



FINANCIANDO EL DESARROLLO • AMÉRICA LATINA

CAF
DOCUMENTOS DE TRABAJO

CAF
WORKING PAPERS

LOCAL ECONOMIC DEVELOPMENT:
SOME CITIES DEVELOP MORE THAN OTHERS: SPECIALIZATION,
HUMAN CAPITAL AND INSTITUTIONS

N° 2009/08

Julio, 2009

Storper, Michael

CAF - Ave. Luis Roche, Torre CAF, Altamira. Caracas, Venezuela 01060

© CAF, 2010 por Storper, Michael. Todos los derechos reservados. Pequeñas secciones del texto, menores a dos párrafos, pueden ser citadas sin autorización explícita siempre que se cite el presente documento.

Los resultados, interpretaciones y conclusiones expresados en esta publicación son de exclusiva responsabilidad de su(s) autor(es), y de ninguna manera pueden ser atribuidos a CAF, a los miembros de su Directorio Ejecutivo o a los países que ellos representan.

CAF no garantiza la exactitud de los datos incluidos en esta publicación y no se hace responsable en ningún aspecto de las consecuencias que resulten de su utilización.

DESARROLLO ECONÓMICO LOCAL: ALGUNAS CIUDADES SE DESARROLLAN MÁS QUE OTRAS: ESPECIALIZACIÓN, CAPITAL HUMANO E INSTITUCIONES

Storper, Michael

CAF Documento de trabajo N° 2009/08

Julio, 2009

RESUMEN

¿Por qué ciertas áreas metropolitanas crecen más que otras? La respuesta a esta pregunta ha evadido mucha de la literatura en el tema. Un problema puede ser que parte de los marcos que impulsan la investigación empírica en este campo tiende a estar basada en combinaciones ad hoc de factores explicativos, que van desde el clima natural, al de negocios y a los costos de trabajo y tierra. La teoría enfatiza las diferencias en la especialización económica: algunas actividades tienen mayores tasas de crecimiento que otras, y esto resulta en la divergencia de las tasas inter-urbanas de crecimiento e ingreso de mediano plazo. La economía internacional ha adoptado marcos teóricos para explicar las diferentes tasas de crecimiento y niveles de ingreso entre países incluyendo múltiples causas y sus potenciales interacciones. Las tres principales fuerzas en el corazón de esta literatura son: la especialización, la fuerza de trabajo y temas de capital humano, y las instituciones. Este marco puede ser adaptado al análisis de crecimiento y cambio metropolitano. El aspecto más espinoso es considerar las relaciones recursivas entre los tres en un modelo dinámico, en el cual la especialización, capital humano e instituciones son endógenas, y donde la causalidad puede revertir en el tiempo en secuencias complejas. En esta investigación, planteamos los elementos de este enfoque y concluimos que aunque explicar la especialización continúa fuera de nuestro alcance, muchos de los ajustes más importantes de las economías regionales pueden ser explicados. La fuerza más importante en el ajuste son las instituciones locales, pero éstas deben ser comprendidas en una forma no convencional, principalmente como redes de actores informales. La política para desarrollo económico local debe abordar las formas en que puede nutrir y apoyar estas redes de actores que desempeñan un rol constructivo en el desarrollo económico local al afectar los patrones de especialización y desarrollo de capital humano; además e reemplazar o eliminar redes de actores que pueden obstruir el desarrollo económico

Palabras clave: desarrollo económico local, ciudades, especialización, capital humano, instituciones

LOCAL ECONOMIC DEVELOPMENT: SOME CITIES DEVELOP MORE THAN OTHERS:
SPECIALIZATION, HUMAN CAPITAL, AND INSTITUTIONS

Storper, Michael

CAF Working paper N° 2009/08

July, 2009

ABSTRACT

Why does a certain metropolitan area grow more than another? The answer to this question has evaded much of the considerable body of scholarship on the topic. One problem may be that some of the frameworks that drive empirical research in this field tend to be based on ad hoc combinations of explanatory factors, ranging from natural climate to business climate to land and labor costs. Theoretical approaches emphasize differences in economic specialization: some activities have higher rates of growth than others, and this translates into divergence in medium-term rates of inter-urban growth and income. But specialization itself needs to be explained. International economics has adopted theoretical frameworks for explaining different growth rates and income levels among countries involving multiple causes and their potentially recursive interactions. Three main forces are at the heart of this literature: specialization, labor force and human capital issues, and institutions. This framework can be fruitfully adapted to the analysis of metropolitan growth and change. The thorniest aspect of doing so is to consider recursive relationships among the three in a dynamic model, where specialization, human capital and institutions are endogenous to the explanation, and where causality can reverse over time in complex sequences. In this paper, we lay out the elements of such an approach and conclude that while explaining the origins of specialization remains beyond our grasp, many of the most important adjustments of regional economies can be explained. The most important force in adjustment is local institutions, but these must be understood in a non-conventional way, mostly as informal actor-networks. Policy for local economic development needs to address the ways it can nurture and support those actor-networks that play a constructive role in local economic development, by affecting patterns of specialization and development of human capital; and how it can replace or eliminate actor-networks that obstruct economic development.

Michael Storper

Sciences Po/Paris

London School of Economics

michael.storper@sciences-po.fr

m.storper@lse.ac.uk

Keywords: local economic development, cities, specialization, human capital, institutions

LOCAL ECONOMIC DEVELOPMENT: Some Cities Develop More than Others: SPECIALIZATION, HUMAN CAPITAL, AND INSTITUTIONS

Michael Storper
Institut d'Etudes Politiques de Paris and London School of Economics¹

Revised version: July 2009

February

Report to: *Corporación Andina de Fomento*

ABSTRACT

Why does a certain metropolitan area grow more than another? The answer to this question has evaded much of the considerable body of scholarship on the topic. One problem may be that some of the frameworks that drive empirical research in this field tend to be based on ad hoc combinations of explanatory factors, ranging from natural climate to business climate to land and labor costs. Theoretical approaches emphasize differences in economic specialization: some activities have higher rates of growth than others, and this translates into divergence in medium-term rates of inter-urban growth and income. But specialization itself needs to be explained. International economics has adopted theoretical frameworks for explaining different growth rates and income levels among countries involving multiple causes and their potentially recursive interactions. Three main forces are at the heart of this literature: specialization, labor force and human capital issues, and institutions. This framework can be fruitfully adapted to the analysis of metropolitan growth and change. The thorniest aspect of doing so is to consider recursive relationships among the three in a dynamic model, where specialization, human capital and institutions are endogenous to the explanation, and where causality can reverse over time in complex sequences. In this paper, we lay out the elements of such an approach and conclude that while explaining the origins of specialization remains beyond our grasp, many of the most important adjustments of regional economies can be explained. The most important force in adjustment is local institutions, but these must be understood in a non-conventional way, mostly as informal actor-networks. Policy for local economic development needs to address the ways it can nurture and support those actor-networks that play a constructive role in local economic development, by affecting patterns of specialization and development of human capital; and how it can replace or eliminate actor-networks that obstruct economic development.

JEL: R11, R58, R23, J24, H73

¹ Michael Storper, Centre de Sociologie des Organisations and Master of Public Affairs, Sciences Po/Paris, 13, rue de l'Université, 75007 Paris France/ michael.storper@sciences-po.fr and Department of Geography, London School of Economics, Houghton Street, London WC2A2AE, UK/ m.storper@lse.ac.uk

Introduction

Theories of comparative metropolitan growth and development, despite their long and venerable tradition, have had less success in explaining why particular city-regions grow over the long run than those that seek to explain why certain countries grow and develop more than others, in the field of comparative economic growth research. One reason for this is that urban economies² are extremely open, so that they are strongly influenced by national growth and national institutions. Even with this, however, growth and development processes for cities are highly uneven; in most countries, growth levels and per capita incomes exhibit strong and persistent differences across metropolitan areas. Moreover, even in countries with the highest levels of internal factor mobility, there are strong differences in the composition of activity among cities (Glaeser, Scheinkman and Schleifer, 1995; Drennan et al 1996), which seem to generate income differences. This probably means that convergence models of city growth face the same limited match to the facts as do convergence models of international economic growth .

Whereas in international economics, the limitations to convergence have stimulated a fruitful theoretical debate about the forces for non-convergence and differentiation, and in urban economics, there is a smaller literature devoted to this problem (Helpman, 2004).³ The bulk of studies of why some city-regions have higher income levels, or more overall growth than others, employ a method best described as inductive empiricism. The modal study of “why this or that city grew or did not grow” is to measure a list of factors supposed to contribute to growth. At the top of the list is usually economic specialization, measured usually through

² In this paper, « urban economy » will be used interchangeably with « metropolitan economy, », « city-region economy » or “cities” to refer to economies of metropolitan areas.

³ The recent literature on convergence and divergence of urban incomes includes, notably, Drennan, Tobier, and Lewis, 1996.

shift-share analysis. A city grows by getting more of a sector, or when the sector grows faster in the city than at the national level. Statistical extensions of the specialization theme include export-base models and multipliers. A mix of factors such as labor costs, land costs, regulation, business climates and so on, are then adduced as explanations for why the city does well or poorly via the evolution of its economic base (cf. Glaeser and Shapiro, 2003; Glaeser et al 1992; Glaeser et al 1995).

The big problem with these studies is that these latter factors cannot be assumed to be causal explanations. There is a correlation between labor and especially land costs and where an activity locates *within* a metropolitan regions (expensive in the center, cheaper in the “periphery”). There is also a correlation between labor and land costs and which types of activities go to which types of cities, which mirrors international specialization patterns between high-wage/capital intensive places and low-wage labor-intensive places. As such, these costs matter in explaining why New York, San Francisco and London have little durable goods manufacturing, while certain cities in the Deep South of the USA or southern Europe have a lot of it. But there isn’t any relationship to why an activity locates in one *particular* city or another *within* a class of structurally-similar cities; for example, they cannot account for why San Francisco has so much more high tech than Los Angeles with this kind of reasoning. And while in general, there is higher productivity in high-cost places, there are no strong inter-urban locational adjustments of shares according to real productivity differences *for a given activity* – productivity within sectors seems to be endogenous to the places where they are already concentrated (Sveikauskas, 1975). Only for sectors that are deconcentrating does inter-urban productivity comparison seem to make a difference for where they are subsequently located, in a different class of cities. And once again, it cannot tell us *which* cities in that class will get the activity.

Neoclassical general-equilibrium models of urban economic growth have more theoretical sophistication than the empiricist-accounting type studies, but their assumptions are largely unsuited to explaining urban growth, in general or in particular. The closer they get to pure general equilibrium modeling, the more they lose the ability to explain urban concentration and specialization – the heart of urban economies. The fundamental theorem of neoclassical economics is fundamentally incompatible with “second nature” urbanization – i.e. created from within the economy, rather than from accidents of location due to harbors or seacoasts – because there would be no spatial concentration in the seamless world it assumes (Fujita and Thisse, 2002).

Explaining spatial concentration is precisely the strong suit of the one part of urban economics that has made big theoretical progress in recent years, the New Economic Geography (Krugman, 1991a). Moreover, it allows us to show why, say, an extremely expensive high-wage city-region such as San Francisco can continue to grow in high-technology: the factor cost increases are outstripped by the endogenous increases in efficiency of the activities concentrated there. Specialization is driven by this endogenous formation and acceleration of agglomeration economies (Rosenthal and Strange, 2001). However, the NEG cannot tell us why, in the first place, any particular metropolitan region gets set along the path of specializing in something – such as high tech in San Francisco or financial services in London or entertainment in Los Angeles – as opposed to another. That’s where urban growth studies tend to fall back on very specific ad hoc explanations (Stanford University for SF, or good weather in LA, for example) or excessively general explanations such as business climate or factor costs. Agglomeration economics can tell us why, once an industry gets launched in a place, it tends to keep growing for a long time, with strong path dependencies. Economists have called this the “history matters” part of the growth process (Krugman, 1991b). Boschma and Martin, 2007). But they still cannot tell us about historical

origins in one particular place versus another. These are relegated to the domain of accidents or specific detailed sequences that are said to not be amenable to theoretical generalization (Krugman, 1999).

Moreover, even with the considerable new insights from the economics of agglomeration, the medium-to-long-run evolution of urban economies remains mostly beyond our grasp. Even the most successfully specialized urban economies ultimately run into problems, and this is because the industries in which they are specialized ultimately either have no further agglomeration economies, or they de-agglomerate, or their products become technologically obsolete (Norton and Rees, 1979). All urban economies, like their national counterparts -- in the presence of technological change and an open trading regime -- are faced with the question of adjustment to change. This adjustment comes essentially through sectoral succession: successfully getting new specializations, or retaining the retainable parts of existing specializations, to compensate the ultimate loss of what they have .

It will not do to try and loop back to fully neoclassical (i.e. general equilibrium spatial economics) explanations of this process, either; such models are closed by claiming that the optimal adjustments will happen, that new or changing activities will go to places according to their relative productivity rankings, and that this will determine how the specializations of cities will evolve through time. Since standard models can't explain the "why" of agglomeration in the first place, they have little to say about changes in the specializations of specific places over time (Storper and Scott, 1997).

Comparative growth theory, mostly as applied to international growth and development comparisons over the medium- to long-run, has made significant progress in this area. It stresses the *long-run adaptive capacity* of economies, in relationship to the changes in technology and geography that alter the competition of places for different activities (Rodrik, 2007). Thus, it addresses the question raised above, about how economies sustain or do not

sustain growth over some period of time, in the face of structural changes -- the capacity to pull through cycles and renew economic growth, both quantitatively and qualitatively (incomes) (Pritchett, 1997). Failure comes when an urban region either has a shrinking economy, or when it quantitatively grows but its incomes, in absolute or relative terms, decline. The task then becomes two-fold. First, is there some way to explain the origins of successful specialization among metropolitan regions in a similar structural class of regions?

Second, given the inevitability of change in the locational patterns of sectors in such a region's economic base, why do some places seem to do better at adjustment than others, effectively changing their specializations over time?. What might such an explanatory framework look like ?

Three principal sources of long-run urban development

As noted, economic geography has potent theories of why and when sectors will geographically concentrate, and why they leave or disperse: these are the theories of agglomeration based on internal trade costs, home market effects and possibly localized technological externalities, 2004, 2001. In any event, when sectors are concentrated in certain regions, they cause the economies of those regions to be *specialized* in those activities,

leaving a strong imprint in terms of the quantity and quality (type of jobs and local expenditures) of growth. As a recent indicator of this, Galbraith and Hale (2004) note that the income gained in just *four* (out of about three thousand) US counties in the late 1990s is sufficient to account for virtually *all* of the increase in geographical income inequality in the USA in the 1990s! These counties are, needless to say, the cores of the US high-tech boom. Some analysts of agglomeration economies believe that localization and specialization are forces that, in the medium-term, impede geographical income convergence.

As alluded to above, most standard economic theory is not fully comfortable with the notion that “specialization matters” over the long run at the international level, because it believes in factor proportions adjustments to economies that ultimately “wash out” the importance of sectoral specialization for national incomes (Krugman and Obstfeld, 2001).

