positive and significant fixed effects growing faster than others. This group includes such as Berlin, Bremen, Hamburg and Ile-de-France. The second group exhibits negative and significant fixed effects and includes regions such as UK regions (except Southeast ones), 11 Spanish regions, Portugal and Greece. The third group has near zero fixed effects and significant slowing or accelerating factors cannot be detected for this group.

Cuadrado-Roura et al. (2000) also do not find much evidence in support of the core-periphery model. However, when they disaggregate and analyze gross value added, productivity growth and employment creation, they see five emerging patterns. First, they find advanced regions with above average performance such as Hesse, Luxembourg and Lasso. Second, they identify dynamic intermediate regions such as Lombardy, Baden-Wurttemberg and Navarra, with intermediate levels of development, but dynamic in terms of productivity and employment. The third group is intermediate regions with less dynamism including regions such as Basque country, Liguria and Basse-Normandie which do not seem to be catching up. The fourth group

includes regions in decline such as the old industrial regions in France and UK. Finally, there is a group of heterogeneous clusters which do not fall into a pattern. These include Dutch and Portuguese (excluding Lisbon and the North) regions. This shows that regions better able to adapt to changing global technological and market environments do better. However, it is left unclear if better performance is due to market friendly or interventionist policies.

The third strand has been very limited evidence showing that EU regional policy supports regional catch-up by poorer regions. Leonardi (2005) finds that Objective 1 regions have converged to EU mean, while non-Objective 1 regions have remained stable, suggesting that EU funds are effective in helping poorer regions catch up. Cappelen et. al. (2003) find EU support has significant and positive impact on growth performance of EU regions, however, with economic effects stronger in more developed regions. Most of the other evidence shows that EU funds have little or no impact (Boldrin and Canova, 2001; Canova and Marcet, 1995; Canova, 2004; Dall'erba and Le Gallo, 2007; Fagerberg nd Verspagen, 1996; Le Gallo and Dall'erba, 2006). According to Boldrin and Canova (2001), their analysis "does not show any indirect evidence that Structural and Cohesion Funds regions are behaving any differently from the remaining ones. In fact, time series data extending back to the pre-regional policies period suggest that much more convergence was taking place then than now."

The fourth strand that comes from the literature is that the national environment matters. Cuadrado-Roura (2001) finds strong national influence on the performance of regions, and that regions tend to cluster together both in terms of initial development level and per capita GDP growth rates. Quah (1996) also finds that national factors affect regional distribution dynamics. While Cuadrado-Roura et al. (2000) find that a fixed national effects model is not significant in comparison with the general model, the results of their fixed effects do suggest a common behavioral pattern amongst regions in the same country. Assuming policy and market environment is more similar within nations, this suggests that national policy and market environment matters more than EU regional policy. It also suggests that top-down development approaches from the supra-national level may have limited impact.

The fifth strand is that geography matters. Badinger et al. (2004) find high spatial correlation with neighboring regions suggesting predominance of market forces over centralized redistributionist policy. Quah (1996) finds physical location and geographical spillovers matter more than national macro factors in explaining distribution dynamics. This suggests that cross-border market links matter, and that decentralized regions with freedom to create market links with other regions irrespective of national boundaries can do better.

Exhibit 3a: Evidence from cross-regional studies (I/V)

Study	Brief description	Time period	Key findings	Implications for market vs. intervention question	Implications for centre vs. region question
Barro and Sala-I-Martin (1991)	• Convergence study of 73 regions across Germany, UK, Italy, France, Netherlands, Belgium, Denmark	1950-1985	• Conditional β-convergence rates similar to the US of about 2% per year • Conditional convergence rates similar across countries and regions	• NA	• NA
Boldrin and Canova (2001)	• 185 NUTS 2 regions	1980-1996	• Neither β convergence nor β divergence for income or labor productivity • National σ convergence but no regional σ convergence for income • Absence of empirical support for increasing returns and agglomeration theories • EU regional and structural policies have little relationship with fostering regional growth • No evidence of relationship between Structural Funds and productivity in Greek and Spanish regions	• Absence of evidence of increasing returns and agglomeration in combination with evidence of little effect of Structural Funds on regional growth suggests that interventionist policies inadvisable	• NA
Badinger et. al. (2004)	• 194 NUTS 2 regions	1985-1999	• Accounting for spatial effects in a dynamic panel data model, they find convergence at a rate of 7% • High spatial correlation with neighboring regions	• High spatial correlation shows predominance of market forces over centralized redistributionist policy	•NA

Evidence for market   **Evidence for interventionist policy**   **Evidence for decentralized approach**   **Evidence for centralized approach**

Exhibit 3b: Evidence from cross-regional studies (II/V)

