

Do institutions matter for regional development?

by

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Abstract: This paper discusses the question of whether institutions matter for regional development and, if so, of how can the institutional dimension be integrated in regional development strategies. It finds that while the role of local institutions is crucial for economic development and as a means of determining the returns of regional development policies, generating an institution-based general regional development strategy is likely to be undermined by the lack of definition of what are adequate, solid, and efficient institutions. Problems related to the measurement of institutions, to their space and time variability, to the difficulties for establishing the right mix of formal and informal institutions, and to the endogeneity between institutions and economic development make one-size-fits-all approaches to operationalizing institutions within regional development possibly unfeasible. Development strategies that are specifically tailored to the conditions of different regional institutional environments across regions are, in contrast, likely to yield greater returns.

1. Introduction

Do institutions matter for regional development? This is a question that would probably have not crossed the minds of decision-makers dealing with development issues until the 1990s. Despite the fact that social scientists had been analysing the role of institutions for more than a century (i.e. Tönnies, 1887; Weber, 1920 and 1921), the link between institutions and economic development had been fundamentally overlooked by mainstream economic theory, in general, and growth theory, in particular. Under a neoclassical growth framework, achieving economic development was mainly a matter of investing in physical capital (Solow, 1956). Differences in the stock and in the level of investment in infrastructure were regarded as the key elements in explaining differences in output and in the promotion of economic growth (Aschauer, 1989). The development of the endogenous growth theory around the mid-1980s brought further to the fore the importance of two other additional factors – innovation (Romer, 1986) and education (Lucas, 1988) – that had already featured prominently in neoclassical approaches to growth.

Hence, the recipe to spur economic development and growth in the periphery and to improve welfare levels in lagging areas seemed rather straightforward: greater investment in infrastructure, in education and training, and in the promotion innovation and industrial activities would have, in theory, sufficed to generate greater economic growth and, ultimately, development. If this investment was mainly channelled to lagging regions, it would also contribute to economic convergence. After all, three decades of strong national development policies based on these principles were considered to have contributed to a substantial reduction in the disparities between rich and poor regions in places such as Britain, France, Germany, India, Italy, Mexico, or Spain. This was, as highlighted by Amin (1999, page 365), a “firm-centred, standardised, incentive-based and state driven” regional policy, based on the belief that “a set of common factors (e.g. the rational individual, the maximising entrepreneur, the firm as the basic economic unit and so on)” (Amin, 1999, page 365) lay at the base of economic success. As a consequence, regional development policies, in general, and, until recently, the European regional

development effort, in particular, have remained very much embedded in the tradition of national development policies. This tradition was firmly rooted in the belief that replicating top-down infrastructure, education, and industrialisation policies, regardless of the local institutional contexts, would suffice to generate greater growth and promote economic convergence (Pike et al, 2006). The influence of institutions on regional development patterns was fundamentally neglected by mainstream economic theory which tended to assume instead that utility maximising individuals satisfying individual preferences would result in efficient and socially optimal outcomes. Regional development intervention over the last 30 years has struggled to part with this theoretical framework and the result has been development strategies that have frequently tended to mimic one another from Andalusia to Attica, from the Alentejo to Saxony, or from Chihuahua to Oaxaca (Silva Ochoa, 2009) – both in their generally top-down approach to development problems, in spite of the principle of subsidiarity, and in their emphasis on certain development axes, such as transport infrastructure, business support, and education.

This type of approach seemed adequate and logical at the time. After all, on the one hand, institutional economics was still in its infancy and the link between institutions and economic development far from clear and, on the other, the neo-classical and endogenous growth approach to development had been tried and tested and had worked reasonably well. However, over the last two decades this panorama has changed. First of all, researchers do not completely agree on whether regional development intervention across the world is delivering. In the case of the European Union (EU), for example, recent independent analyses concerning this question reach widely differing results. While some studies conclude that, to a greater or lesser extent, the EU development effort since the 1989 reform of the Structural Funds has had almost no impact (e.g. Boldrin and Canova, 2001; García-Milá and McGuire, 2001; de Freitas et al, 2003; Dall’Erba and Le Gallo, 2007), others indicate that it has been a success (e.g. Cappelen et al, 2003). In between there are those who point out that the impact of the Structural Funds has been limited (e.g. Bussoletti and Esposti, 2004; Bouvet, 2009), mixed (e.g. Puigcerver-

Peñalver, 2004; Eggert et al, 2007), or tends to vary according to differences in emphasis across development axes (Rodríguez-Pose and Fratesi, 2004) or from one geographical location to another (Antunes and Soukiazis, 2005; Percoco, 2005; Mohl and Hagen, 2008) [see Mohl and Hagen (2008) for a useful summary of this literature]. Across the developing world the rise in within country regional disparities has accelerated sharply since the early 1990s.

Second, across a wide range of social science disciplines, researchers are increasingly resorting to analysing institutions in order to have a better grasp of how economic development takes place. Stubbornly high – and often growing – residuals in growth regressions have encouraged many scholars to look for additional factors that impinge on economic development and growth beyond traditional growth theories (Rodríguez Pose and Storper, 2006, page 3). In the last few years mainstream economists have increasingly come to the conclusion that the new ‘kid on the block’, institutions, matters as much, if not more, for economic development than long-established traditional factor-endowments, such as physical and human resource endowments, trade, or technology transfers (Hall and Jones, 1999; Acemoglu et al, 2001; Vijayaraghavan and Ward, 2001; Rodrik et al, 2004). Research is now trying to understand which type of institutions matter. Trust (Knack and Keefer, 1997; Zak and Knack, 2001; Knack, 2003; Beugelsdijk and van Schaik, 2004; Bengtsson et al, 2005) and social capital (Putnam, 1993, 2000; Boix and Posner, 1998; Beugelsdijk and van Schaik, 2005) have, so far, attracted the greatest attention. The relationship between certain high-order societal rules and formal institutions, on the one hand, and economic growth, on the other, has also been thoroughly analysed. Among these formal institutions, property rights and the rule of law seem to play the most relevant role in generating sustainable growth (Rodrik et al, 2004; Acemoglu et al, 2004).

Putting everything together, if a) the returns of regional development efforts are controversial and contested; if b) researchers are finding that institutions matter more and more for economic growth and development; and if c) regional development strategies have, by and large, overlooked the institutional

dimension, ergo institutions matter for regional economic development and therefore should become an essential part of any regional development effort in order to improve its effectiveness. It's the institutions, stupid!