But while this may (and we should emphasize the conditional, because it is not firmly established) be true in the *very* long run, there is also agreement that specialization can differentiate economies in the short run, and that difference (and non-convergence) can be prolonged through a succession of different specializations. Why? Sectors or activities at different points in their developmental cycles are characterized by different factor proportions and changes in them (labor versus capital-intensive, for example) (Trefler, 1993; Norton and Rees, 1979). More importantly, they can have different terms of trade with the rest of the economy, according to whether there is import or export-biased growth in the economies with which the city trades (Krugman and Obstfeld, 2001). Newer or more innovative sectors can earn temporary rents on their outputs, which they can then renew through innovation. Growing sectors generally have technological frontiers that are pushing outward at a higher-rate than older industries, so the firms in them enjoy more innovation opportunities. Moreover, in sectors with growing overall demand and supply that doesn’t keep up in the short run, not only is there a rent-effect, but it’s difficult for any supplier to have a decisive impact on prices, so the places that specialize don’t undermine their own positions easily, as they do in sectors with easily-expandable supply (growth based on more mature or standardized products). The point is: specialization really does matter because it creates significant rents for places in the medium-run, due to monopolistic competition.⁴

Cities can also be specialized in a way that makes them poorer than the average, but this is generally because they have specializations that are not based on agglomeration

⁴ But it does not matter in general equilibrium approaches to economic geography. In those, movements in factor stocks and factor prices, combined with the absence of significant agglomeration economies, will eliminate any possible monopolistic competition effects over space (Anas, Arnott and Small, 1998).

economies (strong endogenous forces of proximity). Localization should be the result of strong endogenous forces of proximity in the economy. Three of these are in the intermediate output structure of sectors: inter-firm transactions; labor pooling; and technological spillovers. A fourth concerns the home market effect of concentrating producers and consumers who each maximize the benefits of economies of scale and product variety when trade costs are strongly positive, by concentrating together. All of these could generate rents for their host areas and make them richer than average. But one can imagine also that economic activities that have none of these locational processes find themselves together in a certain city or region simply because it has the right factor supply for that sector (say land, or labor or transportation access). This form of development is not agglomerated specialization (with monopolistic competition), but simply a collection of firms in a single industry. Thus, not all high location quotients indicate true specialization in the sense theorized by the New Economic Geography. Rapidly growing cities may have specificity of their economic bases, but without the advantages of specialization noted above. The fast-growing cities in the US interior West (generally low income, low wage) have few agglomeration economies in high-wage sectors; the slower-growing cities of the Northeast have higher incomes and more specificity based on specialization, with the attendant benefits (Drennan, 2002).⁵

Growth theory doesn't stop with specialization in explaining different economic fates of places. The second major axis of growth theory holds that the reason a given stock of economic resources can produce more and more wealth over time from increases in productivity that come from the application of new and better *knowledge* to production. In turn, this knowledge is embodied in people, and can be measured as the stock of *human capital*.⁶ This human capital becomes an *externality* for the economy, because knowledge can be recombined and re-used in many different ways; it tends to have an ever-increasing

⁵ There's a different debate about whether it is better for a city to be specialized or diversified cities, but it shouldn't be confused with the problem we are discussing here. Duranton and Puga, 2000.

⁶ This is known as the Barro-Lucas-Romer theory of economic growth (Barro, 1996).

positive impact on productivity (Romer, 1990). In international comparisons, knowledge can grow because of increases in R&D, because of investments in education, or due to improvements in the incentives to apply and exchange information. But most important are the conditions that allow the re-use and re-combination of knowledge in order to generate a non-linear and positive effect in creating new knowledge. There is little agreement about whether such conditions come from the general institutional environment, from the design of the R&D system, or from more general incentive structures.

It has been famously observed by Lucas (1988) that skilled people congregate in expensive cities to be near other skilled people. But the literature is silent as to why some cities do this better than others, giving rise to big differences in human capital and associated income levels. Even though globalization has made international flows of knowledge more and more open, regions in a country such as the US remain much more open than national economies: they have more interregional trade and labor flows than do even the most open national economies. This means that the stock of knowledge of any given city-region is intimately related to national education, R&D, and labor migration between regions. But the region may influence internal choices to stay or leave, as well as who is trained inside the region. Thus, the regional human capital stock at any given point in time is, in part, *caused by* the regional characteristics that attract, retain, and repel people with different kinds of skills.

But, as we shall see, not much is known about these regional forces.

The third major branch of international growth theory argues that *institutions* determine long-run economic growth (Rodrik et al, 2004; cf. Glaeser et al, 2004; Acemoglu, Johnson and Robinson 2004). By “institutions” is meant a variety of things, ranging from the ways the formal *de jure* rules of political institutions affect their efficiency in facilitating economic activity, to what we might call *de facto governance*, referring to the real, on-the-ground ways that public sector agencies and private sector groups and individuals interact in

detailed ways to shape the rules and resources of the economy (North, 2005). Let's now define more precisely what this theme might mean to the study of metropolitan growth.

Three fundamental areas of institutional performance are at the center of growth theory. The ways that institutions shape the microeconomic environment (including what is commonly called the “business climate”, covering such things as confidence and the ways it affects transactions, discounting and investment levels); the ways that they shape labor force participation and effort levels (sometimes known as the “social policy environment”); and the ways that they shape problem-solving, which determines how well the economy captures new opportunities or misses them (how it adjusts to changing technologies and competitors). There is no precise institutional blueprint for these features; rather they represent outcomes for which there are many functional equivalents, depending on the context. They are not a formula, but a sense of what institutions for growth actually do to sustain growth (Rodrik, 2007).

International comparisons are easier when it comes to the formal dimensions of institutions, because international borders of sovereign countries are “hard” institutional boundaries. Regions in some countries – mostly centralized ones --share many of the *de jure* institutions of economic governance, whereas in other, less centralized ones, *de jure* institutional design from one city-region to another can differ. And they surely differ from one country to another (Djankov et al 2003).

Another aspect of research of comparative international research on institutions is the size of governmental units. Political economists have recently theorized that there are tradeoffs between the efficiencies that can be gained from size of jurisdictions, and the losses generated (Alesina and Spolaore, 2006). The bigger the unit, the more likelihood there is that there are more heterogeneous preferences of the people within it, and hence the likelihood that many of those preferences will get “washed out” in the conflicts and compromises that must

take place in big jurisdictions. In international growth studies, the performance of countries can be partially attributed to how successfully they combine the advantages of scale while enjoying sufficient convergence of preferences to be able to make strong decisions that have public support (Alesina and Spolaore, 2006). To my knowledge, there is no existing study of such differences in the distribution of formal governmental competencies within metropolitan regions, the resulting size structure of jurisdictions, and the consequences of this for the ways metropolitan political processes operate.

Moreover, city-regions appear often to have strong *de facto* differences in their inherited (*de facto*) political cultures and forms of political mobilization that contribute to governance outcomes, in the same way that scholars have seen these among countries. Some have longer traditions of intense community action and established patterns of government-business-community cooperation there, while others have much more top-down political cultures, for example (Logan and Molotch, 1987; Molotch, 1976). “Social capital” indices, that measure such patterns of participation, show that there is much more participation in some city-regions than in others, though the meaning of this for political outcomes has not yet been established by research (Putnam, 2000).

In the regional development literature, a great deal has been said about institutions, but usually in a different sense from the growth theory literature. Analysts have been interested in the *sector-specific institutions* that make a region able to help a particular industry to flourish. This is especially the case with respect to high technology clusters and flexible production networks and “innovation-based” sectors (Saxenian, 1994; Becattini, 1990). Questions about how production networks are coordinated, moral hazards contained, and transactions costs minimized, as well as whether sector-specific public goods are provided, are the object of a vibrant literature (Scott, 1993). When the concerns of these two literatures are brought together, they suggest the interesting question of how the broad institutional

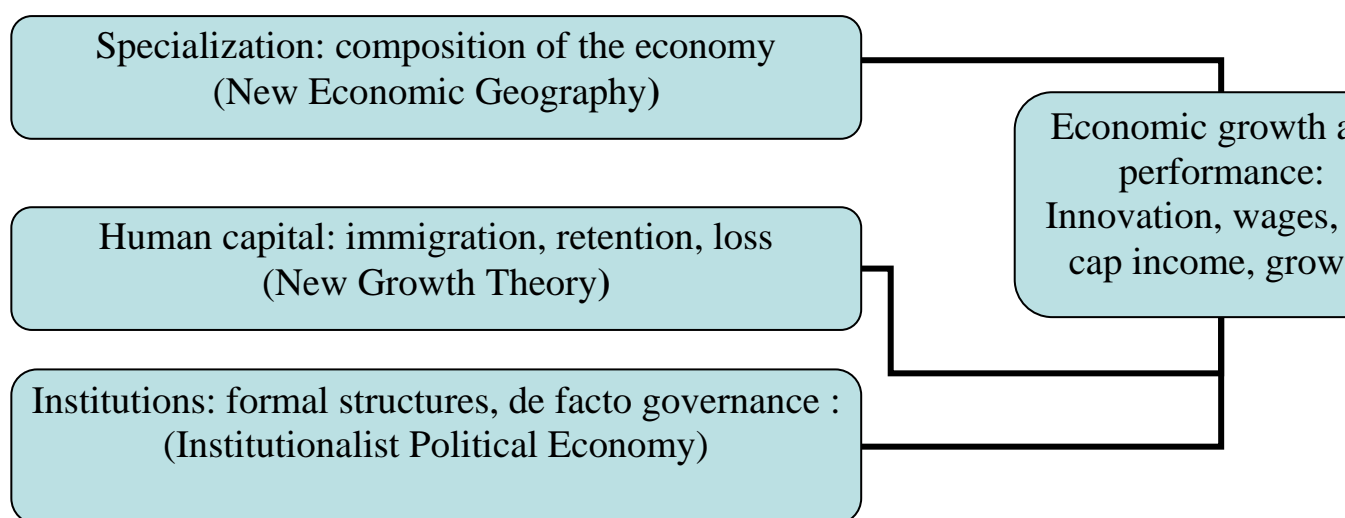
structure of a region interacts with its sector-specific institutions, such as business associations, labor market networks, relationships to the educational system of the region, and other formal institutions and actor-networks.

The opposite direction of causality has also been considered: sectoral interests may shape the performance of general political institutions and political markets for ideas and programs in the region. This is the point of much of the urban politics literature (Dahl, 1961; Cox, 1993). Powerful interests shape the choices made about urban development, especially in land use, through the place-based politics of landowner and developer groups (urban growth regimes) (Molotch, 1976). This has been extended to sectoral business elites as well, in the notion that they influence local politics through their ability to influence job creation and hence generate revenue for local and regional governments. In this way, sectional preferences can find broad expression through lobbying, interest-peddling, and other means of dominating the resource-allocation and policy-setting processes.

The conception of institutions that we propose to import from growth theory is broader than in most of the urban politics literature. It asks how both formal rules and the de facto political processes capture, retain, or damage economic development (Persson and Tabellini, 2006; Rodrik et al 2004; Glaeser, et al 2004). Moreover, there should be microeconomic effects of institutions, not merely how they affect the political decision-making and resource allocation processes. These outcomes include the ways institutions mobilize private and public actors, and filter others out (dis-incentives). They may do so through the ways they influence the formation of coalitions and their intentional, strategic problem-solving activities, or their unintentional mobilizing and de-mobilizing effects on dispersed private actors. Though elite processes and deliberate use of public power to extract rents and build things are

important, so are complex, dispersed collective action problems such as how actor-networks are formed, supported, and sometimes weakened or eliminated.⁷

Thus, a first way to pull together these insights from international and comparative growth theory, and attempt a first application to the problem identified -- how to explain why certain metropolitan regions do better at growth than others -- looks like the following:



⁷ It is important to note that at the inter-national scale, there is now a body of (imperfect) large-scale empirical testing of different hypotheses about how institutions affect growth and performance (Acemoglu, Johnson and Robinson, 2004; Prezeworski et al, 2000). At the inter-regional scale, however, while there is an enormous literature, it is almost entirely qualitative or case-study based; we lack any systematic evidence that institutions, politics and governance at the regional level actually matter to regional economic performance in the medium- to long-run. This is astonishing, given the political attention, money and effort spent on such issues.

Interactions: endogenous causes, feedbacks, filters

Taking comparative economics and economic growth theories seriously, as a model for why a city-region grows would require that we do more than merely consider the three forces identified above. Their *interactions* must also be considered. By interactions we mean what economics calls “endogenous” forces, or what most people would call “chicken and egg” issues. In somewhat more technical terms, this means that each of the three independent variables (causes) identified above can – under some circumstances -- become dependent variables (effects of one another), and that they can do so in more than one cycle, thus reversing the direction of causality more than once over the medium-run.

What causes specialization?

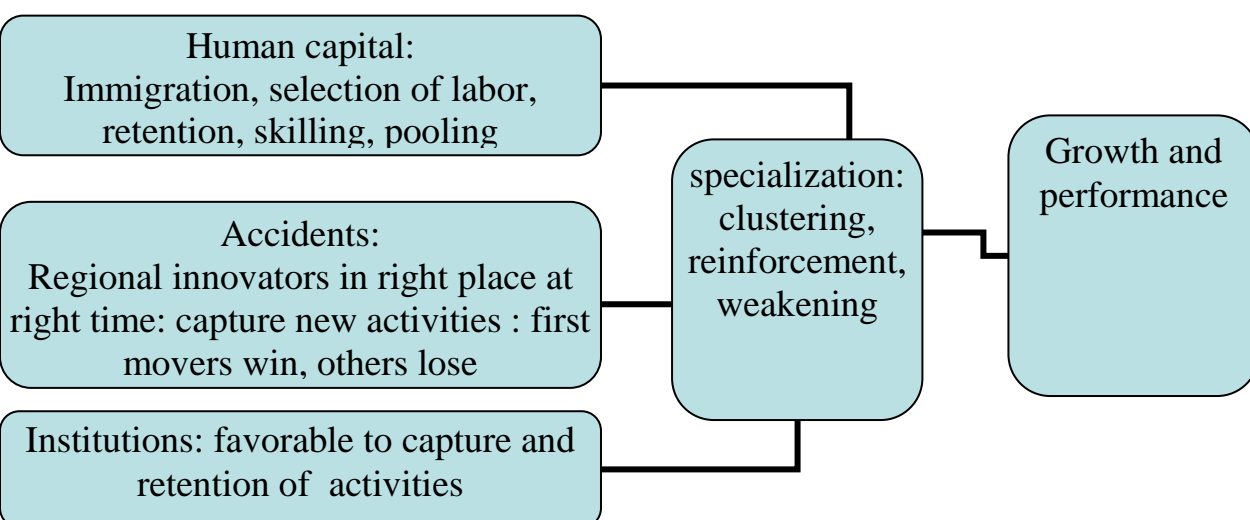
8b2000s; 1989) and Howitt, 1992. If one city has had more favorable evolution of its specializations than another, is this because its *labor force development* (human capital) has become progressively more oriented toward certain skills than the other's, so that these cities attract and sustain different industries? A standard version of this argument is that specialization responds to factor endowments – in this case particular kinds of human capital. 20072002 In the case of high-skill industries, it is difficult to reconcile abundance to lower relative prices of the abundant factor, however. New Economic Geography models do better on this account, via labor pooling models: search and matching within a large pool of both labor and employers, allows firms to minimize labor hoarding and better manage their total labor costs, while allowing workers to better secure jobs, manage change, and build their career-long skills (Jayet, 1983 ; Combes and Duranton, 2006).