Study	Brief description	Time period	Key finding	Implications for market vs. intervention question	Implications for centre vs. region question
Canova and Marcet (1995)	• Convergence study of 144 European regions (NUTS 2 in most cases)	1980-1992	• Fast convergence to respective steady states • However, differences between steady states persist, poor regions remain poor • Authors claim EU cohesion policy without much impact and structural changes in economic environment needed for catch-up	• Failure of cohesion policy may support market hypothesis • However, unclear if structural change accomplished best through state or market	• Centralized policies not seen to work
Canove (2004)	• Investigates club convergence of 144 NUTS 2 EU regions	1980-1992	• Natural clustering of units in four groups of regional income per capita • Persistence of initial income characteristics and substantial immobility in ranking (clustering rather than convergence, even within groups) • "Bleak" future for the possibility of reducing inequality between regions	• Same to Canova and Marcet (1995)	• Similar to Canova and Marcet (1995)
Cappelen et. al. (2003)	• Sample of 190 regions	1980-1997	• More convergence at national than at the regional level • EU support with significant and positive impact on growth performance of EU regions, with economic effects stronger in more developed regions	• Mixed	• Mixed, central support with positive impact, however, convergence more at national level with strong autonomous, accountable governments
Carrington (2006)	• Sample of 65 NUTS 2 regions	1984-1993	• Finds evidence of convergence that is neither fast nor continuous, regions are persistent in belonging to certain income groups, while sub periods of convergence and divergence are discernible	• NA	• NA

Evidence for market   **Evidence for interventionist policy**   **Evidence for decentralized approach**   **Evidence for centralized approach**

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Exhibit 3c: Evidence from cross-regional studies (III/V)

Study	Brief description	Time period	Key finding	Implications for market vs. intervention question	Implications for centre vs. region question

Cuadrado-Roura et. al. (2000)	• Study of 97 regions (excluding Austria, Finland, Sweden)	1980-1993	• Absolute β-convergence of 2.8-3.5%, 1981-90
			• Three regional groups for conditional β convergence
			  - +ve, significant fixed effects growing faster
			  - -ve, significant fixed effects growing slower
			  - Zero fixed effects
			• Five situations from disaggregated analysis of gross value added, productivity & employment
			  - Advanced regions, e.g., Hesse
			  - Dynamic intermediate regions, e.g., Lombardy
			  - Intermediate regions with less dynamism, e.g., Basque country
			  - Regions in decline, e.g., old UK industrial regions
			  - Miscellaneous heterogeneous cluster
				• Regions better able to adapt to changing global technological and market environments do better
				• However, unclear if better performance due to market friendly or interventionist policies
					• Potentially decentralized regions may have more autonomy and flexibility to adjust faster to changing global environments

Cuadrado-Roura (2001)		1960-mid 1970s	• σ convergence in income	• Shows that government policies are important • However, does not show which policies	• Shows institutional environment is important • However, does not show which environment is better for growth
		Mid 1970s-1988	• No convergence in income		
		1983-1996	• Again no significant convergence		
		1977-1994	• Strong national influence on the performance of regions, regions tend to cluster together both in terms of initial development level and per capita GDP growth rates		

Evidence for market   **Evidence for interventionist policy**   **Evidence for decentralized approach**   **Evidence for centralized approach**

Exhibit 3d: Evidence from cross-regional studies (IV/V)

Study	Brief description	Time period	Key findings	Implications for market vs. intervention question	Implications for centre vs. region question
Dall'erba and Le Gallo (2007)	• 145 EU regions	1989-1999	• Two tiers of convergence, one in core richer regions and one in peripheral poorer regions. Peripheral regions converge faster. • Non-significant impact of EU funds on the regions' steady states	• Little or no impact of structural funds on convergence rates	• NA
Fagerberg nd Verspagen (1996)	• 70 regions in six member states	1950-1970	• Substantial convergence • Poorest region grew 2.8%-4.3% faster than richest	• EU investment began in earnest in 1990, potentially showing that it actually exacerbates differences	• NA
		1970-1990	• Slowing of convergence • Poorest region grew 0.8-2.4% faster than richest		
		1980-1990	• Absence of convergence • No evidence of convergence • Three convergence clubs based on employment - high unemployment, intermediate unemployment and low unemployment • EU support positive in low employment regions, ineffective in the other two clubs		

Evidence for market   **Evidence for interventionist policy**   **Evidence for decentralized approach**   **Evidence for centralized approach**

Exhibit 3e: Evidence from cross-regional studies (V/V)