But is this the case? This paper addresses the question of whether institutions matter for regional development and, if so, of how can institutions be included in the regional development effort. Although it will posit that understanding local institutions is critical for the design and implementation of efficient development strategies, it will also argue that the introduction of a institutional dimension into policy-making is much less straightforward than it may at first seem. In order to achieve this aim the paper first focuses on the role of institutions in economic development, before asking what are in fact institutions and how do they affect economic development. The final two sections deal with how can institutions be introduced into the development policy-making process and what are the problems related to it.

2. It's the institutions, stupid!

Why are recent regional development policies not universally regarded as a success? Why, despite government intervention in many parts of the world, regional disparities continue to grow? The increasingly limited returns – or, at least, perceived returns – of many development initiatives is a worldwide phenomenon. Traditional development strategies, especially in the developing world, have come under scrutiny and are more and more regarded as relatively ineffective in an integrated, globalized world (Pike et al, 2006). Across the world there is growing frustration with ‘blueprint’ and ‘one size fits all’ development strategies which, particularly in the case of lagging regions, seem less able to deliver results than a few decades ago. In parallel there is a growing view among certain scholarly strands that neoclassical economic orthodoxies are proving less and less adequate in order to facilitate growth and have frequently led, to imperfect interpretations of regional development and decline (Yeung, 2000, page 308).

In attempt to look for the causes of the perceived limited returns of development strategies across regions all over the world, growing attention has been paid to the influence of institutions on economic development. In effect, the tide has changed. While in 1990 North accused western scholars – economists, in particular – and policy-makers of overlooking and taking the role of institutions in ensuring the efficient functioning of markets and, consequently, in fostering development for granted (North, 1990), the presence of solid and efficient institutions has become a must, a prerequisite for those dealing with economic growth and development. To North institutions are “the underlying determinant of the long-run performance of economies” (North, 1990, page 107). Rodrik et al (2004) go even further in saying that the quality of institutions trumps more traditional development factors, such as trade or geography, in determining levels of income and growth prospects.

The work of these economists echoes and, to a certain extent, builds on research conducted by geographers, sociologists, and political scientists who, from different perspectives, tried to establish a link between place-specific institutional structures and economic performance. Most of this work deals with how effective social institutions improve the provision of collective or public goods, address market failures, and improve efficiency (Streeck, 1991). For these researchers, institutions generate trust among economic actors and reduce transaction costs (North, 1992; Fukuyama, 2000, page 1), provide collective goods (Streeck, 1991), foster transparency (Storper, 2005, page 32), promote entrepreneurship, grease the functioning of labour markets (Giddens, 1990), adapt in the face of shocks in order to provide problem solving arrangements (North, 1990), and ultimately lead to greater economic efficiency (North, 1992, page 479).

It is thus believed that specific local institutional arrangements enable localities and regions to embark on a sustainable and high-end road to economic development (Streeck, 1991). And it is often thought that these institutional arrangements work better at the local and the regional scale, as the national scale

can be too distant, remote, and detached in order to be effective in mobilizing organisations (Rodríguez-Pose, 1999).

Different authors have concentrated on different types of institutional arrangements. Some have focused on social capital, understood as “features of social organization, such as networks, norms and trust that facilitate co-ordination and cooperation for mutual benefit” (Putnam, 1993, page 38). Putnam (1993) considers social capital as a valuable asset for the genesis of economic development at the local level. He argues that the different forms of social organisation and diverse levels of trust between the North and the South of Italy have been a key determinant of the differential levels of development between both areas of the country (Putnam, 1993). Similarly, the World Bank has at times blamed a lack of social capital for the limited returns of parts of its intervention in specific regions (Englebert, 2002). Others have tended to focus on the role of ‘institutional thickness’ as a driver of economic development. Institutional thickness can be understood as a “combination of features including the presence of various institutions, inter-institutional interactions and a culture of represented identification with a common industrial purpose and shared norms and values which serve to constitute ‘the social atmosphere’ of a particular locality” (Amin and Thrift, 1995, page 104). Institutional thickness is considered to help determine the capacity of any territory to adapt to changing conditions and generate and assimilate innovation (Hudson, 1994; Amin and Thrift, 1995). Furthermore, from this point of view, institutional thickness gives institutions legitimacy, generates trust, increases innovative capacity, expands common knowledge, and helps to embed economic activity in the local fabric (Amin and Thrift, 1995). These different approaches are frequently combined, with diverse institutional arrangements reinforcing one another. Institutional thickness is regarded as capable of increasing the stock of social capital (Jütting, 2003), while the combination of social capital and institutional thickness in any given region is frequently related to effective government performance (Amin, 1998).

The bottom line of these views is that adequate, solid, and efficient institutions are essential for economic development at a local or a regional scale. Communities, localities, and regions with inadequate or inefficient institutions have, in contrast, a low probability of achieving sustainable economic development (Woolcock, 1998; Amin, 1999). From this perspective, in the absence of adequate institutions, it is “hardly surprising that attempts to implement even the most thoughtfully conceived development policies lead to early and frequent failure” (Woolcock, 1998, page153). Institutionally thin environments often end up controlled by elites, resulting in ‘institutional sclerosis’ (Amin, 1998) and thwarting opportunities for sustainable development. Institutional sclerosis spreads dissatisfaction and distrust in the local public policy-making process, driving local actors away from the development process (Picciotto, 2000). Institutional ‘lock-ins’ and ‘path dependencies’ further contribute to generate a downward spiral of relative underdevelopment in lagging regions.

As Putnam puts it, solid and efficient institutions are the “key enablers of innovation, mutual learning and productivity growth” (Putnam, 2000, page 325) and thus pave the way for the design and implementation of efficient economic development strategies across territories and, ultimately, for economic growth.