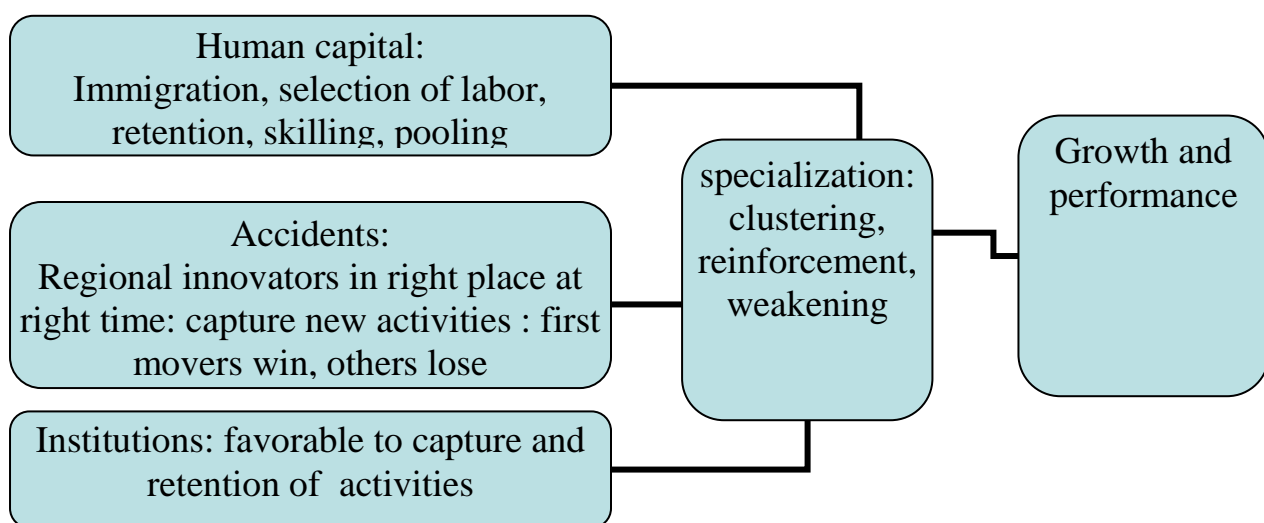
Alternatively, as is argued in much of the growth theory literature, specialization is the result of institutions, which ‘select’ the environment to favor certain activities over others, in

the long run. Thus, institutions either “capture” favorable opportunities or they fail to do so (“repel” them); and they either allow the economy to adapt to changing external circumstances, or they block adaptation. Institutions can capture more or less favorable specializations (Rodrik, Subramanian, Trebbi, 2004). Some scholars argue, by contrast, that specialization is largely *accidental*: being in the right place at the right time attracts a sector to a place, and from there, forces described by economic geographers “lock the activity into” the place, through agglomeration economies. In this view, then, the causes of specialization are external or ‘exogenous’ (Scott and Storper, 1997; Krugman, 1991a; Davis and Weinstein, 2002). One can think of a combination of these two latter views: thus, accidents either give or take away initial “seeds” of specialization, but institutions then promote adaptation or fail at it, in which case they drive initially favorable accidents away. This type of continuous adaptation is said to involve the sector-specific institutions mentioned above, that solve the problems of the sector, but may equally require measures that affect a number of sectors or impact the regional environment in general: hence the need for problem-solving coalitions that go beyond what an industry is able to do for itself (Scott, 1993).

Another point to bear in mind is that the potential for specialization is always partially independent of any “intra-regional” forces: it simply has to do with the evolving organizational and trade cost structure of the industry in question. As is suggested in a highly simplified way by product cycle models, there is a moment in the life of some industries when they are reorganized and their internal trade costs decline to the point that no local measures can suffice to maintain their core agglomerations and hence nothing will keep them in expensive places (Norton and Rees, 1979). On the other hand, there are some moments in the organizational life of sectors where regional efficiency can be improved and shares of an industry retained: however, this is usually through innovation within that industry and still involves shedding a lot of the routine production activity (Saxenian, 1994; Amsden, 1989).

These endogeneity issues with respect to regional specialization can be visualized as follows:





What causes skills/human capital stock?

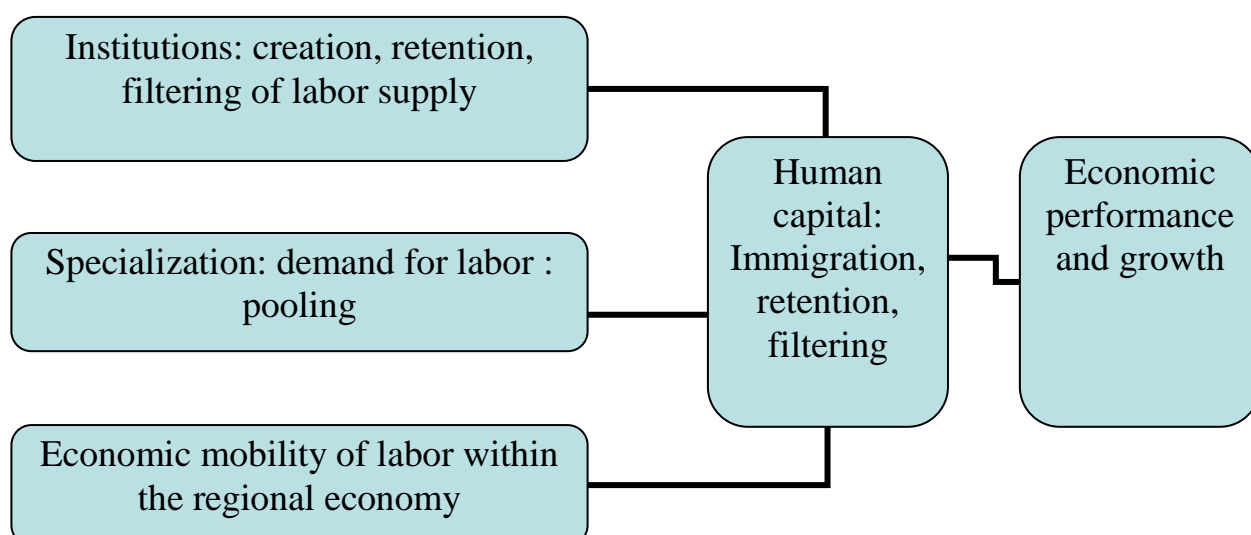
Institutions and specialization might also be causes of the human capital stock of a city-region. Overall, some regions are richer and more educated than others, and they reproduce some of this in situ, but they also reinforce differences through differential migration. In addition to ethnic specificity of foreign immigration, and sometimes overlapping with it, regions attract mixes of domestic and foreign immigrants with different skill levels

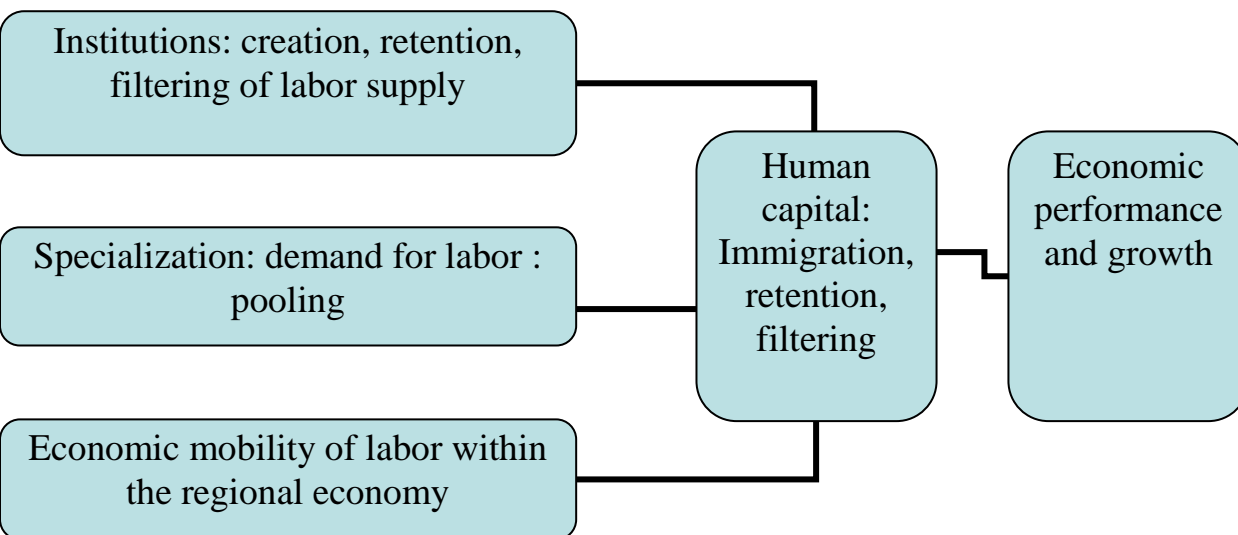
and qualities (Frey, 1995). Linked to this is the retention of highly-skilled individuals trained *in situ*. Among regions with excellent research and training institutions, some will retain more of their locally highly trained immigrants than others, and some will attract more of the highly trained from elsewhere than others. Does this ultimately affect their specializations and innovativeness? Could it be that something about politics and governance in each region systematically selects for different quantities and qualities of immigration?

In the recent urban growth literature, much has been made of the twin notions of “creative cities” and “amenity-based cities.” (Florida, 2002; Glaeser et al 2001). Both are stories of economic development driven by human capital. In the creative cities framework, specialization is driven by the attraction of creative workers (whose main component are highly-educated workers generally, with a high proportion working in high technology and finance). These workers in turn are said to accumulate in places because of the amenity of “tolerance,” which is operationalized through the composite variable “diversity.” The “amenity city” argument generalizes this to both highly-educated populations (high culture amenities and bohemian amenities) and less-educated populations (sun, low density). The problem with human capital-driven regional economic growth models is that skilled people appear in most cases to precede the creation of amenities, not principally to follow them. Moreover, successful cities are so heterogeneous in terms of their amenities (Shanghai versus Atlanta, Boston versus Orlando), that the notion of amenities easily becomes a vacuous tautology as it is stretched over more and more heterogeneous cases. Household preferences for residential amenities do seem to drive specific locational choices *within* metropolitan regions, but not *between* them, so they generate intra-metropolitan sorting but not regional development as a whole (Cheshire and Sheppard, 1995; Oates, 1969; Hilber and Mayer, 2004).

We earlier noted that labor pooling versions of agglomeration theory can be interpreted as suggesting that big labor pools facilitate specialization (Combes and Duranton, 2006). But it could also work the other way around. If an industry begins to agglomerate in a region, and it has unstable markets due to rapid growth or technological change or product innovation/differentiation, then it is highly desirable for firms to have access to a large pool of labor, because this makes it easier for them to turnover their labor, by insuring that when demand grows they can find the kind of labor they need in a short time (Jayet, 1983). Thus, the clustering together of many such firms with unstable labor demands might generate the regional labor pool through in-migration or regional learning-by-doing, and then the two become mutually reinforcing causes (Scott and Storper, 1987). In terms of explaining the trajectories of places, we are caught in very complex endogeneity dynamics in which the putatively independent and dominant role of human capital is far from being established.

A picture of these endogeneity issues with respect to labor supply is as follows:





What shapes regional institutional performance?

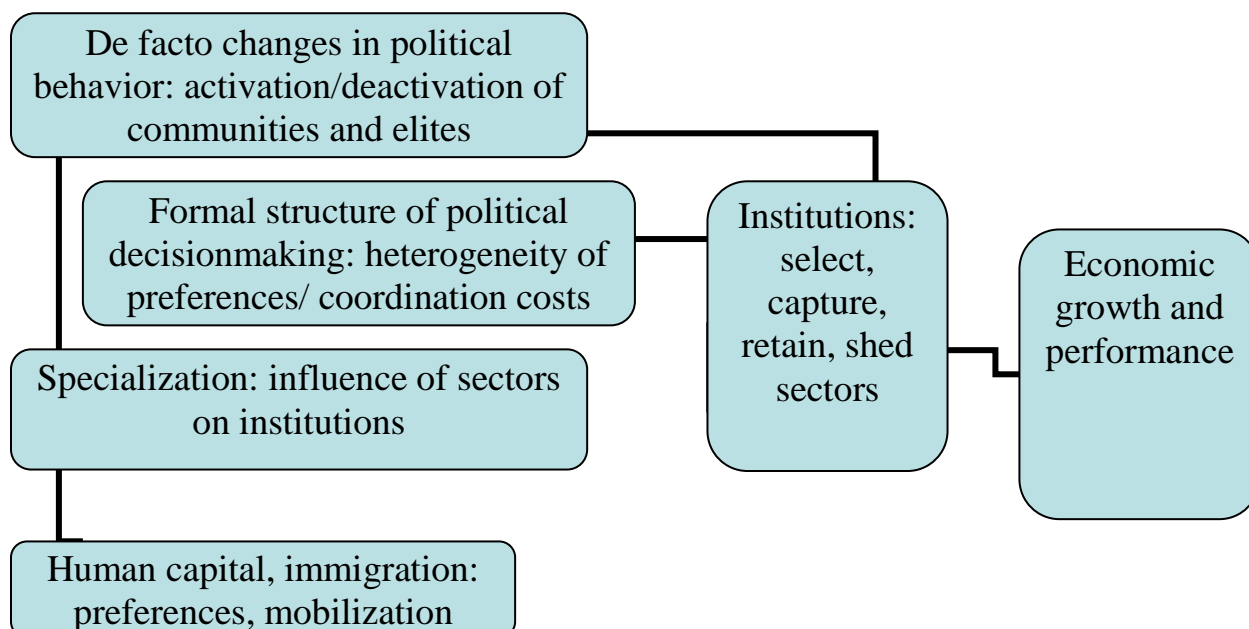
The possible influence of regional institutions, politics, and policy on economic development has received a great deal of attention in the literature, but there is little that operationalizes and measures these relations.⁸

The formal (*de jure*) structure of institutions and hence their formal authority and processes for exercising it is determined by constitutional structure, history, and law. The *de facto* institutional environment consists of the real behaviors of different groups – governmental, business, community and electoral constituencies. Among the factors that might underlie changes in *de facto* institutional performance are human capital and specialization. If immigration is strong, and immigrant populations become politically mobilized, for example, they may change the preferences that are expressed through political decisions in areas that influence regional development (education, training, infrastructure, business rules, fiscal policy).⁹ Likewise, if economic specializations change, then the business groups that effectively “leave” the region will have weaker voices, and the business groups associated with new or stronger sectors will, presumably, have more influence on decisions affecting development (Cox, 1993; Molotch, 1976; Dahl, 2005). If business and human capital actor-networks that represent powerful specializations in the region mobilize around particular strategies, they may influence the output of regional government institutions in a variety of ways (this is the classical point made by the urban politics/growth machine literature). However, it’s important to note two things for a view of the sources of institutional performance: *many different* types of actor-networks are likely to be involved;

⁸ One of the most ambitious attempts to date is by Rodriguez Pose, 1998, but he does not directly measure policy outcomes and actions, but rather background proxies for institutions.

and the ways they get their ideas heard depends in part on the formal structure of institutions. In the metropolitan context, key aspects of this are the degree of fragmentation and the size of units in which politics takes place, as this will affect the costs of achieving consensus and hence the formation of the “market” for ideas and strategies that affect the economy, notably in the domain of problem-solving.