Study	Brief description	Time period	Key findings	Implications for market vs. intervention question	Implications for centre vs. region question
Gardiner et. al. (2004)	• NUTS 2 regions of EU 15	1980-2001	• Slow σ and β convergence in productivity as measured by LFS hours-worked • Slow convergence of barely 1% per annum	• NA	• NA
Le Gallo and Dall'erba (2006)	• 145 EU regions	1980-1999	• Rejection of assumption of temporal independence in β Convergence between 1980-89 and 1989-1999; 1989 being the year of reform of structural funds • Two tiers of convergence, one in core richer regions and one in peripheral poorer regions. Peripheral regions converge faster.	• Little or no impact of structural funds on convergence rates.	• NA
Leonardi (2005)	• Objective 1 and non-objective 1 regions	1988-99	• Objective 1 regions have converged to EU mean, while non-Objective 1 regions have remained stable	• Suggests EU funds effective	• Suggests central intervention effective
Quah (1996)	• Examines how host countries & surrounding regions affect regional performance	1980-1989	• Both national factors and physical location (surrounding regions) affect regional distribution dynamics • However, physical location & geographical spillovers matter more than national macro factors in explaining distribution dynamics	• Assuming policy more similar within nations, this suggests that markets matter more than policy • Geographical proximity explanation also evidence of impact of market links	• Suggests that top-down redistribution may have little impact • Decentralized regions should have freedom to create market links with other regions irrespective of national boundaries

Evidence for market   **Evidence for interventionist policy**   **Evidence for decentralized approach**   **Evidence for centralized approach**

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4.3 What do individual country / region studies say?

Individual country-level studies also provide a mixed picture on the impact of EU regional policy on regional economic performance. De La Fuente (2003) finds that EU investment in infrastructure post accession makes it more distributive, with a positive effect on convergence. He sees the EU Community Support Framework as a large positive shock that, over a period of 7 years, raised aggregate infrastructure, other capital stock and years of training. For objective 1 regions as a whole, the CSF added 6.9 percentage points to output and 3.4 points to employment in 2000.

Pereira (1997) shows that EU programs had a substantial impact on economic growth. During 1989-93, "Greece, Ireland and Portugal received grants corresponding to 2.3, 2.9 and 3.5% of their respective GDPs for the period. The private cofinancing requirements were 0.6, 1.4 and 2.1%, while the public co-financing requirements were 2.4, 1.6 and 3.4%, respectively. Accordingly, the total resources involved in these programs are estimated to be 5.8, 5.3 and 9% of their respective GDPs for the period." According to the paper's simulation results, these transfers induced an improvement in GDP growth of 0.3 percentage points for the Greek and Irish economies, and 0.5 percentage points for the Portuguese economy. However, their analysis is at a national level, and does not say much about what happened to regional economic performance within these countries.

According to Barry (2001) both the single market and EU funds played a role in Ireland's economic performance. In addition, national economic policies, such as a lower tax rate also played an important role. On balance, it seems that national policies and the single market played a much more important role in Ireland's impressive growth than EU policies. Farrel (2004) also finds that institutional and market forces had greater effect than EU redistribution in explaining the differential growth between Spain and Ireland. While Spain as a whole caught up, internal regional disparity actually increased. Further, Spain's investment was primarily in infrastructure, while Ireland also focused on developing human capital. Both the latter points show the importance of strong regional governments. First, Ireland is small enough to be a region, and its government responsible for its national growth delivered. Similarly the Spanish government also

pursued policies for national growth, however, given its size, it was at the expense of some regions and the benefit of others. The second and related point is that the Spanish regional governments did not have the same power to promote their development as the Irish government did. So, even if they wanted, they could not have set their priorities independent of national influence, which could partly explain the differences in EU spending in Ireland vs. Spain.

Garcia-Mila and McGuire (2001) evaluated impact of central government and EU grants on 17 regions of Spain by evaluating economic performance before and after implementation of grant programs. They find that the grants are generally redistributive and targeted to stimulate economic activity in the poorer regions. However, they have not been effective at stimulating private investment or improving overall economies of the poorer regions, and the difference in GDP growth rates between recipient and non-recipient regions between the two time periods is not statistically significant. Further, the non-recipient group experienced a larger increase in private investment per capita between the two time periods, showing that other factors matter more than EU regional support in attracting private investment.

Exhibit 4a: Evidence from individual country studies (I/II)

Study	Brief description	Time period	Key findings	Implications for market vs. intervention question	Implications for centre vs. region question
Barry et. al (2001)	• Explaining impact of SEM and Structural funds on Ireland's growth		• Both singe market and structural funds have had modest impacts • National economic policies such as the lower tax rate also played an important role	• Mixed, both market and state role important	• Ireland as an autonomous country had several policy instruments at its disposal that regions do not have, e.g., they cannot lower corporate taxes like Ireland did.
Farrel (2004)	• Comparative study of impact of structural funds in Ireland and Spain		• Much higher Irish growth was in part supported by EU structural funds • In Spain, while the whole country converged to EU average, internal regional inequality actually increased, with some regions like Madrid and Navarre getting to income levels above EU average • Part of differences in the two cases explained by (1) institutional differences; and (2) policy differences; Spain's investment was in infrastructure, while Ireland also focused on developing human capital and on industrial policy to attract large MNCs to set up operations in Ireland	• Institutional and market forces differences greater impact than EU redistribution	• Particular types of intervention can work – for example, policies to attract MNCs, however, these instruments are not available to regional governments.
Pereira (1997)	• Examines impact of EU structural funds on the growth path of Greece, Ireland and Portugal	1989-93	• Using simulation results, they show that EU programs had a substantial impact on economic growth and contributed to their convergence to EU standards – 0.3 percentage points increase in growth for Greece and Ireland, and 0.5 percentage points for Portugal	• Shows that increased central investment can accelerate growth	• Again shows, autonomous and accountable national governments better able to deliver