3. But, what are institutions?

Given the above mentioned developments in the analysis of institutions, few dispute these days that institutions matter for economic development – as few also dispute that investment in infrastructure, in education, or innovation ultimately makes a difference for the development prospects of any given territory. However, one thing is acknowledging that ‘institutions matter’, another is agreeing on what are institutions and on which institutions matter for development. And while investment in infrastructure, education, or innovation tends to be – despite the richness and complexity of these factors – relatively easy to grasp, operationalize, and implement, the concept of institutions is more subjective, less clear, more controversial and, precisely for that reason, much more difficult to

operationalize. Under most circumstances, greater investment in infrastructure, education, innovation is likely to have a positive impact on the development of any given territory. Targeting institutional deficiencies is much more difficult to achieve, especially if the institutions needed are always qualified as 'adequate', 'solid' and/or 'efficient'. As Bardhan (2000, page 245) puts it, "there are still many differences among reasonable people on which institutions affect the process of development and how", raising the questions of how do we intervene in institutions and how do we create 'adequate', 'solid' and 'efficient' institutions.

In order to address these questions, we must first define what is understood by institutions. Defining institutions is notoriously difficult and the current literature on the topic far from agrees on a common definition. The most commonly cited definition is that by North who describes institutions as "the rules of the game in a society; (and) more formally, (as) the humanly devised constraints that shape human interaction" (North, 1990, page 477). This definition is however far from universally accepted. In addition, the panorama is further complicated by the existence of multiple types of institutions. As Amin (1999, page 367) indicates, any economy is moulded by "enduring collective forces", which include "formal institutions such as rules, laws, and organization, as well as informal or tacit institutions such as individual habits, group routines and social norms and values". Although the terminology varies greatly among researchers, most of the literature on the topic tends to agree with this two-tier division. Scholars tend to distinguish between, on the one hand, what are variously described as 'formal' or 'hard' institutions or 'society' and, on the other, 'informal', 'tacit', 'soft', or 'community' institutions. More specifically, 'formal' institutions (also known as 'hard' institutions or 'society') can be regarded as universal and transferable rules and generally include constitutions, laws, charters, bylaws and regulations, as well as elements such as the rule of law and property rights and contract and competition monitoring systems (North, 1992; Fukuyama, 2000, page 6). 'Informal' institutions (also known as 'soft' or 'community' institutions) include a series of features of group life "such as norms, traditions and social conventions, interpersonal contacts, relationships, and informal networks" (Rodríguez-Pose

and Storper, 2006, page 1), which are essential for generating trust (Fukuyama, 2000, page 3). They tend to arise spontaneously through repeated community interaction and prisoner's dilemma type decisions (Fukuyama, 2000) and social capital accrues as a result of this interaction. Institutions need also to be distinguished from organisations. Institutions are the 'rules', while organisations are the 'players', but, as North (1990, page 5) notes the interaction between both is constant: "what organizations come into existence and how they evolve is influenced by the institutional framework. In turn they influence how the institutional framework evolves".

Institutions can be also classified as 'good' or 'bad' (or growth-promoting or growth-constraining) or, according to Woolcock (1998) 'development' or 'dysfunctional'. 'Development' institutions are those that, by encouraging individual and collective freedom, result in an efficient bureaucratic system, a high degree of cooperation and flexibility, and low levels of corruption. 'Dysfunctional' institutions are corrupt and unaccountable and generally captured by elites, detached from the common citizen, opaque, and failing to guarantee the rule of law (Woolcock, 1998).

2.1. And how do solid and efficient institutions foster regional development?

Institutionalists generally believe that the renewed protagonism of regions and localities in a more globalised environment is intimately related to the idea that markets are socially constructed (Bagnasco, 1988), "markets are not the free floating phenomena described in neo-classical theory", but they are considered as "social constructs made and reproduced through frameworks of socially constructed institutions and conventions" (Pike et al. 2006, page 91). Local and regional institutions hence become much more than simple regulators of economic activity. They determine the level of activity and its efficiency. Hence, efficient local institutions are believed to promote development and growth through creating the necessary 'orgware' (Vázquez-Barquero, 1999) – that is, the adequate conditions for investment, economic interaction, and trade, that, at the same time, reduce the risk of social and political instability and conflict (Jütting, 2003). By lowering uncertainty and information costs,

institutions smooth the process of knowledge and innovation transfer within and across regions and improve the conditions for the development of economic activity (North, 1990, 1995; Vázquez-Barquero, 2002). At the same time, they can shape the sets of incentives and disincentives that contribute to establish an ‘adequate’ balance between coordination and competition among local economic actors, hence facilitating the learning process (North, 1995). Formal and informal institutions help territories to adjust and react to change, generating a degree of ‘adaptive efficiency’ that highlights the willingness and capacity of local actors to adopt new knowledge and to engage in innovative and creative activities (North, 1990). Institutions more than any other factor determine the learning capacity of any region (Morgan, 1997).

Moreover, different forms of institutions are in constant interaction and tend to affect one another in different ways (Rodríguez-Pose and Storper, 2006). For some, the weight of formal and informal institutions in generating development is not equal. Greif (1994) posits that community institutions may become a useful substitute to society institutions in circumstances of weak formal institutions, as in times of conflict or when trust in formal institutions has broken down. Murray (2005) argues that this has been the case in Central and Eastern Europe after the fall of communism, when community type institutions blossomed during the transition from communism to democracy and capitalism. Others, in contrast, regard formal and informal institutions as equal partners for the genesis of development and do not consider community-type institutions as subservient. According to Amin (1999), a solid development strategy requires a balance between formal and informal institutions. Formal institutions are important as they provide adequate incentives for growth by minimizing risk, uncertainty, and corruption. As a consequence, they also facilitate efficiency in economic performance (Chakravarti, 2005, page 28). Informal institutions can not only substitute for weak formal institutions, but are essential for the reduction of transaction costs, for rooting economic activity within any given territory, and for enhancing local interdependencies, generating greater local economies of association (Amin, 1994, page 230). Indeed, the success of the industrial districts in the Third Italy (Becattini, 1990) or

Jutland (Kristensen, 1992) or of the high tech clusters of the Silicon Valley (Saxenian, 1994) may primarily be a consequence of trust and diffusion of information and knowledge associated to informal networks.

Areas without solid and efficient formal institutions can, however, still have efficient informal institutions, which can improve government efficiency and lead to greater economic efficiency as well (Boix and Posner, 1998, pages 689-693). In turn, formal institutions can also help improve informal institutions. The interaction between formal and informal institutions contributes to account for the differences in growth and developmental trajectories adopted by diverse regions and territories (Haris et al, 1995).