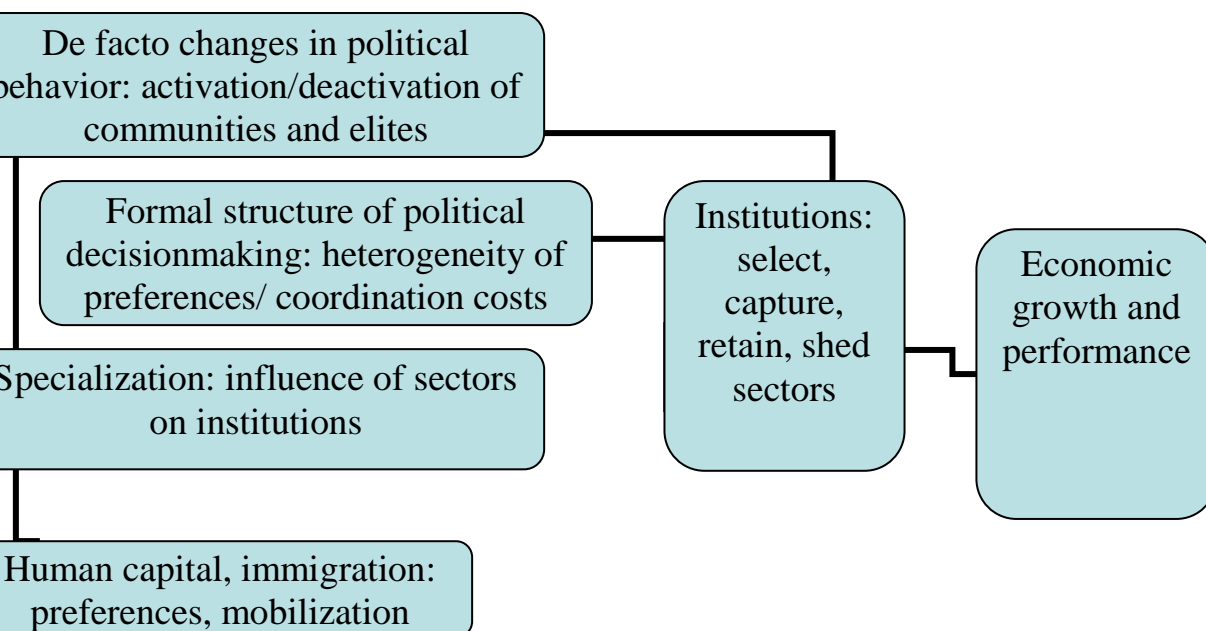
The endogeneity issues with respect to institutions are shown below in simplified form:



It should by now be clear that all three of the main pillars of a growth theory – the economic geography of production, human capital, and institutions – are likely to be important causes of regional growth and development, but that they may be both independent and intermediate causes of a regional growth trajectory. Only additional detailed theoretical modeling and empirical measurement will determine how much each contributes to the explanation of regional development and growth, and how they interact.

Improving the analysis of institutions and regional economic performance

In international comparative growth studies, institutions have taken an increasingly prominent role. At the same time, “institutions” refers to many things, lending a high degree of complexity to methods and results. Politics, institutions, and “governance” have also been important reference points in the literature on cities and regions. Because this is the most complex and heterogeneous of the three main pillars of growth theory, it behoves us now to devote greater attention to institutions in the metropolitan or regional context.



One classical theme in urban growth studies is the influence of central government spending on regional growth. Treated in a simple empirical-descriptive way, this amounts to an “external” or “exogenous” cause of local economic change. In light of the present discussion, such a stance is questionable. Central government spending in regions is generally motivated by political coalitions of regional interests that function in national institutions. Technology is also cited as an exogenous factor. Glaeser and Shapiro (2001) argue that the interstate highway system and air conditioning are key reasons for the development of sprawling, sunny cities in the USA. But this explanation has a difficult time explaining why textile mills already moved south in the 1930s, before the advent of air-conditioning, or why dense urban centers and cold old cities resurged in the 1990s (Storper and Manville, 2006).

These specific issues aside, as argued above, the core issue about institutions is how they might affect long-run specialization of a regional economy, and adjustments of the economic base in the face of technological change, globalization, fragmentation of production chains, and so on. Again as noted, social science does *not* have a satisfactory answer for why an industry might have a strong cluster in a *particular* place and not another. It *does* have fairly good answers for why there will be a clustered rather than dispersed structure in an industry and why that structure undergoes change, as well as why the clusters will be located

in a certain *general type* of economy (developed, high wage, less developed, etc). As with development economics in general, it also lacks fully satisfactory explanations of why some places sometimes change structural class, by moving up or down the hierarchy of development: just as this happens to countries, so it happens to cities (Rodrik, 2007). There is strong reason to believe that appropriately-constructed institutionalist arguments and evidence could advance our ability to explain these processes.

An example will help. In the late 1950s, it was not clear that an area south of San Francisco now known as “Silicon Valley” would become the world center of information technology. The initial pattern of semiconductor production in the USA was quite dispersed, and if there was any nascent geographical center of gravity for the sector, it was the Northeast coast, from Boston to New Jersey. Because the industry was extremely new, it lacked a clear “production process” and “commodity chain,” and therefore did not have clearly-defined “factor demands” or even linkage patterns. However, there were a number of areas in the USA with a lot of engineers working on what would become the new technology, from northern California to southern California to the east coast, and even in the southwest. This is what we previously labeled a “window of locational opportunity” (Scott and Storper, 1987). It had parallels in the late 1920s with the American aircraft industry, or the film industry in the 1900s. It has parallels with nanotechnology and biotechnology today.

The problem is that there are often *many places* that can satisfy the technical needs of an industry. This may be the case with respect to factor supplies (in the IT example, skilled engineers and inventors), as well as institutions. Some noted analysts of the Silicon Valley case (eg Saxenian, 1994) argue that it was Silicon Valley’s institutions that caused it to capture the industry and that this generated the specialization it still enjoys today as the county with the highest per capita income in the world’s wealthiest economy. But once again, we fall into the endogeneity hole: Boston and Phoenix were also early centers of

semiconductor production, and it was not until much later that Silicon Valley really pulled ahead of them. In this case, if it is institutions that caused Silicon Valley's agglomeration forces to strengthen, the institutions are endogenously formed in place – they emerged after the start of the agglomeration process, as a part of the growth of the industry itself.¹⁰

The famous “Stanford business park” story could be considered an example of “institutional entrepreneurship” (by the dean of the Stanford Business School), and hence an institutionalist explanation of why Silicon Valley, as opposed to Boston or Phoenix, got ahead (Saxenian, 2000; Kenney, 2000). In this version of things, Motorola's massive early investments in Phoenix did not find a favorable institutional environment there, or Motorola simply made the wrong strategic choices, and hence the Phoenix agglomeration folded. But this wouldn't seem to be the case for Boston, which had multiple and diverse actors who saw what was happening and tried to capture the IT industries at the same time SV did. Saxenian's (1994) argument that they did not do so very well is convincing, but it does not answer the question of “institutions as chicken” or “institutions as egg.”

If the sector-specific institutions we are referring to here are in large-part created *as part of* the specialization process, then the “exogenous” force of accident may be said to be at their origins as well. It's important to understand what this does and does not mean. Perhaps in the Silicon Valley case, there *were* many regions that were—more or less – equally well-prepared to become the world center of the IT industries. But only one of these “candidate regions” happened to get ahead just a little earlier than the others. This is because some actor in that place came up with a break-through “killer application” that tipped the agglomeration economies toward that place: by taking market share, suppliers streamed into the Valley to fulfill new needs, network efficiencies grew, and other places found themselves out-distanced,

¹⁰ This would also be true of the labor force. The labor force could not have “caused” the IT industry to concentrate in Silicon Valley, because in the 1960s, computer engineering was just a loose set of individuals, not a consolidated academic discipline. It is an endogenous outcome of the industry's development, both as a category of skills and training, and as a geographical concentration of those people in Silicon Valley.

even though they were “about equally good as one another” prior to this tipping point. The extreme version of this story of accidents holds that William Shockley, the inventor of the chip, moved to Silicon Valley because he wanted to be closer to his mother, who lived in Menlo Park. This tipped the locational structure of the industry, durably. This kind of “accidents of history” explanation is now incorporated in the New Economic Geography’s basic core-periphery model (Fuchs and Shapira, 2005). In my opinion, it fits well the case of the aircraft industry in the 1930s, where many localities in the US or elsewhere were equally well-placed to become major centers of aircraft production, but Los Angeles got ahead because of a single event: Donald Douglass invented the DC-3 in Santa Monica, and it “took the market” and tipped the geography of aircraft production there rather than elsewhere (Scott, 1993).

Do these events deserve the analytical status of “*fully* exogenous accidents?” On the one hand, it is evident that many pre-conditions must be satisfied even to have the possibility of making the right breakthrough and tipping the geography of the sector, capturing the specialization. In this sense, there is a regularity that can be explained by social science. It is a regularity more akin to “climate” than to “today’s weather,” however, and that is the problem. We do not like path dependencies and branching points in social science, because they create a wedge between broad and deep structural conditions and outcomes (Hodgson, 1993). But that may very well be a powerful influence in why some cities grow and develop one way versus another, in the medium-run of thirty-to-fifty years (Boschma and Kloosterman, 2005; Rigby and Essletzbichler, 1997). It is a difficult pill to swallow for those who formulate urban policy and want to predict the outcomes of their efforts and expenditures: there is a chance element in economic development.

On the other hand, the regularities may lie elsewhere. In order to be a candidate city in the first place, certain conditions must be satisfied. In the case of first-mover

advantages of the type we are considering here, these conditions are likely to come from institutions, but not of the sector-specific type that have attracted the most attention in the high-tech and cluster literatures. There are still-undiscovered attributes of institutions that seem to prepare city-regions to attract new activities and sustain those that are getting started. These may – indeed should – give rise to sector-specific institutional practices of the type Saxenian documents for Silicon Valley. We do not know enough about these “institutions that capture first-mover opportunities.” The regularity should emerge when we study these institutions: on average, the places that have them should capture more of whatever “new economy” exists at a given point in time than other places. These places should have institutions that overcome existing problems – including existing interest-group practices for extracting rents, dominating perceptions, or blocking other groups from getting attention in political markets and labor markets.¹¹

Long-term processes of economic development are not, thankfully, entirely dominated by first-mover advantages. There are not enough such advantages to go around. However, there are more opportunities that resemble them than is commonly realized. The economy affords abundant “second-mover” opportunities. As sectors mature, they develop more complex internal divisions of labor, usually leading to the possibility of geographical fragmentation of the sector, and so the initial agglomerations, no matter how powerful, do not stop secondary clusters from emerging. By this time, institutions of places – if they are good at adapting and problem-solving -- can apply more systematic lessons of the past to the process of imitation and capture -- assuming that their political structures allow them to adopt the correct policies. In this way, economic development becomes less arbitrary and accidental. An even more powerful opportunity for second-mover advantages comes through product differentiation and quality ladders (Grossman and Helpman, 1991). Product

differentiation and quality ladders are a basis for inter-place differentiation and competition, serving as a formidable opportunity-creating device.

In order to prosper over the medium-run, city-regions need to do more than capture first- and second-mover opportunities. They also need to solve problems in two major areas. On one hand, they may attempt to retain existing activities by continuing to modernize them, and on the other they must cope with loss of activities. Such loss is inevitable when the evolution of organization and trade costs in a sector eliminate the options of retaining the industry at realistic ranges of regional factor prices. In this case, sectoral succession through first and second-mover specialization must replace the losses, or the economy moves downward in the hierarchy of incomes and employment.

International development economics suggests that institutions create the conditions within which regional economic actors can engage in this process (Rodrik, 2007). One needs only to look at the success of the Japanese automobile industry today to see how important second-mover strategies can be to the economic geography of development, and how institutions do not transfer readily from place-to-place (Cusumano, 1985; Ellison et al, 2002).¹² The question is whether regions also do the same, since there is a strong national imprint to these institutions. How might institutions shape the “action systems” that seem to underpin specialization processes of capture, imitation, retention and adjustment/succession? If it is not accidents that cause them, then regional institutions may affect specialization through another of our growth theory variables, human capital, but in a very specific sense. The *level* of human capital is not enough. Specialization through the construction of actor networks is very likely driven by the *qualities* of human capital, i.e. how well it is adapted to the specific needs of a sector of activity (Rosen, 1983).

¹² In the sense that when Japan entered, they were a second-mover. Subsequently, there is a case to be made that they have become the first-mover.

The formation of human capital in a specific sector in the economy is a complex phenomenon that has been analyzed extensively in economic sociology. To simplify the argument: effective performance depends on skills, whether acquired on the job or in educational institutions. But acquiring and using skills also often depends on relationships, i.e. knowing where and with whom to acquire experience and develop further on the basis of existing skills (Granovetter, 1995). Relationships also link individuals to opportunities, through networks. Networks also allow for circulation of talent, and for exchange of information that continuously improves skills. Some networks have a strong interpersonal basis, or a combination of impersonal and interpersonal connections between individuals. In other words, “human capital” is really a “networked actor system” for the purposes of this analysis. So, people in the New York financial services cluster generally have very different networks from those in the Silicon Valley information technology cluster. Thus, specialization is driven both by the level and the type of skill.

Labor market networks are “institutions” in and of themselves. They mix formal and informal elements, civil society, and formal governmental institutions (regulation, education, etc). They should figure prominently in any effective account of a specific city’s economic history because they are the fundamental source of the “untraded interdependencies” that underpin agglomeration economies.

The geographies of these networks are only partially understood, and what we do know of them indicates that – like many aspects of the regional economy – they have strong path dependencies, as well as many causes that are *not* specifically regional. Thus, if we consider high-technology business networks, there are roots in institutions that pre-existed Silicon Valley, such as the military-industrial complex, and the national university and R&D system, as well as private companies in the predecessors to high-tech, such as the radio and television equipment industries. It’s difficult to imagine the perpetuation of specialization in

Silicon Valley, New York, Hollywood, Paris or London or Milan without these sector-specific business and labor market networks, deeply intertwined with educational networks, that attract, convey skills to, and retain the people that are key to entrepreneurship and action in a particular industry.

But path dependencies are not everything: Silicon Valley is the exemplar of spatial and organizational *rupture* with the past. Specialization has to start somewhere, and it requires that we consider the causes/origins of the geography of these networks, as well as why some effectively solve their problems and go on, while others disintegrate and, with them, the specialization they once supported.

Regional institutions in a broader, less sector-specific sense, should logically have considerable – though perhaps indirect – influence on the *formation* of these networks, the type and level of human capital in the region, and hence its economic specialization. What might these be? Much of the urban politics literature, as noted, concentrates on rent-extracting behavior by regional elites, their dominance of the political process generally, and especially on their intentions with respect to land development (Molotch, 1976; Logan and Molotch, 1987). But there is relatively little on non-land related growth coalitions. The film industry in Southern California, the financial services industry in New York, and the high tech sector in the San Francisco Bay Area are only secondarily interested in land development. In many countries, by contrast, regional political institutions are often more explicitly oriented toward organizing business activity “from above,” with a goal to furthering their specific ends through a variety of public policies. A lot of ink gets spilled about programs put in place to strengthen particular industry clusters in regions. But in the end, we have little hard evidence on the effect that these regional sector-specific *elite strategies* have on the formation and geography of these networks, and how they affect the dynamics of capture, retention and adjustment of specializations. Take the example of Silicon Valley: perhaps the institutional

entrepreneurs at Stanford, or perhaps accidents, set in motion the creation of agglomeration processes of individuals, which in turn led to the creation of wide and deep networks of innovators, which in turn subsequently supported strengthening the agglomeration, and so on. The problem is that no systematic tests of this type of sequences exist in the literature, at least that are known to this author.

Moreover, even if starting points for networks/human capital/agglomeration lie in unique events or unique individuals, one asks whether there is a wider logic to why these individuals did what they did where they did it. Did the Dean of the Stanford Business School, for example, go west because in the East he felt unable to be entrepreneurial? In this case, was there something about the institutional environment that was propitious to the application of his talents in a particular place?

Finally, leadership may get something started, but it can wither on the vine if it is not appropriately nourished. There are many examples in the history of innovation where superior ideas do not get implemented because they do not find a favorable environment (Mokyr, 1990; North, 2005) These environments should have some regularities we can understand: institutions, not unique genius or pure individual strategy.