Evidence for market **Evidence for interventionist policy** **Evidence for decentralized approach** **Evidence for centralized approach**

Exhibit 4b: Evidence from individual country studies (II/II)

Study	Brief description	Time period	Key findings	Implications for market vs. intervention question	Implications for centre vs. region question
De La Fuente (2003)	• Impact of cohesion policy in Spain		• EU investment in infrastructure post accession makes it more distributive, with a positive effect on convergence • EU Community Support Framework seen as a large positive shock, that over a period of 7 years raises aggregate infrastructure, other capital stock and years of training • For objective 1 regions as a whole, the CSF adds 6.9 percentage points to output and 3.4 points to employment in 2000	• EU support found to be positive	• NA
Garcia-Mila and McGuire (2001)	• Evaluated impact of central government and EU grants on 17 regions of Spain by evaluating economic performance before and after implementation of grant programs	1977-1981 and 1989-1992	• Grants are generally redistributive and targeted to stimulate economic activity in the poorer regions • However, they have not been effective at stimulating private investment or improving overall economies of the poorer regions • Difference in GDP growth rates between recipient and non-recipient regions between the two time periods not statistically significant • Non-recipient group experiences larger increase in private investment per capita between the two time periods	• EU support seen to be ineffective, other factors lead to greater private investment in non-recipient group	• NA

Evidence for market   Evidence for interventionist policy   Evidence for decentralized approach   Evidence for centralized approach

5 Lessons from the EU experience - What does the evidence tell us?

As Rodriguez-Pose and Fratesi (2004) point out, two key factors point to doubts that EU policies lead to convergence. First is the fact that of the 44 regions eligible for Objective 1 funds in 1989, 43 still remained eligible 14 years after the 1989 reforms. Only Abruzzo in Italy managed to come out of the initial group in 1997. And the second is the lack of regional convergence since the implementation of the Structural Funds, as most of the studies looking at regional convergence show. Although EU regional policy was not successful in helping poorer regions catch-up to the richer ones, there are, nevertheless, important inferences to be drawn from the evidence as to what approach would work best in promoting regional development. We shall argue in this section, that the preponderance of the evidence presented so far in this paper support the regional enabler hypothesis discussed in section 2. We show that this evidence provides support for a bottom-up market-oriented regional development policy, albeit with some important exceptions.

Five key inferences can be drawn based on the studies discussed above that support one or both parts of the regional enabler hypothesis – market-orientation and decentralized bottom-up approach. They are as follows:

1. *Presence of national convergence and absence of regional convergence supports the regional enabler approach.*

As several studies show, the EU has witnessed national convergence but not regional convergence. What does this mean for our hypotheses on regional development? Let us first take the market vs. interventionist policy question. There were two European processes in work here. One was the single market, and the other was the regional development policy. And where would the single market have the biggest impact – the nation or the region? Arguably, the single market erased international borders, while it probably did less to impact intra-national differences in factors that affect development such as policy, infrastructure, human capital, technology, and entrepreneurship. Therefore, it is only to be expected that we would observe national convergence, but not regional convergence. And that is in fact what the literature finds. On the

other hand, the EU structural funds were aimed directly at reducing regional disparities, and in that respect, it was not successful. Therefore, this combination of evidence suggests that removing market barriers is a bigger spur to catch-up than redistributive aid.

What does this mean for the centralized vs. decentralized question? National governments are strong, relatively autonomous, accountable to their constituents, and are responsible for most policies that affect development. On the other hand, most regional jurisdictions in the EU have weaker, less autonomous governments often accountable upwards to the national government rather than downwards to their constituents. Further, their developmental responsibilities are also limited. Given this, it is not surprising that the national governments were better able to take advantage of the single market than regional ones. On the other hand, the regional governments might even have felt a lower imperative for needed reform, or pressure to put aside their priorities in favor of supra-national or national priorities. This could then partly explain why the poorer regions did not catch up.

In short, the fact that nations converged while regions did not suggests that a regional enabler approach is best suited for regional development.