Many researchers working on institutions have consequently linked the potential outcomes of local and regional economic development strategies to the density or thickness of local institutions (e.g. Amin and Thrift, 1995). While regional institutional thickness is considered to foster the clustering of economic activities and stimulate entrepreneurship (Amin and Thrift, 1995), the absence solid and efficient institutions hampers the 'learning' capacity and thus the potential for agglomeration and clustering in any territory. The success of cluster promotion is also influenced by the institutional thickness of the region. Formal and informal institutional systems thus become critical for the generation of clusters (Amin and Thrift, 1995). In a similar fashion, Storper's (1997) emphasis on the presence of 'untraded interdependencies' – institutional cumulative-causation prone externalities – further stresses the fact that economic development and growth depend, to a large extent, on shared conventions embedded in the territory through the positive externalities generated by local institutions. This sort of virtuous institutional arrangements have been frequently described in the formation of successful industrial districts in central and northern Italy. The unique institutional setting of this area, operating both at the local and at the regional level in regions such as Emilia-Romagna, Tuscany, or Veneto transformed what could have been simple agglomerations of small- and medium-sized business

into dense networks of externalities at the heart of the development of competitive economic activities (Trigilia, 1990). This dense ‘institutionalization of the market’ (Trigilia, 1990), characterized by strong communitarian bonds, and the presence of a shared political, social, and cultural identity, contributed to the generation of the necessary ties of cooperative and competitive behaviour among economic actors and to the promotion of stable networks of inter-firm relations. The success of the Italian industrial districts has therefore been linked to the high level of territorialisation of socio-economic interaction within industrial districts.

Taken to its limits, ‘institutional thickness’ – or its closely related term ‘institutional capital’ (Healey, 1998) – determines to a great extent the development potential of any territory. Institutionalists believe that the greater the density of combinations of ‘intellectual capital’ (i.e. knowledge resources), ‘social capital’ (trust, reciprocity, cooperative spirit and other social relations), and ‘political capital’ (capacity for collective action), in brief, the greater the ‘territorial capital’ (Camagni, 2009) within any given territory, the greater the potential for economic development and growth (Amin and Thomas, 1996; Morgan, 1997; Cooke and Morgan, 1998).

Even the medium-term success of inward investment attraction is variously linked to the existence of institutions that help embed any new economic activity into the local economic fabric. In the absence of this adequate institutional environment, the attraction of inward investment is often achieved solely on the base of financial incentives that frequently leave territories dependent on external actors and limit the chances of successfully embedding the new economic activities in the local economy (Amin and Thrift, 1995; Vázquez-Barquero, 1999). The absence of solid and efficient local institutions is thus likely to inhibit economic activity by fostering “high transaction costs, widespread rent seeking, inequality and a lack of trust” (Rodríguez-Pose and Storper, 2006, page 14).

Thus, from an institutionalist perspective, it is widely believed that acknowledging the importance of institutions would lead to development strategies more responsive to the needs of the local institutional environment. This implies taking greater consideration of the functioning and needs of local institutions in the design and implementation of the strategy and continuously working with them in order to improve the economic efficiency and returns of any development intervention (Vázquez-Barquero 1999). Otherwise, the risk of failure of any development strategy becomes ever present, as has been the case in the regions of the Italian South, the Mezzogiorno. Here more than the absence of institutions, the weak 'institutionalisation of the market' and the absence of solid and efficient institutions, in contrast with Central and Northern Italy, made successive waves of top-down national development strategies virtually self-defeating (Trigilia, 1992). National development strategies in the long-run thus became mere vehicles for income support ultimately leading to the formation of a more dependent and assisted economy.

3. But, can we really intervene in institutions?

Given the potential effect of institutions on the economy, developing and improving institutional capacity and correcting for market failures becomes an essential part of the economic development process. There is a strong belief amongst institutionalists that even the best development strategy can be undermined by a poor institutional environment. However, bringing institutions into the development process is easier said than done. Accepting that formal and informal institutional constructs are essential for the success of development strategies is one thing, implementing measures for the improvement of institutional capacity and for local and regional capacity building is another. There is little agreement about what improving institutional capacity and creating solid and efficient institutions really means and even less about what to do in order to root out institutional inefficiency across what are widely varying geographical contexts. Additionally, there is a lack of consensus as to whether institutions are a prerequisite or a natural outcome of development. How do we intervene in and affect institutions that seem to be, on the one hand, highly dependent on geographical conditions and, perhaps more importantly, highly resilient to historical change? A series of factors may affect our potential to

intervene in institutional building, leading researchers and policy-makers to a catch-22 situation where it is easier to attribute the success or failure of regional development strategies to the absence of adequate, solid, and efficient institutions, rather than to actually do anything about it and come out with ways of improving the institutional environment in less favoured regions. These factors include the following:

1. First, measuring what are adequate, solid, and efficient institutions is virtually impossible. A myriad of complex bilateral interrelations lie at the base of any institutional environment and these interrelations are affected by numerous context-specific factors, making local institutional constructs virtually intangible (Fine, 2000). This makes operationalizing institutional capacity-building across what are diverse territories and institutional-constructs, as De Blasio and Nuzzo (2006) found out for the Italian context, unworkable. In their attempt to assess Putnam's 1993 work on Italy, De Blasio and Nuzzo (2006) reported that apparently identical formal institutional structures yield differences in social capital. They conclude that further research is necessary in order to assess how and to what extent apparently similar institutional arrangements affect regional and local economic performance.
2. Second, adequate and efficient institutions are context- and geography-specific. Geography exerts a significant effect on the type and quality of institutions (Easterly and Levine, 2003). What is a solid and efficient institutional arrangement in one region, does not necessarily mean a solid and efficient institutional arrangement in another (Chang, 2003). And, vice versa, very different institutional contexts may yield similar economic results. That is for example the case of the highly contrasting experiences of Denmark and the clusters of the Third Italy. In Denmark, a highly flexible labour market combined with a developed and efficient welfare state has brought about an efficient labour market which has been one of the foundations of decades of sustainable economic development (Kristensen, 1992; Amin and Thomas, 1996). The industrial districts of Emilia-Romagna, Tuscany, and Veneto, in contrast, blossomed in a rigid national labour market

legislative setting, which made the hiring and firing of employees very difficult in comparison with Denmark (Cooke and Morgan, 1998). As mentioned earlier, even in highly integrated institutional and geographical contexts, such as the Italian regional setting, formal – and often informal – institutional arrangements that, on surface, hardly differ contribute to yield very different economic outcomes (De Blasio and Nuzzo, 2006). So what are ‘good’ institutional arrangements in one place may turn out to be ‘bad’ in another, as “moderate changes in [region- and] country-specific circumstances (policies and institutional arrangements), often interacting with the external environment, can produce discontinuous changes in economic performances, which in turn set off virtuous or vicious cycles” (Rodrik, 2003, page 9). This underscores the relevance of local intangible factors and cognitive frameworks in determining the economic returns of institutions (once again, the residual factor) and the fact that some institutional arrangements are more appropriate than others, depending on local circumstances (Aghion and Howitt, 2006).