The structure of institutions and the regional policy process

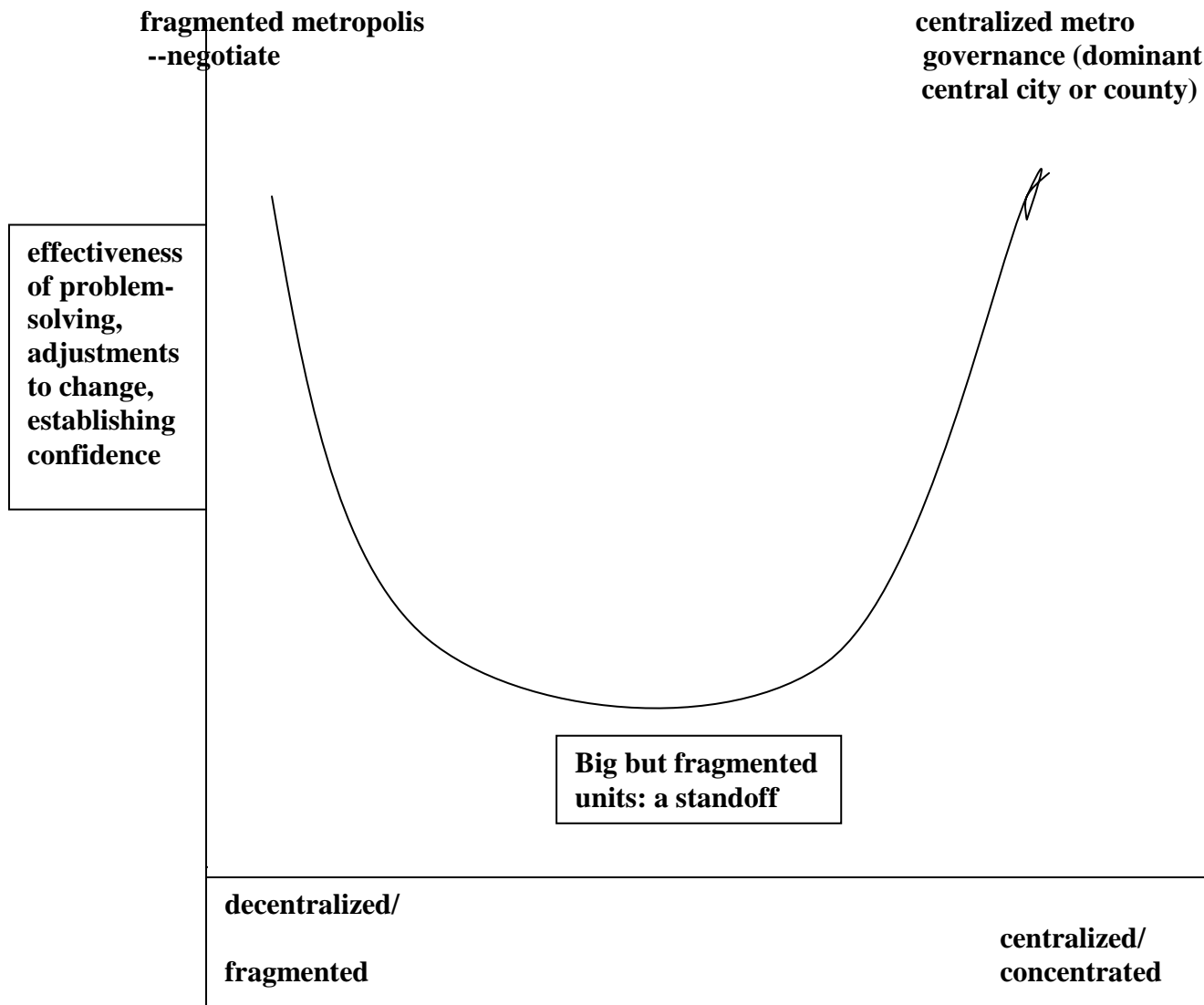
In the preceding discussion, we have concentrated on how economic opportunities may intersect with strategic institutional outputs of regional politics. This opens up the natural question as to why regions “do” different things in this domain. No complete answer could ever be proposed for such a question, but there is one dimension that emerges from the recent institutions and growth literature – and which intersects with a classical literature in urban politics and governance – that can be suggested as an important topic for research. It

concerns the geography of political jurisdictions in regions and the ways they may influence voice and coalition-creation in regions, and hence affect policy agendas.

The urban environment is one that differs from “normal” factor markets in an economy: it involves spatial interdependency (externalities) and “bundling” (to locate in a place you take a package of things, which you cannot separate) (Storper and Manville, 2006). This gives rise to one of the principal specific qualities of the urban realm: the tendency for households and business to use locational decisions to optimize their benefits, often by choosing jurisdictions within the fragmented multi-jurisdictional space of the metropolitan region. These “Tiebout-Schelling” dynamics of choice, often involving a tendency for households and businesses to seek out others who are like them, give rise to a strong mechanism of spatial-sorting or self-segregation, and hence a complex mosaic of difference within the diversified metropolis (Tiebout, 1957; Heikkla, 1996; Kenyon, 1997; Kenyon and Kincaid, 1991).

Smaller jurisdictions are likely to have populations with more homogeneous preferences and lower costs of debate and compromise, allowing more initiatives to see the light of day; however, they sometimes need cross-jurisdictional bridging for regional policies or investments with strongly positive scale economies (Alesina and Spolaore, 2005; Aghion, Alesina and Trebbi, 2005). On the other hand, regions with a centralized institutions may have problems with overly-heterogeneous preferences, but can be very efficient at region-wide decisions. Their challenge is decentralizing a certain part of the decision-making/political process. This reasoning leads to the hypothesis that the “worst of all worlds” in terms of the de jure structure of decision-making would be to have neither the responsiveness that allows new initiatives to come up from the bottom, nor the centralization that allows large-scale regional compromises to be forged (cf. Rose-Ackerman, 1983; Stiglitz, 1983). In systems that combine too much bigness without centralization, the bigness

of the units usually blocks initiatives, while fragmentation blocks cooperation among large rival units, or even worse, when there is one unit big enough to go it alone without all the others, but not big enough to achieve region-wide compromises. This is a condition of standoff or blockage:



We can think about this in relation to the principal domains of local-regional “hard” power – land use and public investments, and “soft power” (i.e. more general measures to affect regional business climate and quality of life). The fragmented *de jure* structure will, all other things being equal, allow for a competition of ideas and approaches among a greater number of more homogeneous jurisdictions. This could allow a number of them to do everything wrong, but will also allow many do things “right” through the grouping together of people who share such preferences -- elites and others. The prospect of severe segregation is always strongly present in such a system, as well as failing to achieve regional coordination where

it's necessary. But the competition from successful places creates a higher probability that public collective action could suggest the "high road" to other jurisdictions and drag them along (also because successful places generate more tax revenues), and that this will, in turn, create a general "upward path" in the dynamics of regional labor market signaling and attraction. The balance of outcomes is not determined by the de jure structure, but by the interplay of real sorting dynamics and the de facto politics that occurs within these jurisdictionally-sorted units and between them.

At the other extreme, a highly centralized metropolis, where there is a dominant jurisdiction (city or county in the US context), faces different dynamics. On the one hand, it has the heterogeneous preferences problem in its big central jurisdiction; but on the other, when this jurisdiction wants to do something big, it can. Hence, there will be a bias toward certain kinds of big projects, and a tendency for many little ones to get shoved under the rug – unless there are political innovations within the big unit, that combine centralization and decentralization (one thinks of the role of New York City in the NY metro area). It's also conceivable that a strong elite bias gets displayed, if the hegemonic jurisdiction has powerfully organized elites. These elites can, of course, be more or less intelligent when it comes to foresight and problem-solving, so performance can be highly variable. Land use and public investment decisions can, in any case, be powerfully directed toward strong effects on the conditions for labor market/business network formation and sustenance, and hence on specialization. Centralized metropolitan institutions can also fall prey to predatory elites who use centralization for short-term interests and drive specialization down the wrong pathway.

A more problematic case lies between these extremes, of a metropolis with a de jure institutional structure which is neither fragmented among equals, nor centered on a hegemon. It may contain some big units, but that are not hegemonic --- thus denying it both the advantages of centralization *and* those of smallness and homogeneous preferences. The

risk is that it stifles the expression of land use and public investment projects that express either “many flowers blooming” as in the first case (and hence creative competition within the metro area) or powerful “big time projects” as in the second. It may be rudderless: Los Angeles comes to mind. The City of Los Angeles is not as proportionally powerful in its metro area as New York in its, but it’s big enough to stop almost any wider regional initiative. Los Angeles County is huge (9.5 million persons) and heterogeneous, but not sufficiently piloted by its central city (3.8 million) for the latter to be able to impose its will on its neighboring counties. LA is neither an elite-dominated metropolis like New York, nor an internally fragmented, competitive-cooperative metropolis like San Francisco (Abu-Lughod, 1999; Jaher, 1982).¹³ The result is that there is possibly the worst of both worlds, with little possibility for creative initiatives to get support, but with elites that are also disorganized. The low road tends to prevail in this case: with ineffective public investments, increasingly segregated private land use decisions, and no strong incentives to create broad problem-solving coalitions (Purcell, 2000). As even the highly skilled have little regional power, they increasingly self-segregate. In the rest of the regional space, with their withdrawal and the absence of effective coalition action, the door is open to a “low road” of economic development, because of the failure to mobilize resources to drive specialization favorably.¹⁴

Contrasts in Adjustment

It should by now be obvious from the above framework that metropolitan development over time remains something of an enigma, for several reasons: we do not know the precise relationship between events (accidents, unique turning points) and structures (human capital, institutions, capacities); we have no consistent data on events, and overly-aggregated data on structural forces; and we have only a rudimentary grasp of the chicken-and-egg processes

¹³ But LA certainly was an elite-dominated metropolis until the 1980s, when there was a tide of community mobilization and fragmentation of the regional elites (Fogelson, 1993).

among them and the developmental trajectories they trace out over time. One important consequence of this is that we cannot say much about the precise origins of specific specializations. This goes in the direction of the point made in comparative international economics, by authors such as Dani Rodrik and Ha-Joon Chang, that it has not been definitively established that having good institutions is a *prerequisite* to initiating development – an argument which remains controversial, it should be admitted. It may simply be that good luck, good comparative advantages, or good exogenous shocks enable certain places to have initial booms. But even those authors then admit that good institutions are essential to making something out of the boom in the long-run, and adjusting to subsequent events and negative shocks.

By extension, the process of economic adjustment over time, which determines whether metropolitan areas renew their capacity for growth or whether they enter into decline, is less a story of any particular specialization than of the general ability of certain metropolitan areas to maintain or renew specializations, and this seems to have a great deal to do with their institutions. This can now be seen in light of several comparisons of how regions have dealt with their first- and second-mover advantages in the face of forces for change.

Detroit and Boston

If one were to compare Boston to Detroit in 1960, certainly the judgment would have been that Detroit was the more dynamic metropolis. Detroit was the “Motor City,” the center of the world-dominant American car industry, while Boston was a declining center of “mill-based” industries (shoes and textiles), with jobs hemorrhaging to the South. In the 1970s and 1980s, the entire metropolitan area of Detroit lost population, much of this due to very high levels of population loss in the inner city and the car-industry suburbs, with some population

growth in the “new economy” suburbs of Oakland County. Since 2000, the metropolitan area population has grown to about 5.4 million, as compared to 4 million in 1960: considerably less than average population growth for the USA, leaving it the 11th metropolitan area (Consolidated Statistical Area basis) in the USA. Boston, in 2007 is the fifth-ranked US metro area, with 7.5 million people, from 4.67 in 1960, with population growth throughout its sub-regions, after losing population in its inner city in the 1960s. Detroit has steadily slipped down the ranks of per capita income among metro areas, while Boston is now usually ranked third, just after San Francisco and Washington, DC (often trading places with the latter).

Both regions share a history of crisis in their principal activities, mill industries in Boston and cars in Detroit. Both share certain common institutional-political elements: inner cities consisting of a patchwork of “white ethnic” groups (this refers generally to a various mix of Italian, Polish, and Irish groups with a strong presence in the blue-collar workforce); and strong histories of black-white racial conflict that dominate inner city politics and make attempts at achieving growth coalitions difficult at best. Both are cold-weather cities that cannot rely on “climate amenities” to fuel in-migration. One difference between the two cities is that the car industry is much more concentrated than its Boston equivalents, with mill industries generally having many participants, a diffused type of decision-making.

The car industries begin their downward spiral in the late 1960s, with the end of the post-war boom, and are successively challenged by the oil crisis of the 1970s, the arrival of Japanese cars, and a rising cost structure. Numerous academic studies, from the 1970s onward (notably MIT’s *Future of the Automobile*) project, predict that Detroit’s companies are unfit for world (or even domestic) competition. But the concentrated decision-making structure in automobiles allows for two problems to persevere: “group think” and lack of competition among them (no introduction of new solutions), and concerted lobbying of

Washington to prolong their profit-making strategies of producing large, but mediocre quality vehicles. As a result, the industry fails to implement decisive strategies of restructuring, leading to ongoing job loss, a combination of loss of market share and location of more and more employment is located abroad or in the South.

Any “old economy” city such as Detroit would have faced job loss in this period from technical change alone, even had the American car industry been successful. What is striking is the loss of market share, leading up to the bankruptcy of two of the three remaining firms in 2009. What’s the role of the region in this? In the 1970s, the industry attempted civic leadership, sponsoring a downtown “renaissance” involving the construction of a redevelopment project around GM’s headquarters. But this already reflected the top down nature of the auto industry’s attitudes and their attempt to divorce themselves from local politics. There is a “tipping point,” probably in the late 1970s or early 1980s, when so much of the white labor force leaves the city, as well as most of the black middle class, that city politics become polarized and radicalized: a politics of the excluded. Meanwhile, the rising “new economy” middle classes exit to suburban counties, and the possibility of any region-wide political coalition is dealt a death blow by this segregated political-racial pattern. As the car companies reject any attempts at wider governmental intervention (because they are successful at lobbying Washington for rule-changes in their favor, which they believe, incorrectly, will prolong their competitiveness), the scenario is one of virtually complete institutional failure in the area of economic development.

Boston is a good contrast to this process since, as noted, some of the starting points were similar. But unlike the car industry, Boston’s failing industries are much less concentrated, and they fail earlier and more dramatically, wiping out much of the old economy. Even before the advent of the high-tech revolution in Boston in the 1970s, Boston

possesses not only a number of great universities and university hospitals, but a local elite that is relatively stable and not attached to any particular industry (unlike Detroit).

It is probable that Boston becomes the East Coast center of the emerging computer industry because of the entrepreneurship of “techies” associated with MIT, who form the key firms in the suburban Route 128 corridor, but who inherit some of the hierarchical management traditions of major East Coast firms, unlike their Silicon Valley counterparts (Saxenian, 1994). But in any case, the “new economy” becomes a major boost to the region, especially due to the presence of MIT for ITC industries, and the major research hospitals for everything that is bio-medical. Initially, Boston follows the 1970s pattern of a suburban boom with a declining central city, and it was reasonable to ask whether there would ultimately be a broad reprise of development in the region.