2. *Convergence from 1960s to 1980s, and absence of convergence thereafter, supports the market hypothesis over the supra-national interventionist one.*

The evidence discussed in the previous section shows that regional convergence was observed during the 1960s, 1970s and partly in the 1980s. And this convergence slows or stops in the late 1980s and 1990s. For example, Cuadrado-Roura (2001) shows that the EU has exhibited differences in convergence of regions over different points of time. He shows the presence of convergence from 1960 to the mid-1970s, but no significant convergence thereafter. The latter period is the time when the EU cohesion policy and structural funds assumed a significant role in regional development, especially after the 1989 reforms. What does this tell us? As in the previous point, it shows that the single market may be more important than EU regional aid. The earlier convergence may be due to the effects of removal of national market barriers, which played out till the 1980s, after which this effect ceased to have a big impact. And EU

redistribution did not do much to begin convergence again. What this again suggests is that perhaps we now need to focus on national and regional market distortions, rather than try to solve the problem by throwing money at it.

3. Evidence from specific cases supports the regional enabler approach.

The biggest EU success story has been Ireland[2]. While Spain has also converged to the EU average, the regions within Spain have not converged. As the literature reviewed in the previous section showed, Ireland's growth has been supported by several market liberalizing reforms such as tighter fiscal and monetary policy and lower taxes. This in combination with the fact that it is the gateway to a large EU single market contributed to bring in large amounts of FDI that boosted its growth. As Barry (2003) points out, even Greece and Spain as a whole converged after following a tight fiscal and monetary policy for EU entry, labor market reforms (Spain) and liberalization after accession (Spain and Portugal). This again supports the market hypothesis over the interventionist hypothesis.

The other key point here is that this approach will not work for regional development in the absence of a strong and relatively autonomous regional government. Most of the liberalization reforms in Spain, Ireland and Greece were brought about by national governments. Regional governments do not have the same remit, and even if they had the desire to pursue a more liberal policy, they are often hobbled by the protectionist tendency of the national government. Therefore, regional development can be constrained to the extent regional government autonomy in pursuing appropriate policies is curtailed.

4. The finding that geographic proximity matters supports the regional enabler approach.

As we have discussed before, Quah (1996) finds that physical location and geographical spillovers matter more than national macro factors in explaining regional distribution dynamics. Assuming that policy is more similar within nations than across, this suggests that the market

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[2] While recent events, especially the slowdown in Ireland may seem to contradict this, we feel that this is due to global recession, and when the global economy recovers, Ireland will most likely recover with it.

environment matters more than the policy environment. It also suggests that geographical factors are more important than national policy factors, which means that centralized redistribution may only have limited impact. Further, it also suggests that more autonomous regions able to forge market links with other regions without being burdened by national constraints and barriers may significantly bolster regional development.

5. *Ability to choose what to spend the money on supports the decentralized bottom-up hypothesis.*

Another factor could be that centralized funds could be spent on the wrong priorities. As Rodriguez-Pose and Fratesi (2004) point out, about half of Objective 1 funds have been committed to the development of transport, infrastructure and the environment. Business and tourism support take up a bit less than a quarter. As their analysis shows, that support in these two areas have had a negligible impact on regional convergence both across the EU and if only Objective 1 regions are considered. Support for agriculture and rural restructuring has a positive impact in the very short-term, and the influence wanes over time. The only medium-term positive impact they find, is in the funds targeted at education and the development of human capital. Similarly, Farrel (2004) also finds that part of the reason for Ireland's superior growth over Spain was that EU investment in Spain was in infrastructure, while Ireland also focused on developing human capital. One could then infer that it is best to invest in education at the expense of other areas. However, another inference is also possible. And that is that centralized redistribution focuses on the wrong priorities, both because they lack appropriate local information, and perhaps because they follow the current EU level development priorities.

6 Conclusion

In sum, the evidence on the EU regional policies and regional development suggests the following lessons:
- Remove barriers to trade and movement of people, skills and technologies. Let the market work.

- Minimize centralized redistribution and subsidies. Transfers to poorer regions can distort market signals and hamper the flow of business to lower wage areas or of people to higher income regions.

- Where there is central investment, make sure it is in the appropriate areas. For example, investment in human capital can increase the incentives for companies to set up businesses in the poorer region. Similarly, certain types of physical infrastructure may also do that. However, investing in physical infrastructure without investing in human capital will only exacerbate the problem – goods will flow from richer to poorer areas and skilled people the other way.

- Make sure the regional government takes the lead on regional development and has both the power and the accountability (to its constituents) to do so. It should be responsible and accountable for the resources it raises and what it spends them on. This does not preclude central transfers, but it does mean that the region must also contribute to any potential projects to ensure that it chooses projects wisely. And the accountability must be downwards to the citizens, not upwards to the national government or the EU.

- The role of the national and supra-national governments should be limited to provide a level playing field.

References

ANSELL, C.K., PARSONS, C.A. and DARDEN, K.A., 1997. Dual Networks in European Regional Development Policy. *Journal of Common Market Studies,* **35**(3), pp. 347-375.