3. Third, time also affects the influence of institutions on economic development and leads to the questioning of any static definition of efficient institutions. As conditions change over time, “what are good institutional forms at one stage are no longer appropriate at others” (Storper, 2005, page 44). The adaptability of diverse institutional settings is therefore an essential characteristic of the efficiency institutions. Once again, the example of the Third Italy highlights how institutional flexibility has allowed industrial agglomerations of small- and medium-sized firms to remain competitive, even in the face of drastically changing global circumstances. Industrial districts in Emilia-Romagna, Tuscany, Veneto, and surrounding regions managed to weather successive crises in the 1970s and 1980s and adapted to the challenges of globalization through the flexibility of their unique mix of competitive-collaborative institutional relations among economic actors. This contributed to limit the growth of uncertainty and opportunism and facilitated problem-solving (Storper, 1997). In the particular case of Emilia-Romagna, the regional development agency, ERVET, constantly adapted to changing circumstances. Set up in a context of national

decentralization in the 1970s with the aim of providing technology-transfer and marketing-related support to SMEs, it fulfilled its task successfully until the 1990s, contributing to engender an adequate environment for the diffusion of knowledge among economic actors that often compete with one another. During the 1990s and the first decade of the 21st century ERVET has adapted and helped to adapt industrial districts in Emilia-Romagna to the new challenges of increasing competition from industrial production in developing countries. This was done by further stimulating innovation, a better channelling of finance to firms, the outsourcing of more routine activities to medium- and low-income countries, and through fostering mergers and acquisitions within the districts. ERVET itself witnessed a surge of private-sector participation in its activities. The combination of all these factors enhanced the already existing system of flexible and adaptive public-private support, known as ‘progressive government’ (Pike et al, 2006). This process of ‘institutional migration’ (Rodríguez-Pose and Storper, 2006) has proven key for the sustainability of development in Emilia-Romagna.

4. But while institutional arrangements can adapt to changing times and migrate to new equilibria, they can simultaneously prove extremely resilient to change and, under certain circumstances, become a fundamental force in shaping transformation. As Duranton et al (2009) show, medieval family structures across regions in the EU have moulded and adapted to change, while simultaneously becoming embedded in territorially-specific institutional arrangements, making them key drivers of secular change. Consequently, medieval family structures, regardless of whether they still exist or not, are an excellent predictor of differences in wealth, economic dynamism, employment, and social conditions among the regions of the EU. Hence, certain aspects of culture or of institutions may be highly durable and – albeit perhaps malleable to short-term mutation – resistant to long-term transformation. Therefore it may not be realistic to expect that all types institutions can be shaped or transformed through short-term policy intervention

If measurement, geographical and time problems do not discourage those trying to insert institutions into regional development policies, identifying the right mix – or density – of institutions may just do so. As mentioned earlier, an optimistic view of the role of institutions tends to highlight that a high density of institutions, or a dense institutional thickness, and the right mix of formal and informal institutions may be the way forward. However, it is the quality of institutions more than their density that matters. A high density of poor, inefficient and often corrupt institutions has been for decades undermining the development potential of the Italian Mezzogiorno (Trigilia, 1992). In other cases, in contrast, territories can make do and even thrive with weak institutions (Rodrik, 2004). China, for example, “has been able to attract a huge amount of foreign-investment despite the proliferation of what are by current definition... ‘poor institutions’” (Chang, 2003, page 137). Moreover, while ‘solid’ institutions can facilitate the opportunities for economic activity, they can also end up creating vicious circles of suboptimal development trajectories through institutional lock-in, which takes place in the presence of rigid institutions that can neither anticipate, nor respond to changes economic circumstances (Unruh, 2000). The existence of local institutional thickness *per se* is no guarantee of local regeneration and development (Hudson, 1994, page 212).

An excess of either formal or informal institutions may also be counterproductive for economic development. An excessive role of communitarian groups, accompanied by limited cross-group bridging, may undermine the collective decision process of any society and generate insider-outsider and principle-agent problems, rent-seeking and free-riding behaviours, while imposing other negative externalities for economic development (Fukuyama, 2000; Putnam, 2000). An excess of communitarian institutions in the absence of strong and efficient societal structures “may lead to greater social polarization by hampering equal opportunity and may exacerbate problems of imperfect competition and impacted information” (Rodríguez-Pose and Storper, 2006, page 4). Paradoxically, in other cases, strong communitarian bonds can play an important role in lowering transaction costs and generating trust, making any preconceived ideas about the amount of formal and informal institutions desirable for

the promotion of development and about their mix unworkable in practice (Pike et al, 2006). In other cases, strong societal institutions in the absence of well developed community or informal institutions may lead to an inadequate provision of public goods, confrontational situations and costly conflict resolution (Rodríguez-Pose and Storper, 2006).

Finally, bringing institutions into regional development policies is rendered even more complicated by the endogeneity between both factors. Institutional arrangements affect economic development, but are also in part the outcome of economic development – they are cause and consequence of development – making “institutional quality [...] as endogenous to income levels as anything can possibly be” (Rodrik 2004, page 10). Institutions and economic development are mutually reinforcing (Boix and Posner, 1998; Rodríguez-Pose and Storper, 2006) and the direction of causality at any given time and in any given territory is difficult to predict.

In addition, there is also great uncertainty and ambiguity about the relationship between institutions and other basic constituents of economic development, such as investment in infrastructure, human resources, or innovation. This makes the whole policy equation extremely complicated as, as Glaeser et al (2004) emphasise, the relationship between economic development and institutions may be more than bidirectional, hiding in its wake the effects of other endogenous factors – and especially of human capital – on development. Furthermore, the relationship between institutions and other factors affecting growth may be non-linear and influenced by different thresholds in the level of development of any given region. Below certain thresholds of development, the development of formal and informal institutions is a basic prerequisite for other development intervention to take hold. Beyond that threshold, the development of institutions not only affects other factors promoting development, but is also affected by them. This conundrum is clearly illustrated in Putnam’s (1993) work on Italy. His key index of ‘civicness’, which is the result of centuries of evolution, is rooted in what becomes a fixed

institutional context which hardly takes institutional migration and how it affects present day economic outcomes into account (Tarrow, 1996).