This is where political coalition-building seems to have come into the picture. After many severe central city conflicts along racial lines (over school desegregation, notably), the State of Massachusetts (under Governor Dukakis) creates a statewide growth plan, with incentives for different agents to cooperate. This plan, aided by the fact that Boston is also the state capital, seems to have catalyzed state and local political leaders, in concert with the old elites (very civically minded, as compared to other regions in the US), to engage in the difficult process of bringing in “old labor” (the “white ethnics”) through a steady focus on training, of attempting (with only limited success) to build bridges across racial lines, to reinvigorating the central city (gentrification), and to linking the area through steady improvements in transport. The financial revolution of the 1980s also benefits Boston, an old conservative center of insurance industries, and in combination with the younger fringers of the New technology class, the center city gets a strong developmental dynamic. As Boston is a left-leaning city (in US terms), policies for redistribution to working class and black neighborhoods are stronger than in most other places, attenuating conflict and spreading some

of the benefits of the boom. Today, Boston (like San Francisco) is self-consciously a “knowledge capital.”

*Los Angeles and San Francisco*¹⁵

San Francisco was the first major metropolis in California, the center of the 19th century boom, and of its early fortunes and elites. But for much of the 20th century, Los Angeles was the developmental star, hosting wave after wave of industrialization from the 1910s onward – filmmaking (Hollywood), aircraft, aerospace. Indeed, a constant theme of leaders in the SF Bay Area in the 1950 to 1980 period is the loss of dominance to the neighbor to the south, seen as less refined but economically more dynamic. San Francisco was seen as old-fashioned; controlled by its powerful unions and ethnic Establishment; with a declining port and few dynamic firms, whereas Los Angeles was constantly building (two major ports) and bringing in new technology industries (especially for producing Cold War technologies). Los Angeles becomes a much bigger metropolitan area in the 1930s, and adds population to become about double the size of its northern neighbor in the 1950s.

What is most remarkable about the growth of Los Angeles in this period, however, is that high quantitative growth is accompanied by good quality growth, as reflected in the steady convergence of metropolitan-wide per capita incomes up to about 1970. As the State Historian Kevin Starr put it, the conventional wisdom was that “San Francisco is for those who have already made it, and Los Angeles those who are still trying.” Somewhere around the beginning of the 1970s, it appears that Los Angeles was also for those who had made it.

¹⁵ By SF we mean the ten county San Francisco Bay Area and by Los Angeles the five-county Los Angeles metro area.

But precisely at that time, a new divergence trend opens up: whereas LA's per capita income is about 95% that of SF's in the early 1970s, in 2005, it has declined to just 68% of its northern neighbor's.

During this period, there are major "shocks" to the economic bases of the two economies, with SF (through Silicon Valley on its southern edge) gaining the information technology industry, and Los Angeles starting to suffer, in the 1970s, from the restructuring of US mass production (cars, for example) of which it was the western outpost. Oftentimes, accounts of LA's problems refer to the ultimate restructuring and major downsizing of the defense-aerospace industries, but it should be remembered that this only occurs in the 1990s after the fall of the Berlin Wall and the end of the Cold War. Los Angeles County does lose 600,000 engineering jobs in the 1990s, but LA's divergence with SF starts as much as twenty years earlier.

Another frequently-invoked notion is that LA's relative performance declines because it receives more (low-skill) foreign immigration than SF. The two metropolitan areas have about equal levels of overall population growth in the 1970-2005 period, about doubling their population, but LA's is somewhat more oriented to low-skills than immigration to SF, in spite of their similar geographical positions. So the composition of immigration seems to follow from something else, i.e from different "pull" effects. It seems more probable that when Congress liberalized immigration in 1976, this coincided with the high tech boom then getting underway in the SF area, drawing in more skilled immigrants there. What is more difficult to explain is why LA became the center of so much low-skilled immigration. Already in the 1970s, when immigration turned upward, it was one of the most expensive US metropolitan areas (unlike other southwestern areas, such as Arizona and Texas), and LA County had an extremely high skill base, with more PhD scientists and engineers than any comparable region in the world. Moreover, the defense industries did not employ immigrants nor low-skilled

persons. It is thus difficult to attribute the beginning of low-skill immigration to LA to demand factors.

Instead, it may have been an unintended consequence of certain institutional features of Southern California at the time. For one thing, Southern California has a relatively unspecialized economy (very diverse, in other words), and has historically been based on a high number of local, innovative firms. As a result, the elites are scattered across many sectors, and many of them are recent arrivals, unlike the more structured hierarchy of San Francisco. In this dynamic and decentralized economy, there was another feature that differed between the two regions: SF has historically had powerful unions and LA has (since the 1920s) not had them (until very recently once again). These conditions were propitious to a relatively unregulated local labor market in which, combined with liberalized immigration quotas, a new stream of low-wage immigration could get established. Once established, it gave way to immigration without papers, as word spread in Latin America, networks of immigrants got established, welcoming neighborhoods flourished, and so on.

Thus, socio-institutional differences, along with certain accidents of timing, seem to have driven the labor force development down different pathways, with LA become more and more dualistic (aerospace, entertainment, etc and an increasingly low-wage “other” economy). By the time the cataclysmic restructuring of the southern California high technology economy comes in the 1990s, low-wage immigration and low-wage industries are well-established in the region. The two combine to shock the economy once again. Even so, outlying Southern California areas (Orange and Ventura Counties) are home to high technology booms, but not in the same product niches as Silicon Valley. As Southern California continued on its pathway of becoming bigger, more diverse, but more and more dualistic, the Riots of the early 1990s confirmed its tense economic and class culture.

LA wasn't the only American region to go through such changes, which were partly due to national policies from the Reagan years onward. But after the riots, in spite of many announcements, public policy fails to come up with any meaningful response to the issues raised by them. Projects with names such as "Rebuild LA" terminate with no real results, expressing a fundamental lack of interest in forming coalitions for economic development in the region. Local governments become more and more absorbed by crisis management, as the proliferation of poor neighborhoods in Los Angeles County overwhelms their management and fiscal capacities, and "crowds out" ambitious forward-looking strategies. At the same time, the wealthier suburban areas distance themselves from Los Angeles County, not only because it concentrates most of the problems, but also because they fear its "big dog" size – big enough to dominate the agenda, not big enough to impose its will on them, however; this, in combination with the historical lack of consolidated elites, leads to failure of initiative after initiative, in a paradox of localism in a region with a very big city and a very big county.

The Bay Area goes a very different route. Though Silicon Valley is an outlying suburban area, and the Bay Area is very fragmented because of its geography (a big body of water right in the middle of everything), and there is much competition among localities, ultimately the spirit of High Tech comes to be shared throughout the metropolitan area. Paradoxically, the greater fragmentation seems to lead to more social interconnections and – at least on the surface of it – more regionally-conscious initiatives toward economic development. High tech communities spring up through out the Bay Area. The composition of employment growth in the Bay Area in from the 1980s onward has nearly one-third more high wage job share than that of LA, and LA – mirroring this in the opposite direction – a one-third greater low-wage share. By 2006, the very high income class of the Bay Area has about the same absolute size as that of LA, even though the latter is twice as big.

The central city, SF, is not a particular high tech center, but it serves as the meeting point for the Bay Area Council, which links old-line civic and economic elites to the vigorous new power centers in Silicon Valley. Though there are many problems related to increasing inequality – as in the entire USA in this period – the Bay Area remains a focus of “high road” institutional innovation: the venture capital is formed there, the legal industry revolutionizes itself into “intellectual property” specialists, new forms of networking emerge, and the major universities of the region become known precisely for their spirit of open networking – without the aid of government – with the emerging high tech and life sciences industries. These new “institutions from the bottom up” become part of the social ethos of the Bay Area and are recognized by the formal elite groups and incorporated into them, and through growing webs of civic activism, including one of the most vibrant philanthropic and NGO sectors in the USA. There is twice the level of philanthropy in SF per capita as in metropolitan LA.

In other words, the processes of coalition formation and institution formation seem to be very different in the two regions. In neither case has local or regional government per se been very active or important to development, although it might be argued that in LA, the increasing trend to crisis management prevents local governments even from having the possibility of being forward-looking. It seems instead, that the actor-networks function differently in the two regions – in the Bay Area they are decentralized but criss-crossing, leading to powerful regional identities and the formation of pragmatic coalitions to get things done. In LA, they are decentralized but not criss-crossing, leading to weak regional identities, and a culture of distrust from one locality to another (and especially of the “big dogs of LA County and City). Moreover, historically SF has had more powerful union and community group opposition to elites, and this has conditioned those elites to taking those groups into account when making plans. By contrast, until the 1980s, LA’s community groups and labor

unions were weak, leading local elites to do things by crushing opposition or ignoring it, a tradition of non-negotiation. Since the 1980s, in LA county those groups have become more and more active, but elite circles have not incorporated this into their modes of action, leading frequently to violent opposition and the simple breakdown of decision-making. “Winner take all” strategies no longer work for anybody, but this hasn’t yet been understood in the political process in Southern California, which remains highly conflictual.

São Paulo – Rio de Janeiro

The history of Rio de Janeiro and São Paulo is a study in contrasting economic fates, with the relative “latecomer” of São Paulo going on to be the most important city-region in all of South America, leaving behind the former capital of Brazil. Per capita income in Rio city in 2005 was R\$19524 compared to São Paulo’s R\$24650, and for the state of Rio R\$17695 compared to SP state’s R\$19548. The very different sizes of the two must be taken into account in interpreting these figures: São Paulo metro area had 22.1 million inhabitants against 14.39 million for Rio and São Paulo state 41 million people compared to 15.5 million for the state of Rio. Thus, the state of Rio’s population and economy are almost entirely reducible to the metro area of Rio de Janeiro, while the enormous metro area of SP is at the heart of a much bigger state, one which indeed would make it a fairly big European country and slightly larger than California. São Paulo’s economic achievements are even more impressive when their scale is taken into account.

The origins of the two regions are quite different. Rio was the capital of Brazil for two long periods, in the 19th and 20th centuries, during which it concentrated a large national ruling elite, and a local landed bourgeoisie with roots in the sugar cane economy of Brazil’s humid coastline from Rio northward. Rio’s industrialization owes much to its role as capital

and principal port, greatly aided by state-sponsored industrialization in the 20th century under the *Estado Novo*. São Paulo, by contrast, composed its elites not just from Portuguese settlers, but from Italian and Germans as well. The importance of this is that rather than being composed of a uniform group, from early on there was competition within the SP elite. The labor supply for SP came not only from the northeast, but from a large number of Japanese immigrants in the 19th and early 20th centuries. São Paulo's elites were also landed, but not invested principally in sugar cane but in higher value and more technically-demanding crops, starting with coffee and later on moving to oranges and other cultivars. The industrialization of São Paulo, though of course reflecting the influence of state-sponsored industrialization policies, was less dominated by state-owned firms than by private firms who benefited either from import-substitution policies or from the growing domestic market in the 20th century. Although Rio was early on a site for headquarters of major foreign firms, due to Rio's proximity to political elites, the majority of those firms' industrial investments were traditionally in the São Paulo metropolitan region.

During the Brazilian economic "miracle" from the late 1950s through the 1960s, São Paulo became the heart of a "super-agglomeration," in the sense that it concentrated major Brazilian and multinational firms in the growing manufacturing economy, and their supply chains. As is typical of the initial phases of industrialization, where industrial resources, technology and human capital are scarce, and internal transport costs are high, localization and urbanization economies tend to coincide, and often in one super-pole. Given the size of Brazil, this pole was especially large and it concentrated in the City of São Paulo and the four suburban industrial districts known as ABCD (Santo André, São Bernardo, São Caetano and Diadema). By the late 1970s, the São Paulo metro region concentrated about 60% of national industrial output, and the state almost two thirds; subsequently, there has been a tendency toward "polarization reversal," with other states from Minas Gerais down to Rio Grande do

Sul augmenting their share of output. At the same time, São Paulo has gone – albeit with cyclical crises – a process of economic transformation, moving into higher value manufacturing and services at the top of input-output systems increasingly spread across the larger Southeast/South Brazil “core, but also involving a major industrialization of São Paulo state itself. It is also important to note that São Paulo metro area and state have developed some critical institutions that are not part of the federal system, and the most important of these is the two Paulista university systems, the UNESP (University of the State of São Paulo) and USP (University of São Paulo), with the latter the most prestigious university system and flagship campus in Brazil. The parallels to California are striking: a major industrial power that develops on the basis of a major agricultural hinterland and establishes its own research and training system of very high quality.

There are different external shocks that Rio and São Paulo must deal with in the post-war period. For Rio, the loss of the capital function to Brasilia in 1960 certainly diminished its importance as a center of powerful social networks, but in spite of this, its headquarters function, and localization of key Brazilian opinion-making and media elites, has continued even up to the present day, as the main economic engine of Rio. As a productive economy, however, Rio has suffered steady loss for many decades. Even though it has always benefited disproportionately from state-sponsored industrialization, the inevitable rise of São Paulo, in concert with the move of the capital to Brasilia, has weakened its attraction. And private companies almost always prefer elsewhere: São Paulo for access to supply chains, other states for a better business climate.

São Paulo, as the center of the industrialization process, also became the center of its conflicts. Brazil’s income distribution is one of the most unequal in the world, and the industrialization process heightened awareness of this, as it did little to even out the distribution. The massing of an industrial working class in the city, the surrounding ABCD,

and then the industrial satellite towns, gave rise to labor union militancy and the birth of the PT, the Workers' Party. Class-industrial conflict became centered on these areas. Rio has also historically been the site of conflict, but this has had a different cast: it has concentrated public sector unions against public employers; and a militancy of the "excluded" (favela dwellers) rather than the industrial working class. As a result, the conflict in SP actually gave rise to institution-building: in the 1970s, the major unions set up cooperative research organizations to shed light on salaries and working conditions, endowing the unions with a professional-intellectual capacity. They were aided by independent intellectuals such as in the CEBRAP (the research institute set up by former President FH Cardoso after he was expelled from the university under the dictatorship). The beginnings of a professional, intellectual, and negotiating armature for the working classes, though weak, were there. The same was true of the powerful employers' federation, who early on set themselves up with professional research capacity, not only to negotiate but also to begin to discuss, in a "modern" way, the nature and future of the economy. No comparable developments can be found in Rio in the same period.

The crises of the Brazilian industrial model in the 1980s and into the 1990s involve a great deal of industrial adjustment in São Paulo, but not all of this turns out to be negative; by contrast, Rio de Janeiro metro area and state continue to de-industrialize. The adjustment of the São Paulo economy has many elements to it. One has to do with the relationship between metro area and state hinterland. São Paulo state agriculture leads the charge of agro-technological modernization in Brazil, especially in moving into international market crops such as oranges. These crops, especially when produced for international markets, require an increasingly high technical level, and the landed elites of SP participate in the expansion of research capacities, importation of technologies, and later on, creation of new crops and technologies, and hence toward the formation of a higher level of human capital in the city's

hinterland. At the same time, many industries are moving away from the city itself toward smaller cities, in search of lowering costs, and these two processes come together in a virtuous development cycle. Moreover, the Brazilian government established some of its high tech activities in places such as São José dos Campos, aided by the increasingly well-performing branches of the University of São Paulo (especially at Campinas, but also Rio Claro. Agro-tech, military procurement, research, high tech, and industrial decentralization feed off one another.

Rio, by contrast, has little hinterland and virtually no possibility for such a process to take place. Industries move, away to other regions. Agriculture is weak, and basically wedded to the old sugar cane system. The geography of the region sharply divides the metro from the small interior hinterland. Meanwhile, the areas of São Paulo affected by movement toward the interior and other states – the ABCD belt – themselves go through political transformation as unions start to realize that economic transformation is necessary and certain municipalities begin to think in terms of physical and economic regeneration. Some of the ABCD cities begin to see themselves as part of the process of “moving up” in the core of the metro region, even as many older activities “move out. But there is no equivalent dynamic in Rio. All along, the power of the meta-agglomeration has centered most of the modern banking industry on São Paulo and the financial elite establishes São Paulo as Brazil’s “Wall Street.”