BACHTLER, J. and MICHIE, R., 1997. The Interim Evaluation of EU Regional Development Programmes: Experiences from Objective 2 Regions. *Regional Studies,* **31**(9), pp. 849-858.

BACHTLER, J. and MICHIE, R., 1995. A New Era in EU Regional Policy Evaluation? The Appraisal of the Structural Funds. *Regional Studies,* **29**(8), pp. 745-751.

BACHTLER, J. and MICHIE, R., 1995. A New Era in EU Regional Policy Evaluation? The Appraisal of the Structural Funds. *Regional Studies,* **29**(8), pp. 745-751.

BACHTLER, J. and WREN, C., 2006. Evaluation of European Union Cohesion Policy: Research Questions and Policy Challenges. *Regional Studies,* **40**(2), pp. 143-153.

BADINGER, H., MULLER, W.G. and TONDL, G., 2004. Regional Convergence in the European Union, 1985-1999: A Spatial Dynamic Panel Analysis. *Regional Studies,* **38**(3), pp. 241-253.

BAILEY, D. and DE PROPRIS, L., 2004. A Bridge Too Phare? EU Pre-accession Aid and Capacity-Building in the Candidate Countries. *Journal of Common Market Studies,* **42**(1), pp. 77-98.

BARRO, R.J. and SALA-I-MARTIN, X., 1992. Convergence. *The Journal of Political Economy,* **100**(2), pp. 223-251.

BARRO, R.J. and SALA-I-MARTIN, X., 1992. Convergence. *The Journal of Political Economy,* **100**(2), pp. 223-251.

BARRO, R.J., SALA-I-MARTIN, X., BLANCHARD, O.J. and HALL, R.E., 1991. Convergence Across States and Regions. *Brookings Papers on Economic Activity,* **1991**(1), pp. 107-182.

BARRO, R.J., SALA-I-MARTIN, X., BLANCHARD, O.J. and HALL, R.E., 1991. Convergence Across States and Regions. *Brookings Papers on Economic Activity,* **1991**(1), pp. 107-182.

BARRY, F., 2003. Economic Integration and Convergence Processes in the EU Cohesion Countries. *Journal of Common Market Studies,* **41**(5), pp. 897-921.

BARRY, F., BRADLEY, J. and HANNAN, A., 2001. The Single Market, the Structural Funds and Ireland's Recent Economic Growth. *Journal of Common Market Studies,* **39**(3), pp. 537-552.

BARRY, F., BRADLEY, J. and HANNAN, A., 2001. The Single Market, the Structural Funds and Ireland's Recent Economic Growth. *Journal of Common Market Studies,* **39**(3), pp. 537-552.

BEUGELSDIJK, M. and EIJFFINGER, S.C.W., 2003. The Effectiveness of Structural Policy in the European Union: An Empirical Analysis for the EU-15 during the Period 1995-2001. C.E.P.R. Discussion Papers, CEPR Discussion Papers: 3879.

BEUGELSDIJK, M. and EIJFFINGER, S.C.W., 2005. The Effectiveness of Structural Policy in the European Union: An Empirical Analysis for the EU-15 in 1995-2001. *Journal of Common Market Studies,* **43**(1), pp. 37-51.

BOLDRIN, M. and CANOVA, F., 2001. Inequality and Convergence in Europe's Regions: Reconsidering European Regional Policies. *Economic Policy: A European Forum,* (32), pp. 205-245.

BOLTHO, A., CARLIN, W. and SCARAMOZZINO, P., 1997. Will East Germany Become a New Mezzogiorno? *Journal of Comparative Economics,* **24**(3), pp. 241-264.

CANOVA, F., 2004. Testing for Convergence Clubs in Income per Capita: A Predictive Density Approach. *International Economic Review,* **45**(1), pp. 49-77.

CANOVA, F. and MARCET, A., 1995. The Poor Stay Poor: Non-Convergence Across Countries and Regions. C.E.P.R. Discussion Papers, CEPR Discussion Papers: 1265.

CARRINGTON, A., 2006. Regional Convergence in the European Union: A Stochastic Dominance Approach. *International Regional Science Review,* **29**(1), pp. 64-80.

CLARYSSE, B. and MULDUR, U., 2001. Regional Cohesion in Europe? An Analysis of How EU Public RTD Support Influences the Techno-economic Regional Landscape. *Research Policy,* **30**(2), pp. 275-296.

CUADRADO-ROURA, J.R., 2001. Regional Convergence in the European Union: From Hypothesis to the Actual Trends. *Annals of Regional Science,* **35**(3), pp. 333-356.

CUADRADO-ROURA, J.R., MANCHA-NAVARRO, T. and GARRIDO-YSERTE, R., 2000. Regional Productivity Patterns in Europe: An Alternative Approach. *Annals of Regional Science,* **34**(3), pp. 365-384.