4. Conclusions: So, what do we do?

The above discussion has made clear that while institution-building is an essential element of economic development and growth, the effectiveness of any type of institution-based regional development intervention is likely to be undermined by the problems of defining what are adequate, solid, and efficient institutions in the many regions of Europe. The problems of measuring institutions, their space and time variability, the difficulties for defining the right mix of formal and informal institutions, and the endogeneity between institutions and development, on the one hand, and between institutions and other constituent factors of development, on the other, makes establishing overarching guidelines for institutional intervention nigh to impossible. As Farole et al (2009, page 12) indicate, “there are few systematic lessons from the literature as to how policy can improve or build institutions, and indeed, the widespread vagueness about the subject carries a risk of squandering public funds”. The only elements that are clear is that a) institutions are crucial for economic development and deserve to be considered in any development policy and that b) institutional intervention “cannot be done via a ‘one size fits all’ policy framework or simplistic criteria for intervention” (Farole et al, 2009, page 10). The institutional component of development policies needs thus to be targeted to every specific region or territory, following a true subsidiarity principle, as a clear and effective type and density of institutions cannot be prescribed for every development strategy. Policies need to understand the potential of place-bounded institutions in order to make the most of intervention in human capital, infrastructure, or innovation (Vázquez Barquero, 1999, page 85). Hence, development strategies may need to be specifically tailored to the conditions of different regional institutional environments, thus requiring an in-depth understanding of local conditions and an assessment of the feasibility of different types of interventions under current institutional circumstances. This implies better delivery of policy intervention, or a better “match between institutional setting and the strategy, compatibility between this setting and the

strategy's implementation requirements and the wider national and supra-national institutional setting" (Batterbury, 2002, page 862).

In addition, regional development intervention would also have to consider the need to promote the adaptability of local institutions to changing environments and conditions. Stronger, more supple institutions are needed in order to embed economic activity and generate sustainable development. Place- and context-specific intervention may, in this way, stimulate – even in the cases of very weak institutional settings – institutional change and enhance the economic returns of intervention.

Does this mean that we need to go from 'one size fits all' to purely 'tailor made' context-specific policies? A complete swing of the pendulum could be counterproductive and do more harm than good. Going to a local tailor to order a suit is bound to be more expensive than buying it from a local shop and not all local tailors may have the quality of a, let's say, Saville Row tailor. Hence, resorting to local organisations and actors to shape development strategies may leave us with substandard policies in lagging regions, which are often lagging because of institutional failure. Going to a Saville Row tailor is yet likely to be much more expensive – certainly not all regions and territories could afford it – and the additional cost may not justify the outcome. In addition, 'tailor made' approaches to development conducted by external agents are likely to suffer from insufficient local knowledge and will, inevitably, add complication to the implementation and the monitoring process. The solution may come via an intermediate route. Buying relatively high quality suits – i.e. suits that adapt patterns of renowned designers to local tastes – at decent prices in a shop that provides a reasonable range of sizes. In development terms this would mean the setting up by international organisations, supra-national institutions, or national governments of a series of guidelines aimed at facilitating local capacity building, increasing participation in the development process, increasing transparency and accountability and minimising corruption – and, in numerous occasions providing technical, financial and logistic support – while leaving sufficient leeway for the adaptation of these institutional and general development strategy guidelines to local conditions.

This approach is, however, not devoid of risks and complication as it implies greater variation in policies and strategies and ‘true’ subsidiarity. It also means empowering and giving more control of decision-making of the development effort to lower tiers of government and formal institutional organisations at the local level and being open to the reality that many different and even contrasting institutional arrangements may be needed in order to achieve sustainable development. This may also imply greater moves from government to governance for the implementation of development strategies and a much greater resort to genuinely bottom-up policies, empowering individuals, encouraging voice, and mobilizing all local institutional resources. In sum, the best regional development strategy is likely to be one that acknowledges institutional factors, their variability and limitations and attempts to address the potential shortcomings of institutions in a theoretically- and empirically-informed yet place-specific manner.

References

- Acemoglu, D., Johnson, S. and Robinson, J. A. (2001) The colonial origins of comparative development: An empirical investigation, *American Economic Review* 91(5), 1369-1401.
- Acemoglu, D., Johnson, S. and Robinson, J. A. (2004) "Institutions as the fundamental cause of long-run growth," *NBER Working Paper No. W10481*, Available at SSRN: <http://ssrn.com/abstract=541706>
- Aghion, P. and Howitt, P. (2006) "Appropriate growth policy: a unifying framework," *Journal of the European Economic Association* 4 (2-3): 269-314.
- Amin A. (1999) An institutionalist perspective on regional development. *International Journal of Urban and Regional Research* 23: 365-378
- Amin, A and Thomas, D. (1996) The negotiated economy: state and civic institutions in Denmark. *Economy and Society*, 25: 255-81.
- Amin A. and Thrift N. (1994) *Globalization, Institutions and Regional Development in Europe*. Oxford New York: Oxford University Press.
- Amin, A. and Thrift, N. (1995) Globalization, Institutional Thickness and the Local Economy. In Healy P., Cameron S., Davoudi A., *Managing Cities: The New urban Context* , Chichester: J. Wiley.
- Antunes, M., and E. Soukiazis (2005) Two speed of regional convergence in Portugal and the importance of structural funds on growth, *Paper presented at the 4th Annual Meeting of the EEFS*, 19 - 22 May, Coimbra.
- Aschauer, D. (1989) Is government spending productive? *Journal of Monetary Economics* 23:177-200.
- Bagnasco, A. (1988) *La costruzione sociale del mercato. Studi sullo sviluppo di piccola impresa in Italia*, Bologna: Il Mulino.
- Batterbury, S.C.E. (2002) Evaluating Policy Implementation: The European Union's Small and Medium Sized Enterprise Policies in Galicia and Sardinia. *Regional Studies* 36(8): 861-876.
- Becattini, G. (1990) "The Marshallian industrial district as a social economic notion," in Pyke F, Becattini, G., Sengenberger, W., ed., *Industrial districts and inter-firm cooperation in Italy*, International Institute for Labour Studies, Geneva, Switzerland.
- Bengtsson, M., Berggren, N., and Jordahl, H. (2005) Trust and growth in the 1990s: A robustness analysis, *Ratio Working Papers* 60, The Ratio Institute.
- Beugelsdijk, S. and van Schaik, A. (2005) Differences in social capital between 54 Western European regions, *Regional Studies*, 39: 1053-1064.
- Beugelsdijk, S., de Groot H.L.F., and van Schaik, A. (2004) Trust and economic growth. *Oxford Economic Papers*, 56: 118-134.
- Boix, C. and Posner D.N. (1998) Social Capital: Explaining its Origins and Effects on Government Performance. *British Journal of Political Sciences* 28: 686-93.