All in all, São Paulo’s history is one of steadily more complex, proliferating and widely-based industrial and entrepreneurial action-networks and, albeit against a background of sharp class conflict and deep inequalities, the increasing development of a “middle class” part of the industrial working class. Rio also develops more of a middle class, but it is principally an administrative one, a sort of spillover from the headquarters functions located there and not rooted in the working class mobility as in SP. Elites in Rio remain wedded to

keeping or capturing rents from state-sponsored industrialization, while elites in SP are not only growing exponentially, but are much less centered on capturing favors from Brasilia (indeed, their main problem is the fiscal exploitation of SP by the rest of Brazil). There is increasing divergence between the two regions in the composition and nature of their actor-networks, and certainly in the accumulation of human capital.

The role of formal institutions in both is strongly affected by history and the nature of Brazilian federalism and Brazilian politics. Brazil has a strongly corporatist political organization, high levels of corruption, high levels of bureaucratic complexity, unclear roles in its federalism, and courts with major unchecked powers, as well as a highly-paid and powerful functionary class that has proved resistant to reform and is used as patronage by the political class at all levels from federal down to local. In this sense, both SP and Rio suffer from many of the same problems of their formal institutions, with especially high wastage in infrastructure provision, public education, and public safety.

Nonetheless differences do emerge from the different pressures emerging from the divergent politico-economic development of the two places. Geography is critical. The city of Rio has the geographical accident of concentrating rich and poor together and very little hinterland for expansion. The paradox is that even though the metro area is really the entire economy of the State of Rio, state government has more influence over city and metro government than in SP. In SP, there is a large and varied hinterland. The state has much to do, with a population of 41 million. But as a result, the principal cities of the metro area (and everywhere for that matter) have historically been able to carve out programs reflecting their own local priorities more so than in Rio, where the state and city compete to govern in a small, single space. There is fundamentally more diversity of institutions and agendas in SP than in Rio; paradoxically, the permanent “do or die” competition of Rio city and Rio state lead to near-paralysis, whereas in principal just two big agents could lead to concentrated

cooperation. As is, the single “prey” of the Rio system leads to demagogic competition, rent-extraction by whomever gets the temporary upper hand, and very little systematic program. These ills afflict the SP region too, as they are endemic to Brazilian electoral cycles, but there is room for Tiebout-style innovation and coalitions to form. This has happened between some of the ABCD areas and the city, and even between further-flung cities of SP state.

Moreover, the substantive priorities of different politically-active networks tend to be different in the two regions. Though we are caricaturing a bit, it can be said that in Rio such networks are centered on capturing from the federal government when it comes to external relations, and on redistribution (for demagogic purposes) in internal relations. The underlying inequalities of income in Rio are exacerbated by geographical proximity and by long-term economic lack of dynamism, thus having a “crowding out” effect on pragmatic, developmentalist political agendas. São Paulo is quite different in this respect: the wide and deep, and sectorally- and geographically-diversified entrepreneurial classes, the successful “big capitalists,” and the wider and deeper union leadership, combined with a great number of cities and local political classes, leads to a much more diversified set of action agendas. And much less of these agendas is centered on capturing rents or public goods to be provided by Brasilia: most places in SP state would rather have more of their revenues available through decentralization/devolution , as this would raise their available resources.

Thus, though the two regions share many problems of formal institutions that are related to the nature of the Brazilian state and its electoral and party system, the nature of the action-networks is quite different in the two regions: their organizational structure, sectoral base, relationship to the federal state, sociological basis, and inter-class basis. This is then reflected in what is probably the biggest contemporary difference in the pressures on formal institutions. In São Paulo, many municipal agendas are actively involved in developmentalist agendas. For example, at the present time, the Mayoralty of SP is actively holding meetings

to discuss the creation of a Development Agency, in concert with civic actors, sectoral trade associations, academic institutions. The Labor Secretary has declared: “the idea is to consolidate SP as a global city and as a business center, center of cultural and intellectual production of the first rank.”

(www2.prefeitura.sp.gov.br/noticias/sec/trabalho/2009/05/0003). There is no similar effort occurring in Rio, where the political agenda is dominated, as noted above, by a discourse of “solidarity” (but in this author’s opinion, little reality of it), and a highly conflictual attitude toward “development,” seen by many of the political constituencies as (pejoratively) “pro-business” and hence anti-redistribution. Though political and social distrust are at high levels everywhere in Brazil, and due to the extreme inequalities of income there is everywhere serious pressure on allocation of resources, these tensions play themselves out differently in the two regions under examination. More competition, a wider and deeper middle class, more entrepreneurial tradition, and more confidence in the notion that “success breeds success” have allowed for a different dynamic to take place in SP than in Rio. The underlying forces for policy agenda formation are very different, and probably diverging ever more as time goes on, in the two regions.

What kind of policy?

At the risk of repetition, it should be remembered that theory and evidence are far from being able to account for the origins of successful specialization, or even to provide us general guidelines for “growth take offs.” Thus, if we want to draw lessons from the comparisons sketched out above, these lessons are mostly about what places can do to sustain development once it is going, or – hopefully – to maintain it.

The comparative histories point principally to the role of actor-networks in mobilizing (or failing to) private sector actors and, to a lesser extent, formal policy-making institutions.

The principal causal force seems to be whether there are sufficiently diverse and robust actor-networks – i.e. informal institutions – to generate resilience in the face of external shocks. The origins of these networks are very complex, and sometimes they involve the “pump priming” action of big formal institutions (such as governments that make major investments in public goods such as hospitals or universities), or big “anchor tenants” (a key firm). But this should not be taken as an indication that merely having such investments will be sufficient to generate resilient, diverse actor-networks. This is a more difficult topic. Detroit is a case where there are major “anchor tenants” – the car companies – and yet it is the biggest failure in our cases. Rio de Janeiro also comes to mind. By contrast, São Paulo is less directly industrialized via public investments or a small number of big firms than by a diverse set of firms, mostly in the private sector. Boston benefits from old anchor tenants in the form of its hospitals and universities, but – like in SF for the case of UCSF or Stanford or Berkeley --- it is not just the fact of their existence, but the multiple, complex and ever-evolving actor-networks of which they take part that seems to be critical.

This leads to a fundamental observation: policy strategies must be context-sensitive and “bottom up.” By the latter we mean that building actor-networks, while it may have some role for major public or private “big bang” investments, must fundamentally involve a wide set of situated actors and somehow involve them in the economic process. Before continuing, it’s important to note that such bottom-up, situated strategies are not limited to wealthy regions. Rodriguez-Pose (2006) notes, for example, when comparing Sevilla in Spain to Jalisco in Mexico, that the latter successfully used policies that started from its existing strengths and existing actor-networks to build on those strengths, while the former attempted top-down, mostly infrastructure-driven policies that failed. Another common misunderstanding to clear out of the way is that it’s important to get beyond the common cleavage between those who want to orient local development policy toward redistribution

(“Justice”) and those who want to orient it toward development. Rio de Janeiro’s persistent (though ineffectual) emphasis on redistribution does respond to electoral demands, but it also “crowds out” (more intellectually than financially) attention toward ways that the public sector’s investments might help in generating entrepreneurship and actor-networks that could ultimately be self-sustaining; the same can be said of local politics in the City of Detroit (different from its wealthy suburbs).

Institutionally-based development policies can be, for our purposes, divided into two types of starting point. In metro areas where actor networks are robust, diverse, and strong, the “raw material” of good informal institutions is already present. And yet precisely in regions where things are going well, there can be considerable obstacles to strategic approaches to the future: there are few present incentives to divert time and resources unless a clear danger is recognized (and all actors tend to under-value the future); and well-functioning networks and communities can feel that it is possible to “go it alone.” Thus, the challenge for policy is to convince actors to be future-oriented and, possibly, to relate across network boundaries in a way that might have future benefits that are difficult to see at present. The danger, of course, is trying to “fix something that already works” -- and this leads back to the notion that any kind of strategic work with good, existing informal networks needs to use the resources and distributed intelligence already embodied in those networks, not try to impose something from outside, where policy-makers are not going to have the information or foresight capabilities to do better than the agents embodied in those networks.

More problematic is those regions where such networks are weak, insufficiently diversified, or worse mutually hostile or resistant or distrustful of any kind of change, and where the economy is in bad shape. The cases of Detroit and Rio exemplify this problem; and in a much milder version, Los Angeles. Over the years, there have been countless attempts to revive the economy of the City of Detroit, and numerous attempts to develop the economy of

the Detroit region. The participation of the car companies has existed, but mostly for public relations purposes. The wider region has been sharply divided between the prosperous areas of Oakland County and around Ann Arbor, and the decaying auto belt, and still again the ghettoized central city. The car companies have played a particularly pernicious role, by remaining the “anchor tenants” and hence creating the illusion of principal partners, but by themselves being completely lost as to how to restructure their own companies not to mention the regional economy of which they are historically the leaders. Rio’s problem has been the sharp split between the political constituencies that use the state government for redistribution and the corporate networks that are clients of the state-owned companies, and the rest of the media and corporate elite who are divorced from these other two networks. Los Angeles faces the problem of being an enormous, highly diversified economy, with an historically fragmented elite (landed elite in Pasadena; banking and finance downtown; entertainment in Beverly Hills/Century City; aerospace in the South Bay; high technology in Orange County). The degree of political and social cohesion with which to work is therefore very low. There is a history of mistrust and rivalry among communities. Therefore, when problems arise – such as the decline of aerospace or the riots of 1994 – there is little underlying ability to bring the needed parties together. Moreover, in Los Angeles, historically these localized elites have been very powerful and not accustomed to including other social partners such as neighborhood associations, NGOs and other civil society actors, and unions, into efforts to find solutions to problems. Now that the latter types of organizations have proliferated, political and business elites have still not figured out how to work with them – just the opposite of what one would find in Boston or San Francisco (and which is embryonic but present in São Paulo).

Working with more complex arrays of social actors (whether elite or non-elite communities) requires that there be a process so that these groups cannot become rent-earning

“clans,” the classical problem of institutionalist theory. We have noted elsewhere (Storper 2008) that groups or communities can have “blockage” effects (such as those identified in the classic work of Mancur Olson), but they can also have “empowerment” and “voice” effects – aiding different groups of actors to identify their preferences and act upon them, and to lower transaction costs in so doing. The thorny issue is both about how to get the right array of groups or actor-networks, and then how to make them work together so that the positive effects of network or group mobilization dominate the process and their potentially negative (rent-earning, interest-seeking) consequences are minimized. The latter problem appears to be about the general “rules” or “societal” forces that “bridge” between the different networks, groups or communities. Thus – and this is crucial – any successful institution-building policy must pay attention not just to mobilization or network construction, or to rules, but to both dimensions (Storper, 2005).

So there is a circular dilemma: these networks involve fragmentation, lack of trust, defeatism and lack of vision, but they need vision and strategic action. How can deliberate policy efforts cut into these circles? There is no formula, but there are a few lessons that have been learned that we can now briefly signal:

1. Avoid pre-packaged projects, whether these be “miracle” public works strategies (a convention center, a transit line, a sport stadium) or “miracle” economics (clusters, poles, and such). These may or may not be valuable for an economy (but most evaluations of big projects such as sports stadia or convention centers show that they have negative payoffs), but most critical is that such “big bang” strategies “crowd out” attention from the more difficult and less visible work of building a dynamic, sustainable economy by building its networks
2. create a real vision that is independent of policy fashions, uses high quality research to look at the medium-run, where research is carried out in a “convening”

environment that involves not just researchers but economic agents in close feedback with one another: the Basque Institute of Competitiveness (Orkestra) comes to mind as a positive example of this type of effort; “Rebuild LA” in the 1990s in Los Angeles as a negative example.

3. Create trust by drawing on politically-independent research, and align efforts with a commitment to good government, anti-corruption, and where the effort establishes and maintains a reputation for being independent of rent-seeking groups;
4. Engage committed political, civic and entrepreneurial leaders who can bring together different networks, and who will engage their own constituencies systematically and durably in the effort to build networks, is critical. For political leaders, engagement beyond the electoral and budgetary cycle is critical, and that this be known in advance. This leads to:
 5. Commit to relatively long time horizons in order to establish credibility, generally as a way of overcoming skepticism;
 6. Engage a diversity of networks, and maintain a certain amount of diversity and even “competition,” but not destructively rivalrous competition or fragmentation. It is essential that efforts not be captured by any single group or coalition and that ideas continue to have multiple ways of making their appearance. At the same time, struggles for power in a context of fragmentation will exhaust efforts.
7. Actor-groups must make their own decisions about strategies and instruments; there is no template.

The need to reorient research

The final concern that emerges from this discussion has to do with what we do not know. As should be evident from the first half of this report, t

I have made an admittedly complex argument here, but the subject seems to require complexity. Thus far, using simpler concepts of what makes certain cities grow one way and others another way have not established much that is convincing about specific urban growth pathways. Yet policymakers spend huge amounts of money and attention promising to do something about them, and suggesting they know how to affect these pathways in a positive way. In light of this considerable gap between political action and scientific knowledge of the subject, serious reconstruction of the frameworks we use to carry out research on metropolitan growth and development may well be merited. This means, directly, that our abilities to formulate policy with confidence are only as good as our limited understanding of causes., the (c) institutions, dsubsequentlystructural, in the sense of being path-dependent. We also suggested that both the “community” (network, group) and “society” (overarching rules) levels of institutions need to be investigated. the ofcityhave structures, - states. It is therefore difficult to speak of “varieties of city capitalism” in the same way that this is considered in comparative political economy at the international level (Hall and Soskice, 2001)At instead In spite of there is

What to do? Two strategies

Two future strategies to analyze the analysis of the causes of growth of cities can now be suggested. The first would consist of structured, in-depth comparisons of the growth trajectories of different cities, using a set of standardized categories representing the issues

identified in this article. The result would be rich in detail and “on the ground” accuracy, but it would have few degrees of freedom.¹⁶

A second approach would require large-scale data. As noted, the problem with most existing econometric analysis of urban growth is that it may identify certain structural determinants of growth, but does so in a time-invariant manner, and has difficulty separating fixed effects from the forces that shape pathways and select cities into different growth experiences. An ideal way out of this dilemma would be to be able to estimate the sources for growth over a wide panel of cities for different time periods. High quality, sufficiently disaggregated data on the nature of specialization, human capital and institutions would be required, as well as those for a wide set of controls. Once the structural determinants for different periods are estimated and compared, then a further stage of research would consist in estimating them for individual city-regions. Finally, urban research would benefit from assembling rigorous data on events/shocks not simply on panels of fixed effects, structural determinants or controls. For example, having data on the establishment and lock-in of localizations, or on other time-dependent shocks such as technologies that shock trade costs of existing sectors, or of changes in institutions that alter comparative advantages, and then estimating their effects jointly with structural determinants over different time periods would get us much closer to measuring sequential (possibly path-determining) forces and structural determinants in a single model.

This would represent a significant departure from most of the research that is reported today, in that it would join approaches that are radically separated in academia: large-scale quantitative analysis of structural determinants as favored by economists, and large-scale comparative development, as in the methodological tradition of Barrington Moore (1966), or Charles Tilly (1984), with the substantive contemporary concerns of comparative growth

¹⁶ Some attempts do exist in the literature. Most recently, Abu-Lughod (1999) attempts a comparison of development in New York, Chicago and Los Angeles, though her approach does not use a model with strictly common and comparable structural elements to analyze economic development.

economics, and the “on the ground” sensibilities of urban geographers. Though the challenge is daunting, only an approach that melds structure, events and processes, and hence can tackle directions of causality, is likely to advance us significantly in understanding the complex problem of differential urban growth and the large-scale transformation of urban systems.