DALL'ERBA, S. and LE GALLO, J., Regional Convergence and the Impact of European Structural Funds over 1989-1999: A Spatial Econometric Analysis. *Discussion paper, .*

DE LA FUENTE, A., 2003. Does Cohesion Policy Work? Some General Considerations and Evidence from Spain. In: B. FUNCK and L. PIZZATI, eds, *European integration, regional policy, and growth.* Washington, D.C.:; World Bank, pp. 153-165.

DE LA FUENTE, A., 2002. The Effect of Structural Fund Spending on the Spanish Regions: An Assessment of the 1994-99 Objective 1 CSF. C.E.P.R. Discussion Papers, CEPR Discussion Papers: 3673.

EASTERLY, W., 2001. The elusive quest for growth: Economists' adventures and misadventures in the tropics. Cambridge and London:; MIT Press.

EDERVEEN, S., GORTER, J., MOOIJ, R.D. and NAHUIS, R., 2003. *Funds and Games: The Economics of European Cohesion Policy.* European Network of Economic Policy Research Institutes.

ERTUR, C. and KOCH, W., 2006. Regional Disparities in the European Union and the Enlargement Process: An Exploratory Spatial Data Analysis, 1995-2000. *Annals of Regional Science,* **40**(4), pp. 723-765.

ERTUR, C., LE GALLO, J. and BAUMONT, C., 2006. The European Regional Convergence Process, 1980-1995: Do Spatial Regimes and Spatial Dependence Matter? *International Regional Science Review,* **29**(1), pp. 3-34.

ESTEBAN, J., 2000. Regional Convergence in Europe and the Industry Mix: A Shift-Share Analysis. *Regional Science and Urban Economics,* **30**(3), pp. 353-364.

EUROPEAN COMMISSION, 2004b. *Third report on economic and social cohesion — COM (2004) 107 of 18 February 2004.* Luxembourg: Office for Official Publications of the European Communities.

EUROPEAN COMMISSION, 2004; 2004a. *Working for the regions.* Luxembourg: O.

FAGERBERG, J. and VERSPAGEN, B., 1996. Heading for Divergence? Regional Growth in Europe Reconsidered. *Journal of Common Market Studies,* **34**(3), pp. 431-448.

FALUDI, A., 2006. From European Spatial Development to Territorial Cohesion Policy. *Regional Studies,* **40**(6), pp. 667-678.

FARRELL, M., 2004. Regional Integration and Cohesion--Lessons from Spain and Ireland in the EU. *Journal of Asian Economics,* **14**(6), pp. 927-946.

FAYOLLE, J. and LECUYER, A., 2000. Croissance regionale, appartenance nationale et fonds structurels europeenss: Un bilan d'etape. (Regional Growth, National Membership and European Structural Funds: An Empirical Appraisal. With English summary.). *Revue de L'OFCE,* (73), pp. 165-196.

FILIPPAIOS, F. and KOTTARIDI, C., 2004. Investment Patterns and the Competitiveness of Greek Regions. *Review of Urban and Regional Development Studies,* **16**(2), pp. 93-112.

GARCIA-MILA, T. and MCGUIRE, T.J., 2001. Do Interregional Transfers Improve the Economic Performance of Poor Regions? The Case of Spain. *International Tax and Public Finance,* **8**(3), pp. 281-295.

GARCIA-MILA, T. and MCGUIRE, T.J., 2001. Do Interregional Transfers Improve the Economic Performance of Poor Regions? The Case of Spain. *International Tax and Public Finance,* **8**(3), pp. 281-295.

GARDINER, B., MARTIN, R. and TYLER, P., 2004. Competitiveness, Productivity and Economic Growth across the European Regions. *Regional Studies,* **38**(9), pp. 1045-1067.

GOTTHEIL, F., 2003. Ireland: What's Celtic about the Celtic Tiger? *Quarterly Review of Economics and Finance,* **43**(5), pp. 720-737.

GROSSMAN, G.M. and HELPMAN, E., 1990. Comparative Advantage and Long-Run Growth. *The American Economic Review,* **80**(4), pp. 796-815.

GROSSMAN, G.M. and HELPMAN, E., 1990. Comparative Advantage and Long-Run Growth. *The American Economic Review,* **80**(4), pp. 796-815.

HARBERGER, A.C., 1998. A Vision of the Growth Process. *The American Economic Review,* **88**(1), pp. 1-32.

KASTELLI, I., 2004. Technological Development in the Context of the European Integration: The Case of Greece. *Problems and Perspectives in Management,* (2), pp. 5-24.

KRUGMAN, P., 1991. Increasing Returns and Economic Geography. *The Journal of Political Economy,* **99**(3), pp. 483-499.

KRUGMAN, P., 1991. Increasing Returns and Economic Geography. *The Journal of Political Economy,* **99**(3), pp. 483-499.