- Boldrin, M. and Canova, F. (2001) Inequality and convergence in Europe's regions: reconsidering European regional policies. *Economic Policy* 16: 207-253.
- Bouvet, F. (2009) European Union regional policy: Allocation determinants and effects on regional economic growth, *Journal of Common Market Studies*, forthcoming.
- Bruton, G., Ahlstrom, D. and Yeh, K.S. (2004) Understanding Venture Capital in East Asia: The Impact of Institutions on the Industry Today and Tomorrow. *Journal of World Business* 39: 72-88.
- Bussoletti, S., and Esposti, R. (2004) Regional convergence, structural funds and the role of agriculture in the EU. A panel-data approach," Università Politecnica delle Marche, Dipartimento di Economia, Working Paper, 220.
- Camagni, R. (2009) Territorial capital and regional development. In R. Capello and P. Nijkamp, eds., *Handbook of Regional Growth and Development Theories*, pp. 118-132. Cheltenham: Elsevier.
- Cappelen, A., Castellacci, F., Fagerberg, J. and Verspagen, B. (2003) The impact of EU regional support on growth and convergence in the European Union," *Journal of Common Market Studies*, 41(4): 621-644.
- Chakravarti, A. (2005). *Aid, Institutions and Development*. Aldershot: Edward Elgar.
- Chang, H.-J. (2003) *Kicking Away the Ladder: Development Strategy in Historical Perspective*. London: Anthem Press.
- Cooke, P. and Morgan, K. (1994) Growth Regions Under Duress: Renewal Strategies in Baden Württemberg and Emilia Romagna. In A. Amin and N. Thirft, eds., *Globalization, Institutions, and Regional Development in Europe*, Oxford: Oxford University Press.
- Cooke, P. and Morgan, K. (1998) *The associational economy: Firms, regions and innovation*. Oxford: Oxford University Press.
- Dall'erba, S., and Le Gallo, J. (2007) Regional convergence and the impact of European structural funds 1989-1999: A spatial econometric analysis. Working Paper of the Department of Geography and Regional Development of the University of Arizona, 01-07.
- Dasgupta, P. (2003) Social Capital and Economic Performance: Analytics. In Ostrom, E. and Ahn, T.K, eds., *Foundations of Social Capital*. Aldershot: Edward Elgar.
- De Blasio, G. and Nuzzo, G. (2006) The Legacy of History for Development: The Case of Putnam's Social Capital. Presented at the CEPR Conference "Integration and Technological Change: Challenges for European Regions".
- De Freitas, M., Pereira, F. and Torres, F. (2003) Quality of national institutions and Objective 1 status, *Intereconomics*, September/October(2003), 270-275.
- Duranton, G., Rodríguez-Pose, A. and Sandall, R. (2009) Family types and the persistence of regional disparities in Europe. *Economic Geography* 85(1): 23-47.
- Eggert, W., von Ehrlich, M., Fenge, R. and König, G. (2007) \Konvergenz- und Wachstumsekte der europäischen Regionalpolitik in Deutschland," *Perspektiven der Wirtschaftspolitik*, 8(2): 130-146.

- Englebert, P. (2002) The World Bank and the Unsuspected Virtues of Social Capital. Unpublished English version of "La Banque Mondiale et les vertus insoupçonnées du capital social", in G. Rist (ed.), *Les mots du pouvoir : sens et non-sens de la rhétorique internationale*. Paris: Presses Universitaires de France: 83-100.
- Farole, T., Rodríguez-Pose, A. and Storper, M. (2009) Cohesion policy in the European Union: Growth, geography, institutions. European Commission, Mimeo.
- Fine, B. (2000) New Growth Theory. In H.J. Chang, ed., *Rethinking Development Economics*. London: Anthem Press.
- Fukuyama, F. (2000) Social Capital and the Civil Society. IMF Working Paper n. 74.
- Glaeser, E., La Porta, R., Lopez-de-Silanes, F., Shleifer, A. (2004) "Do institutions cause growth?", *Journal of Economic Growth*, 9, 271-303.
- Greif, A. (1994) Cultural beliefs and the organization of society: A historical and theoretical reflection on collectivist and individualist societies, *Journal of Political Economy*, 102 (5): 912-950.
- Hall, R.E. and Jones, C.I. (1999) Why do some countries produce so much more output per worker than others?, *Quarterly Journal of Economics* 114 (1): 83-116.
- Haris J., Hunter J. and Lewis C. (1995) *The New Institutional Economics and Third World Development*. London: Routledge.
- Healey, P. (1998) Building institutional capacity through collaborative approaches to urban planning, *Environment and Planning A*, 30(9), 1531-1546.
- Hudson, R. (1994) "Institutional Change, Cultural Transformation, and Economic Regeneration: Myths and Realities from Europe's Old Industrial Areas." In A. Amin and N. Thirft, eds., *Globalization, Institutions, and Regional Development in Europe*, Oxford: Oxford University Press.
- Jütting J. (2003) Institutions and Development: A Critical Review. *OECD Development Centre*, DEV/DOC (2003): 08. Working Paper No. 210
- Knack, S. (2003) Groups, growth and trust: cross-country evidence on the Olson and Putnam hypotheses. *Public Choice*, 117(3-4): 341-55.
- Knack, S. and Keefer, P. (1997) Does social capital have an economic payoff? A cross-country investigation. *Quarterly Journal of Economics* 112(4): 1251-1288.
- Kristensen, P H. (1992) Industrial districts in West Jutland, Denmark. In F. Pyke and W. Sengenberger, eds., *Industrial districts and local economic regeneration*. Geneva: ILO, 122-73.
- Lucas, R. E. (1988) On the mechanics of economic development. *Journal of Monetary Economics*, 22(1): 3-42.
- Mohl, P. and Hagen, T. (2008) Does EU cohesion policy promote growth? Evidence from regional data and alternative econometric approaches. ZEW Discussion Paper No. 08-086. <ftp://ftp.zew.de/pub/zew-docs/dp/dp08086.pdf>
- Morgan K. (1997) The Learning Region: Institutions, Innovation and Regional Renewal. *Regional*