REFERENCES

- Abu-Lughod, J, 1999, *New York, Chicago, Los Angeles: America's Global Cities*. Minneapolis: University of Minnesota Press.
- Acemoglu, D, Johnson, SH, and Robinson, JA, 2004, "Institutions as the fundamental cause of long-run growth." Cambridge, MA: NBER Working Paper 10481 (www.nber.org/workingpapers)
- Aghion, P, AF Alesina, and F Trebbi, 2005, "Choosing Electoral Rules: Theory and Evidence from US Cities." Cambridge, MA: NBER Working Paper 11236.
- Aghion, P and Howitt, P, 1992, "A model of growth through creative destruction." *Econometrica* 60,2: 323-51.
- Alesina, A and Spolaore, E, 2006, *The Size of Nations*. Cambridge, MA: MIT Press.
- Amsden, Alice. 1989. *Asia's Next Giant: South Korea and Late Industrialization*. New York: Oxford University Press.
- Anas, Alex, Richard Arnott and Kenneth Small. 1998. Urban Spatial Structure. *Journal of Economic Literature*. 36: 1426-1464.
- Barro, Robert, 1996. "The Determinants of Economic Growth: A Cross-Country Empirical Study." Cambridge, MA: NBER Working Paper 5698 (www.nber.org)
- Becattini, G, 1990, "The Marshallian Industrial District as a Socio-Economic Notion." IN Pyke, F, and Sengenber, W, *Industrial Districts and Inter-Firm Cooperation in Italy*. Geneva: International Labour Office.
- Boschma, R and Kloosterman, RC, eds, 2005, *Learning from Clusters: A Critical Assessment from an Economic-Geographical Perspective*. Frankfurt: Springer.
- Boschma, R and Martin, R, 2007, "Constructing an evolutionary economic geography," *Journal of Economic Geography* 7,5: 537-548.
- Carruthers, J, 2002, "Growth at the Fringe: the Influence of Political Fragmentation in United States Metropolitan Areas." *Papers in Regional Science* 82: 475-499.
- Cheshire, Paul and S. Sheppard, 1995. On the price of land and the value of amenities. *Economica* 62: 247-267.
- Combes, PP and Duranton, G., 2006, « Labour Pooling, labour poaching, and spatial clustering. " *Regional Science and Urban Economics* 36,1: 1-28.
-

- Cox, KR, 1993, "The Local and the Global in the New Urban Politics: A Critical View." *Environment and Planning D: Society and Space* 11,4: 433-448.
- Cusumano, MJ, 1985 *The Japanese Automobile Industry: Technology and Management at Nissan and Toyota*. Cambridge, MA: Harvard University Press.
- Dahl, Robert. 1961. *Who Governs? Democracy and Power in the an American City*. New Haven: Yale University Press. (2d edition, 2005).
- Davis, RD and Weinstein, DE, 2002, "Bones, bombs, and break points: the geography of economic activity." *American Economic Review* 92,5: 1269-1289.
- Djankov, Simeon; Edward Glaeser; Rafael LaPorta; Florencio Lopez-de-Silanes; Andrei Schleifer. 2003. "The New Comparative Economics." *Journal of Comparative Economics* 31,4: 595-619.
- Donahue, John. 1997. Tiebout? Or Not Tiebout? The Market Metaphor and America's Devolution Debate. *Journal of Economic Perspectives*. 11 (Fall): 73-81.
- Drennan, M, 2002, *The Information Economy and American Cities*. Baltimore: Johns Hopkins University Press.
- Drennan, Matthew ; Emanuel Tobier ; and Jonathan Lewis, 1996. "The Interruption of Income Convergence and Income Growth in Large Cities in the 1980s." *Urban Studies* 33,1: 63-82.
- Duranton, G and Puga, D, 2001, "Nursery cities: urban diversity, process innovation, and the life cycle of products." *American Economic Review* 91,5: 1454-1477.
- Duranton, Gilles and Diego Puga. 2000. Diversity and specialisation in cities : why, where and when does it matter ? *Urban Studies* 37,3: 533-555.
- Duranton, G and Puga, D, 2004, "Micro foundations of urban agglomeration economies, " Chapter 48 in Henderson, JV; and Thisse J-F, eds, *Handbook of Regional and Urban Economics, v4: Cities and Geography*, Amsterdam: Elsevier: pp 2064-2117.
- Ellison, DJ; Clark, RB; Fujimoto, T; Hyun, YS, 2002, "Product Development Performance in the Automobile Industry: 1990s Updates." Cambridge, MA: MIT, Working Paper.
- Erie, SP 1990, *Rainbow's End: Irish-Americans and the Dilemma of Urban Machine Politics, 1845-1985*. Berkeley: University of California Press.
- Fischel, William. 2002. *The Homevoter Hypothesis*. Cambridge: Harvard University Press.
- Fisher, P and Peters, A, 2004. "The Failures of Economic Development Incentives." *Journal of the American Planning Association*.....
- Florida, R. 2002. *The Rise of the Creative Class*. New York: Basic Books.
-

- Fogelson, RM, 1993, *The Fragmented Metropolis: Los Angeles, 1850-1930*. Berkeley: University of California Press.
- Frey, WH, 1995, "Immigration and Internal Migration Flight from US Metropolitan Areas." *Urban Studies* 32:4-5: 733-757.
- Fuchs, G and Shapira, P, 2005, eds, *Rethinking Regional Innovation and Change: Path Dependency or Regional Breakthrough*. Frankfurt: Springer.
- Fujita, M. and Thisse, J, 2002. *Economics of Agglomeration: Cities, Industrial Location and Regional Growth*. Cambridge: Cambridge University Press.
- Galbraith and Hale, 2004, "Income Distribution and the Information Technology Bubble." Austin: University of Texas Inequality Project (UTIP), working paper 27.
- Glaeser, E; J. Scheinkman; A. Schleifer, 1995, "Economic Growth in a Cross Section of Cities." *Journal of Monetary Economics* 36,1: 117-143.
- Glaeser, E; Kellal, HD; Scheinkman, JA; Schleifer, A. 1992. "Growth in Cities." *Journal of Political Economy* 100,6: 1126-1152.
- Glaeser, E; Kolko, J; and Saiz, A, 2001. "Consumer City." *Journal of Economic Geography* 1,1: 27-50.
- Glaeser, EJ, 2007, "The Economic Approach to Cities." Cambridge, MA: Harvard University Department of Economics. www.economics.harvard.edu/faculty/glaeser/files/kayden4pdf.
- Glaeser, Edward and Jesse Shapiro. 2003. Urban Growth in the 1990s : Is City Living Back ? *Journal of Regional Science*. 43(1) : 139-165.
- Glaeser, Edward; La Porta, Rafael; Lopez-de-Silanes, Florencio; Schleifer, Andrei. 2004. « Do Institutions Cause Growth ? » *Journal of Economic Growth* 9,3 : 271-303.
- Granovetter, M, 1995, *Getting a Job: A Study of Job Contacts and Careers*. Chicago: University of Chicago Press.
- Hall, P and Soskice, D, eds, 2001, *Varieties of Capitalism*, Oxford: Oxford University Press.
- Heikkila, E, 1996, "Are Municipalities Tieboutian Clubs?" *Regional Science and Urban Economics* 26: 203-226.
- Helpman, E, 2004, *The Mystery of Economic Growth*, Cambridge, MA: Harvard/Belknap.
- Hilber, Christian AJ and Christopher J Mayer, 2004, Why do households without children support local public schools ? Cambridge, MA: NBER Working Paper 10804, October. www.nber.org/papers/w10804
- Hodgson, G, 1993. *Economics and Evolution*. Ann Arbor: University of Michigan Press.
- Jacobs, J, 1969, *The Economy of Cities*. New York: Vintage.
-

- Jacobs, Jane. 1961. *The Death and Life of Great American Cities*. New York: Modern Library.
- Jaher, FC, 1984, *The Urban Establishment: Upper Strata in Boston, New York, Charleston, Chicago and Los Angeles*. Urbana: University of Illinois Press.
- Jayet, H. 1983, "Chômer plus souvent en région urbaine, plus longtemps en région rurale." *Economie et Statistique*
- Kenney, M, ed, 2000, *Understanding Silicon Valley*. Stanford, CA: Stanford University Press.
- Kenyon, D and Kincaid, J, eds, 1991, *Competition among States and Local Governments*
- Kenyon, Daphne, 1997, "Theories of Interjurisdictional Competition." *New England Economic Review*, March/April: 14-28.
- Krugman, Paul and Obstfeld, Maurice, 1991. *International Economics: Theory and Policy*. New York: Harper Collins.
- Krugman, Paul, 1991a, "Increasing Returns and Economic Geography." *Journal of Political Economy* 99: 484-499.
- Krugman, Paul, 1991b, "History versus Expectations." *Quarterly Journal of Economics* 106,2: 651-667.
- Krugman, Paul. 1999. The Role of Geography in Development. *International Regional Science Review*. 22(2): 142-167.
- Logan, J and Molotch, H, 1987, *Urban Fortunes*, Berkeley: University of California Press.
- Lucas, R, 1988, "On the Mechanics of Economic Development." *Journal of Monetary Economics* 22: 3-42.
- Manville, M, 2005, "Interjurisdictional Competition for Capital in the United States." Los Angeles: UCLA Dept of Urban Planning, Major Field Paper, Ph.D Program.
- Mokyr, J. 1990. *The Lever of Riches: Technological Creativity and Economic Progress*. New York: Oxford University Press.
- Molotch, H. 1976. "The City as a Growth Machine." *American Sociological Review* 82,2: 309-332.
- Moore, B, 1966, *Social Origins of Dictatorship and Democracy*, Boston: Beacon Press.
- Muth, RF, 1971, "Migration – chicken or egg." *Southern Economic Journal* 37: 295-306.
- North, Douglass, 2005, *Understanding the Process of Economic Change*. Princeton, NJ: Princeton University Press.
-

- Norton, RD and Rees, J, 1979. "The Product Cycle and the Spatial Decentralization of American Manufacturing." *Regional Studies* 13,2: 141-151.
- Oates, Wallace. 1969. Local Spending on Property Values. *Journal of Political Economy*. 6(Nov/Dec) : 957-71.
- Persson, T and Tabellini, G, 2006, "Democracy and Development: The Devil is in the Details." Cambridge, MA: NBER Working Paper 11993.
- Peterson, Paul, 1981. *City Limits*. Chicago: University of Chicago Press.
- Pritchett, Lant, 1997. "Economic Growth: Hills, Plains, Mountains, Plateaus and Cliffs. Washington, DC: TheWorld Bank, October.
- Przeworski, A, M. Alvarez, JA Cheibub, F. Limongi, 2000, *Democracy and Development: Political Institutions and Well Being*, Cambridge: Cambridge University Press.
- Purcell, Mark, 2000, "Regional Growth and Governance: The Decline of the Political Consensus for Urban Growth: the Case of Los Angeles." *Journal of Urban Affairs* 22,1: 85-100.
- Putnam, RD, 2000, *Bowling Alone: The Collapse and Revival of American Community*. New York: Touchstone.
- Rigby, DL and Essletzbichler, J, 1997, "Evolution, Process Variety and Regional Trajectories of Technological Change in US Manufacturing." *Economic Geography* 73: 269-284.
- Roberts, Kevin WS. 1980. Interpersonal comparability and social choice theory. *Review of Economic Studies*, January, 47,2: 409-420.
- Rodriguez-Pose, Andrés, 1998, *The Dynamics of Regional Growth in Europe: Social and Political Factors*. Oxford: Oxford University Press.
- Rodrik, Dani ; Subramanian, Arvind ; Trebbi, Francesco, 2004. « Institutions Rule : The Primacy of Institutions over Geography and Integration in Economic Development. » *Journal of Economic Growth* 9,2: 131-165.
- Rodrik, Dani, 2007, *One Economics, Many Recipes: Globalization, Institutions and Economic Growth*. Princeton: Princeton University Press.
- Romer, P, 1986, "Increasing returns and long run growth" *Journal of Political Economy* 94: 1002-1037.
- Rose-Ackerman, Susan. 1983. Beyond Tiebout: Modelling the Political Economy of Local Government, in George Zodrow (ed.), *Local Provision of Public Services: The Tiebout Model After Twenty-Five Years*. Academic Press.
- Rosen, S. 1983, "Specialization and Human Capital." *Journal of Labor Economics* 1,1: 43-49.
-

Rosenthal, SR and Strange, WC, 2001, "The Determinants of Agglomeration." *Journal of Urban Economics* 53: 300-320.

Sala-i-Martin, Xavier, 2002, "15 Years of New Growth Economics: What Have we Learnt?" New York: Columbia University, Department of Economics, Discussion Paper 0102-47.

Saxenian, AL, 1994, *Regional Advantage: Culture and Competition in Silicon Valley*. Cambridge, MA: Harvard University Press.

Saxenian, AL, 2000, "The Origins and Dynamics of Production Networks in Silicon Valley." IN Swedberg, R, ed, *Entrepreneurship: The Social Science View*. Oxford: Oxford University Press, 384-403.

Schelling, Thomas. 1978. *Micromotives and Macro-behavior*. New York : WW Norton.

Scott, AJ, 1993, *Technopolis: High Technology Industry and Regional Development in Southern California*. Berkeley, University of California Press.

Scott, AJ and M. Storper, 1987, "High Technology Industry and Regional Development: A Theoretical Critique and Reconstruction." *International Social Science Journal* 112: 215-232, May.

Stiglitz, Joseph. 1983. The Theory of Local Public Goods Twenty-Five Years After Tiebout. In George Zodrow, Ed., *Local Provision of Public Services: The Tiebout Model After Twenty-Five Years*. Academic Press.

Storper, M, 2009 "Regional Context and Global Trade: Another Great Transformation?", *Economic Geography* 85,1: 1-22.

Storper, M, 2008 "Community and Economics." IN: A. Amin and J. Roberts, eds, *Organising for Creativity: Community, Economy and Space*. Oxford: Oxford University Press , 37-68

Storper, M 2005. "Society, Community and Economic Development," *Studies in Comparative International Development*, 39,4: 30-57

Storper, M, 1997, *The Regional World, Territorial Development in a Global Economy*, London and New York: Guilford.

Storper, M and Manville, M, 2006, "Behavior, Preferences and Cities: Urban Theory and Urban Resurgence." *Urban Studies* 43,8: 1247-74.

Storper, M and Walker, R, 1989. *The Capitalist Imperative: Territory, Technology and Industrial Growth*. Oxford: Basil Blackwell.

Storper, M and Scott, AJ, 2009 "Rethinking Human Capital, Creativity, and Urban growth." *Journal of Economic Geography* :147-167, January 2009

Sveikauskas, L , 1975, "The Productivity of Cities," *Quarterly Journal of Economics*, 89, 3: 393-413

Swanstrom, Todd, 1983, *The Crisis of Growth Politics*. Philadelphia: Temple University Press.

Tiebout, C, 1957, "A Pure Theory of Local Expenditures." *Journal of Political Economy* 64: 416-424.

Tilly, C, 1984, *Big Structures, Large Processes, Huge Comparisons*. New York: Russell Sage Foundation.

Trefler, Daniel, 1993. "International Factor Price Differences: Leontief was Right!" *Journal of Political Economy* 101,6: 961-987.

Turner, F, 2006, *From counterculture to cyberculture: Stewart Brand, the Whole Earth Catalog, and the Rise of Digital Utopianism*. Chicago: University of Chicago Press.