KRUGMAN, P., 1991. Increasing Returns and Economic Geography. *The Journal of Political Economy,* **99**(3), pp. 483-499.

KRUGMAN, P. and VENABLES, A.J., 1995. Globalization and the Inequality of Nations. *The Quarterly Journal of Economics,* **110**(4), pp. 857-880.

LAMBRINIDIS, M., PSYCHARIS, Y. and ROVOLIS, A., 2005. Regional Allocation of Public Infrastructure Investment: The Case of Greece. *Regional Studies,* **39**(9), pp. 1231-1244.

LE GALLO, J. and DALL'ERBA, S., 2006. Evaluating the Temporal and Spatial Heterogeneity of the European Convergence Process, 1980-1999. *Journal of Regional Science,* **46**(2), pp. 269-288.

LEONARDI, R., 2006. The Impact and Added Value of Cohesion Policy: Cohesion in the European Union. *Regional Studies,* **40**(2), pp. 155-166.

MAIRATE, A., 2006. The 'Added Value' of European Union Cohesion Policy. *Regional Studies,* **40**(2), pp. 167-177.

MANKIW, N.G., ROMER, D. and WEIL, D.N., 1992. A Contribution to the Empirics of Economic Growth. *The Quarterly Journal of Economics,* **107**(2), pp. 407-437.

MANKIW, N.G., ROMER, D. and WEIL, D.N., 1992. A Contribution to the Empirics of Economic Growth. *The Quarterly Journal of Economics,* **107**(2), pp. 407-437.

MARTIN, P., 1998. Can Regional Policies Affect Growth and Geography in Europe? *World Economy,* **21**(6), pp. 757-774.

MARTIN, R. and TYLER, P., 2006. Evaluating the Impact of the Structural Funds on Objective 1 Regions: An Exploratory Discussion. *Regional Studies,* **40**(2), pp. 201-210.

MIDELFART-KNARVIK, K.H. and OVERMAN, H.G., 2002. Delocation and European Integration: Is Structural Spending Justified? *Economic Policy: A European Forum,* (35), pp. 321-351.

MILIO, S., 2007. Can Administrative Capacity Explain Differences in Regional Performances? Evidence from Structural Funds Implementation in Southern Italy. *Regional Studies,* **41**(4), pp. 429-442.

MORGAN, K., 2007. The Learning Region: Institutions, Innovation and Regional Renewal. *Regional Studies,* **41**, pp. S147-59.

PEREIRA, A.M., 1997. Development Policies in the EU: An International Comparison. *Review of Development Economics,* **1**(2), pp. 219-235.

POWELL, B., 2003. Economic Freedom and Growth: The Case of the Celtic Tiger. *Cato Journal,* **22**(3), pp. 431-448.

PRESCOTT, E.C., 1998. Lawrence R. Klein Lecture 1997: Needed: A Theory of Total Factor Productivity. *International Economic Review,* **39**(3), pp. 525-551.

QUAH, D., 2001. ICT Clusters in Development: Theory and Evidence. *EIB Papers,* **6**(1), pp. 85-100.

QUAH, D., 2001. ICT Clusters in Development: Theory and Evidence. *EIB Papers,* **6**(1), pp. 85-100.

QUAH, D.T., 1996. Regional Convergence Clusters across Europe. *European Economic Review,* **40**(3), pp. 951-958.

QUAH, D.T., 1996. Twin Peaks: Growth and Convergence in Models of Distribution Dynamics. *The Economic Journal,* **106**(437), pp. 1045-1055.

QUAH, D.T., 1996. Twin Peaks: Growth and Convergence in Models of Distribution Dynamics. *The Economic Journal,* **106**(437), pp. 1045-1055.

RODRIGUEZ-POSE, A. and FRATESI, U., 2004. Between Development and Social Policies: The Impact of European Structural Funds in Objective 1 Regions. *Regional Studies,* **38**(1), pp. 97-113.

SHANKAR, R. and SHAH, A., 2003. Bridging the Economic Divide within Countries: A Scorecard on the Performance of Regional Policies in Reducing Regional Income Disparities. *World Development,* **31**(8), pp. 1421-1441.

SHANKAR, R. and SHAH, A., 2008. Regional Income Disparities and Convergence: Measurement and Policy Impact Evaluation. In Anwar Shah, editor, *Macrofederalism and Local Finance*, Chapter 4:143-192. Washington, DC: World Bank

SKURAS, D. and TZAMARIAS, N., 2000. Job Creation by Assisted Rural Firms: A European North-South Perspective. *Local Economy,* **15**(3), pp. 225-237.

WELSCH, H. and BONN, U., 2006. Is There a 'Real Divergence' in the European Union? A Comment. *Structural Change and Economic Dynamics,* **17**(2), pp. 259-265.

WORLD BANK (2008). *Reshaping Economic Geography*, World Development Report, 2009. Washington, DC: Oxford University Press for the World Bank