- Studies*, 31: 491-503.
- Murray, C. (2005) "Social Capital and Cooperation in Central and Eastern Europe - A Theoretical Perspective Abstract", *ICAR Discussion Papers (Institutional Change in Agriculture and Natural Resources) 0905*, Division of Resource Economics, Department of Agricultural Economics and Social Sciences, Humboldt University Berlin.
- North, D.C. (1990) *Institutions, Institutional Change and Economic Performance*. New York: Cambridge University Press.
- North, D.C. (1995) The New Institutional Economics and Third World Development. In Haris J., Hunter J. and Lewis C. *The New Institutional Economics and Third World Development*. London: Routledge.
- North D. (2005) *Understanding the Process of Economic Change*. Princeton: Princeton University Press.
- Percoco, M. (2005) The impact of structural funds on the Italian Mezzogiorno, 1994-1999. *Région et Développement*, 21: 141-152.
- Pike, A., Rodríguez-Pose, A., and Tomaney, J. (2006) *Local and Regional Development*. London, New York: Routledge.
- Platteau, J.-P., (1994) Behind the market stage where real societies exist, *Journal of Development Studies*, 30: 533-77.
- Puigcerver-Peñalver, M. (2004) The impact of structural funds policy on European regions growth. A theoretical and empirical approach," *mimeo*, Version of 14 April 2004.
- Putnam, R.D. (1993) *Making Democracy Work: Civic Traditions in Modern Italy*. New Jersey: Princeton University Press.
- Putnam, R.D. (2000) *Bowling Alone: the collapse and revival of American Community*. New York: Simon and Schuster.
- Rodríguez-Pose, A. (1999) Instituciones y desarrollo económico. *Ciudad y territorio: Estudios territoriales* 122: 775-784
- Rodríguez-Pose A, Fratesi U (2004) "Between development and social policies: the impact of European structural funds in objective 1 regions" *Regional Studies* **38** 97 – 113
- Rodríguez-Pose, A. and Storper, M. (2006) Better Rules or Stronger Communities? On the Social Foundations of Institutional Change and Its Economic Effects. *Economic Geography* 82 (1): 1-25.
- Rodrik, D. (Ed.) (2003) *In Search of Prosperity: Analytical Narratives on Economic Growth*. Princeton: Princeton University Press.
- Rodrik, D. (2004) Getting Institutions Right. CESifo DICE Report 2/2004. Munich: Ifo Institute for Economic Research.
- Rodrik, D., Subramanian, F., Trebbi, F. (2004) Institutions Rule: The Primacy of Institutions Over Geography and Integration in Economic Development", *Journal of Economic Growth*, 9: 131-165.

- Romer, P.M. (1986) Increasing returns and long-run growth, *Journal of Political Economy*, 94(5): 1002-37.
- Saxenian, A.A. (1994) *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*, Cambridge, MA: Harvard University Press.
- Silva-Ochoa E (2009) "Institutions and the provision of local services in Mexico" *Environment and Planning C: Government and Policy* 27(1) 141 – 158
- Solow, R.M. (1956) A contribution to the theory of economic growth *Quarterly Journal of Economics*, 70: 65-94.
- Stiglitz, J. (2002) *Globalization and its Discontents*. London: Penguin Books.
- Storper M. (1995) Territorial Development in the Global Learning Economy: The Challenge to Developing Countries. *Revue R'egion et Developpement* 1.
- Storper, M. (1997) *The Regional World: Territorial Development in a Global Economy*. New York: The Guildford Press.
- Storper, M. (2005) Society, Community and Economic Development. *Studies in Comparative International Development* 39 (4): 30-57.
- Streeck, W. (1991) On the institutional conditions of diversified quality production. In E. Matzner and W. Streeck (eds.) *Beyond Keynesianism: Socioeconomics of production and full employment*. Aldershot: Edward Elger, pp. 21-61.
- Tarrow, S. (1996) Making social capital work across space and time: a critical reflection on Robert Putnam's Making Democracy Work, *The American Political Science Review* 90(2): 389-397.
- Tönnies, F. (1887) "Gemeinschaft und Gesellschaft." Leipzig: Fues's Verlag. Reprint (2005). Darmstadt: Wissenschaftliche Buchgesellschaft.
- Trigilia, C. (1990), Work and politics in the Third Italy's industrial districts. In F. Pyke, G. Becattini, and W. Sengenberger, eds., *Industrial Districts and Inter-firm Co-operation in Italy*. Geneva: International Institute for Labour Studies.
- Trigilia, C. (1992) *Sviluppo senza autonomia. Effetti perversi delle politiche nel Mezzogiorno*. Bologna: Il Mulino.
- Vázquez-Barquero A. (1999) *Desarrollo, redes e innovación: lecciones sobre desarrollo endógeno*. Madrid: Piramide.
- Vázquez-Barquero A. (2002) *Endogenous Development*. London: Routledge.
- Vijayaraghavan, M. and Ward, W.A. (2001) Institutions and economic growth: empirical evidence from a cross-national analysis, *Working Paper Number 001302*, Clemson, S.C.: Center for International Trade, Clemson University.
- Weber, M. (1920) *Die protestantische Ethik und der 'Geist' des Kapitalismus*. Band 1, Tübingen: Mohr.

- Weber, M. (1921) [1968] *Economy and Society*, translated by Roth and Wittich, New York: Bedminster Press
- Woolcock, M. (1998) Social Capital and Economic Development: Towards a theoretical Synthesis of Policy Framework. *Theory and Society* 27 (1998): 151-208
- Unruh, G.C. (2000) Understanding Carbon Lock-in. *Energy Policy*. 28 (12):817-830.
- Yeung, H.W.C. (2000) Organizing 'the firm' in industrial geography I: networks, institutions, and regional development. *Progress in Human Geography* 24(2): 301-315.